Durham E-Theses

The Cultural Representation of Non-Western Cultures through Music in Mainstream Video Games

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Acknowledgements

I would like to extend thanks to my supervisor, Dr Simon Mills, for his ever patient support throughout this process, and for introducing me to the field of ethnomusicology almost 5 years ago. Without his encouragement and enthusiasm, I would never have had the opportunity to embark on such a project, let alone complete it. I would also like to thank Professor Peter Manning, for his thoughts and assistance as a second supervisor, and all members of the Music Department who have helped or supported me through this process.

I would also like to thank all friends who were willing to participate in this thesis, and my family for their support.

1. Introduction

Having grown up playing an increasing number of video games, I have found myself frequently discussing with friends the various merits of video game soundtracks. Arguments would be had as to which was a friend's preferred composer, and various themes would be frequently sung backwards and forwards, or sometimes even orchestrated somewhat poorly with whatever instruments were to hand. I have always considered, as I believe the vast majority of 'gamers' would also, that the audio (specifically soundtrack) in a video game is a vital component. I would personally never consider playing games without the background music present, and the effect on gameplay between a good and poor soundtrack has always seemed extremely significant. After completing an undergraduate focusing on ethnomusicology, (specifically cultural identity and cultural representation, with the impact of urbanisation on Korean traditional music), I had begun to notice how many common 'world music' instruments were used in games with various different stylistic approaches.

With the sale of individual video games reaching into the millions (Call Of Duty 4 has now sold over 13 million copies[1]) and many games featuring scenes set in non-Western or historical locations, it seems inevitable that the game medium is having a profound and direct effect on the ways that people perceive these cultures[2]. This is especially the case nowadays with popular soundtracks being available in a number of different formats – allowing the individual to experience the music without the game setting. In the games' soundtracks, choices of instrumentation and musical patterning forge crucial ties between the games' action, the represented gaming environment, and the players' prior experience, knowledge and cultural perceptions. It therefore struck me as bizarre that with this level of exposure to the public, that no one had studied these aspects of video game music in any great detail. Reasons for this may be that while film music is discussed, game music is still considered a lower art form – such as the study of popular music (albeit which has seen a great rise in focus during the last few years). The constant transient nature of the game industry, usually led by technology, must also have an effect, with very few seminal or 'classic' games played still today[3] (unlike the film industry, where black and white, or silent films both still have a significant cult

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[1] http://www.shacknews.com/article/58537/call-of-duty-4-sales
[2] For the purpose of this thesis, I am choosing to use 'culture' to denote those symbolic expressive behaviours that are thought to unite groups of people across large geographical areas – generally on the national level.
[3] One could argue at this stage that some arcade games, noticeably Tetris, or PacMan are still present and played by a great deal of people – especially since they are now playable on mobile devices. I would claim however that given the 'casual' branding given to these games, they are now considered more a time waster during a long train journey, rather than a serious addition to a genre, and quite often played with the music muted for this reason.

following). The age of the average academic may also play a factor, with many having not grown up with a personal gaming system, or are simply no longer playing[4].

Returning to personal observations, I began to notice vast differences in the way that non-western[5] elements were being incorporated in video game soundtracks. In some instances, game production companies have chosen to include traditional[6] music, unaltered from traditional performance (such as the Japanese folk tune *Sakura* found in 'Shogun: Total War II'[7]). However, in other instances, instruments have been used which are not even traditional to the culture, with the intention to evoke a particular atmosphere. (For example, this is found in another 'Total War' series game; 'Rome: Total War', where a tabla is included in the soundtrack, despite the game not involving north India in culture or location[8]). A third situation involves the use, in some form, of a culture's traditional instruments, but does not strictly adhere to traditional musical styles.

This thesis therefore will address these issues, by answering three main questions:

1. In what ways does music contribute to the game player's experience?
   - Answering this question will involve a more general enquiry, drawing from a number of different fields, and hoping to identify some of the roles played by music in video games.
2. To what extent are non-western musical instruments, patterns, and other stylistic features used in video game audio?
   - To investigate this question, this will be a more focused enquiry, looking specifically at the above aspects.
3. What approaches are used in successfully incorporating these non-Western elements in video game audio?
   - A more measured method, which will also attempt to determine the approaches present, and their effectiveness. I will look to elaborate on the non-western elements mentioned in the above introduction, to look at whether they are in fact commonplace.

[4] That or with no research taken towards this field, there is a hesitation about being the first.
[5] For the purpose of this thesis, non-western should refer to elements (instruments, stylistic feature, or pieces themselves) which appear in music native to non-western countries (I.e. not Europe, North America). Most of these will be drawn from the individual folk traditions of specific nations, however not all.
[6] For the purpose of this thesis I have chosen to use 'traditional' to identify elements of music that derive from the folk traditions of a culture/nation, or elements which have become common practice in the modern music of that culture/nation (this may be through being drawn from folk traditions, or stylistic preferences which have developed). Disregarding origins, these are features that are recognised by either academia or the nation/culture themselves, as being a part of their culture, either exclusively, or otherwise.
[7] http://www.totalwar.com/en_gb/
[8] http://www.totalwar.com/en_gb/

1.1 Methodology

My initial approach to conducting this thesis was to consider as many relevant sources about video game music. As discussed in more detail in the literature review later and as previously mentioned above, there was very few to be found directly relating to video games, and none in the very specific genre of this thesis. I therefore expanded the view to also consider a number of interconnected fields. The fields chosen, in no particular order, were 'World Music', 'Music Perception', 'Film Music', and music in advertising[9]. World Music was chosen due to the focus of this thesis, not only on the music from video games, but also that of cultural representation. I felt it was important to look at current and previous arguments on the use of non-western music, and specifically that of instrumentation – the idea that individual cultures would become represented almost ubiquitously by an individual instrument, due to the popularity of that instrument/ease of marketing to western audiences. Music perception was chosen in order to get a better picture of the more psychological aspects of how music in an audio-visual environment might affect a gamer, and how non-western elements in music might be perceived. Film music was again chosen to look at the discussions on music in an audio-visual environment, however this time looking at the more emotive aspects, and how music plays a role in the greater narrative (an aspect which will of course translate to video games in some way). Lastly the music in advertising was chosen to compliment the discussions raised above, but also to look at the combination of music in an audio-visual environment, and the representation of non-western cultures through their musical elements.

However while a lot of detailed discussion was available in many of these fields, the concepts of associationism, and the study of world music being two examples of areas containing a vast amount of literature and/or discussion, I did not want to heavily bias the thesis towards these specific areas. Instead, and given the nature of this very introductory study, I tried to use a small number of examples from a number of different fields, to help create some sense of framework, within which the music of video games can be studied. With this in mind, I fully accept that certain areas could have been considered which may appear strangely absent, for example a discussion on the concepts and stages of immersion/and or attentiveness; however, while providing background reading and information, would require applied testing in this study's context before actual reference, again over expanding the remit of this thesis.

In terms of the music itself, a great deal of time has been invested in simply listening and attempting to engage with video game soundtracks. The first and easiest method used was to simply play the

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[9] For the benefit of the reader, the music in advertising sources have been combined with that of both world music and music perception sources, for ease of discussion in the literature review.

video games myself, yet when engaging with the music in this manner, it was often difficult to maintain a level of concentration or focus on the music, while also engaging with the narrative and general gameplay (in a manner experienced by the average gamer). I therefore split my gameplay research into 3 different approaches. Firstly I would play the game with very little extra attention paid to the music, simply pausing the game to make notes if the music became particularly prominent/caused me to react in any way. Secondly I would play the game (and often if possible repeat sections of a game), and instead spend a lot more time focused on the audio, even if this meant affecting the speed or quality of my individual gameplay. Thirdly I attempted to watch others playing computer games, and raised discussions during and after gameplay about their opinions or evaluations on the music and its effectiveness. Much of the idea that the music in video games can be interchangeable came from this aspect of the research, as I found very interesting and mixed responses when the in game music was muted, and I was free to rotate the background music through a number of cultures and styles during a session of gameplay with friends. This casual experimentation was the starting point in my original research, specifically the identification of world music, and how effective non-western elements are in a video game soundtrack, in creating some sense of specific location or exoticism (the original research methodology is discussed in considerably more detail following the general discussion later).

When not looking at the music in the context of gameplay, I also spent a considerable amount of time listening to music separate from the gameplay, through soundtracks, and in-game videos, which have been posted on the internet (including social media sites). YouTube[10] was a large part of this research, as clips can be found from the soundtracks to almost all games of the last 10 years, and a considerable number before that date. This was extremely useful for comparative study, (for example the stylistic nature of music in action games in comparison to that in strategy games), however obviously had to be treated with some caution. This was due to the fact that the description provided by the uploader was not always correct, or in fact sometimes just contained an abbreviation with a number (for example a track take from Call of Duty: Black Ops, might simply have been named 'CoD BO1 Soundtrack -115 [11]'). The benefit however from YouTube was twofold. Firstly that the number of views for each track is shown, meaning that direct comparison can be made between game music with gameplay, and that without, giving an idea of not only the amount of people who listen to this music regularly, but an idea that in fact the music is listened to in its own right, not just as an accompaniment to gaming. Secondly the user comments posted under each video provide extra information in terms of peer review, and helped game selection in terms of

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[10] https://www.youtube.com/
[11] https://www.youtube.com/watch?v=RunGg_pK8BI

helping to gauge popularity. There are hundreds of videos where users will compare music to that of other games in a series, or rivals, and there are even examples of users demonstrating nostalgia, when discussing their favourite in-game sections[12].

A major problem which could not be overcome however is the sheer amount of video games and corresponding audio available. Unlike the minute amount of academic literature, where it is possible for one to read every article on game music ever printed (over the course of a few days), it is simply not possible to play every single video game created, let alone analyse the audio found. This is due to a number of factors, the most noticeably being an issue of availability. While many games are now found across several platforms (the big 4 being PC, Xbox 360, PS3, and Wii), there are several exclusive titles. While I personally own a PC capable of running most games and an Xbox 360, when considering other titles I often had to rely on videos, or friends with an appropriate console. Equally a large number of games produced more than 10 years ago are simply not able to be purchased or downloaded, or the technology is so outdated that it is not possible for them to be played, meaning that the chance to experience the music in the context of gameplay has been lost.

For this reason I chose to mainly focus on more recent games, and current industry practice. Yet even with this focus it is not possible to play every game released today, including those on platforms available, simply due to marketability, and being aware of a games release. While big titles will have a huge amount of advertising, ranging from bus shelters to TV adverts, a large number of games from new developers, or games which fill more niche gameplay style, will rely on enthusiasts stumbling across the game, or actively seeking it out. Therefore again I have focused this thesis towards the more popular marketed games, given that their exposure is larger, and they are targeted towards gaming's core demographic (and thus should display stereotypical examples of in game audio and soundtrack). All of these factors combined mean that trying to create some form of chronological method in the composition of game music is almost impossible, and it is largely down to individual advertising, peer review, and paid critics to identify the 'first' game to display a certain feature.

When first approaching this thesis, the intention, especially given the amount of unknown/previously unresearched information, was to supplement the large amount of original research with interviews from game composers, producers and developers. This however was found to be impossible, given that with the amount of discussion required, it would fall far beyond the scale of this thesis. Equally when initially attempting to get in contact with the above individuals/companies, many were unwilling to respond, or stated they were unable to provide

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[12] https://www.youtube.com/all_comments?v=mtAUp_imq58

much information. One response was encouraging in terms of willingness to participate, but given the potential bias which this would have placed upon any information gathered, I instead deemed it appropriate to remove this section of the thesis.

1.2 Literature Review

The music of video games is a largely unexplored area, with current literature on the inclusion of non-western instrumentation extremely lacking. While looking at relevant sources within this field, I will also draw upon other lines of research, with the main focus on the areas of World Music, Film Music, and Music perception (with both of the last 2 including music and advertising). Due to the constraints of this thesis, I will not aim to lay out the main ideological and methodological principles of each area, unless relevant to the research investigation. I will however draw from the more applicable studies, in the hope of providing a wider context and reasoning to the smaller range of relevant video game sources.

Before discussing the main academic texts however it is important to point out the vast range of general information and game reviews provided by mainstream publications, websites, and amateur game reviewers, especially given the high regard in which they are held with the core gaming demographic. I will be therefore considering a selection of game review websites, including 'The Escapist' (http://www.escapistmagazine.com/), 'PC Gamer' (www.pcgamer.com) , 'Gamespot' (http://uk.gamespot.com), 'IGN' (http://www.oxm.co.uk/),   'OXM – the official Xbox Magazine' (http://uk.ign.com/), PS3 - official playstation magazine, (http://www.officialplaystationmagazine.co.uk), and 'Metacritic', a site which provides aggregate game ratings from a number of sites and critics (www.metacritic.com/games*). There are also several peer game review sites, specifically 'gamefaqs' (www.gamefaqs.com), where users not only review specific aspects of games, but offer general ratings and assistance in regards to completing aspects of the game (often containing 'spoilers' to gain 100% completion). While these sources provide a lot of insight into general opinion on specific games (popularity, ease of gameplay, graphics, etc.), they do not however provide much in the line of soundtrack review, other than a few general comments. Often this is in the form of a closing sentence (almost an afterthought), or a simple rating out of 10, and very little further detail is given[13].

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[13] Audio games (such as the 'Guitar Hero' franchise) are awarded more time, yet once again this is often limited to tracks listed, as opposed to soundtrack analysis.

The majority of academic focus on video game soundtracks is generally split into two groups. The first is the chronological approach, which looks at the music and its change as different game developers and consoles have emerged through the years. This is usually based on the way that developers overcame the technological restrictions of early game consoles, and indeed formed styles of musical composition which remained strong often after these limitations were removed. Main contributors to this subject include Mathew Belinkie's 'Useful History of Game Music' (1999), Karen Collins' 'Game Sound' (2009), and 'From Pac-Man to Pop Music' (2008) also edited by Karen Collins. While Collins provides the only real academic approach to this field however, she focuses her approach heavily on music technology, looking at how this has limited or affected the music. While this is an extremely important factor, it is important to note a lack of general analysis on different genres of game music, and the actual compositional techniques present. With these works providing a good background as to how game music has evolved, there are a few other sources in this area (the second group) which probe different aspects of video game music. The first 'Play Along – An Approach to Videogame Music' by Zach Whalen (2004) is a discussion of the relationship between film and game music, but specifically that regarding animation. Using examples of the basic music provided in some forms of animation, simple audio effects are investigated along with the early video games which exhibit them. Primarily this is drawing on the concept that basic synchronisation between audio and video provides objects with life and the exercising of anthropomorphic behaviour is perceived[14]. This also discusses the concept of a reverse leitmotif effect, and how adaptive soundtracks change to the users environment instantly during changes in game dynamics/scenario.

The second source is 'Computer Games as a Part of Children's Culture' by Johannes Fromme (2003). Here a simple study has been taken into how much time is spent by children playing video games, in comparison to other leisure/spare time activities. The findings show that not only are video games the 2nd choice media chosen by children, but video games are one of the first choices of entertainment when alone, albeit with boys more so than girls. The social aspect of gaming is also considered and it is clear that talking about games and achievements in-game is a very social activity. With boys it was also noted there was present a competitive aspect of gaming, where friends would seek to be better than their peers. More interesting is the referenced study by Greenfield (1984) which shows that there can be positive effects of video games and television, as skills and related knowledge are absorbed informally. The third source, 'Social Realism in Gaming' by Alexander R. Galloway (2004), discusses the concept of realism and realistic-ness in games. He discusses how games can be divided into fantasy worlds of various ends, or mimetic reconstructions

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[14] Cohen, 2000. in Whalen, 2004

of real life. He shows how a realistic situation, such as walking a dog or driving a car, is generally more immersive than an unrealistic situation, even if the situation is presented with good realistic-ness (for example the graphics, natural sounds or viewpoint are more realistic). It is noted here that some consider realism and historical information to be no more than props to the rest of the game – not unimportant but not the highest priority[15]. Yet Galloway argues that realism must establish correspondences with activities in the social reality of the gamer.

The fourth source, by Alexander Wharton and Karen Collins identifies the effect on music during gaming, by using a customisable soundtrack. They discuss how the customisation of music in games increases the longevity and potential pleasure of gaming experience. This does however take away the concept of gesamtkunstwerk, yet this could be argued as true for unlike a film there is far more individualism already present, with each gameplay experience differing depending on the gamer. The findings of the study show that music changes the meaning of a game/section of game for players and can alter the level of immersion. Players can also consciously alter their heart rate and perceived skill in the game, proving music plays a vital role in gameplay experience[16].

The fifth source, 'Playing Along' by Kiri Miller (2012), discuss mostly games where the music is diegetic, and therefore does not fill the soundtrack role. She specifically focuses on games such as Guitar Hero – where the music is the primary focus of the game, and is commanding the most amount of the gamer's attention, and that of Grand Theft Auto – where music appears as a faux radio station, and the choice of musical genre mid gameplay is that of the gamer. While discussing the merits of a customisable soundtrack is interesting (as Wharton and Collins identify above), it does hold its flaws in that the music loses some of the more specific synchronisations. In this light, this source provides interesting context, but little content within the remit of this thesis. Miller does however believe in the power of multimedia in the transmission of information, for as she states 'both digital media and embodied knowledge can bridge space and time, creating connections between dispersed and diverse individual human experiences.'

A final source worthwhile of mention is that of Nicholas Cook's 'Analysing Musical Multimedia'[17], which while not specifically referencing video games, does in fact enter into the debate on the lack of musical analysis regarding more modern forms of multimedia. He comments that while considerable amounts of enquiry has been conducted regarding traditional multimedia (such as opera or song), analysis pertaining to more recent forms of multimedia is usually not focused on the music. Cook quotes Schoenberg, in saying that different media could indeed carry different

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[15] Shelley, 2001. In Galloway, 2004
[16] Wharton, 2011.
[17] Cook, 1998

information, and that 'the perceived interaction of the media'[18] is therefore vital for further study. This of course is extremely relevant in regards to this research, as it supposes that both visual and audio in the multimedia environment of a video game, may in fact contain different, or at least multiple messages.

1.2.1 World Music

While an important factor, I have not entirely selected sources focused on the 'World Music' debate – is World Music an exposure to new music as a musical enlightenment, or a misrepresentation of culture? Instead I have tried to additionally select literature that comments on the use of non-western instrumentation which has come about after the World Music phenomenon of the last half century, and how this has created preconceptions and potentially false stereotypes about the instrumentation in music of the non-western world. For this reason there are a large number of sources that provide small additions to these concepts, often as additional arguments to the World Music discussion. It is important to mention the main world music debate, and here books such as Philip Bohlman's (2002) 'World Music: A Very Short Introduction', and articles such as Jocelyne Guilbault's (1997) 'Interpreting World Music: a challenge in Theory and Practice' provide a good basic background.

One of the more important aspects in relation to this thesis is the concept of a metaphorical travel; can and how does music 'take you' to another place. Music frequently contains non-western instruments; Veit Erlmann (1996) shows how elements of world music are now present in many new genres, especially avant-garde music, pop, new age music, and jazz. Steven Feld (2000), in 'A Sweet Lullaby for World Music' suggests that the globalisation surrounding World Music has intensified music's connection to social identities, and that technology can not only 'transport us' to the other side of the world, but this transportability is becoming less and less remarkable. There exists a commercial desire for the authentic of the elsewhere, and that the public are and have been greatly exposed to world music. This has of course been adopted commercially, and Timothy D. Taylor (2000) discusses the effect of world music and advertising, arguing that music that is non-western is frequently used to sell things. More often than not the music is in no way related to indigenous or traditional practices, but instead using the exotic to tap into the western traditions of escaping the ordinary, the voyage, the world. By using the sounds of end blown flutes and drums this is easily achieved, however the cultural and geographical specificity of these sounds is deliberately lacking.

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[18] Cook, 1998. p33

This lacking of specificity is considered differently in Martin Stokes' 'Music and the Global Order' (2004). Stokes shows how not only globalisation has allowed for accessibility to the exotic, but how many musical styles and rhythms labelled under World Music, traverse multiple cultures, while managing to remain distinct. His argument showing that world music must be accessibly different; it must have a unique sound, but not too unique. This is reinforced by Demorest and Schultz (2004), whose study entitled 'Children's Preference for Authentic versus Arranged Versions of World Music Recordings', investigated the accessibility of world music in a classroom situation. It was found that student's familiarity with a track has significant positive relationships to a preference for that song; that the more world music presented the more that it is enjoyed. Additionally students overwhelmingly preferred arranged versions of the music, showing that World Music is more initially popular in a more hybrid or westernised form.

Yet almost contrastingly, several arguments show World Music is often tied to specific cultures or at least influences the perceptions of them. Jocelyne Guilbault (1997) states that ethnomusicology believes music can represent the culture (and cultural values) from which it comes, and that World Music has seriously affected the representation of cultures, as many have been represented only or entirely by that single musical genre, and not others. Robert Garfias (1982) says that musical styles are also becoming standardised, with 'accepted' or 'popular' versions in order to survive commercially. Without this commercial backing, other styles become less popular, while the standardised versions dominate the musical market, skewing perceptions of the culture's music. Others add that With World Music not just the music is considered. Jan Ling in 'Is 'World Music' the 'Classic Music' of Our Time? (2003)' suggests that world music can be compared to the enlightenment. He goes on to state how initially mostly young middle class people were the main demographic interested in world music, and not only in the music/art form but the political and cultural aspects of the society represented. This information is readily available, as Pacini (1993) (in Guilbault 1997) points out that world music sleeve notes are usually filled with cultural information about the nation or culture represented.

1.2.2 Music perception

There are two main aspects of music perception which are relevant, that of the effect on audio of visual stimulus (something usually and previously discussed in reverse), and the concept of associationism. For the first, Marilyn Boltz et al 'Audiovisual Interactions: the Impact of Visual Information on Music Perception and Memory' (2009) provides a good basic outline. It is discussed

that visual information does influence music cognition, with examples showing that tempo can be interpreted differently depending on the presented visuals. Melodic effect also changes, with perceptions of a melody's mood or purpose becoming biased. Kellaris et al (1993) provides more on this but in the context of advert processing. He discusses how certain factors appear to have an effect such as higher pitches interpreted as happy, and lower as sadder (Gordon C. Bruner II 1990 also discusses this in some depth). Also how fast loud music has a higher attention value, while slow and soft music suggests the reverse. He also discusses a survey on how purely instrumental music can convey very specific meanings. The results of this showing that 73% of people, regardless of musical training, could interpret intended meanings of unfamiliar musical compositions.

Associationism is the sensualistic and connectionist psychological concept that shows how we draw on previous connections to generate opinions. Regarding music, Annabel J. Cohen is the main contributor to this field, specifically her 'Associationism and musical soundtrack phenomena' (1993b). In this work she discusses how associationism links mental and sensory experience (of which emotion is included), and also how music acquires its meaning through previous associations. She then discusses how when regarding music and visuals (specifically films) the musical associations can be transferred to the visual. A key line of argument also discusses how music is more closely aligned to sensory origins than other kinds of auditory and non-auditory information, and how psychoanalytic and psychological literature shows that mood can be affected more with music than standard verbal techniques. This builds on the concept that film music provides meaning, emphasis and tension that cannot be connected in other ways. Nicholas Cook (1994) re-enforces this concept of associationism and ties it to world music (without referring to the specific study), by proposing, in regards to advertising, that 'one or two notes in a distinctive musical style are sufficient to target a specific social and demographic group, and to associate a whole nexus of socials and cultural values with the product'.

1.2.3 Film Music

Regarding film music, literature is again very general and more often descriptive, instead of offering argument or explanation. Most sources provide a background to various genres of film, and how music has developed or been affected by them. Kathryn Kalinak's 'Film Music: A Very Short Introduction' (2010) gives an outline of how the music industry in films has developed, and contains a section on the use of world music, and non-western instrumentation in film. However this does little to suggest the effect or reason, other than to say that the use of world music may be both

positive, due to previously non-existent exposure, and negative due to a misrepresentation of culture. Regarding film music's role, Cohen's (2001)'Music as a source of emotion in film' brings together previously mentioned concepts of how the narrative drama is supported by a musical emotional background. She also points out that in spite of the 'integral role' of music in film, the study of audio and visual has been neglected by musicology and music psychology until the last two decades.

An alternative source looks at the concept of western film music influencing Bollywood scores. In 'An Understanding between Bollywood and Hollywood? The Meaning of Hollywood-Style Music in Hindi Films' (2001), Anna Morcom provides argument that the effects of 'World Music' we see in western films (i.e. the use of non-western instruments or stylistic features) are mirrored in Bollywood. Here western instrumentation is brought in to increase the grandeur of the score, adding piano, mandolin, and Spanish guitar to traditional Indian instruments. Also western musical stereotypes, such as the use of a bluesy saxophone used to identify unvirtuous women, are found. Morcom also discusses how Bollywood scores also associate chromatics with tension and trauma, even though it is not present in any traditional Hindi music, yet it instils the same effects as successfully as western scores.

1.2.4 Video Game Sources

With many of the other sources providing a good background or introduction to the various concepts and aspects of my research, the main study, and indeed focus, must come from an in depth study of video games themselves. Instead of looking at a large amount of games I decided to focus the study into 5-10 games that were a good representation of the game market. I finally settled on 7 games which all have significant aspects set in a non-western environment, but also represent a wide range of genres, with mobile gaming & puzzle, action/adventure, simulation- strategy, and strategy included.

I decided to choose games that were more recent in design, and also were very accessible to mass audiences; therefore the 7 games chosen were either award winners due to individual sales and entertainment success, or games from well-known production series.

Angry Birds: Seasons

'Angry Birds' is a game developed by the Finnish company Rovio Mobile.[19] Originally exclusive to Apple products (running the iOS), it has since been made available for almost all touch screen mobile devices, as well as Microsoft Windows, PlayStation 3, and a web based version for play with the Google Chrome browser. The game is a puzzle game, whereby players use a slingshot to fire cartoon birds at cartoon pigs, in the aim of destroying them and rescuing their stolen eggs. The game is then complicated by the pigs defending their position with destructible fortresses, and a number of different birds, each with different abilities - either on impact or with a special function when activated. The initial game received very high reviews, with a Metacritic rating of 80%, and has now been downloaded over 1 billion times[20].

After the success of the initial game, Angry Birds released several follow up versions, one of which being 'Angry Birds: Seasons'. This game contains several different locations with a Christmas, Halloween, St Patrick's Day, and Mooncake Festival (Chinese Mid-Autumn Festival) versions; each location keeping the original gameplay, however visually and audibly altered to represent the setting. The musical alterations of St Patrick's Day and Mooncake Festival are using the original motivic ideas and theme tune present in 'Angry Birds', yet altered to sound Irish and Chinese respectively, using traditional instrumentation and stylistic features to attempt this change. The music here is composed by Ari Pulkkinen[21].

Civilization V

Civilization V is a game created by the American game developer Firaxis[22], released in September and November 2010 for both Microsoft Windows and Macintosh OSX respectively. The game is a turn based strategy '4X' game, where the player controls one of 18 nations through its development and expansion over several thousand years. During this time the game can be won by achieving one of several victory conditions; which range from being acknowledged diplomatically as the leader of all nations, to controlling the whole map through military strength, or winning the space race to colonise a nearby planet, as well as a few others. The game takes place on a progressively expanding

[19] www.rovio.com
[20] http://www.forbes.com/sites/davidthier/2012/05/09/angry-birds-hits-a-billion-downloads/
[21] http://www.aripulkkinen.com/
[22] http://www.firaxis.com/

hexagonal tiled map, where the player can move units, build cities, and engage other units either diplomatically or aggressively. The game is the fifth in the series, and was the top sold PC game in its week of release, with a Metacritic rating of 90%. The series also relies on a substantial following; having sold 3 million copies of the previous game: Civilization IV, and at least 2 million copies of the third instalment: Civilization III[23].

The music included is vast, containing a lot of commercial recordings; however the original aspects are composed and arranged by both Geoff Knorr and Michael Curran[24]. Musically the game is backed by a lot of ambient music; however it does react and change accordingly to the nation in which the player chooses to represent. Each nation has at least a 'peace theme' and a 'war theme', which play at appropriate times in the game – such as the start of a campaign as that civilisation. This also occurs when a nation encounters another nation in the game itself, either through conflict or co-operation. These national themes are often traditional folk songs, or music from the culture which is being represented, and for the relevant nations, often contains traditional non-western instrumentation. However each song has most often been altered, either to extend or ornament it.

Far Cry 2

Far Cry 2 is a game by the Montreal department of the game developer Ubisoft[25], released in September 2008 for Microsoft Windows, Xbox, and PlayStation 3. The game is an action adventure game, where the protagonist is trying to free a fictional Central African country from a war, by assassinating 'The Jackal', an infamous arms dealer who is fuelling the conflict. The gameplay follows an open-ended storyline, giving the player the choice in which order he interacts with the main storylines. It also features a 'sandbox' style map, where the player is encouraged to 'free-roam' around the country, and explore the various climates which its landscape comprises. The game received positive reviews, with a Metacritic score of 85%, and by late January 2009 had sold 2.9 million copies[26].

The music was composed by Marc Canham[27] and is largely ambient, responding to the actions of the player in the game; it is not dissimilar to the type of music that might be found in film music in a similar action environment. There is a mixture of western instrumentation, both acoustic and

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[23] http://www.metacritic.com/game/pc/sid-meiers-civilization-v
[24] http://www.geoffknorr.com/
[25] http://www.ubi.com/UK/
[26] http://www.metacritic.com/game/pc/far-cry-2
[27] http://www.marccanham.com/

electric, along with a host of traditional African instrumentation. The traditional music is mostly heard as traditional drums, African solo vocals, and occasionally other instrumentation (such as the Kora), however they are rarely played apart from the other instrumentation, providing a constant synthesis of the western and exotic.

Just Cause 2

Just Cause 2 is a game very similar to Far Cry 2. Developed by Avalanche Studios[28], and Published by Eidos Interactive[29] it was released in North America and Europe in March 2010, with an Australian release following in April, and a Japanese version in June that year. The game is a sequel to Just Cause, and is based on the fictional South East Asian Island of Panau, where the main character 'Rico Rodriguez' is attempting to overthrow the evil dictator Pandak 'Baby' Panay. Akin to Far Cry 2, the character has several different options in completing the game, mainly through the ability to win favour over 3 separate gangs/organisations. The game also takes place in a sandbox environment, which allows the player to explore all of the various landscapes right from the start of the game (the original game contained 391 sq. miles of area to explore, this game boasts at least this amount). This game was highly regarded, with Metacritic scores of 84% for PC, 83% for PlayStation 3, and 81% for Xbox 360[30].

The games soundtrack is composed by Rob Lord[31], and musically the game uses a wide amount of instrumentation from acoustic, electronic, and non-western genres. The game appears to impersonate the stylistic features of a 'James Bond' film, with lots of orchestrated action music, involving brass and electronic instruments; this being especially apparent in the end credits. The music however contains aspects of South East Asian references, most noticeably the use of a gong, along with other Asian percussion. Again the music is motivic, and heightened faster music is attached to action sequences, with much slower ambient settings for other sections, and quieter more staccato music for stealth passages.

Red Dead Redemption

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[28] http://www.avalanchestudios.se/
[29] http://en.wikipedia.org/wiki/Eidos_Interactive
[30] http://www.metacritic.com/game/pc/just-cause-2
[31] http://www.stylophonic.tv/

Red Dead Redemption is a game by Rockstar San Diego, a development studio of Rockstar Games[32]. An exclusively console based game; it was released for Xbox and PlayStation 3 on May 18th 2010. The game is an action adventure game, where the protagonist is a former outlaw, John Marston. The game follows Marston, as he tries to track down and bring to justice 3 former members of his gang, in order to rescue his family from the hands of the American Government. The game follows a linear storyline, however based in a free roam sandbox environment, meaning the player is free to explore large sections of the map (the game is split into two major areas of a Southern USA state, and an area in North Mexico) from the beginning. During this exploration the player can find new weapons and ways to upgrade his character, along with new outfits, and abilities. The game received exceptional reviews, with a Metacritic score of 95%, and as of September 2011 the game has sold 12.5 million copies[33].

The music is composed by Bill Elm, and Woody Jackson[34], and seems largely written in homage to the music of spaghetti westerns. Instrumentation is the main referencing, and the soundtrack contains use of electric guitars, strings, drum kits, as well as harmonicas and brass. During the section spent in Mexico, there is also an increase in the use of castanets and maracas, along with more trumpets, now arranged in a Mexican 'Banda' harmony. The soundtrack also contains 4 songs by commercial artists, José González, Ashtar Command, Jamie Lidell, and William Elliot Whitmore.

Total War Shogun II

Total War: Shogun II is the seventh game in the Total War series of video games. The game is developed by The Creative Assembly[35], produced by Sega[36], and was released on the 15th march 2011 exclusively on Microsoft Windows. A remake of an older strategy game, the game is set in 16th century feudal Japan, at the time of the 'warring states' (Sengoku Jidai), where the player takes on the role of the leader (daimyo) of a Japanese clan. The gameplay occurs on two levels, the first being the campaign map – a reduced scale map of Japan, where the player can move his armies, develop controlled regions, and produce military units. The second level is set on the battle map,

[32] http://www.rockstargames.com/
[33] http://www.metacritic.com/game/xbox-360/red-dead-redemption
[34] http://www.billelm.com/
[35] http://www.creative-assembly.co.uk/
[36] http://www.sega.co.uk/

where the conflicts which occur on the campaign map are fought out. The game received good critical review, with a Metacritic of 90%[37].

The games soundtrack is composed by Jeff van Dyck[38], and contains almost exclusively traditional instruments (of which a very large number are featured) and compositions in the style of Japanese traditional music. This game also features traditional music, and arrangements of traditional folk tunes, with the most recognisable being the use of 'sakura sakura', a folk song about the falling of cherry blossom. The music however is still motivic, with different themes appearing for victory, defeat, peace, and battle. During some of the more heightened action sequences western orchestral instrumentation is added to alter the timbre, and this also occurs during the sparser quieter sections, however this instrumentation is rare, and often limited to a few string instruments, providing simple accompaniment.

Tropico 3

Tropico 3 is a construction and political simulation game developed by Haemimont Games[39], and published by Kalypso Media[40]. It was released on both Microsoft Windows (October-November 2009), and Xbox 360 (November 2009-February 2010). The third game in a series, Tropico pits the player as 'El Presidente', a figure who has recently risen to power in a small Caribbean island during the Cold War. The player must manage this island by not only developing its infrastructure, through construction and exports, but also manage various political groups on the island, and maintain control either through elections, or a strong dictatorship. The game received mostly positive reviews, with a Metacritic rating of 80%[41].

The games music is based around a fictional radio station, called Tropico News Today, where the DJ 'Juanito' provides commentary on the players actions or decisions. Breaking up this commentary, akin to a real life radio station, is a series of 15 Latin style songs performed by various contemporary artists. While the games production company does not provide details on these individual tracks, many of them have been identified by enthusiasts of the genre and game.

While focusing this study on the 8 games listed above, there are many others which provide relevant information, which help understand the music provided by the game industry pre 2005, and also to

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[37] http://www.metacritic.com/game/pc/total-war-shogun-2
[38] http://jeffvandyck.com/
[39] http://www.haemimontgames.com/
[40] http://www.kalypsomedia.com/en/
[41] http://www.metacritic.com/game/pc/tropico-3

provide additional reference points for the later analysis and discussion. I will list these below with a brief synopsis, and discuss them in more detail when relevant.

With game studies such a scarce field, it seems vital that the link must be drawn between other areas of research, and given the scope of this thesis, I have no choice but to draw links to existing academic materials. This is the commonly found method in discussing the video game genre, with many interdisciplinary approaches borrowing and combining concepts from other fields, however caution must be given to all sources not directly pertaining to video game music, for as Karen Collins notes, 'games are very different from other forms of cultural media, and in many ways the use of older forms of cultural theories is inappropriate for games.'[42] In this light therefore, I hope to bring together concepts from other areas of study, yet stress the relationship is only relevant to the examples discussed each time.

1.3 Music in Video games – A Brief History

The first mass produced video arcade game was Nutting Associates' 'Computer Space' (1971), and its audio gives us insight into the industry at the time. Containing no specifically musical sounds, the game only featured sounds such as explosions, thrusters, and missiles. In fact most audio in video games was not a priority at this early stage and in some instances was simply accidental. One example of this is the famous paddle sound from 'Pong' (1972)[43], which despite originally intending to be crowd noises (boos and cheers), was in fact made in half a day, using a sync generator already in use (for a non-audio function). Interestingly at this early stage we see the focus of the video game industry with 'realism', whereby these noises (including that of Pong), were already marketed as being 'realistic'[44].

With sounds for games becoming more demanding, the industry responded, and in fact it was often these demands pushing the audio hardware forwards. The early hardware was poor however, especially regarding space, meaning that quite often the sound would be the first thing to cut. Often games which included music would simply have two tracks, one for the intro and another for game over. Continuous music first emerged with 'Space Invaders'[45] in 1978, when a four-tone loop of marching aliens was played continuously, increasing in speed as the game progressed. By 1980 most game systems had specific co-processors to deal with sound, however the majority of games still had not developed continuous music. In fact the additional chips were typically used to deal with sound

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[42] Collins, (2008) p 5
[43] http://en.wikipedia.org/wiki/Pong
[44] Collins, (2008) p 9
[45] http://en.wikipedia.org/wiki/Space_invaders

effects, instead of polyphony in music. In 1984 looping came into far more prominence, with a number of games showing use of the technique (Tutankhamen, Miner 2049er, Jungle Hunt…). There was also a development towards a more musical nature, with small phrases beginning to replace the 4-tone loop previously found in 'Space Invaders'[46].

Just before this development, games can be found to start to incorporate dynamic music (music reacting to the player). An example of this is 'Frogger'[47], a game where the player aims to guide a frog across a highway, leaping across logs to reach safety. Here the music abruptly changes whenever the player successfully rescues a frog (as well as when they fail), and crucially does not loop, yet this is mainly due to the fact that each track is over 30 seconds long, and the player will always have less time to rescue each frog. A major step forward in audio came with the creation of the NES (Nintendo Entertainment System)[48], where 3 tone channels were now becoming the norm. The 3 lines were used in predictable ways, with one channel for lead, one for accompaniment, and one for bass, yet the looping style still remained in general. This again was due to memory, and a looping soundtrack meant less space taken up for the audio. In general RPG games would have longer loops than others, as the gameplay demanded longer periods in the same section, something which continues through to the music today. In contrast boss battles would use much shorter phrases, as not only were they expected to last for a shorter period, but it would increase the tension in the scenario[49].

With the advent of personal computers, games were beginning to be designed to show off the audio and visual prowess of the new range of chips, however despite these increases in technology, the audio aspect was still neglected, with only 10/170kb reserved for audio per game. From 1982 onwards (mainly with the Commodore 64[50]), there was also an increase in cover songs, with classical music, pop music, and traditional American folk tunes, all featuring (in reduced 3 line versions). At this stage this was particularly common, mainly due to the fact that programmers still controlled the music, and their favourite tunes were often what was included. Along with this it was equally rare to see the original composers credited. With the advent of 16bit music, the same audio developed, increasing the number of lines, until in 1988, when, with 32 bit personal computers, and dedicated sound cards, the games industry began to progress towards the music we see in games today[51].

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[46] Collins, (2008) p 12
[47] http://en.wikipedia.org/wiki/Frogger
[48] http://en.wikipedia.org/wiki/Nintendo_Entertainment_System
[49] Collins, (2008) p 28
[50] http://en.wikipedia.org/wiki/Commodore_64
[51] Collins, (2008) p 5-36

1.4 Video Game Soundtracks and Films

In the more recent stage of video games history, we see a marked change in soundtrack towards that of the film industry. From games around the year 2005 onwards, it is far more common to hear full orchestral accompaniments to sections of gameplay, and (as discussed in more detail below) a far more synchronised approach to music in 'narrative' sections. However while the manner in which the music is composed may be interesting, the more important point to consider is the extremely similar role of music in both games and films.

Arguably this role is that of an accompanying nature, whereby the music provides a complimentary aspect to the entire aesthetic. In regards to film, this theory is largely undisputed, yet there are several arguments which claim its role is in fact much larger, stating that a more vital role of music in film is to provide or help facilitate the emotional narrative. This is outlined in Annabel J Cohen's 'Music as a source of emotion in film', where she claims that 'Film-music composition can be regarded as a type of problem solving that exploits knowledge of the musical rules that express and create emotion through specific musical relations', and therefore 'music, owing in large part to the explicit knowledge and skills of the composer, provides one of the strongest sources of emotion in film.' Crucially, Cohen does not claim that the music provides an additional musical narrative, where the plot lines may evolve visually, and the emotion audibly, however instead suggests that the music influences the interpretation of the film narrative, and that the music becomes 'integrated in the memory with the visual information'.[52] With games allowing the player to participate directly in the narrative, the music therefore has a more important role, as reactions to events is not determined by a films character, but by the player themselves. This means that the music should influence the emotional state more, as the games narrative tries to pull the player into the story of their character(s).

On a more commercial level, more recently it is clear that the game composer as an individual is beginning to be viewed with the similar regard as the film composer. This has become more apparent with the rise of video game concerts, whereby classic themes, such as Tetris, or Super Mario, are mixed with more modern game compositions, such as themes from 'Skyrim', or 'Battlefield 1942'[53]. Here we see video game music being taken out of its context, and remaining popular, proving that the music is moving from providing only a functional role (providing an audio accompaniment to a visual environment), to achieving its own value as music. With video game music becoming more respected as a genre, video games are following the film industry, and many

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[52] Cohen, (2001) pp 267-8
[53] http://www.bbc.co.uk/newsbeat/14738688

games are beginning to release separate soundtracks. This seems to have led to more prolific film composers moving into the video game industry, again increasing its reputation. One key example of this is Hans Zimmer[54], who after composing for several Hollywood blockbusters then provided the majority of the music for 'Call of Duty: Modern Warfare 2'.

1.5 Musical Perception, Associationism & Semiotics

With films containing synchronised soundtracks, it is therefore easier for the composer to influence the audiences' perception, and indeed stress various emotions as they are displayed on screen. In a game however, other than the synchronised narrative sections (again, discussed below), the music must fit a scenario or environment for an undetermined length of time, meaning that such emotional effects must be far more general. Yet this is easier than first imagined, as due to the assocciationist nature of music in an accompanying role it is very easy to portray emotional stimuli using basic compositional techniques. This is remarked upon by Kellaris et al, when discussing music in advertising, specifically 'The Effect of Background Music on Ad Processing: A Contingency Explanation'[55]. Here it is discussed how purely instrumental music can convey very specific meanings, even without the presence of a visual accompaniment. Specifically referencing much earlier work by Rigg, it can be estimated that 3 out of every 4 listeners (about 73%), 'regardless of musical training, could interpret accurately the intended meanings of unfamiliar musical compositions'. [56] Annabel Cohen takes this further, claiming that research shows that humans can categorize auditory patterns into emotional categories on the basis of auditory parameters. As mentioned previously she also believes that music is more powerful than ordinary verbal techniques, in terms of the effect on mood.[57] While (as show above) musical mood is easily identifiable, it is also possible that music can carry far more than just emotional information. In fact, according to Cohen and her work on the theory of associationism in relation to music, it appears far more can be attributed to a few notes, phrases, or timbre.

Associationism is a concept which helps explain how our brain processes memory and experience. In short, whenever the brain encounters information, it tries to relate that information to previous relevant experience. Using this experience, the brain then adds emotional/sensational attributes and information (such as memories) to the situation being perceived. As Cohen remarks, this is

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[54] http://www.hanszimmer.com/
[55] Kellaris et al, (1993)
[56] Rigg (1937) in Kellaris et al, (1993) pp 115
[57] Cohen, (1993) pp 163

because associationism is sensationalistic, linking both the mental and sensory (including emotion) experience. Cohen then goes on to say that music is more closely aligned to sensory origins than other kinds of auditory and non-auditory information. In short, music is 'felt' more as a sensation, as opposed to simply organised sound. However, while experienced more as a sensation, musical associationism is also connectionist, having acquired meaning through previous associations. If the music is a score to a film, these associations are then transferred to the film the music accompanies. This point is vital in relation to video games, for if any of the musical aspects of the score contain personal associations, they will affect the overall perception, and perhaps attentiveness of the player. It is important to note that these musical associations are not always direct and quite often associations skip levels of connections. An example of this would be a rock drum beat, which might associate with rock music, which then might associate with a 'cool image'. However instead of making these individual connections, the brain will often link the rock beat straight to the cool image, meaning that any audible associations in audio-visual environments are clearly extremely important. The final point raised by Cohen in this instance is that some music carries a very individual connection, where as some is entirely cultural. The example she gives here is the use of Auld Lang Syne, a tune used by the western world to celebrate the New Year, whereas used in Japan to signify the closing of a department store. [58] If relating this to the inclusion of cultural audio content in a video game, we must assume therefore any included content must also either have no other associations (new to the listener other than the style or timbre), or extremely specific associations, such as Auld Lang Syne, in order for any associations to be left undistorted.

Associationism is not only present in western music, and the same concepts appear in the music of Bollywood. Anna Morcom discusses this, focusing on how 'Hollywood' style music is employed in Bollywood films to generate specific clichés as well as other associations. She shows how some techniques are in fact common across both film industries, such as the use of chromatics, in scenes of evil, discomfort, or trauma, which could be found in Hollywood or Bollywood. However she then highlights how this is a western notion which has been identified by Bollywood, and it is actually surprising that the same associations are present. Chromaticism for example is not used in the same way in Indian traditional music, so the concept of chromatic passages representing a specific set of emotions is in fact alien to Indian culture. It is therefore interesting that these associations can be used so successfully.   Another example of this is the use of a 'bluesy' saxophone, to represent an unvirtuous woman. Again this is an example of a western cliché becoming adopted by a non-western film industry. This is also arguably proof of the level of musical globalisation present today,

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[58] Cohen, (1993) pp 163-178

where musical elements of gestures can be found to represent similar situations in a cross cultural environment.[59]

Yet while we consider the effect of music (audio) upon the visual in an audio-visual environment, there must also be consideration given to the effects of the visual. While specific association studies do not appear to be present yet (given that the audio is usually subservient to the visual and therefore providing the 'extra' information), there is some proof showing that images will affect musical perception. One such example of this research was conducted by Marilyn Boltz et al, in 2009, where she suggests that visual information does influence music cognition, and that when presented with images, music's tempo, and perception of melodic affect are biased.[60] This of course becomes relevant in video games, as with many of the soundtracks now becoming available as separate to the game, there is a chance the player will encounter the soundtrack before playing that section of the game, and perhaps begin to build associations.

While we can therefore assume that images/sounds can be tied to music, other concepts such as 'music message congruency' (MMC) are important here. Discussed by Kellaris et al in 'The Effect of Background Music on Ad Processing'[61] , MMC states that if music 'fits' its setting, or purpose (specifically discussed in relation to advertising), then the music is far more effective in both reinforcing and transferring associations. An example of this in video game environment would be 'The Vet & The n00b'[62] advert created for Call of Duty Modern Warfare 3. Here we see a montage of an improving soldier (in a comical manner), which is set to AC-DC's 'Shoot to Thrill'. Not only is the rock music 'transferring' any 'cool' associations, but crucially even the lyrics themselves fit the scenario perfectly – play this game and you will 'Shoot to Thrill'. The testing has also shown that this is effective in a sound only example (they generated several fake radio advertisements), and even has an example of this which relates directly to this thesis, where a traditional Chinese song 'Triumph', was positively used to accompany an advert for 'Ching Dynasty', a Chinese restaurant. However there are also examples shown where 'poor' music choice has had a negative effect, leaving us to conclude that music in advertising can either enhance or inhibit, whereby the inclusion of music is not always a positive factor[63].

Philip Tagg refers to the nature of a specific sound and its many associations, with his work on genre synecdoche. He uses this term to describe the use of any indexical sign, which 'by citing elements of

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[59] Morcom, (2001) pp 63-84
[60] Boltz et al, (2009) pp 43-59
[61] Kellaris et al, (1993) pp 114-125
[62] https://www.youtube.com/watch?v=zuzaxlddWbk
[63] Kellaris et al, (1993) pp 114-125

a style of 'other' music, allows a particular audience to associate to another time, place or set of people than their own. By citing a small *part* of the 'other' musical style, a genre synecdoche alludes not only to that other style in its entirety by also to the complete genre of which that other musical style is a subset. '[64] In short Tagg is claiming that even one aspect of a style of music, will attach or 'allude' to style in its entirety, meaning that that 'cultural flavouring' found in the music of video games (see following chapters), is indeed carrying extra information to any game players.

Philip Tagg also discusses the previously mentioned negative, or inhibiting references/associations, in his writings on semiotics. He claims that a negative reaction (to the intended associations) can be split into two sections. The first is 'codal incompetence' whereby the 'transmitter and receiver do not share the same vocabulary of musical symbols'. Here he uses the example of an accordion dance style, which would be commonly recognised in Sweden as a reference to the 'good old days', but would not be recognised by listeners from Liverpool, as they simply do not have the points of reference.   Equally another example citied is that in many instances Tagg believes he could not distinguish music for marriage and burial in the majority of the world's cultures. This would be an 'incompetence of musical code in the culture concerned'. The second instance is referred to as 'codal interference', and this is where 'the transmitter and receiver share the same basic store of musical symbols but totally different sociocultural norms and expectations.' In short, the intended sounds are recognised by the listener, but the 'adequate response' is obstructed by other factors, such as a general dislike of the music and/or what the listener might think it means (someone might have this reaction if they particularly dislike heavy metal for example).[65]

1.6 Advertising, World Music & Cultural Representation

Reconsidering the role of music in the combination of music and the visual, it is interesting to see how associationism can be applied to areas such as advertising. We can assume that the base role of music in advertising is to support the visual, as explained by Nicholas Cook's 'Music and Meaning in Commercials' (1994). Cook claims that 'the connotative qualities of the music, complement the denotative qualities of the words and pictures. Or to put it another way the music interprets the words and pictures'. Here he is discussing a specific Citroen advert which features the overture to The Marriage of Figaro; however he is insinuating that unlike film music, which provides a more direct accompaniment, or re-enforcement of visual themes, the music here has a more substantial role. A more vital point which Cook raises in this article however, is the way in which advertising

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[64] Tagg (2004) p 4
[65] Tagg, (1999), p 1-40

companies will target a group of individuals using sound. He claims that 'one or two notes in a distinctive musical style are sufficient to target a specific social and demographic group, and to associate a whole nexus of social and cultural values with the product.' [66] Here he is not only saying that music can personally identify with a 'type' of person, but also referring to the ability of music to conjure up images or sensations that are not emotionally based. Specific music in this situation can provide specific images or values to a specific social or cultural demographic.

Steven Feld's 'A Sweet Lullaby for World Music', discusses this idea with a more cultural focus, claiming that the public have been greatly exposed to world music, and through this globalisation of culture, there has been an intensification of music's connection to social identities. He goes on to state how 'technology can not only 'transport us' to the other side of the world, but this transportability is becoming less and less remarkable'. With this ease of transportability, especially with the advent of social media sites, where the public can share 'culture' with each other, it is obvious that even the less curious amongst us have the world's music at our fingertips. In fact, Feld hints at this, when claiming that 'there exists a commercial desire for the authentic of the elsewhere.' [67]   However this authenticity is not always accurate, for despite world music sleeve notes giving cultural information about a nation or culture, there is no guarantee this is accurate, in fact, while ethnomusicology believes music can represent the culture (and cultural values) from which it comes, the situation emerges where the culture which has been represented, is in fact represented 'only or entirely' by that music, and not others.[68] This generally occurs due to basic marketability, where the more commercially viable musical styles are the ones which rise to prominence. Robert Garfias discusses this, stating that in the music of the Far East (Indonesia, China, Japan), 'musical styles are becoming standardised, with 'accepted' or 'popular' versions, in order to survive commercially.' These standardised versions then dominate the market, skewing the audiences' perceptions.[69]

Timothy Taylor considers this with a slightly different view, stating that often non-western music is simply inspiring the exotic. He states that music which is non-western is frequently used to sell things, and often the music (or musical styles) chosen is in no way related to the indigenous or traditional practices of the represented culture. In essence he is highlighting the use of non-western instrumentation, as a method of inspiring the exotic, through 'the voyage'. He claims that in most instances in advertising however, the exotic is what's searched for, not the specific cultural or

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[66] Cook, (1994) pp 27-40
[67] Feld, (2000) pp 145-171
[68] Guilbault, (1997) pp 31-44
[69] Garfias, (1982) pp 1-8

national ties. Instead frequently sounds such as the end blown flute and drums will be used, however in a manner which leaves the cultural and geographical specificity of the sounds deliberately lacking.[70]

In summation, we can see that by looking into both the world music discussion, and the music of advertising, music from foreign cultures, either stylistically or through the use of instrumentation, is used, to represent the non-western world. This use extends past simply commercial ventures however, with a suggestion that the music may either represent individual cultures or simply be used to suggest the exotic. Crucially the discussion above also suggests that not only is this effective, but also commonplace, leading us to believe that the average listener, or indeed video game player, is aware of these sounds to some extent.   Returning to the discussion above regarding music and semiotics, therefore we can assume that when these sounds might be used in the music from video games, any negative reaction is likely to be a result of codal interference, as we can expect these sounds to make up the listeners vocabulary, even if the setting has not been previously attached. Logically therefore, if a game composer/production company has chosen to use any of these non-western styles/instruments, these sounds will be, where possible, only intending to reference a foreign location, not inspire mood, as there is then less chance of codal interference (for example if an instrument was used in a particularly violent film, it may carry similar connotations).

1.7 The 'epic' cut scene, and the scenario 'loop'

Ignoring for a moment the other aspects discussed, and returning to the ties between Hollywood and the games industry, the most common link between the soundtracks of films and games however is that of the 'cinematic', 'full motion video' or 'cut scene', where one can not only draw comparison to the audio, but also elements of the visual style as being influenced by film. Cut scenes have been present in games for some time, and have developed considerably as game engines have improved. Defined as the moments when the player does not have direct control of the characters, yet narrative is occurring (generally this is either a recap or development of the main game plot); they form a vital part of the game experience, and often are what draws the narrative aspects of the game into a coherent story. Initially cut scenes were sections of the game where narrative information was explained via scrolling text, while the character remained motionless. This progressed to the inclusion of voiced audio and scripted character movement/action, such as fight scenes. More recently they have developed further to incorporate camera angles not found in-

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[70] Taylor, (2000) pp 162-192

game, and sometimes even embedded video files, where the graphics may be different or improved to the in-game footage.

With game engines providing this greater range of options (specifically in rendering of graphics, such as modelling and textures), in cut scenes game companies have begun to use camera angles more commonly found in films or television, whereby the footage will flick over facial expressions, or pan over a large area or environment. One such game which uses this effect considerably is the Mass Effect series, which also models its characters on the actor voicing them, allowing them to be recognisable to the players.

The Normandy Reborn: Mass Effect 2. (2010, EA Games)

In this way characters can be seen to scowl, or show pain, and with this change in style a lot more information is provided visually, instead of relying on 'spelling out' the narrative with just speech or text. Game composers have since began to compose more scripted music for these scenes, where the audio is completely synchronised to the visual, due to the fixed nature of the action and narrative (unlike in standard gameplay). Akin to film music this has led to a rise of the 'epic'; whereby the soundtracks to these scenes often consist of orchestral music with rising brass themes and swelling strings. Due to the fact these scenes often offer vital plot information, the composer is In essence exaggerating the climactic points in the narrative, aiding the visual by adding emotion and suspense, as found in film music.

Yet while these scenes may be fixed, more modern games are moving into free-roam or sandbox environments, where there are little or no restrictions on the pace of gameplay. This in regards to soundtrack has produced the opposite to cut-scenes, with soundtracks becoming more basic and repetitive, in order to disguise any looping, should the audio be required to repeat. Music is also often assigned not only to in-game areas, but also in-game scenarios, such as action sequences, stealth sections, or simply exchanges with various characters. It is arguable therefore that game audio is for the majority comprised of leitmotifs, with small repeating sections of audio re-enforcing in-game action.

In outlining the major differences between cut-scene and standard gameplay, the key feature appears to reflect the music's switch between the emotional, and the functional. While in a situation where the player has no or little in-game control, the music becomes more prominent, and takes a larger role in reinforcing emotions and adding to climactic scenes This of course plays off the previous effect identified by Kellaris et al – in that with 75% of listeners able to identify the mood of unheard instrumental music, the music (as in film), can be a powerful tool in reinforcing an emotional narrative[71]. In contrast during sections where the player is in control of gameplay, the music provides a more functional role, reinforcing the visual by conveying basic themes for moods and or locations. It is important to note that the standard gameplay soundtrack is of course reinforcing the visual emotionally, however in a much less engaging manner, and seemingly to far less effect. With the focus on the visual and manipulation of in game sequences, the music must not be prominent enough detract from gameplay and distract the player. This notion of importance is emphasised with the cinematic music often being the music which is most favoured by the player, despite the fact their exposure to the audio will be only once during gameplay, (whereas they may hear the track representing one in-game 'area' hundreds of times). In fact many cut-scenes are found posted on social media sites such as YouTube, and will be watched repeatedly both by players and non-players outside of a games context (the 'Ultimate Renegade' ending to Mass Effect 2, has to date 682,148 views)[72]. Other game audio is also uploaded, and although receives favourable feedback, does not receive the same number of views nor status.

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[71] Kellaris et al, 1993
[72] https://www.youtube.com/watch?v=-qhp4jD2qOc (04/03/13)

2. Video games at first glance

With a basic understanding on the history of video game music, some of the factors directly influencing the perception of music in games, and a discussion of some current practices, it is important to look at how music differs between different genres of gameplay. As it is assumed the music acts as a subsidiary to the visual (while a game may be played without audio, it would be impossible without visual), clearly the manner of the visual, and the interface provided to control this visual presents a vast range of scenarios amongst different games, crucially changing the nature of the music's role. Therefore in the next section of this study, I hope to identify the main genres of video games, and discuss both the common practice, and any related discussion for game music in each genre.

With video games released each year in the hundreds, it is important to state that the scope of this study cannot consider every game released. It is also important to note that while some games may contain non-western musical aspects, due to the lack of academic literature, peer review, and game critics discussion regarding cultural representation I cannot guarantee to find every example, however prominent. Yet by focusing on the bestselling games from each genre, along with games which have been heavily marketed prior and during release – I can create a picture of what the main gaming demographic will be exposed to, despite their preference in game-style/genre. With a more specific focus on the 7 games previously mentioned, I hope to outline what can be found with a much wider viewpoint, and pick out the vital points of discussion.

With this in mind, when discussing each genre I will focus on the games mentioned previously, and other games or game series which either dominate the market, receive extremely favourable reviews, or are more commercially successful. Given the more specific focus of this study I will also refer more to games which feature non-western environments and/or musical elements, within each genre. It is also important to stress the differentiation I have made between game 'audio' and 'soundtrack' during the rest of this thesis, whereby the former encompasses the latter, and contains all other sound effect noises, diegetic references, and user generated sounds. This leaves the soundtrack to be the background music, composed to accompany the in-game experience.

2.1 FPS/Shooters

First person shooters, or simply shooters, are one of the bestselling genres of video games. The player in these games will take the role of an individual, be it a soldier, mercenary, freedom fighter, or hero, and often will only view the arms and weapons of their character in front of them. Previously more of an 'arcade' genre in nature, the shooter has more recently been drawn towards the focus on realism (mentioned by Collins in regards to early games[73]), with games boasting impressive physics engines, and a graphics level of detail, which recreate the 'battlefield'. Out of the main games in this study, three of the seven games fall into this category, Just Cause II, Read Dead Redemption, and Far Cry 2. The first two of these games fall into the discussion above, with a strong connection to film music. However both games focus on not only employing techniques from the film music genre, but also imitate specific film's genres, in order to lend the associations which this mimicry brings.

The first game, Just Cause II, models its soundtrack on that of the James Bond films. While there are aspects of the soundtrack which appear whenever certain missions or areas are entered, the rest of the soundtrack is based upon what type scenario the player is in. This is usually tied to aggression of either the player or the local military, so the soundtrack features a number of tracks for 'combat', 'evasion', and 'stealth'. The Bond mimicry comes with the use of 'stabbed' trumpets, rising horns, and small riffs repeated intermittently on electric guitars, over strings and a drum beat. This is very similar to the music found in the soundtracks many of the Bond films, which of course have unofficially referenced each other musically in the search for continuity. In the two tracks which accompany the main title screen and credits, these techniques are very much present, and could be mistaken for music from a film in the series easily.

 Set on a fictional island in South East Asia (called Panau) the visual environment is very detailed, and the soundtrack also makes references the location through the use of instrumentation, though in a very restrained manner. Throughout the soundtrack there are snippets of traditional instrumentation samples. They are often in the form of a wooden flute, pitched percussion, (imitating gamelan instruments) or the use of a gong, especially in action sequences. The instrumentation also does not make up part of the main melody, merely acts as additional interest, or reinforcement to the visual location. The game also features examples of instrumentation used to generate a nationalistic[74] effect, and early in the game, when contacting/conducting a mission for local guerrilla forces, the Panau 'national anthem' is played. This consists of a chorus singing to 'ah'

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[73] Collins, 2009

[74] For the purpose of this thesis, I would like to define nationalistic, as music which is used to represent a specific real-life or fictional nation, usually with connotations of pride/celebration.

in octaves, however other than the crash of gongs at the start of phrases, contains no other non-western instrumentation. It appears therefore that throughout this game, the focus is on generating the appropriate mood for the scenario, while providing 'cultural flavouring' to enhance the visual cultural stimuli.

The combination of both the Bond imitation and this 'cultural flavouring' is found during the credit soundtrack. Here the music begins with a short clip heavily dominated by non-western instrumentation beginning with a gong and followed by a sample of a 'wailing' reed instrument, and woodblocks. Synthesised strings are added, and there is then a pause before the main melody begins (about 30 seconds in). From this point onwards any non-western instrumentation is almost non-existent (there is a muted trumpet which imitates a Cuban jazz style), with one mention near the end of the extract, where a short clip taken from the beginning is played before a main theme refrain (lasting no more than 5 seconds). The track ends with an excerpt similar to the Panau Anthem found earlier in the game.

The second game, Red Dead Redemption follows a similar theme, both musically and regarding general gameplay. Set in three geographical regions, the Great Plains, the Desert of New Mexico, and Northern Mexico itself, it pits the character as an ex-outlaw 'John Marston', who must track down the old members of his gang in order to free his family from the government. Musically there is once more homage to a specific film genre, this time to the soundtracks of the 'Spaghetti Western' films. These films, famous for their sparse music, using instruments such as bass guitar, electric guitar, harmonica and drums, evoke the image of the lone cowboy purely on sound alone. The connection, which appears clearly intentional, is apparent in all aspects of the game and the storyline appears to be a collection of missions taken from events in western films; protect a wagon from bandits, save a woman from hanging, prevent a bank robbery, etc. The music is almost identical to that discussed above, with the addition of a few tracks by country, folk, and rock artists.

However while the music is trying primarily to imitate/associate with the film genre, there are also instrumental additions once the player heads across the border to Mexico. Similar to the previous game, the soundtrack has an almost leitmotif design, with are various tracks played depending on the scenario the player finds himself presented with, such as a chase, a fight, or a stealth scene. When in one of the two in-game areas of the United States, this will trigger the standard track, however if in Mexico, an extremely similar track will play, yet with the addition of trumpets and castanets, playing small motifs not unlike that played by mariachi bands. Once again the 'non-

western' (at least in style) instrumentation is being used not as the focal instruments, but to 'flavour' the soundtrack culturally, with priority going to mood and provoking the cowboy aesthetic[75].

In the last game of focus in this study and genre, Far Cry 2, there is a more significant role placed upon non-western instrumentation. Set in a fictional country in Central Africa, the player takes on the role of a character trying to free the country from a civil war. The gameplay is largely based on action and exploring, and when considering this in relation to the soundtrack, similar techniques to the previous two games game be found. The use of a leitmotif, or scenario based composition, are again employed, with the tracks focusing on action, stealth and neutral/passive in-game situations. Yet unlike the previous games the non-western instrumentation is far more prominent, and instead of being used to just flavour the tracks, it is in synthesis with more western instrumentation. This means that instead of the use of a drum kit, the composer has chosen to use traditional African drums (mostly djembe drums) in almost all situations. Rattles and woodblocks are also heard frequently, an mbira can be heard in a couple of tracks, and in a few of the quieter tracks a kora and a male voice can be also heard.

While In the previous games the non-western instrumentation was employed as 'extra' cultural material, there is a shift in Far Cry 2, with instruments used in parallel with more standard instrumentation, and not only in role but also in terms of traditional stylisation. There are a number of tracks which contain syncopation common to African drumming between various rhythmical patterns, most noticeably the effect of 2 against 3. Arguably however they are extremely simple, and do not appear to employ advanced techniques or the use of traditional songs or themes. Also with the instrumentation employed in the soundtrack being a very small ensemble, non-western instrumentation and rhythms are probably easier to 'work in' than with other soundtracks, which might employ an orchestra. Equally, unlike the last two games discussed, with the game not trying to tie itself to a film genre or previously established associations, it has far more creative freedom, and no standard instrumentation to adhere to.

While I have chosen to focus on these 3 games, due to the fact they are based in one defined cultural region (or 2 in the case of Red Dead Redemption), there are of course a huge number of games sold in this genre, and a brief look into the commonly used soundtrack techniques is important. Therefore, as stated above, I will further consider whether the same elements of

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[75] Interestingly the track of popular music included in the soundtrack 'Far Away', by Jose Gonzalez, actually won the 'Best Song in a Game' in the 'Spike Video Game Awards 2010'.

soundtrack appear throughout this genre, by focusing on two of the bestselling series, the 'Call of Duty'[76] series, and the 'Battlefield'[77] Series.

The Call of Duty franchise began with its namesake 'Call of Duty', in 2003. Originally a series set in World War II, the franchise expanded away with Modern Warfare, in 2007. Currently the series has over 40 million monthly active players, and the last game, Modern Warfare 3, made £490 million in its first 5 days of sale[78]. The soundtracks for each game have been quite diverse, and feature prolific composers (the main themes of the Modern Warfare 2 soundtrack are credited to Hans Zimmer) yet stick to similar themes. Instrumentally there is a combination of orchestral instruments and electronic ensemble. The orchestra imitates film soundtracks, providing 'epic' themes, and the orchestration relies heavily horns/trumpets in order to evoke a military feel. Also akin to film scores, during moments of tension orchestral slides and dissonance is heavily used. During action sequences (the majority of gameplay), the soundtracks will feature an almost constant drum beat, often accompanied with electric guitars and electric bass guitars. The music also tends to become very repetitive and rhythmical, due to the fact that many scenes take longer or shorter depending on the choice or skill of the player. Some of these drum beats dominate the soundtrack, appearing to be the most important instrument, for example in 'Call of Duty: Black Ops', where many of the sections could be closely compared to drum and bass tracks. Solo instruments can also be found, for example in Black Ops, a solo piano is found in slower paced or more unnerving scenarios (such as the extra zombie missions).

Through the course of the various games, there are many different in-game areas, with many different cultures and locations. These range from Berlin, to islands in the Pacific, and represent a range of battlefields from the historic to the fictional. When looking at the games and how they respond to this via soundtrack, there are again examples of 'cultural flavouring'. The 'Reznov' theme from 'Call of Duty: World at War' contains a wailing fiddle, and the Red Army theme begins with a male chorus to start – sung stylistically to hint at Russian folk music. When assaulting a Pacific island's beach (Peleliu island to be specific) as a US marine, there are fanfares on trumpets harmonised in fifths (imitating the last post and other military pieces), followed by notes on a wooden flute, and non-western drums, before a combination of all of this with an electric accompaniment. Some games appear not to reference this as much, but often they are not representing cultures as distinctly as others. 'World at War' for example contains fighting in the Reichstag, whereas 'Modern Warfare 2' contains fighting in the Afghanistan desert. 'Modern

[76] http://www.callofduty.com/
[77] http://www.battlefield.com/
[78] http://www.guardian.co.uk/technology/2011/nov/18/modern-warfare-2-records-775m

Warfare 2' does however contain a favela scene, which contains drum sounds and patterns from 'Batala' drumming fused with synthesised strings and other drum beats.

Akin to Call of Duty, the Battlefield franchise began with another World War 2 game, Battlefield 1942, and has since also progressed to the modern era. Unlike the Call of Duty series, it has recently pushed towards a more realistic approach and prides itself on a creating a realistic combat experience, that it is marketed as a 'battlefield simulator'. Since 2008 it has sold 17 million units, and although not as popular as Call of Duty, with the launch of 'Battlefield 3' it is currently seen as the main rival. Musically similar things can be seen. Again there is a heavy use of electronic instruments with a strong focus on a heavy drumbeat throughout most tracks, with music extremely rhythmical and repetitive. Also the use of a 'military' theme appears, with a melodic motif stolen from the original game featuring as the main theme throughout the new game's soundtrack.

In regards to representation of culture however there are no references in the games soundtrack to any non-western instrumentation, or any culturally specific stimuli in the soundtrack. Instead the soundtrack in Battlefield 3 makes use of heavy distortion, leaving a lot of the audio sounding extremely similar, and more repetitive than other games. With such a focus on the visual in the game (a new engine was designed for the purpose of extreme realism in graphics), one can therefore only assume the soundtrack was not viewed as important. Also with the original game being based upon a more multiplayer experience (with wide open maps involving the capture of territory as the only objective), it may be that with the soundtrack drawing from these original themes, there was simply no material to draw from.

With this genre of gameplay, the music appears to almost exclusively reinforce the mood of the game, or at least attempt to increase any visual tension, with repetitive building rhythms and harsh loud noises. However there are instances where this has not been adopted, and it does prove useful comparison. When looking at the final mission of Modern Warfare 2 'Endgame' for example, the above referenced approach is employed. The scene is that the player is chasing a boat by driving one of his own, while being assaulted by various fixed gun emplacements, helicopters, and physical obstacles. During this, the orchestral soundtrack (as previously mentioned, key themes by Hans Zimmer) is accompanied by a drum kit, and features repeating swelling themes, and a pulsing homophonic chord sequence. When the climax approaches, the music jumps to a synchronised snippet for about 10 seconds. Throughout the mood and tension of the music, matches that of the gameplay.

In contrast 'Mafia: The City of Lost Heaven', shows in one instance, a starkly different approach. In the game, the player is Tommy Angelo, a taxi driver who becomes a 'made' man, for the fictional Italian mafia in a fictional US City, loosely based on New York, Chicago, and Philadelphia in the 1930's. In the second mission, 'running man' the character must escape to the bar of Don Salieri (the fictional mob boss), while being chased by two thugs from a rival crime family. Instead of a tense soundtrack however, the game[79] chooses to use a piece of Romany jazz, called 'La Verdine'. This upbeat music adds a very light hearted twist to a tense moment in game, however not to detrimental effect. In fact the fast pulse and repetitive music almost force the player to speed up and stay on task, despite not matching in mood.

In conclusion it appears that the majority of games containing non-western settings in this genre do employ use of non-western instrumentation and styles, however this is not used throughout, and when used varies widely. It appears that the main use is through a 'cultural flavouring' where instrumental snippets or sound bites are used in order to reinforce the visual, but only for brief moments, with the soundtracks mostly deferring to generating 'the mood for action' and the visual element of gameplay. As mentioned above, this is likely due to the fact that while the associations used will be common (a reed flute will often evoke East Asia), they will not be universal, and may often carry contrasting images. By using smaller snippets, this prevents the chance that if the musical cultural references are rejected, it will inhibit the experience to any great extent.

Equally interesting is the potential use of style borrowing from James Bond soundtracks, found in Just Cause II. Unlike the use of non-western instrumentation, or cultural flavouring (which may produce an effect not matched to the intention of use), here shows a deliberate attempt from a game composer/producer to generate associations. It would be interesting, however not in the scope of this thesis, to pursue this line of enquiry, and in fact interview relevant producers and composers as to their deliberate or accidental use of associations in the compositional process, and their take on the desired effect. Both the cultural flavouring and James Bond imitations also show a need for similar discussion regarding the use of instrumentation and compositional technique – and this research could be considerably strengthened with both individual analysis and discussion with composers regarding this focus.

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[79] Which is accompanied by a soundtrack of Django Reinhardt when not in specific missions.

2.2 RPG/Adventure/ MMORPG

Role playing games (RPG's) have a similar interface to shooters, though are often in a form of third as opposed to first person. Again the player controls one character, however in RPG's the focus is on the character's development, increasing strength, and/or gaining abilities to complete a final task. Not as popular as FPS games, they do however contribute to a significant part of the market, and their soundtrack will often contain far more variety. The most popular and in fact bestselling games in this genre are the 'Pokémon'[80] series (published by Nintendo and developed by both Creatures Inc., and Game Freak), the 'Dragon Quest'[81] and 'Final Fantasy'[82] franchises (created by Square Enix), and the 'Diablo' series (specifically Diablo II, created by Blizzard Entertainment). Therefore again I will focus my attention towards these games' soundtracks in this study.

Immediately important to note is that all of these games are set in fantasy worlds, with a mix of stimuli drawn from real life. The crucial nature of these games is the combination of many different areas, often set apart by different geographical and ecological differences (such as deserts, mountains, grasslands, etc.). Geographically these different climates are often placed very close together, with little overlap, meaning the climate will change dramatically when entering a certain area, and will not necessarily relate to the areas around it (Snow covered tundra may often be found adjacent to a desert). Commonly fantasy games draw from a range of cultures, often with very similar stereotypes used, such as Egyptian deserts, gothic and medieval castles, South American jungles, and Asian temples (with a lot of references to Japanese Edo period architecture).

As mentioned the best sold franchise is the Pokémon series of games (so popular they have produced a spin off card game, television series, and even films), with a total number of game sales estimated at well over 200 million[83]. In Pokémon the player controls a character (always a young child leaving home on a 'Pokémon adventure'), who becomes a 'Pokémon trainer'. This involves travelling around the games' region (each new game is set in a different region, apart from a few remakes), collecting new Pokémon (monsters with different abilities), and them using them to battle – whereby the player fights other trainers and their Pokémon. The game is completed when the player has collected all of the games' Pokémon, and defeated all of the 8'Pokémon Gyms' to collect 'Gym Badges', entitling the player to then fight and defeat the Elite Four & Champion, the best trainers in the game. The gameplay is in real time, other than the battle sequences, when the play becomes turn based. This means that the players selects his options (usually Fight, Run, Use Item,

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[80] http://www.pokemon.com/
[81] http://dragonquest.nintendo.com/
[82] http://na.square-enix.com/games
[83] http://uk.games.yahoo.com/blogs/plugged-in-six-odd-facts-pokemon-010628069.html

and Switch Pokémon), and then watches the results of his actions, and that of the other trainer/wild Pokémon.

In terms of in game environment Pokémon is set in worlds more similar to our own, with the games based upon travelling between towns and cities based upon modern day Japan and America, and generally contains a far more consistent cultural environment; elements of architecture will remain culturally identical across the entire game, with subtle changes in order to provide individuality to each new town. Musically the game however has an interesting history. Due to the fact the original game was available for the 'Game Boy', it was limited to two wave patterns, which could be altered in pitch, and by changing between 4 'duty cycles' (percentages which define how square the waveform is), to produce various different timbre. With headphones this could be placed in stereo, but obviously this was still extremely limited. While instrumentation was imitated (through the use of multiple duty cycles per beat, timbres such as plucked or hit sounds could be created), this was often limited to snare drums, bass guitar, a horn sound, and a keyboard. These instruments, other than the snare drum, were not always clearly identifiable, and in reality were simply a variety of basic pitched electronic sounds.

Therefore for the first few games there is a suggestion of western instrumentation; however this of course is tenuous. As the games (and more importantly the consoles) have improved however there is more material for analysis. Yet what we find here is almost homage to the original games; In Pokémon 'Black' and 'White' for example, the samples for the same instruments have improved and in some cases expanded, the bass guitar is more realistic, the snare has expanded to a drum kit, and there are now pitched percussion distinguishable as marimba, xylophone and glockenspiel, however the vast majority is still electronic synths. Interestingly towns which have a unique architecture (usually taken from an historic location), such as 'Opelucid City' from Pokémon 'Black and White' do not appear to have any altered or additional instrumentation.

Despite this there are examples of culture being added in Pokémon Games – specifically Pokémon SoulSilver and HeartGold, however this appears only visually (architecturally). In the original Pokémon Gold and Silver games, Mahogany Town was an area found late in the game, and appeared the same as any other town or city.
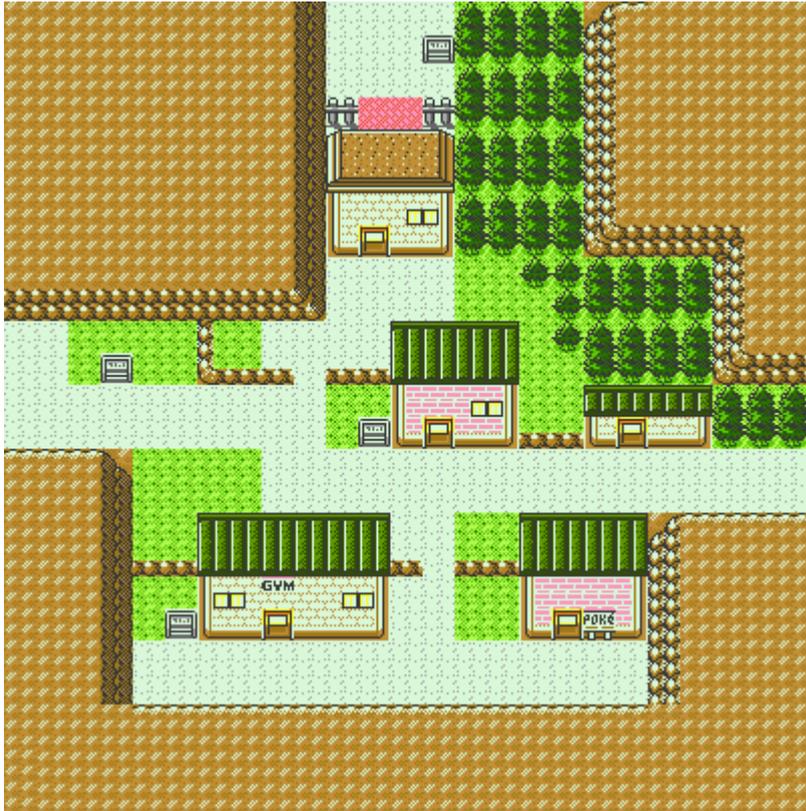
Mahogany Town: Pokémon Gold/Silver (1999-2001, The Pokémon Company)

However in the remakes, the town is now given more traditional Japanese architecture, as shown below.

Mahogany Town: Pokémon HeartGold/SoulSilver (2009-2010, The Pokémon Company)

While the addition/variation of architecture could be down to limitations in the previous game (not enough space on the game cartridge itself to store many building types/graphics), the same could be said of the music, however instead of changing both, the visual is altered, while the audio remains identical (albeit with better samples). This again reinforces the previous belief that the music is probably subsidiary to the visual, and while it could be a homage to previous games, is more likely simply less important.

Diablo II has sold over 17 million copies (at an estimate), and as well as once being the fastest selling computer game of all time (according to the Guinness Book of Records in 2000), was the 19th bestselling game (specifically Diablo: Battle Chest) of 2008, a full 7 years after its original release[84]. In Diablo II the player is a member of a band of adventurers, who after hearing stories about 'the wanderer' (the result of the first game), set off on a quest to rid the world of this evil. Most commonly referred to as a 'Hack and Slash' game, the action is set in 3rd person, with the player looking down upon their character. The character may be one of 5 classes (7 with the addition of the expansion pack), and each character class has different magical skills and choices of weaponry.

Diablo is set in a world which draws from various ancient civilisations (namely a gothic cathedral from the middle ages, an Ancient Egyptian desert, and a Mayan jungle) yet also 'culturally amalgamated' environments, such as Hell, an underground fiery region that borrows from several cultures (rivers of lava, red and black stone, and lack of vegetation, gothic western architecture). Musically the score is both ambient and experimental, and contains a combination of western and non-western instrumentation (djembe, dumbek, drums, oboe, pedal steel guitar, and samples from 'Heart of Asia', 'Heart of Africa', and 'Symphony of Voices' all by Spectrasonics).   Yet despite using these instruments and samples, the music does not reference a culture specifically through instrumentation. For example the section set in the desert (based around the middle east with heavy Egyptian influences) is backed by a Chinese wind gong and samples of plucked Asian zithers. Instead of reinforcing a culture the game uses the same concepts of exoticism (discussed earlier in relation to advertising), to play upon the players imagination, and create a 'faraway place'. This is found again in Act 3 – set in a Mayan jungle, where the music uses djembe drums and marimba.

Final Fantasy and Dragon Quest contain far more of these culturally amalgamated environments, which draw from various cultures as well as many different geographic areas. Musically however we see the same effect as Pokémon (potentially owing to the fact they are both Japanese game series),

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[84] http://us.blizzard.com/en-us/games/d2/

where the music is largely synthesised, and when imitating specific sounds at all, contains primarily western orchestral instrumentation. The later games (such as Final Fantasy XIII) contain more electronic instruments, and even drum beats, however these are largely found in the exploration sequences, with the game choosing to use more epic instrumental music during the fight scenes; this of course being the mirror opposite of most modern games. Yet being turn based, the argument would be that more musical interest is possible, and the themes are themselves often short and repeating. The 'Blinded By Light' [85] Battle theme does also contain a drum beat throughout.

While these games may be the highest in sales and popularity, the RPG genre is quite extensive, and from personal experience, interested gamers tend to engage with a large part of the genre. While the games discussed above are reasonably varied, they do begin to creep around the common themes found in RPG games, themes which could impact soundtrack and instrumentation, and thus warranting a brief but further discussion. Mentioned above was the fact that RPG games are often (the vast majority in fact) set in fantasy worlds. As discussed, these worlds may draw from known cultures; however there is always the aspect of the 'unknown' (often the aspects of the world which connect those with which we are familiar). Therefore one could argue that an amalgamation of non-western instrumentation is to be expected, evoking the exotic, however in order to maintain some sense of familiarity, the use of non-western instrumentation which we are familiar with is more often used.

Yet while, as mentioned above, often the instrumentation is not always accurate to the culture, examples do exist where games will draw from specific cultures, and match instrumentation accordingly. One such example is Guild Wars[86], a Massively Multiplayer Online Role Playing Game (MMORPG) released in 2005. The original Guild wars campaign takes place over a number of regions, similar to that experienced in Diablo II. The player fights through scenes familiar to English countryside, Scandinavian mountains (with attributed Norse folklore references), through to jungles, and deserts. However the second and third instalments of the series are much more specifically drawn from individual cultures. The second campaign 'Guild Wars: Factions', is based around East Asia, and contains a lot of references from Chinese Culture (such as art, building styles, clothing, etc.).

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[85] https://www.youtube.com/watch?v=xfu0XBf8kmk
[86] http://www.guildwars.com/

Kaineng City: Guild Wars - Factions (2006, ArenaNet)

Equally the music in this instalment uses a lot of non-western instrumentation; the theme tune itself is based around a pentatonic scale, and uses a large amount of gongs, drums and an instrument which sounds like an Ehru (though is more likely a violin with distorted after affects). This and other Eastern instrumentation (there are a lot of bamboo flutes heard as the story progresses) are then heavily used throughout the game, and even when western orchestral instrumentation is used the music's tonality is almost exclusively pentatonic.

The third campaign 'Guild Wars: Nightfall' is even more interesting in this respect. Set in the fantasy continent of Elona, the realm itself is based heavily upon African influences (the full name of the continent is in fact 'Elona: Land of the Golden Sun'), and in terms of geography and fauna this appears to be the case.

Plains of Jarin: Guild Wars - Nightfall (2006, ArenaNet)

However it does contain many references from other cultures. Both Persian and Arabic references can be found in the northern part of the continent, with Egyptian references creeping into that of the south.

The Kodash Bazaar: Guild Wars - Nightfall (2006, ArenaNet)

Musically these references are far more apparent, and from the title theme the combination of cultures can be observed. Beginning with a Sitar (accompanied by some form of drone), a group of African drums then enters, before western horns and orchestral instruments take over. The African drums do however continue throughout the track, with references form the sitar at various points. Yet although there are a wealth of cultures to draw from, other than very few tracks (a Kora, and marimba is heard in a couple of tracks), the only reference to non-western instrumentation is the almost constant use of African drums and rattles to accompany every track (even the sitar found in the title theme is not heard again). One can suppose this is largely due to fact that the drums are an easy accompaniment to all western instrumentation, given as there is no specific scale that therefore needs to be worked off (simple ease of composition). Yet in the previous campaign the instrumentation was varied, and often contained melodic instruments. Again I believe this is an example of cultural flavouring – and how the use of instrumentation is what is most recognised by the lay player. While the player is far more likely to identify with a bamboo flute from Asia, drums form the main recognised musical connection to Africa, meaning the composer is playing on the stereotypes of the gamer (there is also the argument that with the majority of the game being exploration and combat based, drums would better suit the environment).

Lastly an important point to mention is the use of historical themes. While RPG games might not be exclusively set in the past (usually due to the fact they are not set in known worlds), they do contain a large amount of references to previous stages of human development. Largely this is seen through weaponry and warfare, where it appears that game designers prefer the eras before guns. The weapons chosen will still be broad and varied, and contain influences from many cultures; for example most games will have a character that focuses on stealth/thievery, who will often carry daggers, or eastern weaponry. Yet the only guns that regularly appear are early muskets and pistols, with the reload time large, in order to balance their power against swords and spears. Another area strongly linked to past ages is that of architecture, with many games basing their cities and towns on buildings from ancient or medieval civilisations.

Example Village: Skyrim (20011, Bethesda Softworks)

Therefore one can consider that along with the use of visual clues, there is argument that any non-western instrumentation may in fact be inspiring not only the exotic, but also the ancient/past in this respect. It is also important to note that unlike shooters, RPG/MMORPG games have much more varied soundtracks, with no real standard. There is usually however a large use of horns, and orchestral instruments (a lot of use of the swelling epic themes to represent the hero), and in general there is a lot less use of electronic instrumentation; although during action sequences, again a drum beat is sometimes added.

2.3 Sports

Sports games often contain very little in original composition; In fact a large percentage of sports games contain very little music at all. The major sports brand in the video game world is EA Sports[87], a subsidiary of EA Games. Based mostly in Canada, they have produced more than 200 titles in the last 20 years, and have been the recipients of a considerable number of game awards (the NHL franchise has won 22 sports game of the year awards alone[88]).

Yet instead of containing original compositions, the games (especially more recently) contain a track list of commercial bands, with the genre chosen appropriate to each game. Examples of this are the

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[87] http://www.easports.com/
[88] http://www.easports.com/nhl

NHL (National Hockey League) franchise, which is often backed up with rock and heavy metal music, while the FIFA (Federation de Internationale de Football Association) franchise is often more pop music based. In the more recent games, users are able to add and remove tracks from their game, selecting tracks instead on the hard drive of their game console. Other developers do follow this model, such as 2K Sports[89] (a subsidiary of 2K Interactive), who most notably produce rival ice hockey and basketball games. With the popular artists chosen it is also commonly found the developers release a track list as a tool in marketing the game before release, with the soundtrack being used far more as a commercial tool than as a provider of emotion in game.

Crucially however the tracks themselves do not appear within the gameplay, instead only to provide background interest during menu and option screens. When actually playing the sport represented, the only audio will be non-soundtrack – usually the crowd, sounds of the players shouting, and other real life sounds. If the player scores, there will often be a short clip reviewing the goal (in the style of a commercial sports coverage – showing replays from every angle), and music is often played accompanying this. I believe the main reason for this is that the in-game experience is so fast paced and requires such concentration; the very immersive qualities of the game do not require music. This is often apparent when watching players play these games, as they are often so absorbed by the game, that they wear a vacant expression and are very unaware of their surroundings. While it is not attached to the gameplay element, we cannot however deny that this is still making use of associationism that is outlined by Cohen[90] – for by attributing a specific genre to a sport (for example heavy rock to NHL), they are drawing all positive and or negative associations from this genre across to the sport, and therefore the game. Equally we can suppose that unlike gameplay – where the score merely needs to fit, these songs might been to be selected more carefully, as they are grasping the user's attention, implying this is a far more deliberate process of association.

With EA sports comprising the majority of games played on a console, it is important to mention other games on different platforms. While handheld games are often reduced versions of the EA console games, on the PC other popular games feature.

The Football Manager franchise[91] is a series of PC (and now handheld) games which have recently shown a huge deal of success. However interestingly, the game contains absolutely no soundtrack at all. Again the only sounds in the gameplay are crowds cheering, whistles, and footballs being kicked etc., however when not simulating a game, the menu screens are entirely silent. Due to the tactical nature of the game, which immerses the player in multiple screens of statistics and options,

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[89] http://2ksports.com/
[90] Cohen, (1993)
[91] http://www.footballmanager.com/

the pace of gameplay is very slow indeed. This means the game is almost the opposite of other sports games, whereby the level of immersion is much more easily broken. Arguably this game is far more of a simulation or strategy than the sports subgenre, however due to its inclusion of a 3d match mode; I have chosen to leave it in this category.

It is important to note that despite the international aspects of many sports games (for example FIFA has several world cup games, as well as international modes on many other EA games), they do not contain any references to individual culture. In fact there is no trace of non-western instrumentation throughout any of the mainstream games in this genre. Some games chose to pick artists from different nationalities, (such as FIFA 2005), however apart from the odd song sung in the native language, the majority of songs were in English, and contained no real nationalistic sentiments (in fact most were indistinguishable from recognised UK artists/genre).

With Sports games bringing a different type of soundtrack – one removed from gameplay, it therefore is apparent that with more scope, discussion and research needs to be targeted towards immersion, and its effect or connection to the role of the soundtrack. This question is obviously vital, for if a game with very immersive qualities does not require music, is the role of the music to reduce the concentration aspect, or add interest to less immersive games? This area is too broad to be considered within this work, however an awareness must be present, and this would need to be considered to further this research.

2.4 Real Time Strategy/Turn Based Strategy

Strategy games are loosely divided into Real Time Strategy Games (RTS), and Turn Based Strategy Games (TBS), however many modern strategy games feature aspects of both. In an average strategy game, the player controls a number of units, with the basic aim of building an economy, and usually then a military, in order to defeat or best another player.   The majority of games are based around the controlling of military units, and outwitting the players opponent in battle. Almost entirely in 3rd person, the player looks down upon the game map, issuing orders either individually, or to groups of units (usually by clicking and dragging across them). In general the games have very complex user interfaces, whereby both the mouse and keyboard are required, with a large number of hotkeys available to the player (which either speed up the time to perform an action or provide more in-game information). In real time strategy games, all the players may react and command units at the same time, meaning they are generally much faster paced than others. They also require a lot skill in micromanagement, as the player has to effectively generate an economy, while engaging in military

skirmishes. Turn based strategy games tend to function more like a game of chess, whereby each player has a certain amount of time to complete each move, whereby they then watch the other players complete theirs. Often the game maps are in grid or hexagonal form, in order to better predict opponent's movements. Civilization is an exclusively turn based game, and one of the games mentioned earlier as a focus in this study.

Musically Civilization V shows us a different type of musical soundtrack to other genre. The game has original ambient compositions during general gameplay, which loop and or change depending on how the player is performing (if the player changes age, or completes a scientific achievement a new track may trigger). However the more interesting aspect of the soundtrack is reserved for when the player encounters another nation. Each encounter will prompt the playing of one of two tracks, depending on the relationship that the players nation has with that nation. The theme will either be a 'peace' or 'war' theme, and the track is played accordingly in each instance. Each theme is a traditional theme, such as Arirang for Korea (Korea's unofficial national anthem) or at least a theme relating to each culture (Russia has 'the Montague's and Capulet's' by Rachmaninov). Crucially however the theme used is the same for both the war and the peace versions for each culture, but the arrangement is different.

In some instances the arrangement is largely unchanged from the original, however with a lot of the tracks, the identifiable tune is actually 'hidden' in the background, unrecognisable, unless the user is aware, or has heard the track several times. Culturally this soundtrack is important, as the music also makes use of some non-western instrumentation – the Indian theme for example features both a Tabla and Sitar. Therefore every time the player encounters India, they will be played one of two Indian themes, and the association between India and the sound of the sitar and tabla is reinforced. However by having arranged versions of all of the themes, the original styles of the music are lost – an example again being India, where the 'Raga Asa' is played mostly by a synthesised orchestra, and the music is western in tonality, not based upon a raga. It appears therefore that again instrumentation is being used to 'flavour' the music culturally, however here a national theme/sentiment has also been added, as an additional 'thematic flavouring' (yet despite this the music is extremely western in its style). This multinational musical approach is not uncommon to many similar strategy games, in fact some games, such as 'Age Of Mythology', choose to have a national/cultures track played at the beginning of each skirmish (if you play as the Egyptians, you are played the Egyptian theme). This again reinforces any cultural ties from the music to the distinct nation or culture which is being represented visually.

'Total War: Shogun 2' is an example of a strategy based in real time (RTS). The game however instead of featuring multiple nations, instead focuses entirely on Japan, specifically at the time of the 'Warring States Period' (approx. AD 1500). Given other example of cultural flavouring, it is interesting therefore that the entire games soundtrack is using traditional instrumentation. The only time in which non-Japanese instrumentation appears, is during more climactic scenes, such as battles, whereby synth strings are added (to make the music less sparse). The game employs a large number of traditional instruments, including: taiko drums, shamisen, shakuhachi, Shinobue, hichiriki, koto, biwa, along with the male voice, and other percussion. The game functions a lot like other strategy games, where there are various tracks for both combat and non-combat situations. In the combat scenes, the game is comprised of original compositions, composed using ensembles of the Japanese instrumentation, with the aforementioned use of western instrumentation. In non-combat scenes however, much lighter compositions are used, and akin to Civilization, some of the compositions are in fact traditional Japanese traditional compositions. One such example of this is 'Sakura Sakura' (cherry blossom), a piece still played by solo shakuhachi, yet not exclusively. This piece appears during many of the menu scenes, and is played in a way that appears stylistically accurate. Importantly the stylistic considerations can be found throughout the game, with instruments playing in an authentic manner (different to Civilization).

However again the historical aspect must be considered, and akin to the discussion regarding RPG games, there is an element here which might suggest the lack of western instrumentation would be due to a lack at the time the game is set. Also while Civilization covers a nation from the inventing of the wheel, through to the space age, Shogun 2 is set firmly within a period of history, arguably meaning we could expect its soundtrack to be that much more specific. While Shogun 2 provides an interesting soundtrack, the more common strategy game will follow a more similar path to Civilization, with each faction in the game providing their own soundtrack pieces, and therefore quite often, having individual tracks representing nations. However some games do use non-western instrumentation not relevant to any featured nations, in combination with the previous styles.

One such example of this is another game in the 'Total War' series, 'Rome Total War'. In this game, battle music and some incidental music is largely identical, no matter which faction the player controls. There are however individual pieces for each faction, an example of this being an original composition in the form of a song sung in Latin, exclusively played if the player controls one of the 3 roman factions. The game map stretches from northern African to contain England and northern Europe, with the initial focus on the Mediterranean. However should the player pan the camera to

the east (there is a slim strip of land included in the game map on the eastern shore of the Mediterranean), the game adds in a tabla to the soundtrack. There also appears to be extra flutes and whistles used when panning north. This shows that while instrumentation and the stylistic nature of the soundtrack is clearly affected by the nation/faction the player is representing, there is also an example of the game adding exoticism/interest, through the use of non-western instrumentation (India is still a considerable distance from the edge of the game map).

2.5 Racing

Racing games are again a more select market, however given the ease of learning curve/accessibility to many players, they often form one of the core genres of the single and multiplayer gaming experiences. The three best selling franchises/series in this genre, are the Need for Speed[92] series, the Gran Turismo[93] series, and the Mario Kart[94] Series. The Need for Speedseries (NFS) is published by Electronic Arts (EA), and has been developed by a number of different studios. With almost 20 games in the series and estimated total sales of 100 million copies, NFS is extremely popular, and is one of the most successful video game franchises of all time. Each game is varied, however follows the same formulaic approach; the player must complete a series of races in order to raise funds and unlock cars, to participate in more difficult races, and win a larger race competitions. As the series has progressed there has been more options available to the player, with the options to tune the car in regards to down force, brake bias, gear ratios etc., to customise the car with different window tints and decals,etc, and to participate in different types of racing (head to head, pursuit, etc.). The races take part in both international and fictional metropolitan areas, and the user has available a number of cars modelled on real life versions.

Musically the games would have an original soundtrack in a rock/techno style, however since Need for Speed: Hot Pursuit the game has instead favoured artists on the 'EA Trax[95]' label. This is a label used in EA racing and sports games, where the artist depends on the sport chosen (the genres range from rock to hip hop, with FIFA for example having a mostly indie rock and world music soundtrack). In this series the music favoured is hip hop/rap, and this accompanies the player, much the same as in the EA sports games discussed earlier, during title sequences and loading times. During the gameplay itself the music varies wildly, depending entirely on the game. In some games (for

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[92] http://www.needforspeed.com/en_UK
[93] http://www.gran-turismo.com/
[94] http://mariokart7.nintendo.com/
[95] http://www.ea.com/music

example 'Need for Speed: Most Wanted' or 'Need for Speed: Undercover') the music is comparable to action music from an RPG game, containing swelling orchestral music, accompanied by a driving drum beat (in some sections the rhythms and syncopations could be comparable to African drumming). In other games (such as 'Need for Speed: Underground' or 'Need for Speed: Carbon') there is an in-mission soundtrack more similar to that of a shooter game, with a heavy pulsing beat which drives through the track. In some instances, usually final/important missions, there are individual tracks containing vocals (in the style of a rock or heavy metal song).

Gran Turismo is a series of games with estimates of over 60 million copies sold. With the first game released in 2005, it is far less of an arcade game than NFS, focusing instead on realism. In line with this the game markets itself as 'the real driving simulator', and owns the licences to many real life automobiles, allowing them to correctly reproduce the cars in a racing environment.   Again there is option to tune the car – but here to a much finer level, and in comparison to the NFS games, Gran Turismo has always focused heavily on a far more accurate visual simulation, with much more impressive graphics. Musically the game is quite similar as to when it appears in NFS, with the music being far more prominent outside of the race scenarios; however the music is much more varied by genre. The menu options for car load outs and post-race screens range between lounge music and jazz, to dance and electronic. During the race music can also be heard, however it is dwarfed by the sound of the race and engine itself and appears slightly distorted, as if the player is listening to the music through the car radio. The ingame race music is again varied from a number of genres, however appears to favour electronic and dance (these in fact appear to be the most favourably listened to tracks outside of the game, on social media sites such as YouTube). Gran Turismo has a number of tracks composed exclusively for the game, however also uses more famous artists to add to the soundtrack (such as 'Sub Focus – Rock It' in GT5).

Mario Kart was originally a spin off game from the 'Mario' franchise, owned by Nintendo. Mario is in fact the most successful game franchise to date, with an estimated 450 million copies of the franchise's games sold. Mario Kart itself boasts roughly 80 million of those sales, and is a game enjoyed by all age ranges. Marketed more at the family and younger audience, In Mario Kart, the players take part in go-kart races, across racetracks containing many fantasy elements (including impossible architecture, races in space, and having dinosaurs as level hazards). A cartoon game, Mario kart is the direct opposite of Gran Turismo, where the focus is on the enjoyment of gameplay, as opposed to realism. During the race the players not only attempt to beat the other players with speed, but also use a number of power-ups, gained by driving over boxes during the race. Each power-up has a different function, ranging from knocking over the racers currently leading (blue

shell), to laying road obstacles behind (banana skin). In order to promote competitive gameplay the game also has a mechanic called 'rubber banding', whereby the slower players will receive much more powerful items, allowing them to overtake and leapfrog their way through the game. This also puts the faster players at a disadvantage, evening the odds.

Musically the game is again opposite to the other two games, with music being a far more prominent part of gameplay. The loading screens contain music, however it is fairly basic and repetitive, with the focus lying on the music during the racing. Each track in the game, of which there are usually 16-34 (68 if you include the mirror mode), contains its own soundtrack, based upon the location of each track; one set in a neon lit city will be electronic, while the haunted house will have a more 'creepy' minor track. The music is just as loud as the sound of the go-karts, and increases in speed for the final lap of each race, after playing a small intro theme. The music is all original compositions for the games themselves, and has a much more light-hearted feel than the other two games previously discussed. With Nicholas Cook's reference to one or two notes in a 'distinctive' style enough to trigger a connectionist response, this was very apparent through formative discussion with gamers. The music produced by Nintendo for this game series is extremely unique, and we see the exact situation Cook discusses – whereby gamers recognise the style very quickly, and often with a grin as the recognition takes effect/they are hit with the images and associations.[96]

The only other racing games which merit discussion are those from the game developer Codemasters[97]. In recent years, their games have become very popular due to the level of graphics quality, as well as the ability to scale the game from a very easily played arcade game, through to a very accurate driving simulation. Codemasters games range from rally games (the 'Dirt' series), through to the formula 1 series (simply called 'F1 2010, F1 2011', etc.) Musically they are interesting, as they show a movement towards the style of sports games, where the soundtrack appears only during loading sequences, save points, replays, and other such pauses in gameplay. This music's genre is again based on the style of the game (and therefore the predicted favourites of the target audience), with rallying having a more rock/indie rock feel, while F1 has neutral electronic and strings. Crucially however there is no soundtrack at all during the races, meaning the only audio is that of the car and other environmental noises.

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[96] Cook, 1994.
[97] http://www.codemasters.com/uk/

It is important to mention however, that despite the internationality of all of these games, there is very little if not any reference to individual cultures in the music of this genre, and there is very little to be found in non-western instrumentation or musical features.

2.6 Simulation

Simulation games are a by their nature a super-category of video games, and are simply games which aim to closely simulate aspects of a real or fictional reality. In this genre there are several key subgenres; 'Life Simulation', 'Sports', 'Construction and Management Simulation', and 'Other types'. Sports I have discussed previously, and warrants no further discussion, and the 'Other types' are generally so varied (e.g. Vehicle simulators, such as 'Microsoft Flight Simulator' to photography simulation games, such as 'Afrika'), that instead I will focus mainly on Life Simulation, and Construction and Management Simulation. It is important to note before the discussion, that most Simulation games are in many aspects similar to other styles, and could be placed in another game genre easily. Therefore the majority of games discussed will be unique in their style, and therefore picked arbitrarily to illustrate the music found in general. With more research this unique nature in the genre's relation to its style of soundtrack would be an area worth considered, however it does not lie within the scope of this thesis.

The game 'Tropico 3', discussed earlier in my literature review, is a game both strategy and simulation, however more the latter. Musically, Tropico 3 has no real soundtrack – in the sense that there is no on-going music independent from gameplay.   Instead all the music is diegetic – built around the player's viewpoint. In this instance the music takes the form of a radio station, where 15 tracks run as a playlist, like a normal radio station. Each track however can be interrupted by commentary (taken from the form of Juanito, the friendly local DJ), which not only gives fake adverts, like a real radio station, but also provides political and cultural commentary on the players choices in the game. The tracks themselves are a mix of original Cuban and Caribbean music genres, however also contain some American jazz styles, albeit based on the former. The playlist, which appears random, does however appear to link to the events in the game, however extremely loosely. This means that when following a certain method in gameplay (such as supporting the USSR or USA), the game tends to favour certain tracks – especially after a political announcement. At this point I must state this is mostly theory – the development company were unavailable to comment, this being the result of many hours of observations during personal gameplay (when always favouring a certain style I began to notice what could appear to be patterns). We could say that this

choice of accompaniment to gameplay again is a hint at the realism – as mentioned and discussed by Karen Collins[98], yet as time has progressed, we are no longer looking at accurate sounds – but accurate genres of music.

With Tropico discussed I would like to select 2 more games for close discussion, 'The Sims'[99], and 'Sim City'[100]. Both games are produced by Maxis, a development company owned by EA games. Both the Sims and Sim City are parallel games, meaning that despite being quite different, the interface features similar graphics, and the gameplay has a similar feel (in fact the game is designed so that you might believe your Sim characters in 'The Sims', live in 'Sim City'). The Sims was first released in 2000, and with several expansion packs – and two new versions of the game (Sims 3 being the current instalment), the estimated number of sales is at 150 million copies (roughly the third best-selling franchise of all time). The player controls the life of one or more 'Sims' who follows the commands of the player to complete simple tasks – such as taking a shower, preparing food, taking out the trash, etc. The only time the player is not at control, is when the Sim is at work, where the game fast forwards through the day.

The music in the game is very light hearted, and changes depending on the games 'mode', in the normal play mode, there is no music, instead preferring to focus on the more diegetic sounds, such as radios, and television. In fact the game radio has a large number of tracks composed in several genres, which allows the user to pic the mood. If the player however moves to the 'build mode', whereby designs and changes to the house/surroundings can be made, the music provided is an upbeat jazz track, with a driving beat. Also the music's volume increases for the duration of the changes, and conversely sinks away when switching back into the game. The game also gives the users the options to add their own music, but crucially only to the playlist for each radio channel, so the player can choose to rebrand a channel to their preferred style of music. An important point to mention is that if the player has a Sim which is not yet rich enough to afford a radio or TV, they will not be able to unlock any of the music in the game until they purchase one. This means that the music is not always available early in the gameplay.

Sim City, as its name suggests, is a simulation game which fits into the 'Construction and Management' subgenre and is extremely popular, with 6 different games, together reaching over 18 million units sold, and a new version of the game due to release in 2013. In the game the player takes a small city (and in later games a 'region': a map of interlinking cities), and develops it into a thriving metropolis. The game has an extremely detailed demand system, reacting and often

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[98] Collins, 2009
[99] http://thesims.com/en_US/home
[100] http://www.simcity.com

governing, the way in which the city develops. The game requires the player to balance different types of industry and commercial development, along with housing, farmland, water supply, power supply, healthcare, roads, etc.

Musically the game has a lot of tracks with a vast mixture of instruments, electric, acoustic, and even general noise samples (like running water). In fact in later games it appears the game is trying to generate an almost cosmopolitan feel through the music. An example track would be from Sim City 4 – 'Epicenter', which includes bird song, Indian tabla, an electric drum beat, a flute, a female singer, an acoustic guitar, synthesised strings, timpani and cymbals, synthesised voices, and a mandolin! Interestingly however this cosmopolitanism is limited to the music, as visually the games have always been based on styles found around a Californian city/town. One could therefore argue that the game is using the music to broaden the games cultural references, and cut some of the visual ties, however more likely the game was limited to the number of structures which it could store, and by working in a block format, the buildings which best fit are likely to be American.

2.7 'Audio'

Audio games merit discussion at this stage, due to the high regard placed upon them by both critics and peer review. Also more importantly, discussion is valid due to the fact that the majority of games in this category have won 'game audio' awards or at least received nominations. Audio games are quite a broad genre, as there are a number of indie games which require the user to manipulate sounds in order to achieve objectives. However the genre is largely dominated by games which mimic the playing of musical instruments, with the aim of placing the user on stage as a musical 'hero'. The obvious games of choice for discussion here are 'Guitar Hero'[101], 'Rock Band'[102], and 'Singstar'[103]. 'Both Guitar Hero' and 'Rock Band' supply the player with simplified versions of band instruments (Guitar hero limited only to guitars, but Rock Band using drums and microphone as well), and have them play along with scrolling tracks. The instruments are simplified, so that the player has to hit combinations of 5 buttons (or drum pads) at the same time they scroll down the screen (similar to an arcade dance game). These games are very popular, especially multiplayer, and would usually be marketed as children and family games.

However crucially these games contain no original soundtrack whatsoever, instead they use a playlist consisting of popular artists, both past and present. It is then interesting that critics place them as having some of the best soundtracks of all videogames, an example here being the Spike

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[101] http://hub.guitarhero.com
[102] http://www.rockband.com/international
[103] http://www.singstar.com/

Video Game Awards, where in 2010 the winner was 'DJ Hero 2'[104], with 'Guitar Hero 5', 'Guitar hero: Warriors of Rock', and 'Rock Band 3', all runners up. In more recent years there has been the emergence of 'original score' awards, however this may be due to the fact that many notable film composers have begun composing for games, and this aims at increasing the recognition of their work.

From a player's perspective, the above does suggest 2 interesting points; firstly that players appear the prefer similarity in a game, and secondly, that players prefer music in a game when it is drawn attention to. Given that players must actively engage with the music in these games, it shows potential further evidence that visual stimuli will usually draw the attention of the gamer, as the music is clearly less memorable.

2.8 Phone

Phone games are an ever increasing market, with phone technology increasing rapidly. While games have been present for many years, with the advent of touch screen phones and crucially the addition of processors, phones have become powerful enough to produce high definition graphics, and marketable gameplay. With critics suggesting that more time is spend on the phone conducting non-communication activities (such as apps and web browsing), the phone is emerging as a huge potential market. However despite the new technology, there are still limitations to the hardware, specifically both storage space and battery life, meaning the smaller and more efficiently a game runs the better. In this respect we find that the majority of soundtracks are very limited, where along with the main theme, there are very few in game tracks.

Angry Birds is the phone game which I will focus on exclusively in thesis, given its popularity and sales in comparison to all other games in this section of the market. Musically the game shows us another example of cultural 'flavouring', however this time through the use of only instrumentation. Easily heard when comparing versions of the game, Angry Birds contains one theme tune which is used in every instalment. However when trying to make the game Chinese for the 'Mooncake Festival' instalment, this same theme tune is left unaltered, other that it being played using traditional Chinese instrumentation (zithers and gongs). Interestingly the instruments are being used in a manner which is stylistically accurate, through the employment of trills and other

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[104] http://www.spike.com/articles/ka13nu/video-game-awards-video-game-awards-2010-winners

ornamentation, however the theme itself bears no relation whatsoever to traditional music (for example it is not pentatonic). In game however, there are small strums across zithers and gongs, as a further 'incidental flavouring', yet this is extremely sparse, and not as noticeable as other in game sounds. It is of course worth noticing that the more sparse nature of these tracks could also be due to a lack of storage space, as just discussed.

With Angry Birds being the one stand out game, it is actually incorrect to think of phone games as a specific genre themselves, as in fact the games are simply micro versions of the genres previously discussed. We can also see micro versions of the compositional techniques found during these game soundtracks, such as the multination approach discussed in strategy games earlier. One example of this is 'My GP Story' by the Japanese game company Kairosoft[105]. When the player travels to race at circuits in other countries, the circuit is preceded by a sound bite, which is different for every country. Interestingly these sound bites imitate non-traditional instrumentation, meaning that while it is a small burst of sound, the culture is still being represented audibly.

2.9 Other Comments

The only main genres which I have not considered are 'Fighting Games', 'Family and Children's Games' and 'Adventure'. I chose to exclude 'Fighting Games', as they usually would have similar soundtracks to either FPS or RPG games, or a synthesis of the two. This is also found with 'Adventure' games, as although considered a genre as a marketing perspective, tends to produce games which also fall within one of the previously discussed categories. 'Family and Children's Games' is also such a broad genre that no effective consideration can be given within the scope of this thesis. There may be unique factors in regard to the soundtrack, however nothing which brings considerable weight to the current discussion.

3. **Original Research**

Having previously examined video game music, and shown its relation to works in the field of world music, music in audio visual environments, and the psychological implications of associationism, it is clearly apparent that a soundtrack is an important feature when considering cultural representation. When re-considering the points raised by Nicholas Cook and Timothy Taylor, it is evident that many cultures in the world are consistently represented audibly, specifically in advertising and mass media. These representations (or as I have tagged them 'audible cultural stimuli') can be sounds

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[105] http://kairopark.jp/iphone/en/

ranging from harmonic models (such as the pentatonic scale and the east), to specific instruments (the accordion and Paris), or even specific themes (such as 'the oriental riff' and China). I believe these ACS are the same as the 'cultural flavouring' that is found in video games.

The reason I have chosen to refer to these sounds as stimulants as opposed to 'references' or 'representatives', is due to the fact they are rely upon having been previously 'attached' to a culture. To expand on this, it is apparent that certain stimuli will always be used when representing certain cultures (a fine example being that of the Hawaiian steel slide guitar), because they are easily identifiable with that culture. However it is arguable that the only reason they are identifiable, is because in almost every reference to Hawaii, the sound is also found. Therefore ACS are not only used to represent culture, but are also self-reinforcing, as every use of an individual ACS will strengthen the link to the culture it is tied to.

This is of course not a new concept, and in contexts with direct representation (i.e. an advertisement encouraging one to holiday in Hawaii) is easily understandable. Yet in a scenario where the sound is providing a much more subservient role, such as a video game, does the stimuli have the same effect? When looking at soundtracks from the video games I have selected (alongside the other titles I discussed), the audible cultural stimuli found are often, and in majority, provided by the use of non-western instrumentation. If however, the stimuli were to be effective inside a game environment, I had to first identify the effectiveness of each stimuli outside of this context. In short – did the instrumentation used evoke or 'stimulate' the intended culture? I decided the best way to do this was via test form.

3.1 Test 1

The first stage in this process was to identify several commonly found ACS alongside their matching culture, when used in various mass media.   These cultures were chosen due to the fact they are often found represented in mass media, with some also belonging to the games chosen on which to focus this study. The chosen cultures and perceived ACS were:

Armenia – Duduk (this has been overused in film and television to inspire both the Middle East and the exotic. I was expecting to have this answered incorrectly by test subjects). I chose a recording[106] which was from a live performance, hoping therefore it had been less edited. Given the use of duduk to represent sadness [107] I also wanted to pick a piece which was slightly less upbeat, to better

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[106] https://www.youtube.com/watch?v=0466MKJ7tQk
[107] http://www.bearmccreary.com/blog/battlestar-galactica-3/instruments-of-battlestar-galactica-duduk/

fit the stereotype. The piece is called Deli Aman (I have been exiled from my country) played by Albert Vardanyan.

France - Accordion (specifically Paris, this is one of the most commonly found ACS). The clip is of Pietro Frosini, a famous Sicilian accordionist, playing 'Amoureuse'[108]. This is taken from a 1913 recording, and I believe is a perfect example of the stereotyped sound.

China – Sizhu Ensemble. This clip is taken from a video of a local Sizhu Ensemble in China[109]. No information is attached to the video, however the amateur nature of the ensemble provides a more genuine sound, and I mainly selected it for this reason.

Japan – Sankyoku (there was an expectation both the Sankyoku and the Sizhu would be generically representative of Asia, so there would be confusion between the two.) This piece was a clip featuring Goro Yamaguchi, called Shojo No Tsuru[110] and was chosen due to his great esteem/mastery.

Japan – Taiko (these drums seem prevalent in almost all action films – usually in climactic action sequences). This clip[111] was from the famous 'Kodo' group, and was picked for this reason along with its accessibility (quite a simple/uncomplicated clip).

Caribbean – Steel Drums (originally hailing from Trinidad and Tobago, but coming to represent the entire region). This was a generic clip found on YouTube, called 'Shake Shake Shake Sonora' chosen for its hundreds of thousands of views.[112]

Africa – Djembe Drumming (a gross generalisation of culture, but one that is used frequently to represent the continent). Again here I simply picked an esteemed musician, Djembe Master Bolokada Conde[113].

Mexico – Mariachi (this genre, either by use of simple trumpet burst or the entire ensemble is used both audibly and visually to represent Mexico). Again this was a clip on YouTube which appeared to represent a good example of a generic Mariachi performance. The specific group – Mariachi Vargas, boasts 110 years of playing, and the clip was called 'Popurri Ranchero'.

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[108] https://www.youtube.com/watch?v=5QDVUGDsqUY
[109] https://www.youtube.com/watch?v=X7EgMCUAXrE
[110] https://www.youtube.com/watch?v=q1N40MS19-8
[111] https://www.youtube.com/watch?v=6O8gFEKTccs
[112] https://www.youtube.com/watch?v=7VeaMEiWo-4
[113] https://www.youtube.com/watch?v=Qu_-htNFTb0

Romany - Gypsy Jazz (this was a slight trick question, intended to see whether the listener assigned music to cultures or nations, again this culture was picked as it has instant recognisability). The clip here was from the 'Paléo Festival'[114], and was selected as the video contained live dancing. I therefore wanted to know whether without this visual aid the listener would pick up the music's intention.

Indonesia – Gamelan (selected not only as the primary music of a region, but also due to the fact that it appears on many syllabus for music GCSE, the secondary school exams for music generally taken at ages 14-16). The clip chosen was again a generic clip from YouTube, simply called 'The Gamelan Music of Indonesia'[115]

India – Hindustani Vocal performance (again used in teaching at the GCSE level, but also due to the fact the instruments are often used to represent Bollywood and many western references to India). This clip was from a performance by Veena Sahasrabuddhe, a leading vocalist and composer in this genre. Unlike the other clips, this was taken directly from academic research conducted in 2010[116].

As mentioned above I mostly chose the clips from YouTube, as I wanted to find material that was as accessible as possible. I was less worried about the authenticity, provided it was a realistic approximation, as it was simply the stylistic elements I was hoping the candidates would engage with. With all of these clips I then prepared the first test. Before each test, on the top of the test sheet, the candidate was asked to read this set paragraph:

'In this test you will hear 11 musical clips, each 10 seconds in length, representing a variety of nationalities and cultures. After each clip you will have 15 seconds to answer 3 questions.

1. Where in the world do you think the music is from
2. Why do you think the music is from that location
3. What words or associations jump into your head (just a couple)'

After which each candidate was talked through the paragraph, to ensure they understood the process. They were encouraged to ask questions at any time about the test process, and that the pauses were intended for writing, but they could begin writing at any point during the test. Each candidate was then played an audio track comprising of 10 second clips (one from each of the 11 extracts), each followed by a 15 seconds pause, before the next clip would begin. The intention behind keeping both the extract and the answer time so short, was simply to encourage the

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[114] https://www.youtube.com/watch?v=NUs9js-HZ-g
[115] https://www.youtube.com/watch?v=jDz7MTb26JM
[116] Clayton, 2007.

candidate to answer with 'gut feeling', or answer with the culture immediately stimulated. I was especially concerned that candidates might feel there were trick questions, and as I was often looking for them to recognise 'stereotyped' genres of music, might override this in search of a more logical/correct answer. This ties in with the theory of associationism outlined by Cohen, in that not only will the associations be immediate – but sensualist as well as connectionist[117]. The user will therefore experience the connections as feelings as well as images – so a quick response before self-analysis can occur is crucial.

As previously mentioned each candidate was given a pre-prepared answer sheet, with the instructions printed at the top (see accompanying CD). The only alteration to this test (and also test 2) was the timing of the breaks between clips. After the first two candidates, it was apparent that this time was not long enough – one of the candidates struggled to answer many of the questions, and in fact felt pressured to the point of mild panic. After this I increased the amount of time to 20 seconds between clips, which seemed to give a more suitable length of time.

3.2 Test 2

Designed as a follow on to test 1, test 2 also follows the same context, this time looking at the same ideas and concepts using audio directly taken from video games. The games chosen represent a number of genres, different platforms, and cultures, some more commonly recognisable than others.

The test has two main aims, the first to act as a comparison to test 1, and the second to look at the importance of culture in a game's soundtrack at first glance. As discussed earlier in this thesis, when first presenting music from another culture, the common practice is to arrange the music in a western manner (the use of western instrumentation accompanying the non-western etc.). With this in mind, the arranged versions of cultures present in the soundtrack of most games should be a more accessible version of that culture; it should be easier for someone unaccustomed to the genre to listen to than the more traditional original. Therefore the listener, or in this instance the player, should find it easier to engage with the music and to identify the non-western aspects of it. This comparison of results (which will discussed in far more detail shortly) must of course be considered with caution, as the cultures used in test 2 are not identical to test 1, despite some common cultures.

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[117] Cohen, 1993.

The second aim, as stated above, is to look at the importance of cultural references within a game's soundtrack. While a game's soundtrack may contain multiple ACS, do they have an effect on the player? Here is where the test most differs from test 1, for instead of asking the user 'What words or associations jump into your head (just a couple)' for the third question, instead the user is asked 'What do you think is going on at this moment in the game?' This is to begin to explore whether or not other specific factors are more apparent/recognisable than cultural references (primarily mood), and secondly to see whether game music can fulfil a descriptive purpose outside of a visual context (do non-cultural factors translate).

The tracks chosen and the games they are taken from are listed below:

1. Tropico 3: 'unnamed track', this is a simple Caribbean jazz ensemble, taken from during normal gameplay (one of many tracks which rotate in the form of a radio station playlist).
2. Shogun Total War: 'Battle of Shinobue', a fast aggressive track containing shakuhachi and taiko drums (including Gong). Found in game during battle skirmishes
3. Red Dead Redemption: 'El Club de los Cuerpos', a cowboy theme in the style of a 'spaghetti western', including electric guitar, trumpets, and a drum kit. This is found during the gameplay while pursuing bandits or being pursued by lawmen/bounty hunters in Mexico.
4. Angry Birds Rio: Title Music, this is played when the game first loads at the main menu. Contains instruments associated with a carnival – such as drums, whistles, trumpets etc.
5. Sims 2: 'Salsa of the Sim King', this is one of the tracks played when selecting the 'Salsa' option from a Hi Fi in-game. Uses a salsa ensemble – piano, trumpets, drums etc.
6. Age of Mythology: 'Greek to me', plays whenever selecting the Greek faction at the beginning of a skirmish game. Contains a mandolin, rattles, and an udu drum. This is not representative of traditional Greek music, however was selected to see if it evoked the 'ancient' stereotype.
7. Civilization V: 'Ramses War', this is an ancient Egyptian theme, which uses strings, drums and zithers to again promote the ancient feel, however once more does not appear to be accurate to traditional music from this region.
8. Farcry 2: 'untitled track', played during combat sequences, using African djembe drumming ensemble.
9. Angry Birds Seasons, St Patricks: Another menu sequence, played when loading the St Patrick's version of the game. Contains folk ensemble of fiddles, accordion, keyboard etc.

With the selection above, there are 2 mobile games (differently themed versions of the same game), 3 strategy games, 1 simulation-strategy, 2 first/third person shooter games (one console exclusive),

1 simulation game, and 9 different cultures represented. Again the tracks were clipped to 10 seconds in length, whereby the subject was played first the track, and then given 20 seconds to answer the 3 questions (the subject was still free to write at any point). The instructions were once again written at the top of the question paper, and talked through to each candidate before beginning:

'In this test you will hear 9 musical clips, all taken from the soundtracks of video games set in specific cultural regions. After each clip you will have 20 seconds to answer 3 questions.

1. What culture is being referenced?
2. What gives you this impression?
3. What do you think is going on at this moment in the game?

This test was completed directly after test 1, with the total time of both tests reaching just over 10 minutes. I chose to conduct both tests individually and not en-masse, in order to allow the subjects to ask questions or queries (though there were few).

3.3 Analysis: Test 1

In test 1, there were 25 participants, 23 Male and 2 Female. All bar 1 subject were university students between the ages of 18-25, with the latter a graduate aged 30. All candidates were also raised in the UK, bar 1, who had spent time in continental Europe. While information was not gathered prior to the testing phrase, from discussion with the candidates post testing, it was clear that they had all been exposed to musical cultures around the world, through either their education in school, or through exposure to media (which was in fact referenced in the answers to tests 1 and 2). No information was gathered as to their class or socio-economic background. Test 2 contained the same candidates bar 1, a female who struggled to complete the first test and was not prepared/confident in continuing.

Given the vast range of ACS chosen, it seems appropriate to examine the results for each individual clip/culture, before discussing more general points. I will do this by visually providing the answer to question 1 (in the form of an exploded pie chart), and then discuss any answers of interest to the second two questions. A full copy of the test results can be found in Appendix A.
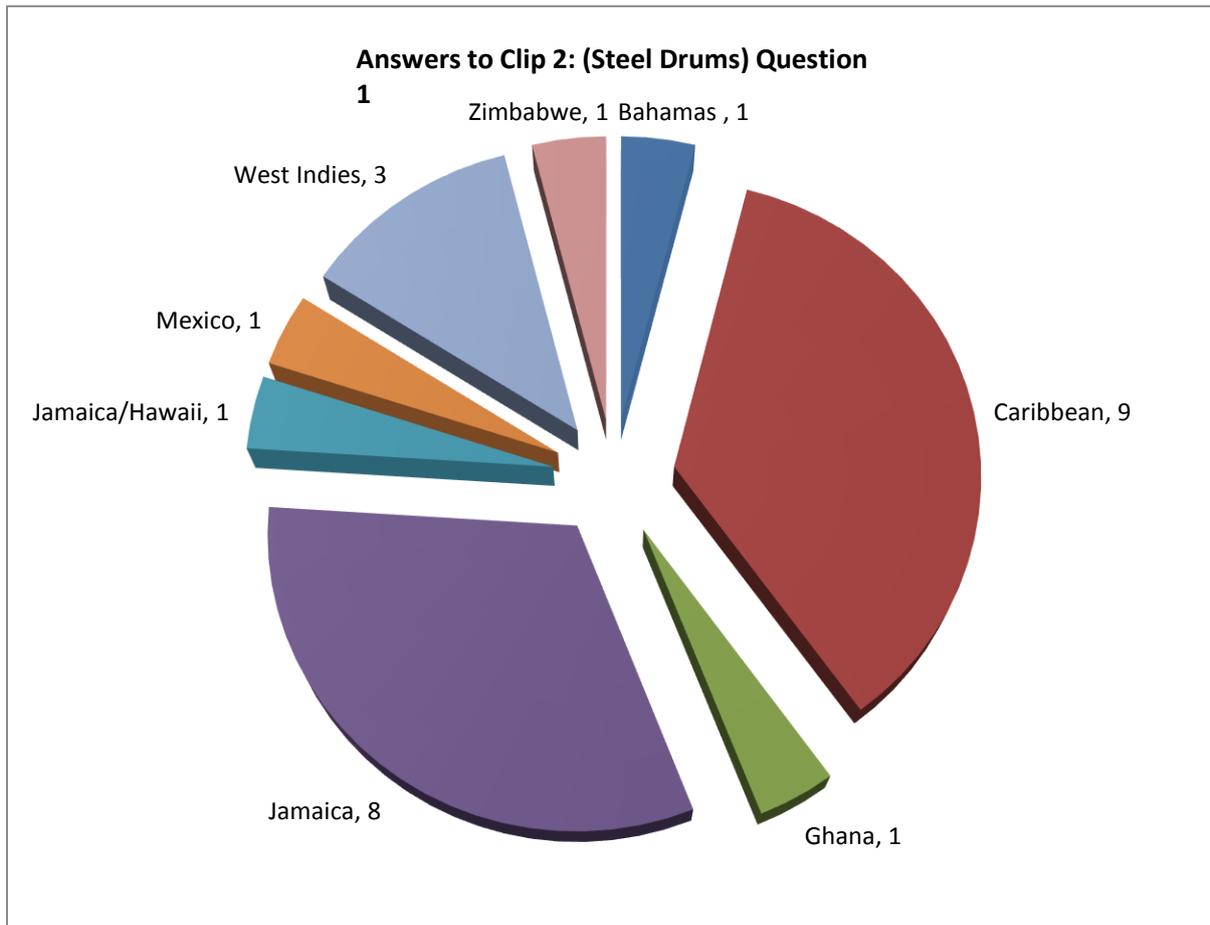
3.3.1 Clip 1: Duduk.

Answers to Clip 1: (Duduk) Question 1
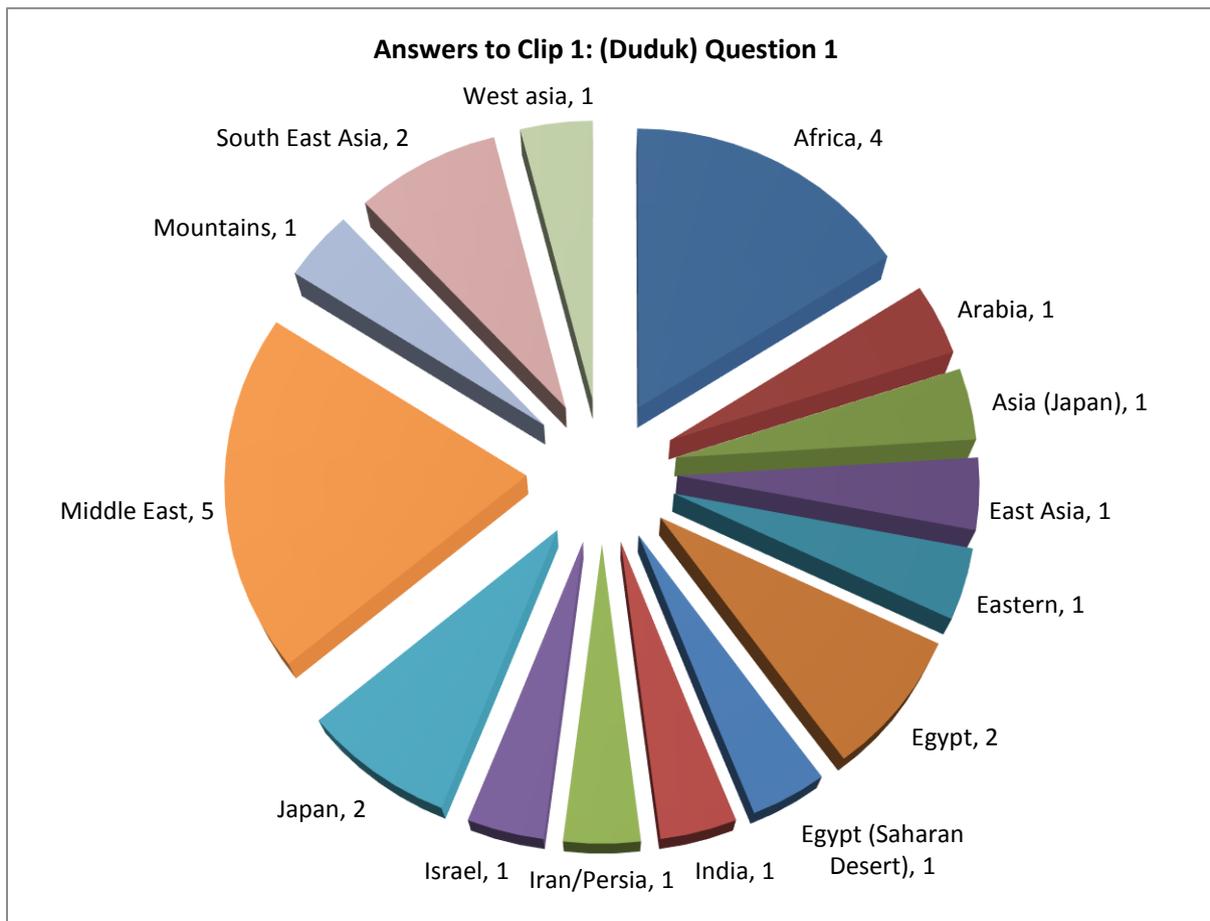
In answer to question 1, the Duduk track received a large number of cultures. As shown, 7 of the answers reference North East Africa, 7 reference countries of the Middle East, and 6 references East Asia, with a few answers that could be attributed to multiple groups. One could argue therefore that the Duduk mirrors its use for evoking exoticism, for despite not having a unanimous response to question 1, only one candidate did not give a geographical location (mountains), and 13 gave specific countries. Further argument for this is found looking at the answers to question 3, where the majority of the candidates gave very evocative visual answers (some examples being 'hazy, dusty, sultry', 'association with an arid location', 'sand, hot' and 'desert, spices').

Here we find, at least given these answers, an example of an ACS used to inspire a 'tribal desert' feeling, as opposed to an individual culture or nation, matching the pre-test prediction, due to its heavy use in many contexts in film and television (such as its use in Gladiator). In fact this is very apparent from the fact that some candidates had the same visual associations, despite the fact that they picked different countries (4 candidates mentioned snakes, each with different choices of geographical location).

3.3.2 Clip 2: Steel Drums

Answers to Clip 2: (Steel Drums) Question 1

Zimbabwe, 1 · Bahamas , 1 · West Indies, 3 · Mexico, 1 · Jamaica/Hawaii, 1 · Caribbean, 9 · Ghana, 1 · Jamaica, 8

Here is an example of a much more established ACS, with steel drums 'representing' the Caribbean. As shown, over 80% of the candidates said that the music was from the Caribbean, or from a Caribbean nation, with two candidates choosing African nations, one Mexico, and one undecided between Hawaii and Jamaica. However while Hawaii and Jamaica have different musical styles, the answer is more explained with the answers to question 3. Here the majority of the candidates made some reference to relaxation, with 8 references to a party or drinking, and 5 references to happiness! Here we can clearly see how this music has been used in advertising, and through mainstream use, clearly has strong associations. Interestingly we can see that this music has become very distinguishable as 'Caribbean' due to the answer to question 2, where 18 candidates gave 'steel drums' as their reason for their answer to question 1, and a further 2 referenced drums/instrumentation.

Also interesting here is that we see 3 references to popular culture, with 'The Little Mermaid' appearing once, and 'Cool Running's' twice. This gives us further evidence that in an audio visual environment, the audible cultural references are being observed, and recalled.

3.3.3 Clip 3: Sizhu

Answers to Clip 3: (Sizhu) Question 1
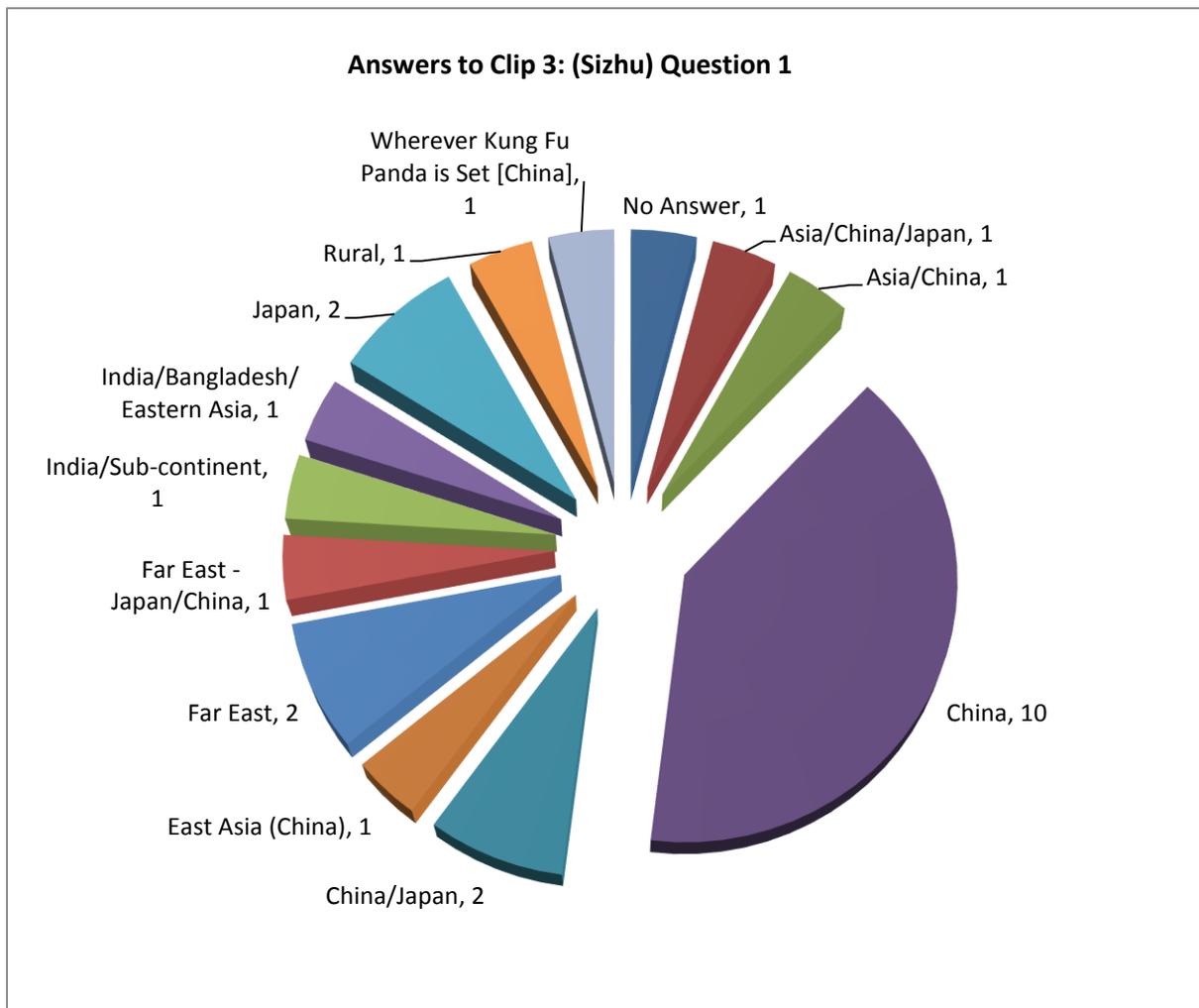
Again we see a clearly recognised culture, with 4 answers not pointing to the Far East, and 16 answers directly referencing China. Interestingly we also see a candidate unable to place the music, however given that 23 of the candidates give strong clear references, we can probably view this as an anomaly. One candidate similarly references a 'Rural' location for where the music is set, perhaps re-enforcing the use of non-western instrumentation in popular culture is for the 'primitive' or 'non-urban' traditions. Yet by looking at the same candidates answer to question 3, 'Lord of the Rings', this may be due to the association of imagery from that series.

We also see a popular culture reference as an answer to a question, which follows on from the answers to question 3 in the previous clip. Here we can see an example of where the intended culture has not been conveyed (which is China), and instead the candidate has associated the music with the fictional film location instead. This may also be an indication of how easily non-western instrumentation can become 'attached' to a culture, given that the instrumentation provided an association with only one point of reference.

Here we also see some interesting results to question 2. One candidate, who answer 'Chinese' to question 1, answered question 2 (the reasoning) 'just is – twangy'. Here we are seeing an example of how the timbre of the music combined with the instrumentation, are influencing the candidates opinion. Some of the incorrect answers to question 1 are also further explained with answers to question 2, specifically both of the candidates who mentioned 'India/Sub-continent', and 'India/Bangladesh/Eastern Asia'. The first candidate gave the reason as the 'sitar type sound', and the second simply stated 'sitar?' This again reinforces the idea that instruments can be tied to cultures, for it is clear that both candidates, after mistaking a Chinese zither for a sitar, have therefore assumed the music must be Indian.

Question 3 again seems to show a lot of strong imagery, interestingly the majority of which is stereotypes of Chinese culture. With 5 references to Chinese buildings, 3 references to dragons, 2 references to food/rice, and 4 references to kung fu/ninjas, we can perhaps see how a stereotyped culture is portrayed in mass media, and reinforced/easily evoked with an ACS.
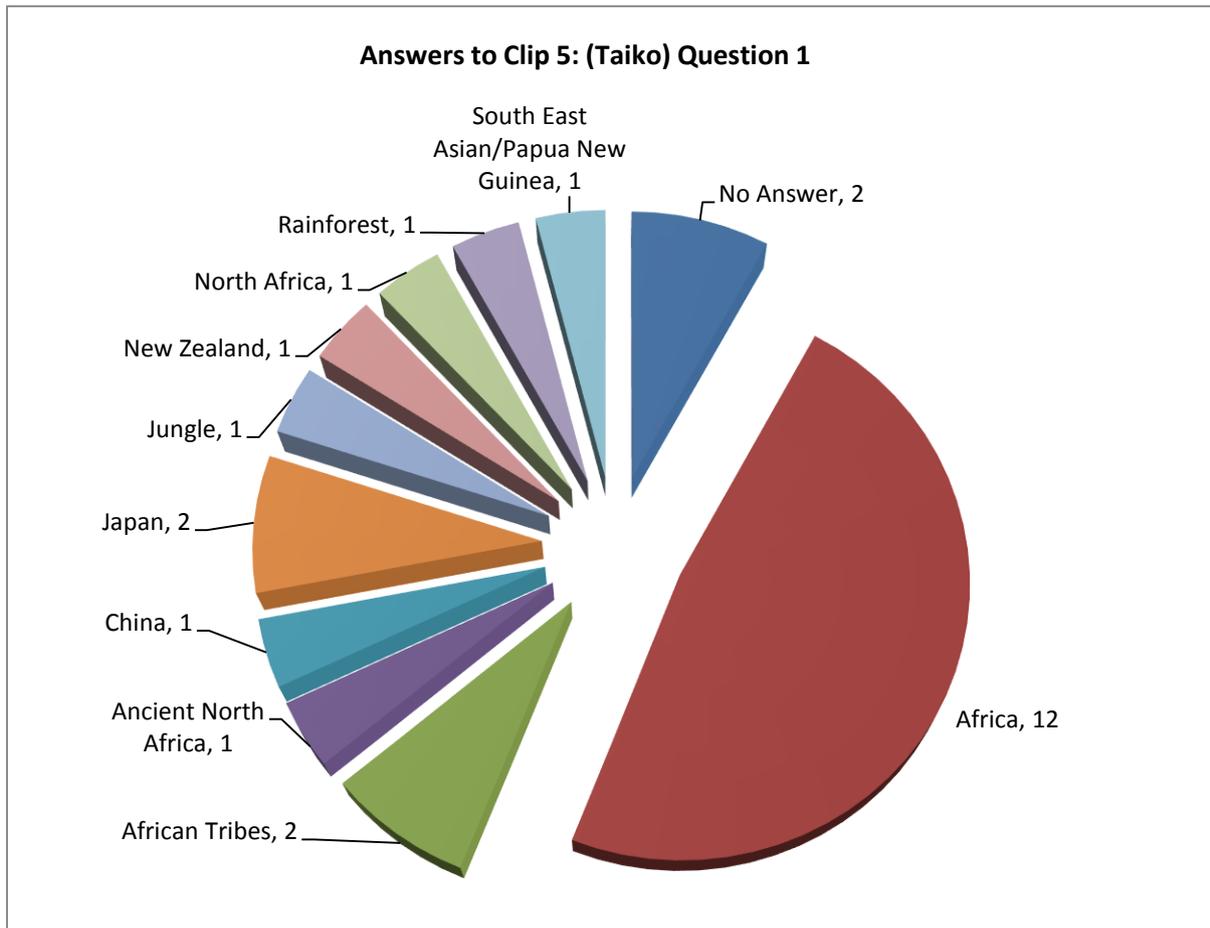
3.3.4 Clip 4: Djembe
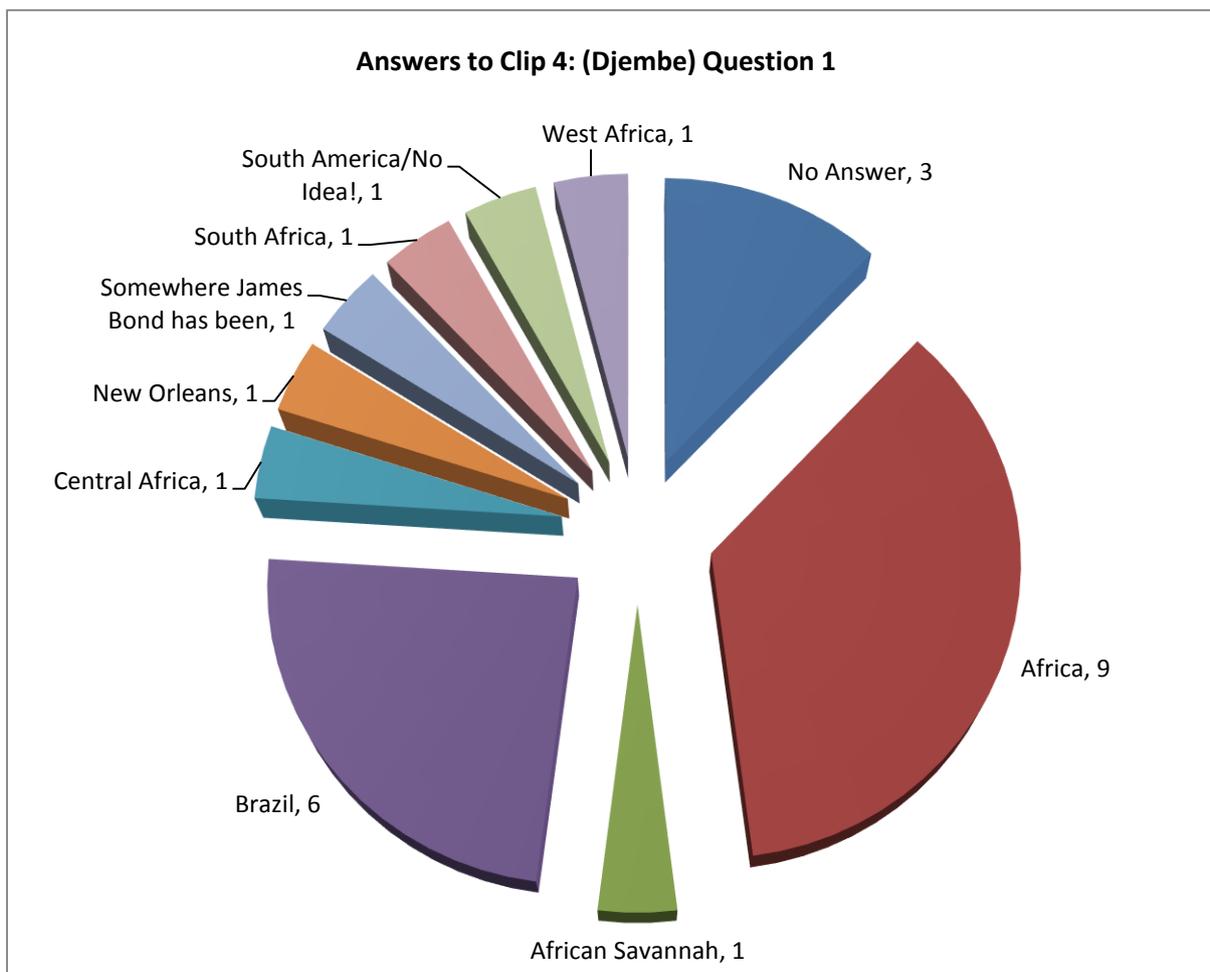
Here we see more of a split, with a lot of candidates answering Africa, or a variant, however Brazil or South America. Again we see a reference to popular culture with 'Somewhere James Bond has been', giving us another reference to film Soundtracks, and non-western instrumentation. We also can see some more of the effects of advertising, with some candidates remarking that this made them think of football. Given that the 2010 world cup was hosted in South Africa, and a lot of adverts featured non-western instrumentation (in order to sound African), this could be a direct result. We also see some answers to question 2 which warrant further discussion, specifically the answers 'I feel like I've heard it before', and 'stereotypical'. This shows that some of the candidates are at some level identifying the stereotyping of this music to culture, however the latter candidate in fact placed the music from Brazil.

Finally it is important to mention the large number of references to dance or celebration in the answer to question 3. In fact every candidate who answered 'Brazil' or 'Brazilian' made some reference to a carnival and 8 other candidates made a dancing reference. Interestingly one of these candidates answered 'no idea' to question one, and left question 2 blank, meaning that although there was no cultural associations, there was still a scenario that was visually available. This is more interesting when compared to the Romany music (featured as a later clip) which is meant to accompany dance, as there were far more references to dance in question 3 with this clip (djembe).
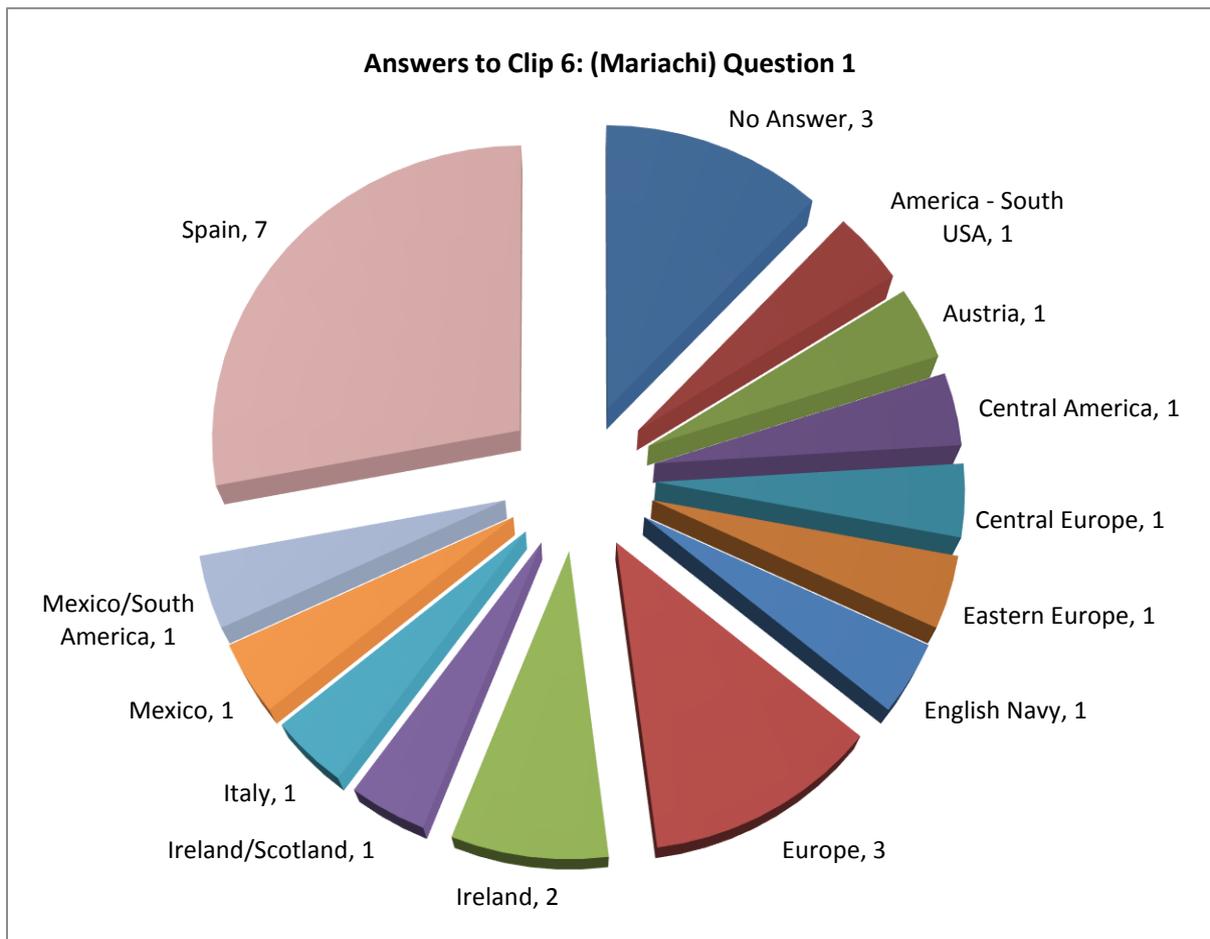
3.3.5 Clip 5: Taiko

Answers to Clip 5: (Taiko) Question 1

- South East Asian/Papua New Guinea, 1
- Rainforest, 1
- North Africa, 1
- New Zealand, 1
- Jungle, 1
- Japan, 2
- China, 1
- Ancient North Africa, 1
- African Tribes, 2
- No Answer, 2
- Africa, 12

This clip was a more unexpected result, given that Taiko is used heavily in representations of Japanese culture. However the large amount of African answers is slightly better explained by the answers to questions 2 and 3. Here we find a lot of references to 'tribal' and 'chanting', suggesting that the 'tribal' label better suits Africa in the mind's eye of the candidates. There are also a couple of candidates who mention 'chanting', 'tribal gathering' and 'fire', again suggesting a very clear visual image of what they think the music accompanies.

One candidate did correctly identify the music as taiko drumming and interestingly then referenced a video game as the only association, specifically one chosen in this study – Shogun Total War. This is interesting, for the candidate appears to have recognised the music's use in the game over other sources, suggesting he is aware that it is used as a representation of culture. Again we also see a lot of references in the answers to question 3 regarding mood, specifically related to tension and war, along with a couple of martial art references ('martial arts montage', 'kung fu'), and another reference to a film 'Mulan'.
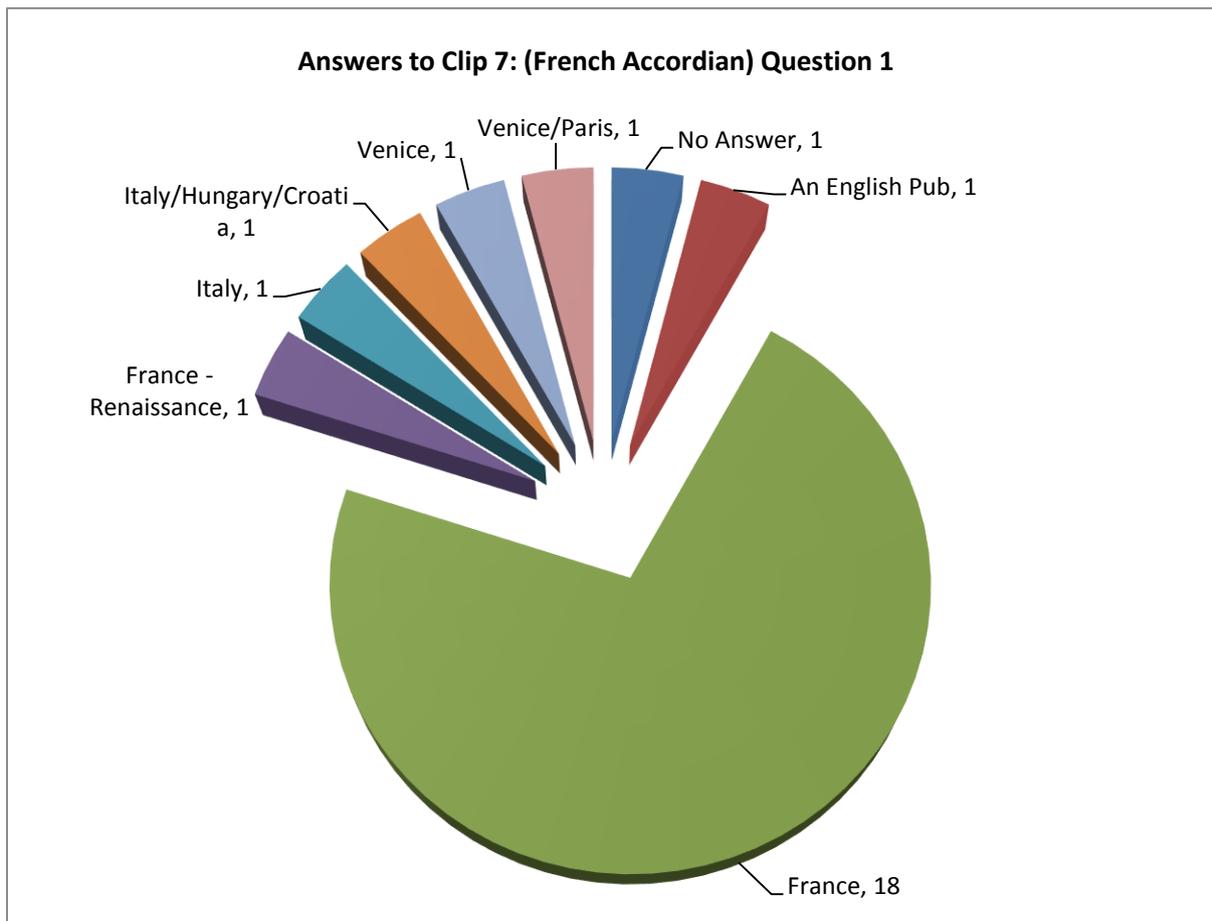
3.3.6 Clip 6: Mariachi

Answers to Clip 6: (Mariachi) Question 1

Spain, 7 — No Answer, 3 — America - South USA, 1 — Austria, 1 — Central America, 1 — Central Europe, 1 — Eastern Europe, 1 — English Navy, 1 — Europe, 3 — Ireland, 2 — Ireland/Scotland, 1 — Italy, 1 — Mexico, 1 — Mexico/South America, 1

Mariachi bands have often been used as an iconic image of Mexico and South America, and I was therefore again expecting a much more definite result. However it appears, as seen from the results, that the candidates struggled to make this connection. Clearly Spain was a favoured choice, however this could be due to the fact that there was a large amount of strings present in the clip chosen. In popular culture, the more usually caricatured Mariachi bands instead feature a lot more trumpets, guitars and percussion, perhaps explaining the large amount of European references, given that the violin is considered a very western instrument.

Looking at the answers from questions 2 and 3, we see a generally upbeat, celebratory opinion, with references to 'happy', 'fun/dancing', 'pub, fiddles, Guinness', and 'festivals'. We do however see some references to the more stereotypical sounds, with two comments that the music relates to cartoons, specifically 'cartoons' and 'sounds like Tom and Jerry scenario'.   Interestingly there were also 5 candidates who after guessing a location (one even correctly), could not add any extra associations.

3.3.7 Clip 7: French Accordion

Answers to Clip 7: (French Accordian) Question 1

- Venice/Paris, 1
- Venice, 1
- No Answer, 1
- An English Pub, 1
- Italy/Hungary/Croatia, 1
- Italy, 1
- France - Renaissance, 1
- France, 18

This clip was always predicted to be the most commonly recognised stereotype, given its exhaustive use in films to represent France, (specifically Paris). In fact, this was the clip which I anticipated would follow Cook's description of a few notes in a 'distinctive style' being enough to appeal/draw associations to a specific culture[118]. With 20 out of the 25 candidates mentioning France in some way, we can see that this is clearly the case. Interestingly the associations of those candidates who did not guess France are extremely vague, and in some instances not even guesses were made. This suggests that they perhaps had not come across this frequently occurring cultural reference (mainly films), and were not aware of the ACS. The candidates who did answer in line with the predicted cultural associations however had extremely detailed, and also remarkably similar responses, showing how the music/instrument is routinely used in very similar circumstances. To expand on this, there were 5 references to a 'café', 6 references to 'Paris', several references to buskers, or walking the streets of a city, and several references to other French stereotypes, such as 'mimes' , 'onions', and 'garlic/baguettes/cheese/playing boule'.

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[118] Cook, 1993.

Again we see more references to popular culture, specifically 'sounds like the pink panther', and 'team America start'. There are also references to mood, with four candidates suggesting a feeling of sadness or angst, one even suggesting that it is music to which 'someone's getting dumped'. Interestingly however one candidate, rather sarcastically, suggests almost despair at the stereotype, remarking as the association 'cafés, smoke, existential angst of post/late capitalism (utter pretentiousness)'.

3.3.8 Clip 8: Romany Dancing

Answers to Clip 8: (Romany Dancing) Question 1
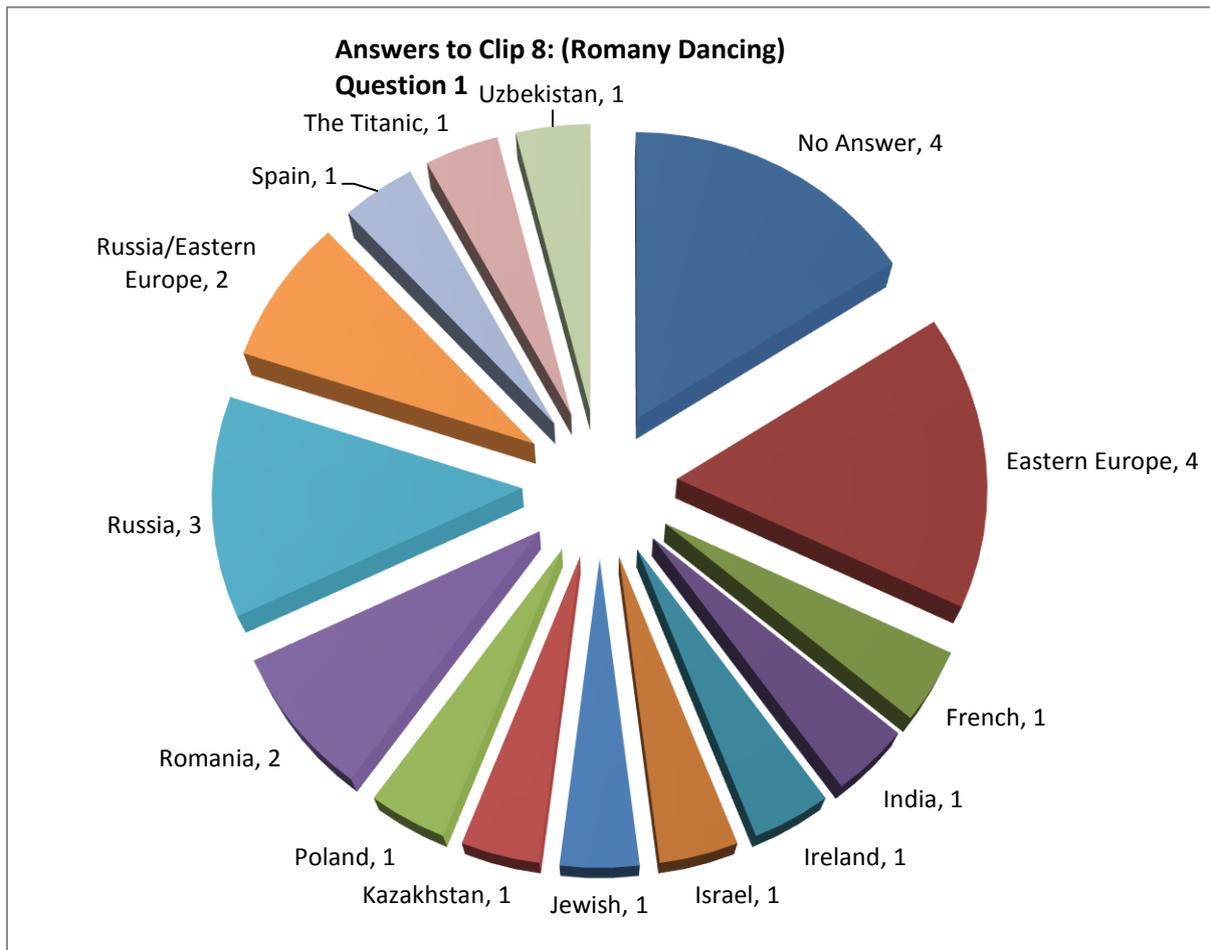
This clip was added as a trick question, to determine whether or not the candidate could differentiate between culture, and nation. The gypsy, or Romany styles are often used throughout mass media, with various stereotypes and associations (of course some historically negative), yet have a fairly distinctive sound/feel. In regards to question 1, as shown the majority of candidates identified a connection to Eastern Europe/Russia. In regards to the later questions however, we see that culture is referenced over more stereotypical national associations. For example there are a number of references to 'Borat', a popular culture caricature of a TV personality from Kazakhstan, as well as a number of references to 'gypsies', 'Cossacks', 'peasanto', and 'folky'. There are also a

couple of references to celebration, combined with the above, with one candidate claiming it sounded like 'music at a Jewish wedding'. Also two candidates suggested the music was Irish, as it sounded like the Irish folk music scene from 'Titanic'.

Despite partial identification of the associated stereotype or ACS, there were a lot of candidates who made remarks about racism, especially after completing this clip. Offhand comments about 'feeling racist', and being embarrassed about being racist were noted, as if by suggesting something sounded like gypsies, it was therefore a negative connotation. This almost came through in some of the answers, with two candidates mentioned 'silly dancing'.

3.3.9 Clip 9: Sankyoku
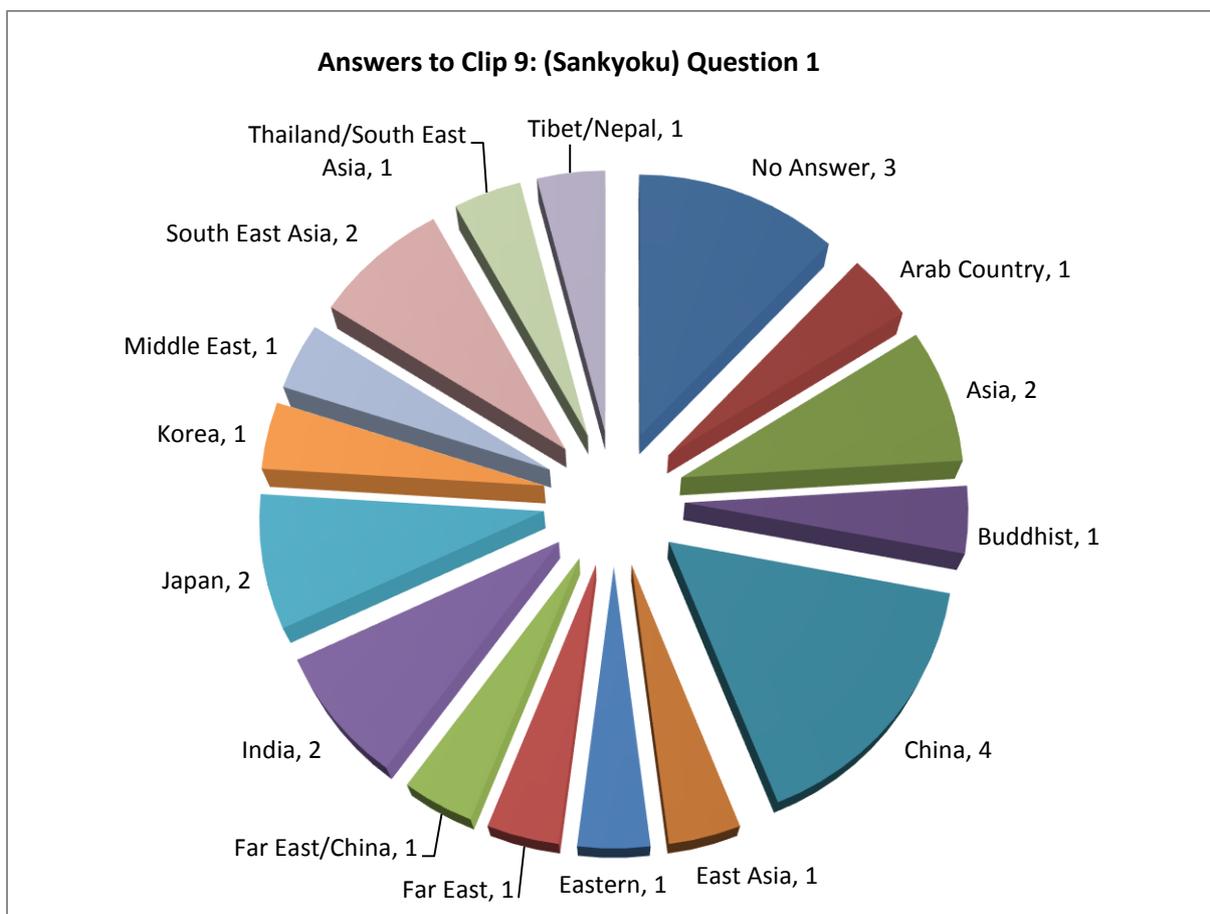
Again in this clip we can see that the majority of candidates were accurate in identifying the area from which Sankyoku comes, however only two specified Japan. This was more a test in comparison to the Sizhu earlier, as I believe that the bamboo flute (specifically the Shakuhachi), is used in advertising to push a more spiritual side of the orient. This appears mirrored in the answers, for although the locations may have been varied, there were a number of answers which contained religious or spiritual references. Along these lines there were several mentions of 'call to prayer', and some mention of 'shamans', and 'temples'.

In contrast there were several references to 'opera', and film (specifically Crouching Tiger Hidden Dragon), claiming that the 'wavering' or 'atonal' music gave these impressions. The candidate who chose Tibet/Nepal also identified the advertising connection, by commenting that the association was 'romantic as in picture', almost as if the image and music combined produced the 'ideal' imagery of the east.
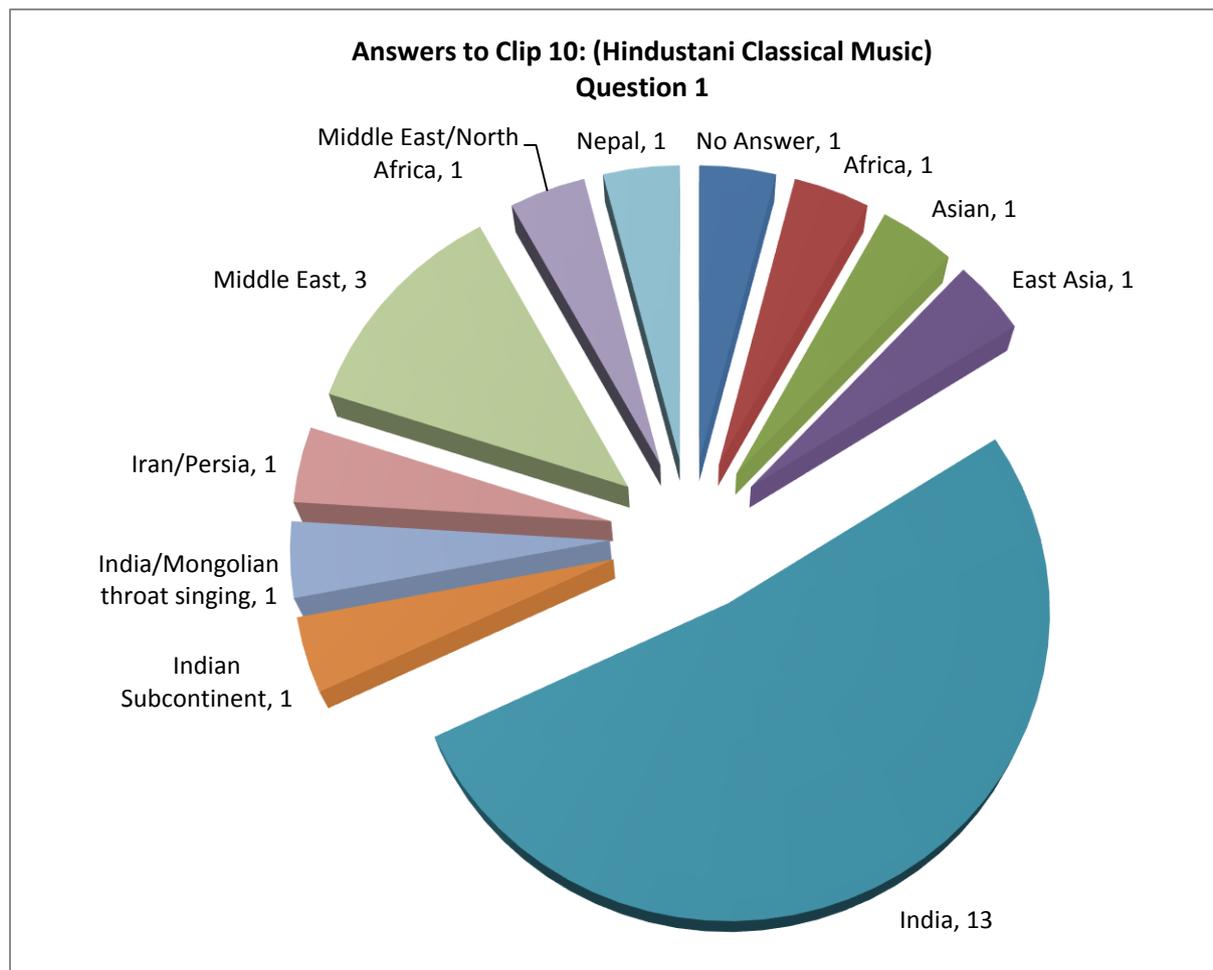
3.3.10 Clip 10: Gamelan
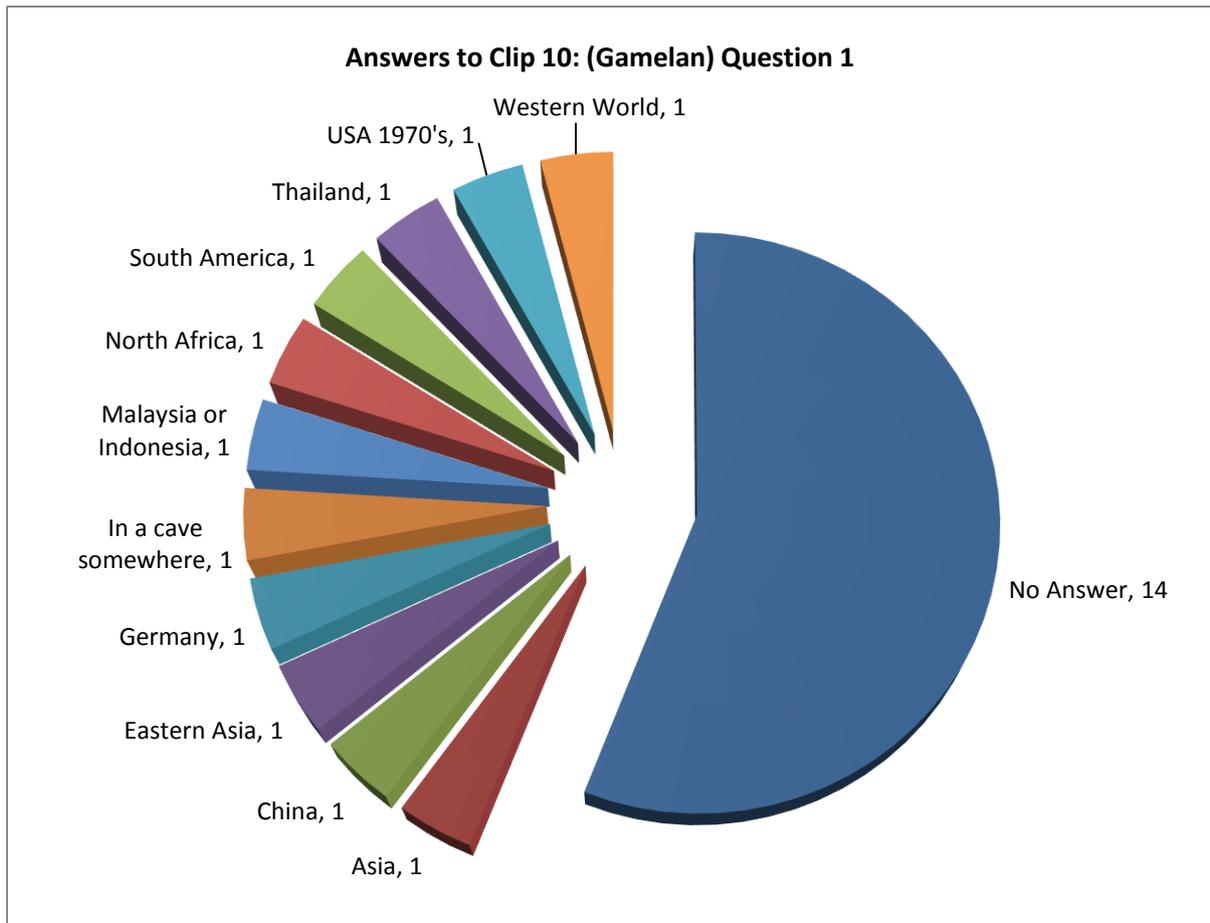
This clip was interesting, however disappointing in results. I assumed that with many school children being exposed to gamelan, that there would be a greater accuracy in identification; however this appeared not to be the case. Because there was no strong familiarity with the music of most of the candidates, only 12 candidates could provide any associations at all with the music, of which 6 were merely comments about the music itself (not related imagery as found before). In fact many of the candidates remarked that they felt uncomfortable with the music feeling so unfamiliar, and they did not enjoy listening to the track.

This does however provide material to better explain why the same ACS are found when representing culture, for when provided with an unfamiliar sound, the connotations are in fact

mostly negative. At this point it might seem appropriate to reference again the work by Philip Tagg on genre synecdoche, and that the lack of associated references might simply demonstrate that when a musical genre is recognised, it is accompanied by every reference/association. Conversely when there is no recognition, there are no points of familiarity.[119]

3.3.11 Clip 11: Hindustani Classical Music

Answers to Clip 10: (Hindustani Classical Music) Question 1

- Middle East/North Africa, 1
- Nepal, 1
- No Answer, 1
- Africa, 1
- Asian, 1
- East Asia, 1
- Middle East, 3
- Iran/Persia, 1
- India/Mongolian throat singing, 1
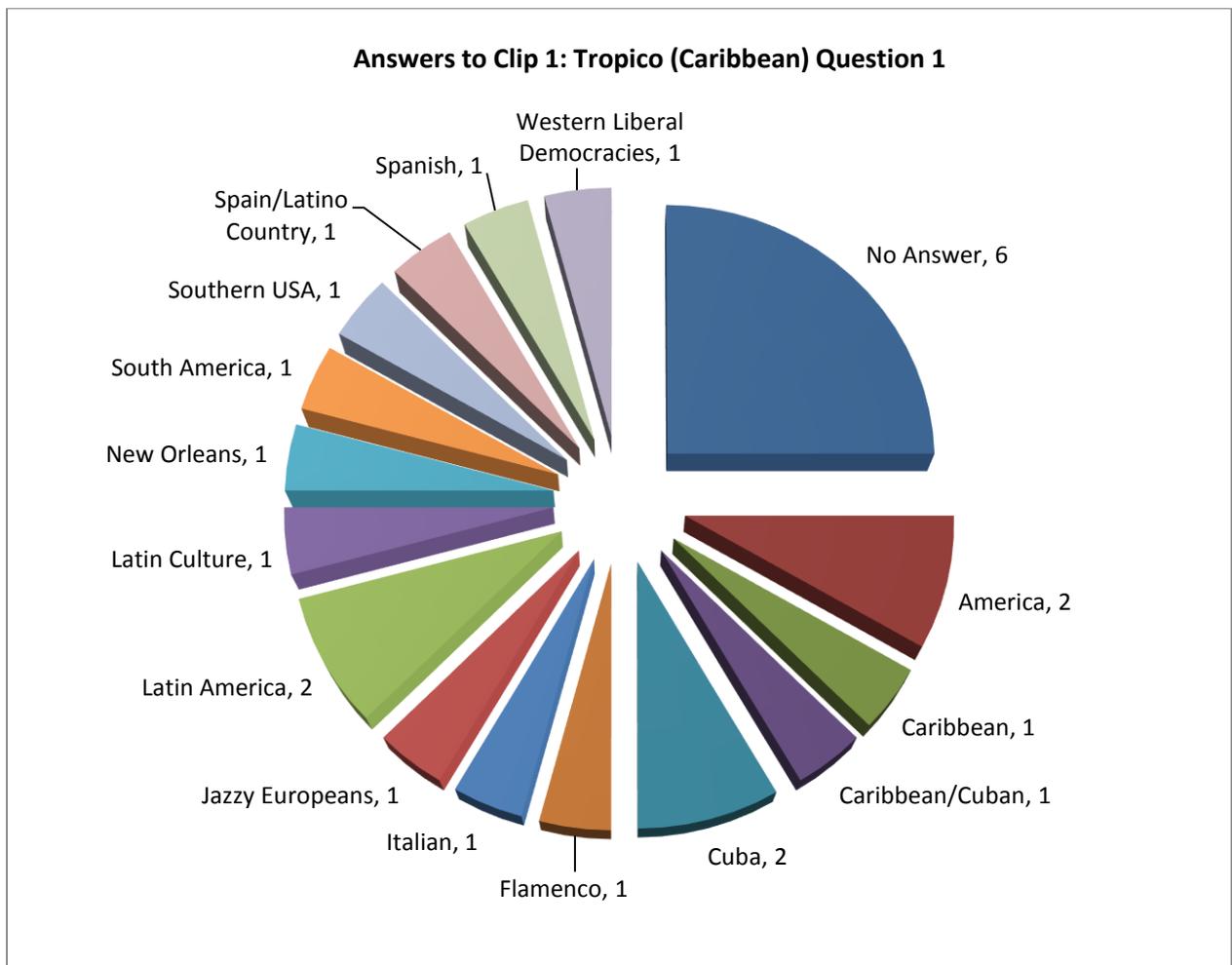- Indian Subcontinent, 1
- India, 13

Finally the Hindustani clip was provided alongside the accordion, as a non-western but very recognisable ACS. As we can see a considerable number of the candidates recognised the music, and the associations, as with the accordion, are very strong (in this instance there are many references to food, Bollywood, and ritual/temples). Two comments stand out as points worth revisiting, the first being an answer to question 2 of 'I'm racist', seemingly an admittance to the fact they felt they were identifying a stereotype, and the second comment reinforcing the ACS model, with an 'it sounds like things I've heard before'.

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[119] Tagg, 2004

3.4 Analysis: Test 2

Again with the analysis of this test, I will choose to break each section down by clip. Once more I will also visually provide information on the answer to the first question – recognition of culture, and then discuss the answers to question 2 and 3.

3.4.1 Clip 1: Tropico

Answers to Clip 1: Tropico (Caribbean) Question 1

- Western Liberal Democracies, 1
- Spanish, 1
- Spain/Latino Country, 1
- Southern USA, 1
- South America, 1
- New Orleans, 1
- Latin Culture, 1
- Latin America, 2
- Jazzy Europeans, 1
- Italian, 1
- Flamenco, 1
- Cuba, 2
- Caribbean/Cuban, 1
- Caribbean, 1
- America, 2
- No Answer, 6

This track was only identified by a majority, and the answers were quite spread.   Interestingly there were a lot of 'No Answer' responses, although no candidates gave reasons as to why (thus assuming they have not heard this music before).

In response to question two it is clear that a lot of the answers were unsure, giving very descriptive answers to the first two questions (such a as 'don't know', 'upbeat', or not answering). In regards to question 3 however there were more answers/suggestions than either of the previous two questions, with only 4 unable to answer, giving the impression that most of the candidates could at

least see the music being used in a video game. With the answers given there are lot of references to waiting/loading, or suggesting the music should be used at an introduction/pause screen (despite this track usually accompanying the standard game play). We also see a couple of references to video games or franchises, with 'Mario', 'Nintendo', and 'the Sims'.

Most interestingly however is the fact that one candidate correctly identified the music, giving its role as 'admiration of el-presidente'. However despite answering Cuban/Caribbean to question 1 the candidate could not give a reason as to their choice (question 2). This might suggest that the player in-game has assimilated the indirect information without questioning it, meaning that the cultural aspect has avoided rationalisation.

3.4.2 Clip 2: Shogun 2
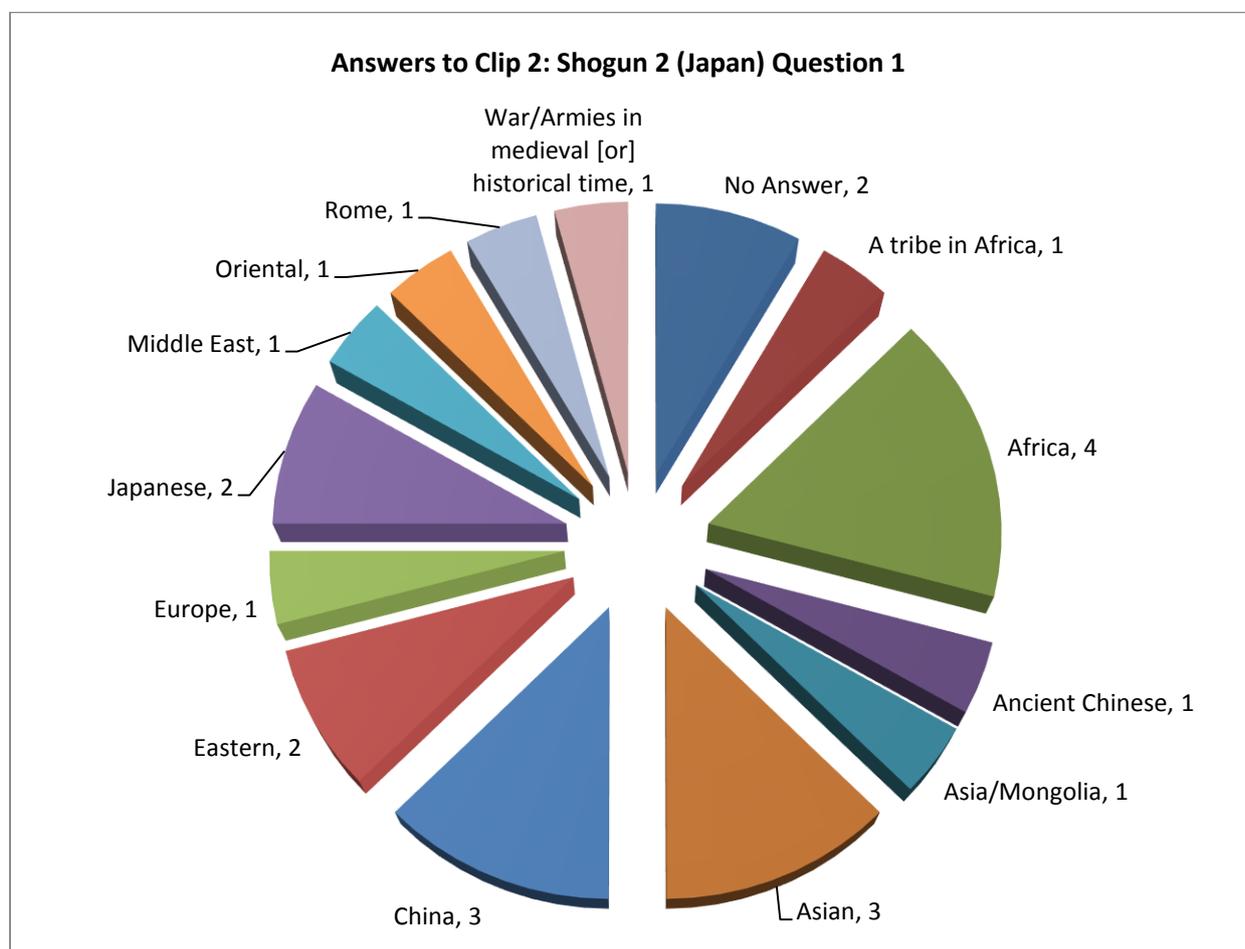
Again we see a number of choices for the suggested culture, with a bias towards 'the east'. Interestingly however are the answers to question 3 in this clip. Apart from the candidates who did not attempt the question, every answer aside from 2 (17 total), make reference to some form of war or battle. In fact some candidates even go as far as to correctly identify that the track is from a real time strategy game, and there is even a reference to the intended era ('possibly sounds bow and

arrow'). It appears therefore that the mood and suggested visual accompaniment is clear the candidates, even if the intended culture is not.
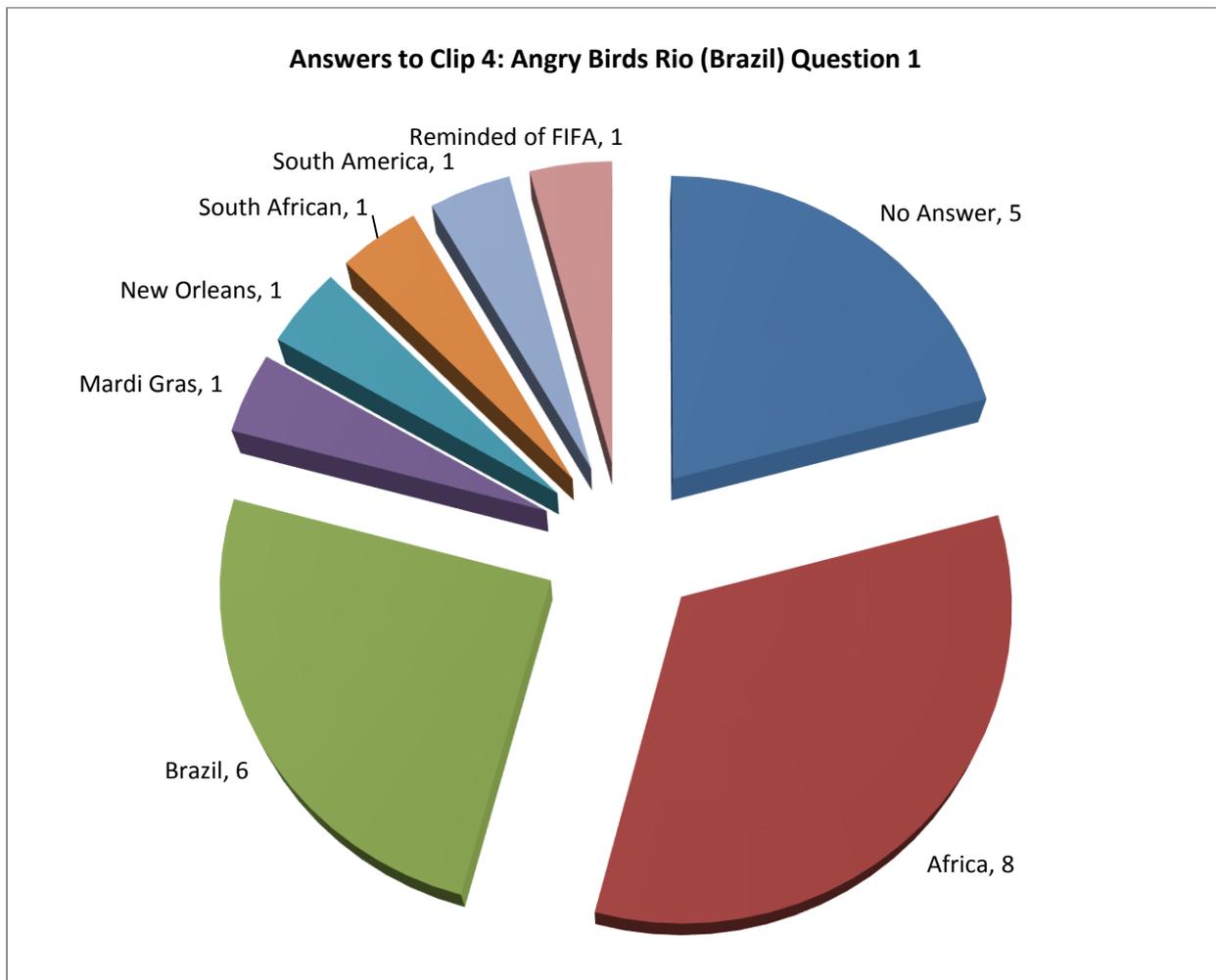
3.4.3 Clip 3: Red Dead Redemption
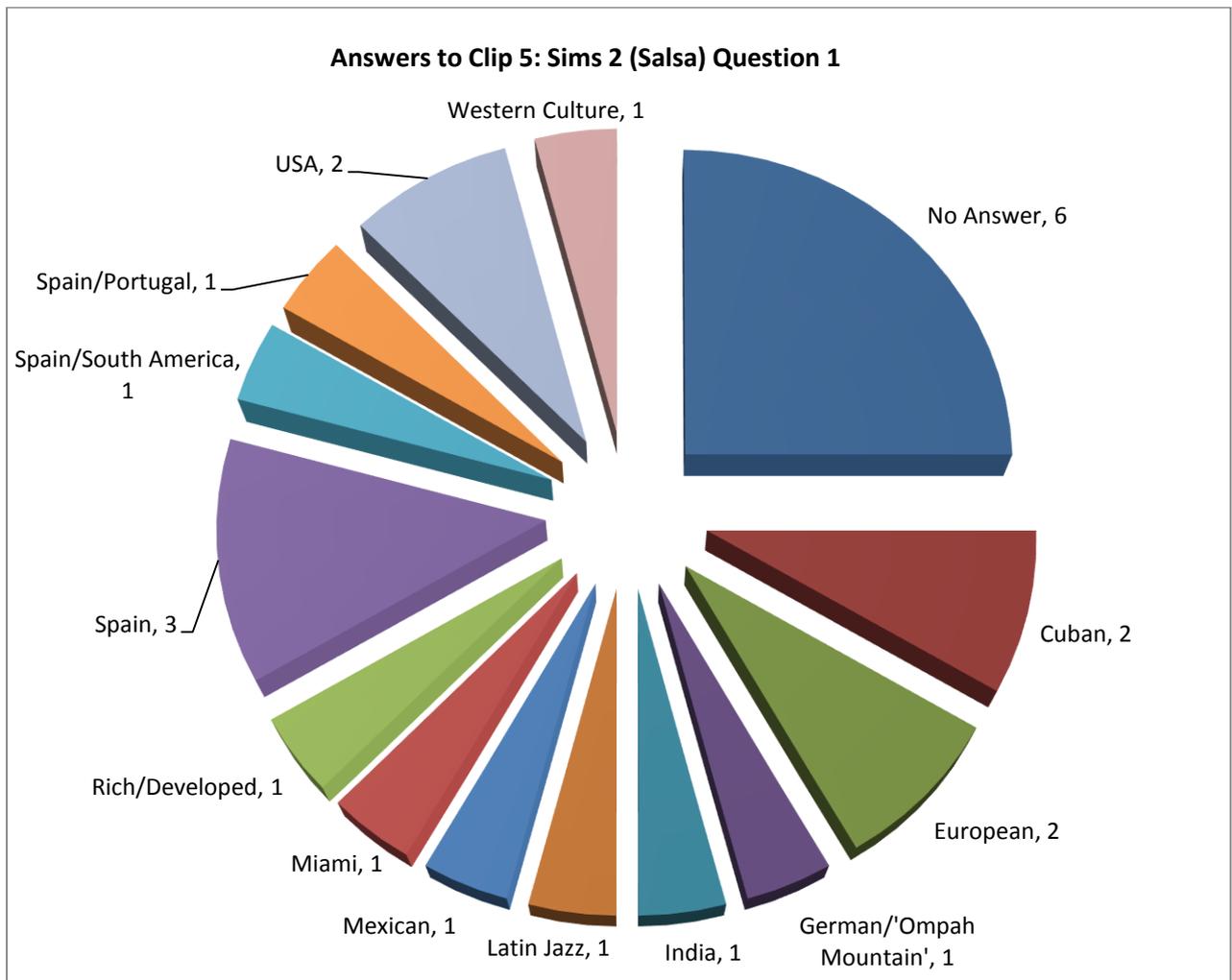

Answers to Clip 3: RDR (Mexico) Question 1
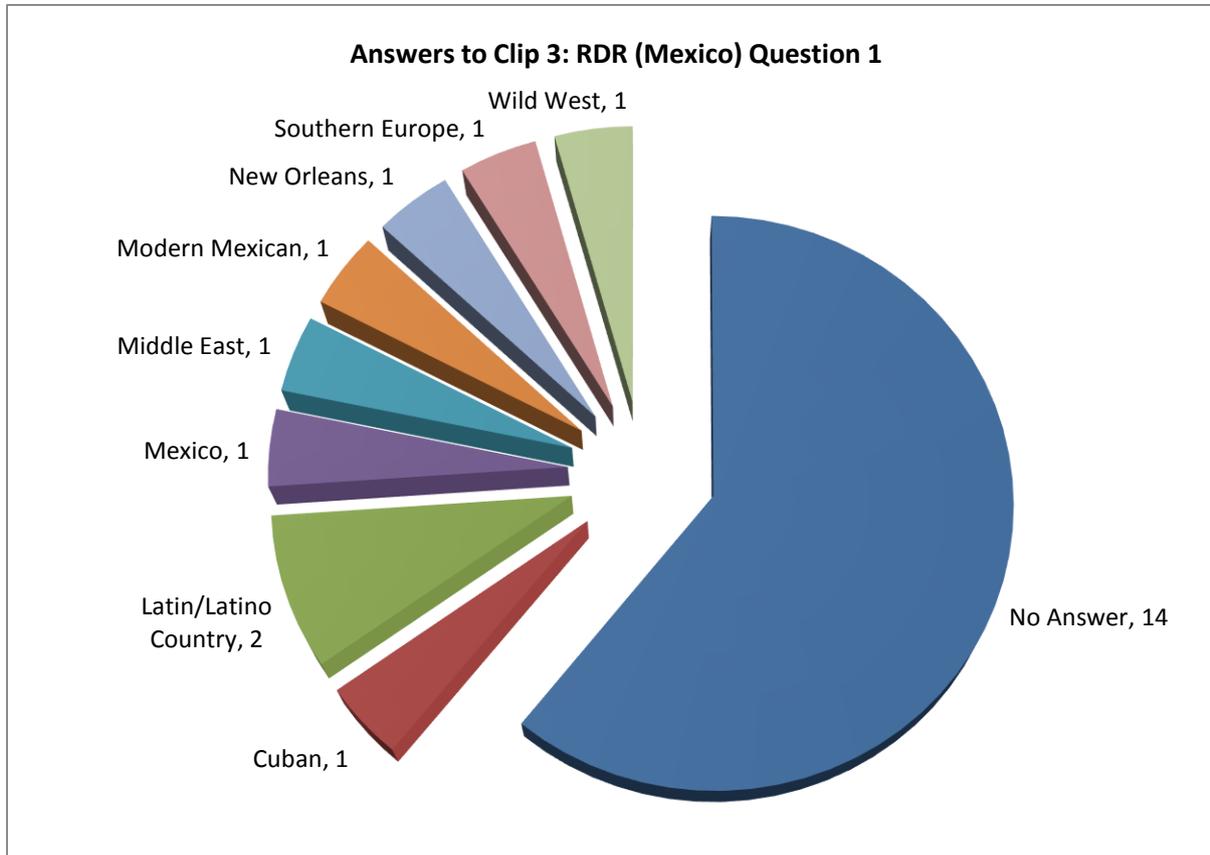
Akin to the Romany clip in test 1, this clip was chosen almost as a trick question, because It represented a genre of music, specifically that of the spaghetti westerns (see earlier discussion). However the same instrumentation (trumpets and castanets) were used in the earlier Mariachi clip. Instead however we see the majority of candidates struggling to even guess at the culture, and many unable to place the music in a game at all. Here the music is showing that when separating the music from the visual it is not always possible to identify the intended situation. In fact the only 4 of the candidates, who did make reference to a showdown or a standoff, were also the 4 candidates who got the closest in guessing the culture. There is therefore a suggestion here that either they recognised the genre (seems unlikely given the fact their answers to question 1 were not that specific), or that by not identifying a genre/location, the other candidates then struggled to identify a mood.

3.4.4 Clip 4: Angry Birds Rio

Answers to Clip 4: Angry Birds Rio (Brazil) Question 1

- Reminded of FIFA, 1
- South America, 1
- South African, 1
- New Orleans, 1
- Mardi Gras, 1
- Brazil, 6
- No Answer, 5
- Africa, 8

Again here we see a large number of 'no answers', despite the use of a fairly recognised sound (that of a Brazilian carnival). The candidates also appeared confused by the use of whistles, and in fact this led to many references to sporting events/football matches in the answers to question 3. There were several answers which correctly identified this as a carnival or mass gathering/celebration scene, again showing how the intended scenario appears to be recognisable, even if the candidate incorrectly guessed at the culture. Akin to the last clip however we also saw that when users could not offer an answer for a culture/location, they were not able to guess at the scenario, or in fact guessed a very different one (one candidate suggested a duel).

3.4.5 Clip 5: Sims 2

Answers to Clip 5: Sims 2 (Salsa) Question 1

- Western Culture, 1
- USA, 2
- Spain/Portugal, 1
- Spain/South America, 1
- Spain, 3
- Rich/Developed, 1
- Miami, 1
- Mexican, 1
- Latin Jazz, 1
- India, 1
- German/'Ompah Mountain', 1
- European, 2
- Cuban, 2
- No Answer, 6

This track only appears in the game when chosen by the player, so it has no real 'scenario'. The intention with this clip's inclusion was to see whether the candidates would individually generate a similar scenario. In regards to question 1, the breakdown is similar to the Tropico track previously, with exactly the same number of candidates unable to recognise the music's culture/location. In question 3 we also see this similarity, with a reference to loading times, and a party or victory of some form. Despite both clips not being composed for this purpose, it appears that this style of music is synonymous for these situations, when removing the visual element.

3.4.6 Clip 6: Age of Mythology

Answers to Clip 6: AoM (Ancient Greece) Question 1
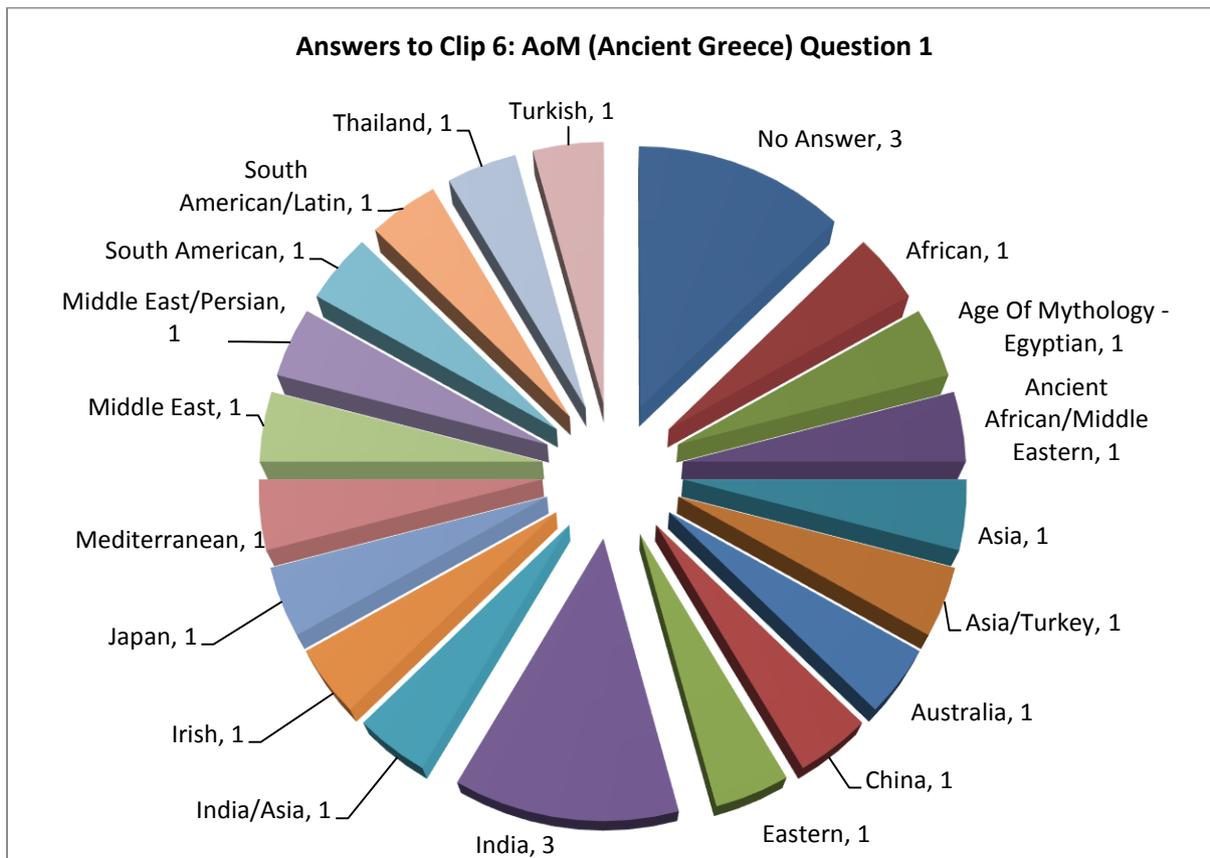
The track, along with the ones which follows, was chosen due the fact it portrays inaccuracies in representing its intended culture. The average player will have no concept what the music of Ancient Greece and Egypt sound like, and these tracks contain a mix of instrumentation which evokes feelings of 'the ancient' (specifically a mandolin, and what sounds like a ghatam) . Shown above, with the huge geographical mix of answers, is that Ancient Greece is clearly not represented by this music alone, with only one candidate answering 'Ancient African/Middle Eastern' (one candidate had played the game, though gave the wrong civilisation), and we must assume that the visual element is required. This is further reinforced with a miss-match of scenarios, and no mention of a past era in the answers to questions 2 and 3.

3.4.7 Clip 7: Civilization V

Answers to Clip 7: Civ 5 (Ancient Egypt) Question 1
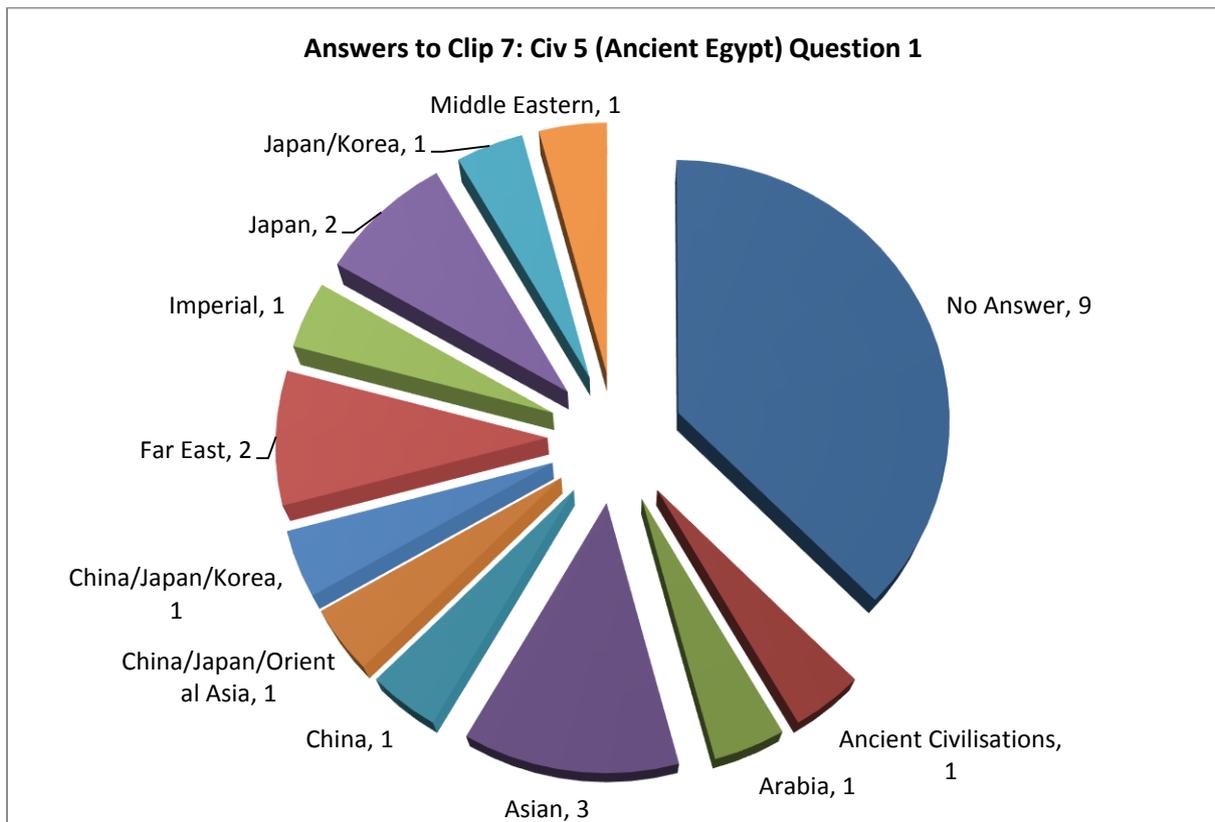
Again, this track does have one answer to question one which references the intended period ('Ancient Civilisations'). This is particularly relevant due to the fact that this is an arrangement, containing only 4 instruments, a drum, zither and a cymbal, along with a synth bass line. The assumption is that the candidate has heard this combination used before for this purpose, or that an individual instrument is causing this connection. Looking back to the previous test, 'ancient' responses or comments have appear in the taiko clip, the Shogun 2 clip, and these two clips, with the only similarity appearing to be the use of non-western drums. It is beyond the scope of this thesis to investigate this further, however this does show some potential material for further study.

3.4.8 Clip 8: Far Cry 2

Answers to Clip 8: Far Cry 2 (Central Africa) Question 1

West Indies, 1
South America, 2
Native American Indians, 1
Jungle, 1
Central Africa, 2
Brazil, 1
Africa/North Africa Specifically, 1
Africa, 6
Aboriginal Culture, 1
No Answer, 8
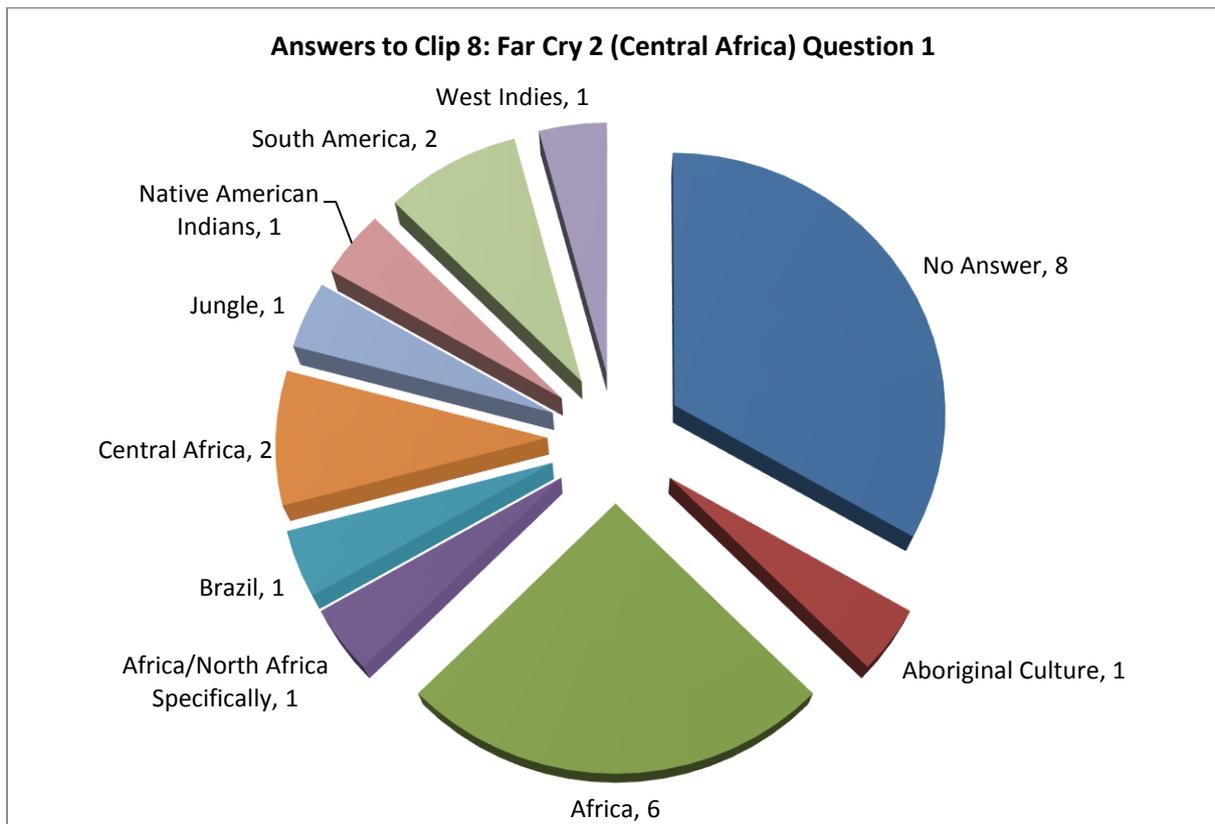
With almost half of the djembe drumming answers containing references to Africa (12/25), it seems surprising that only 6 of the candidates chose Africa as their choice in this extract, given there is strong similarity between the clips. It is also interesting that the number of choices for Brazil has slipped from 6 to 1; however the lack of whistles may have largely affected this. With this track used in-game for action sequences, the majority of candidates correctly identified, with responses of 'fight' and 'chase' sequences. 2 candidates even noted this despite having not attempted questions 1 and 2, showing that in this case the sentiment is carried. What is not explained is the 8 members who could not answer question 1, and in majority 2 and 3 as well. Rising from 3 in the djembe test, this suggests something in the composition of this track is not as recognisable.

3.4.9 Clip 9: Angry Birds Seasons

Answers to Clip 9: Angry Birds Seasons (Ireland) Question 1

- "Pirate Vs Sailor", 1
- "Olde European Continental", 1
- Mediterranian, 2
- Medieval Europe, 1
- Japan, 1
- Irish/Celtic, 1
- Irish (American), 1
- Irish, 7
- No Answer, 3
- Celtic, 1
- England, 1
- Europe, 1
- Europe Sailor, 1
- "Folky Traveller Stuff", 1
- France, 1
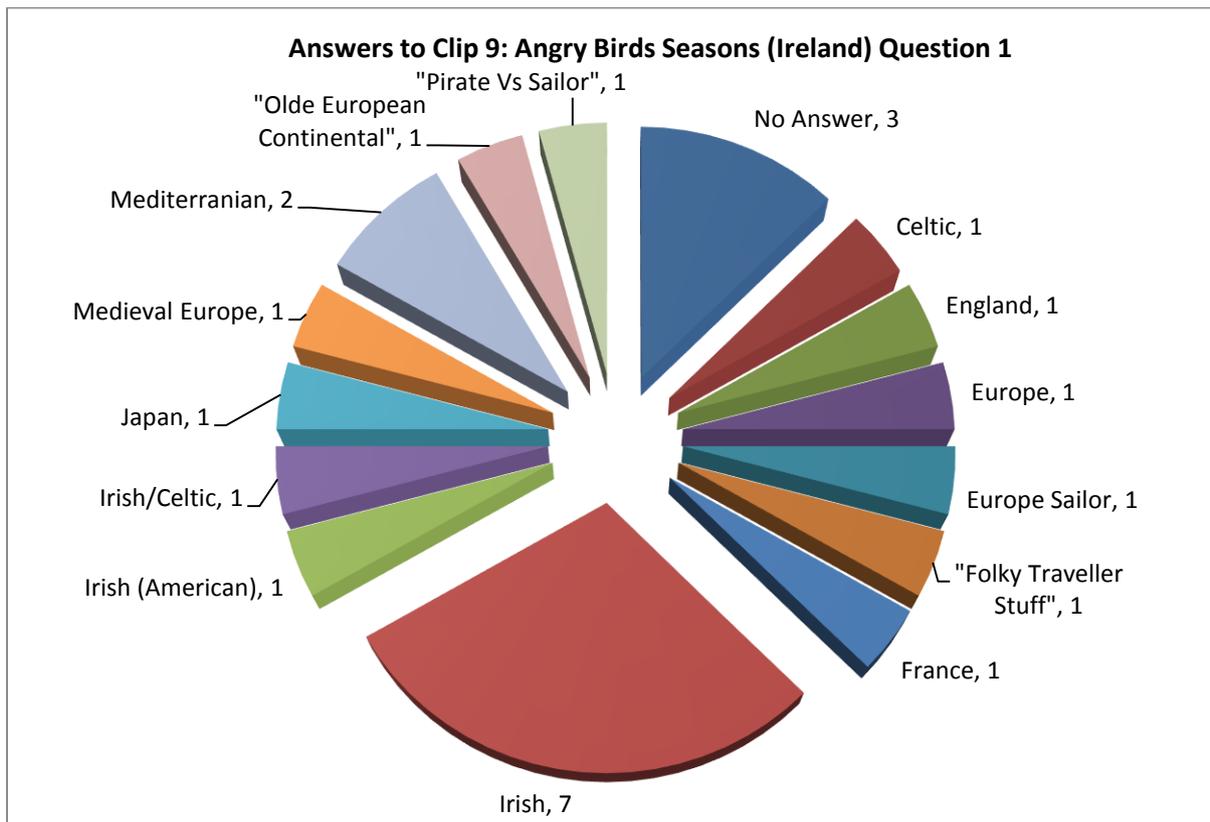
This last clip shows a good summation of the previous points raised. Clearly recognised by a number of the candidates as being Irish, there were a number of references to other cultures, and these could be mostly explained by instrumentation. The fiddle for example could well be giving us the sailing references, and the accordion presumably both the French and European continental references also. Again with this music being used in a title sequence, this track has no intended role, other than to presumably be appreciated as musical, and this is apparent from the very diverse mix of answers to question 3 (ranging from 'shopping in a market', to a 'robin hood bow and arrow fight').

To summarise, it appears that musical cultures are recognised from very specific instrumentation, and if these are not found, the user struggles to identify the culture intended. It appears that these cultures also appear to be reasonably varied as to whether the instrumentation, and therefore culture, is recognised at all. The research to this point also suggests that certain cultures/nations of the world are considerably more recognisable than others; two clear examples of this being the comparison between Hindustani classical music, and the Gamelan of Indonesia (as seen in the results to test 1). One culture received a large number of positive answers, while the latter did not, with only one correct answer. With further research from the candidates no longer possible, I can

only suggest that this is simply due to the exposure of the culture represented. In the above example, India culture is not unfamiliar to the UK, with instruments used in pop music (the Sitar for example in the work of the Beatles and others), and easily accessible cultural media such as Bollywood and or Bhangra. Indonesian culture however is not as familiar to a UK resident, and unless a reason was given to explore the culture (through personal interest/school study/holiday), it would be unlikely that Indonesia would be recognised with any certainty.

The research appears to show some patterns, with certain geographical areas appearing more familiar than others, however further research would be required to discuss this, as with the sources chosen, there is not enough source material to correctly address any trends in aural recognition factors. Equally this would pose further discussion into the question of video game players as to what information they are receiving from the in game audio itself. If the culture is unfamiliar both visually and audibly, then how is the new information being processed, and is it in fact relevant to the gameplay experience?

When taking music from video games we see that often the candidates struggle to identify the intended cultures/cultural references from the music alone. Furthermore it appears that if the user can place the music in a location/attribute it to a culture, they appear better able to guess the intended mood/scenario, however if they cannot 'place' the music, they equally appear to struggle to accurately identify the music's role. This was somewhat of a more unexpected result – as by looking at the research identified by Kellaris et al[120], (with 75% of people able to correctly guess the intended mood of instrumental music they've previously not heard), the mood should be readily identifiable. Therefore perhaps it is more interesting that a cultural reference may be causing difficulty with identifying other features – it is more overriding or distracting/apparent to the listener.

Also important to state is the results taken from question 2. The same in both tests, and more apparent in the results of the second, it clearly shows that the key identifying feature of non-western music is a familiarity in instrumentation. Constant references to 'the instruments used', or the types of sounds they produce, clarifies the initial observations made when studying video game music; that to make something sound like it's from somewhere else, you use recognisable non-western instrumentation.

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[120] Kellaris et al, (1993)

3.5 Test 3

With the results from test 1 and 2 considered, there are two main points raised. Firstly is that while most of the subjects could identify a culture from an example clip of that culture's music, they found this much harder to do when the music was taken from a video game. The second point being that not only did music from certain cultures throw up specific, and often very visual associations for the majority of candidates, but that a significant amount of those associations were based on mood, and were often present even if the candidate did not accurately identify the music's culture/location. This is not that surprising however, as mood is clearly identifiable for most listeners, while cultural references require previous contact with some form of ACS. Rigg[121] explains this further, suggesting that if played an unfamiliar musical composition (instrumental), most listeners (73%), regardless of musical training, could accurately interpret the intended meaning.

With this in mind it seemed that several possibilities exist. Firstly that the aspects relating to cultural representation in a video game soundtrack was not as important as other factors, such as mood, and therefore was not as recognisable as it was a subservient factor to other features. This would be reinforced by the fact that cultural flavouring is a subtle device, implying that this is not the primary function of the music. Also, by considering the music outside of the visual stimuli, the subject is not engaging with all the information presented to them when inside a game, and crucially not the combination of information which is presented. With sources indicating that the visual is mostly considered a more important feature of audio visual environments, it must be considered that when trying to represent a culture, the visual must also play the 'lead' here and the audio is simply a re-enforcement. Lastly other audio aspects must not be ignored, and with recent research suggesting that user generated (non-soundtrack) sounds in a video game environment are more able to attract the users attention than other audio, the soundtrack role must again be reconsidered.

Test 3 was therefore designed with three main objectives

1. To discover the role of cultural representation of a video games soundtrack, while the user is engaged in gameplay. *Does the music conflict, compliment, or not provide this function.*
2. To discover the importance of mood/appropriateness in a game soundtrack, during gameplay. *Will the user accept music which does not 'match' the scenario culturally, but does in regards to the mood of the scenario?*

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[121] Rigg (1937) in Kellaris at al, (1993), pp 114-125.

3. To consider the interchangeability of a game soundtrack. *If the game soundtrack reinforces the visual and alternative audio aspects, does this mean that a soundtrack from games with the same genre, culture, or mood can be used successfully instead.*

4. When brought to the attention of the player, does the soundtrack work effectively in a game scenario?

I decided to select 3 games, which covered a range of genre, platform, and cultures. The first of these was Red Dead Redemption (outlined in detail at the beginning of this study). I chose this to represent console shooter games – a significant part of the game industry. With many of these games containing very repetitive soundtracks, a need for quick reactions, and constant control adjustments, the perceived level of immersion would be high, and that therefore subjects would favour a correct 'match' to the visual/gameplay in mood over a corresponding 'match' in culture. The second game was Total War: Shogun 2 (again outlined earlier), a strategy game that again requires a lot of control adjustments, but is slower paced than RDR, and contains a lot more visual and audio cues. This was perceived to have a similarly high level of immersion as RDR, but with more focus towards other aspects such as audio than the previous game. The last game chosen was Tropico 3 (once more outlined earlier), a strategy-simulation game also on PC, which has a much slower pace and a lot directional/narrative freedom in the player's control. This slower pace was perceived to have a much less immersive gameplay experience, or at least a lot less focus on the visual, and more on a combination of all aspects. The expectation is that here players would be more engaged with the audio, and any discrepancies they thought might exist. These games therefore represent 3 different genres, with games played both on external console, and PC.

With the games chosen, I settled on 7 different tracks which would be played during the gameplay, which the user would have then have to rate (discussed further shortly).

1. The original soundtrack.
2. Another track from the same game.
3. A track from a game of the same genre, representing the same (or closely related) culture.
4. A game from the same genre, in a similar mood/situation, but of a different culture.
5. A game from the same genre, which different both in mood/situation and culture.
6. A game from a different genre, with a similar mood or situation.
7. A game form a different genre, with a different mood, culture, and situation.

This can then be broken down per game as follows:

Read Dead Redemption

1. 'Far Away' (a song by Jose Gonzales heard as the player first enters Mexico)
2. 'Mexican Revolution' (Read Dead Redemption)
3. 'Mexican Attack Theme' from 'Call of Juarez'
4. 'City of Rome' from 'Assassin's Creed: Brotherhood'
5. 'Spectre Induction' from 'Mass Effect'
6. Instrumental interlude from 'Minecraft'
7. 'Land of the Golden Sun' from 'Guild Wars: Nightfall'

Total War Shogun 2

1. 'Shinobue Battle' (Total War Shogun 2)
2. 'Good Death' (Total War Shogun 2)
3. 'Oda Nobunaga – War Theme' from 'Civilization V'
4. 'Protoss Theme' from 'StarCraft II'
5. Egyptian Theme from 'Age of Mythology'
6. Battle Themes from 'Age of Empires 3'
7. 'Endgame' from 'Call of Duty: Modern Warfare 2'

Tropico 3

1. Untitled Track 9 (Tropico 3)
2. Untitled Track 5 (Tropico 3)
3. 'Salsa of the Sim King' from 'The Sims 2'
4. 'Epicenter' from 'Sim City 4'
5. 'Era 1' from 'Cities in Motion'
6. 'Move to the Mambo' from 'Mario Party'
7. 'Baby Park' from 'Mario Kart: Double Dash'

These chosen tracks were then placed in a random order, and added to a single audio track. Each subject would play each game for approximately 10 minutes, whereby the subject would have a 50 second clip of each track followed by a 10 second break to write (and also give time to differentiate the tracks). Here I ensured that the mood of each track was consistent throughout, so that the tracks selected did not drastically change in tempo or dynamics during playback. Again the majority of this information was placed at the top of the answer sheet, and would be talked through with each subject:

'In this test you will play 3 video games, each for 10 minutes. The first 3 minutes will be an orientation time, where the aim is to become accustomed to the control interface. Once

completed, you will then continue playing, while accompanied by 7 different musical tracks, each approximately 40 seconds in length. After each track you will have 15 seconds to answer 2 questions.

1. How well does the music fit what is happening in the game? (out of 10)
2. Does the music help create the cultural setting? (Yes/No/Don't Know)'

Unlike the previous tests, I did not want to break the immersion from the gameplay for any extended periods, so I avoided asking questions which required long answers or considerable thinking time. Therefore question one was answered with a rating out of 10 (whereby 1 does not fit, 10 was fits very well), and question 2 was answered with a Yes/No/or Don't Know. As explained in the instructions, each subject would also have a short orientation period before beginning each test. The theory behind this was that when first playing a game, a player will focus almost entirely on the control aspect. It is only once they are past this step – and the controls relate to actions as opposed to buttons, they begin to more appreciate other aspects of the game. Originally I considered testing each subject on only one of the three games and allowing them a much longer period of gameplay per clip, and more time initially for orientation.   However I felt limited by the number of test subjects available, and I also suspected the situation may be reversed, whereby the user would be so comfortable with the control interface and game environment, it would be no longer as immersive or attentive for them; and would therefore steer their focus too heavily in the direction of the music.

In other efforts to try and regulate attentiveness and focus I decided (after trialling the tests) to give all subjects a 'task' during each of the games. With both games containing non-player characters (governed by an artificial intelligence), there is a number of situations the player can find themselves in. By asking the player to complete this task, they would at least follow a similar path to other players, in an effort to try and restrict the AI to behave in a similar manner each time.   In Red Dead Redemption, this task was to ride across Mexico, towards a waypoint which had been placed on the game's mini-map.

Casa Madrugada: Red Dead Redemption (2010, Rockstar Games)

The game provides the fastest path (following roads) to the waypoint, so by setting the same point for each player, I could be sure that the scenery observed was identical. In order to further ensure this I also started every subject from the same save file – so that it they experienced the same time of day (this game has a day/night cycle that is roughly 20 minutes each). The game has a number of random incidents, such as hold ups, computer generated characters hunting birds, and assisting lawmen to re-capture escaped convicts. These cannot be controlled, however before playing the subject was instructed to ignore these events, and focus on riding to the waypoint using the marked path. Notes were made if the user significantly increased or decreased speed in reaction to any of the tracks.

In Total War: Shogun 2, the task set was to storm a Japanese Castle from the Shogunate era. Players were given an army that comprised of basic swordsmen and cavalry (only two types of units in order not to confuse new players to the genre), and they were against a similar but much smaller AI force. The castle is tiered (as shown below), and the user was shown how they could scale walls, capture gates and towers, and how to otherwise move and attack with their units. The orientation time provided was a basic talk of the interface, and then some time moving and organising their troops, by letting them set up their army alongside the first wall.

Example Castle Siege: Total War: Shogun 2 (2011, SEGA)

Other than this there was no instruction given, and instead subjects were allowed to ask if they were confused regarding the control interface. The AI, unlike Red Dead Redemption was far more predictable, with no random events, however could range from a very aggressive attack, through to a very conservative one. In order to control this, I ensured the subject's army was considerably bolstered in size, so that despite the tactical situation they would always succeed, by virtue of controlling the much larger force. Notes were made throughout the test if the subject behaved noticeably differently during certain tracks or if the computer AI was particularly aggressive or reserved.

The task for Tropico 3 was far less specific. Due to the nature of the game – which encourages the user to explore and experiment, it wasn't easy to define a task that could be completed, without becoming so regimented that the task itself would be too distracting or absorbing. I also wanted to allow a slightly more open gameplay, to see if the music was affected by the choices in-game. To do this I created a controlled island, where there would be no random in-game occurrences, the subject would have an almost inexhaustible supply of resources, and a large amount of manpower would be available (through the building of several construction depots). The island before playing would therefore look as below:

Test Island: Tropico 3 (2009, Kalypso Media)

With this island created, I simply instructed each subject to explore the game, building whatever they wanted to create their own civilisation. I briefly demonstrated how to build basic resource buildings, housing, and infrastructure, with the rest left to the subjects' discretion. Notes were made throughout if the user had an unusual building strategy (for example heavily favoured one type of construction, and mentioned why), or reaction to any of the tracks.
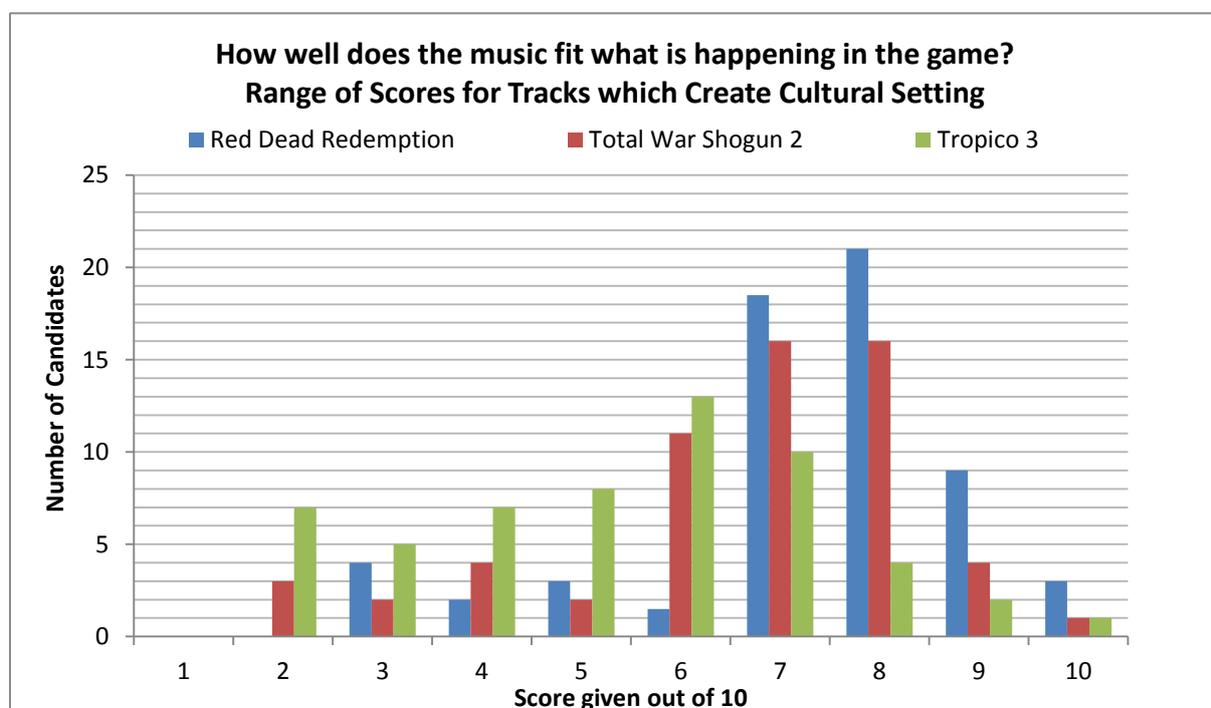
With all of the games in this test, I chose to note down any strange behaviour or reaction to any of the tracks presented, including expressions of delight, approval or the opposite. I also told each candidate to speak out if they had issues or questions, which often led to comments about the gameplay and music, which I was then able to add to these notes.

There were 19 candidates who took part in the test, with 15 who had completed tests 1 and 2, and 4 candidates who had not participated until this point. All were male, between the ages of 18-25, studying at Durham University.
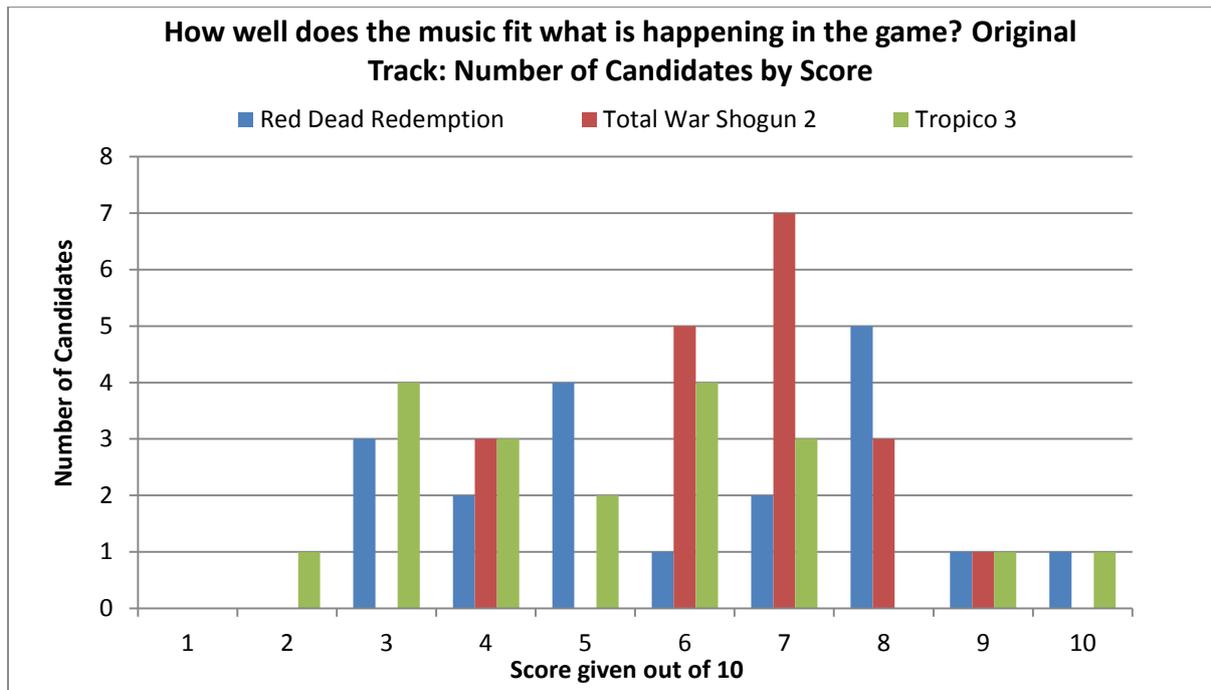
3.6 Analysis: Test 3

With the focus of this study based around cultural representation, the primary aim of this test was to identify the extent to which culture is relevant in a soundtrack during gameplay. Therefore while the results for how well the music 'fit' were useful in comparison, the main point of interest was whether or not the candidate identified with any cultural representation present in the tracks. After recording the results of the question sheets (found in Appendix A), I immediately placed the data into several graphs, to look for any correlating data.
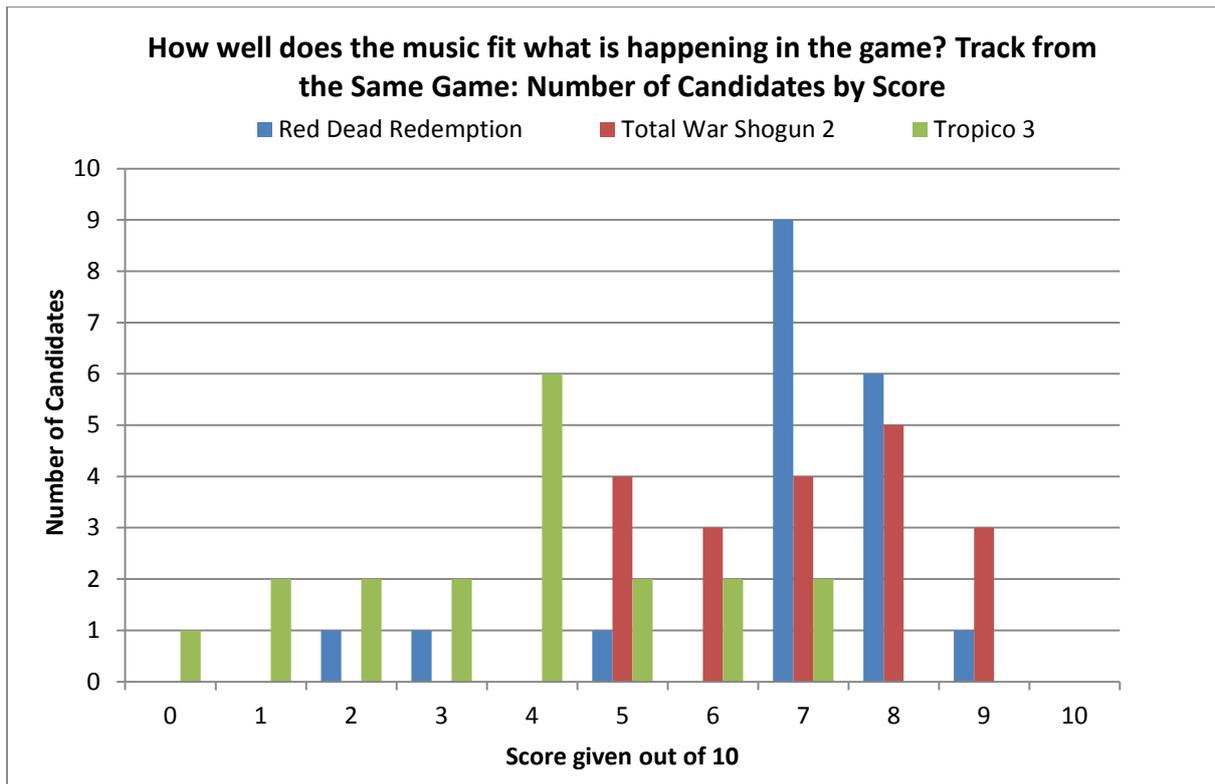
The first reasonably clear point, was that while each game had 3/7 answers (4/7 for Tropico) which were culturally 'correct', i.e. they contained instrumentation or stylistic features from the culture the game represented, the number of 'yes' answers for question 2 was almost exactly 50%. This was the case in all 3 games, meaning that in both Red Dead Redemption (RDR) and Total War: Shogun 2 (TWS2), the candidates accepted more tracks as culturally accurate than were presented, and in Tropico 3 (T3), the reverse was found. Therefore we can assume that when the player is engaged with gameplay, depending on the level of immersion, they are either more or less culturally accepting. There was also a very loose correlation between the number of 'yes' answers, to a higher 'fit' rating, i.e. if the music helped create the cultural setting, on average it better 'fit' the game.

How well does the music fit what is happening in the game?
Range of Scores for Tracks which Create Cultural Setting

Here we can see in both RDR and TWS2 a rough peak in the later scores, around 7 & 8. The suggestion here is that the cultural aspect present in the music acts as an enhancer for the musical

engagement, in essence, allowing it to more effectively 'work' with the visual. By studying the tracks by type (i.e. same game/same genre etc.) it is also very apparent that tracks from similar games are reasonably interchangeable, and importantly do not stimulate a strong negative response. By looking at the two graphs which contain music from the games chosen, we can see that when asked to critically rate music from a game (where it is not made clear whether or not the music actually features), the results are very mixed and inconclusive.

How well does the music fit what is happening in the game? Original Track: Number of Candidates by Score

How well does the music fit what is happening in the game? Track from the Same Game: Number of Candidates by Score
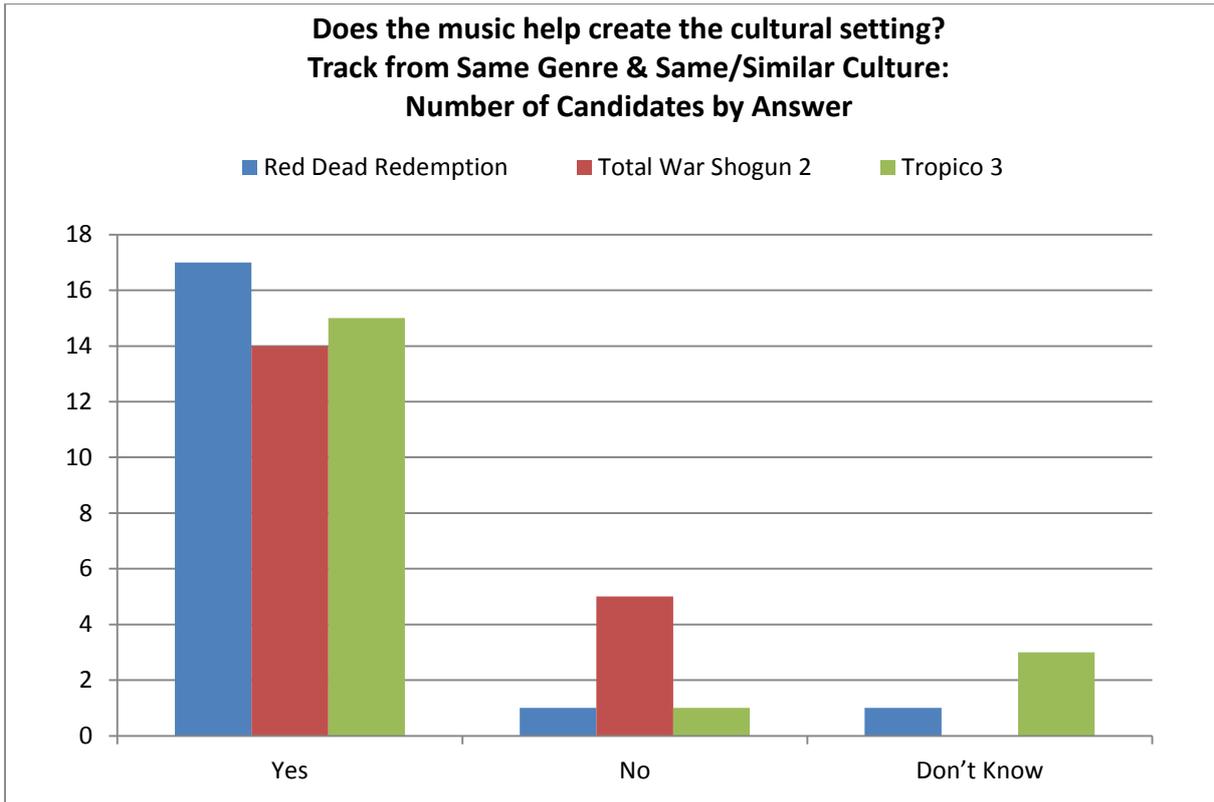
We can see some larger bars towards the higher end of the ratings, specifically for RDR however on average, there is a fairly even spread across both graphs. When comparing this to the music from a similar culture, genre, and scenario, we find in fact that the results are remarkably similar.

How well does the music fit what is happening in the game?
Track from Same Genre & Same/Similar Culture:
Number of Candidates by Score

■ Red Dead Redemption ■ Total War Shogun 2 ■ Tropico 3

Number of Candidates (y-axis, 0–7)
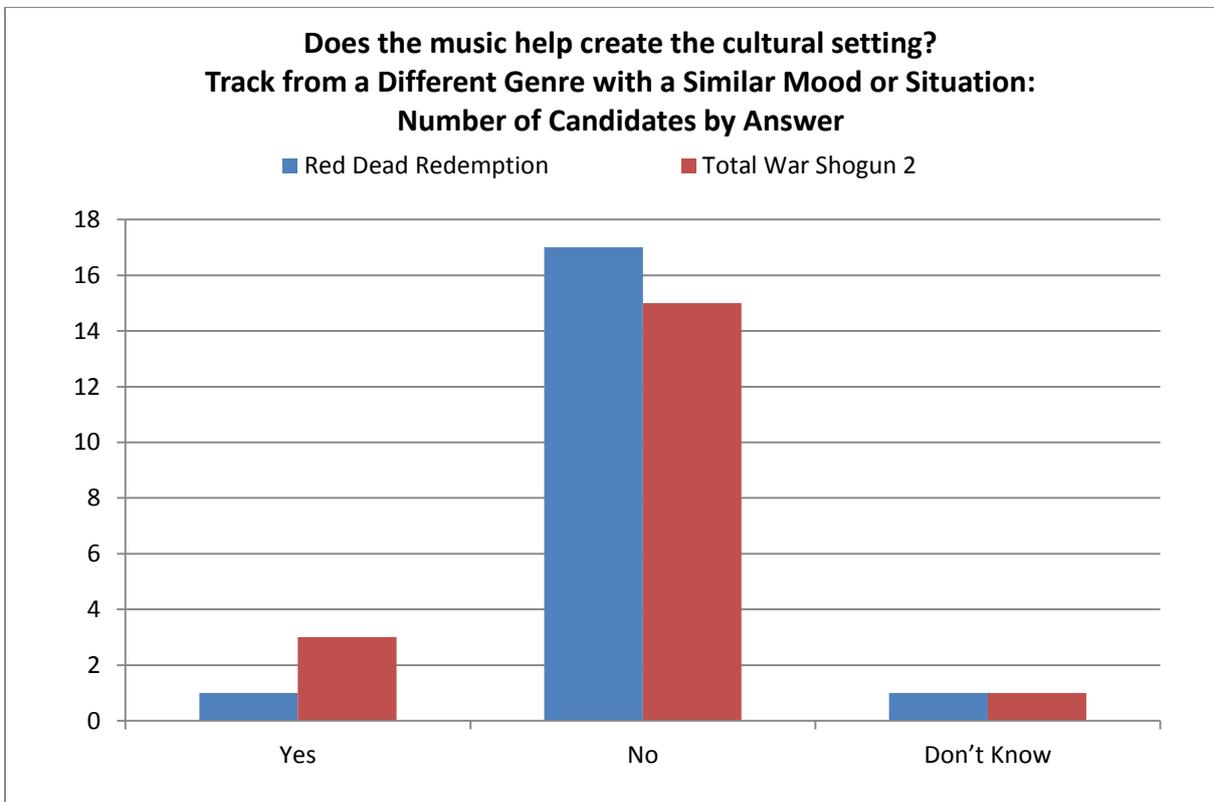
Score given out of 10 (x-axis, 1–10)
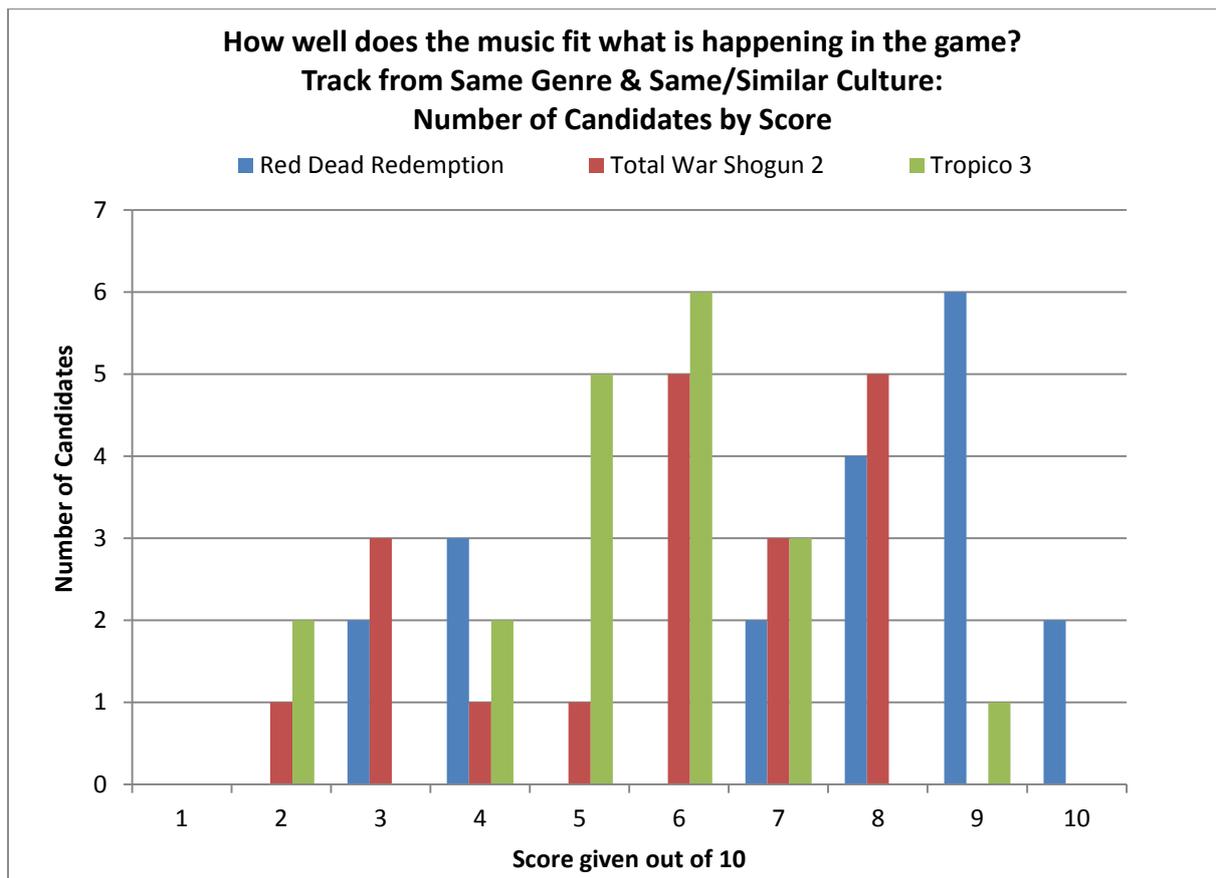
However by thinking about the immersive or attentive factor of gameplay, we can see that for different games/styles of gameplay different factors may appear to be applicable. When viewing the players during the testing, it was noticeable that they would become far more absorbed with both TWS2 and RDR, than they would with T3. In fact at several times during the test for TWS2, I would have to gently remind candidates that the track had changed, for they were so immersed in gameplay, they had not noticed (in fact during the testing process, the player would become very quiet in comparison to the other two games).

This meant that when trying to decide how effective a track was or whether it fit culturally, unless the answer was definite, most candidates struggled to give an answer (it was noticeable how much longer the thinking process took in RDR and especially STW2 compared to T3). This is also shown by looking at the two graphs at either end of the spectrum. Firstly when the culture, mood, and genre match we can clearly see a very definite set of results:

Does the music help create the cultural setting?
Track from Same Genre & Same/Similar Culture:
Number of Candidates by Answer

■ Red Dead Redemption   ■ Total War Shogun 2   ■ Tropico 3

Again when considering the results from the track with different culture, genre, but similar mood.

(ignoring the T3 due to the fact this is the extra track with a similar culture).

Does the music help create the cultural setting?
Track from a Different Genre with a Similar Mood or Situation:
Number of Candidates by Answer

■ Red Dead Redemption   ■ Total War Shogun 2

However when the music was from a similar genre and mood but had a different culture (i.e. aside from the culture the music was accurate to the occasion), the candidates appeared to struggle, and give a more spread set of answers.

Does the music help create the cultural setting?
Track with Same Genre & Mood but Different Culture:
Number of Candidates by Answer

Legend: ■ Red Dead Redemption ■ Total War Shogun 2 ■ Tropico 3

Answer	Red Dead Redemption	Total War Shogun 2	Tropico 3
Yes	8	6	1
No	9	10	15
Don't Know	2	3	3
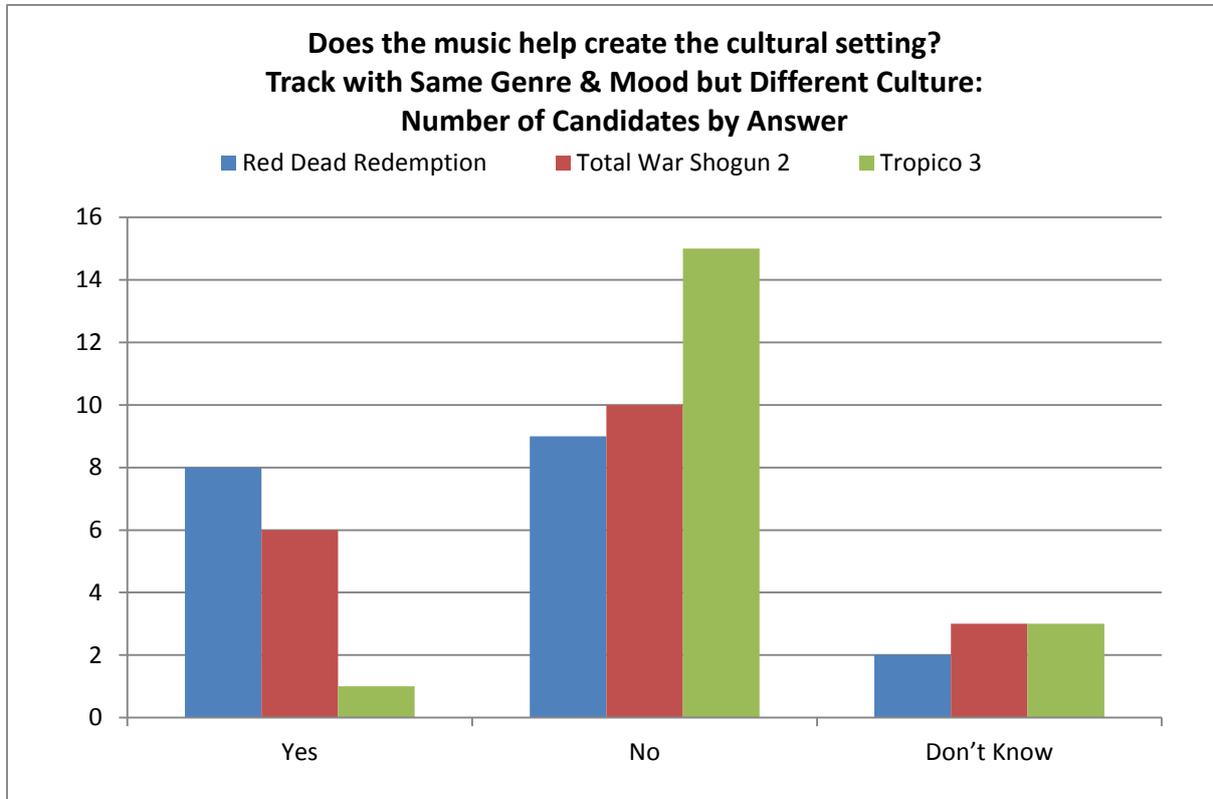
In fact it is suggested that provided the music is in the right mood, the culture did not seem to be anywhere near as important in relation to the first rating (with exceptions where the culture clashed horribly). This can be seen by looking at the 'range of scores for tracks which do not create the cultural setting', which despite expecting negative answers show a very mixed spread of ratings, with a sizable number of candidates selecting the higher scores.

How well does the music fit what is happening in the game?
Range of Scores for Tracks which do not create Cultural Setting
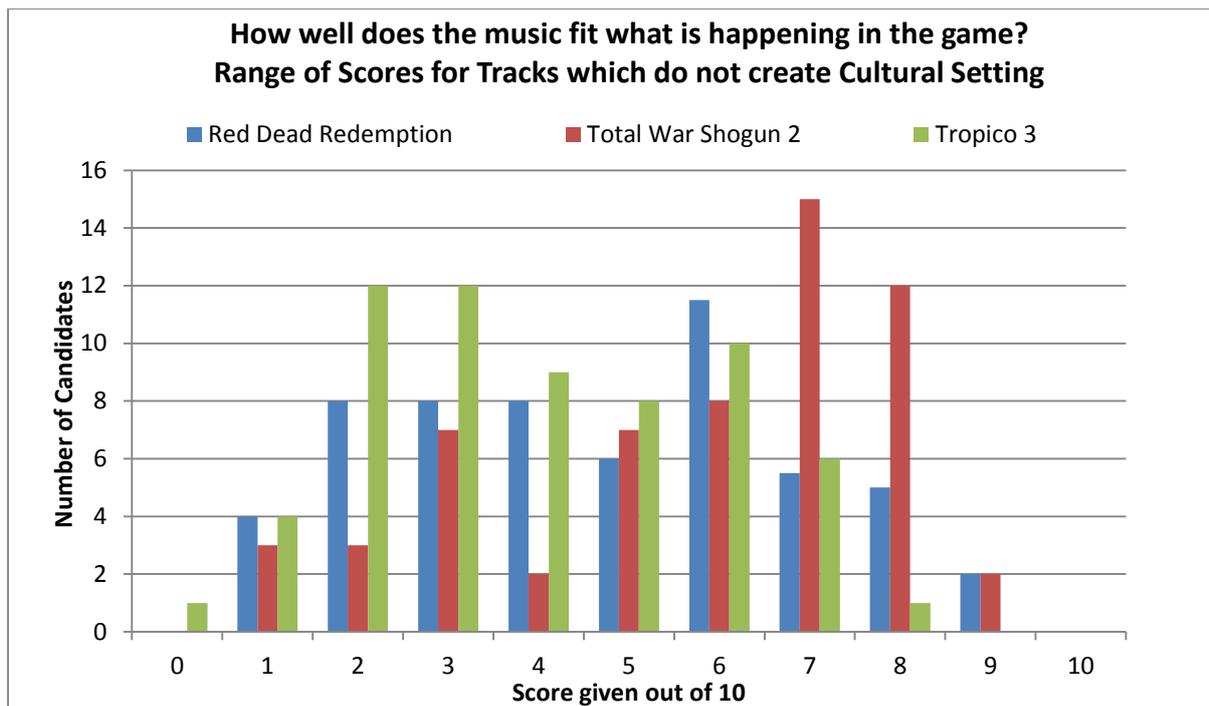
Yet while this test may introduce ideas and suggest a direction for further testing, it is not possible to draw any strong conclusive points from the data provided. Firstly, due to the fact that with all of the tests combined, the time period tended to exceed 1 hour per candidate, it was not possible within the scope of this study to test the 100+ candidates needed to produce clear results. Along these lines it was also impossible to determine candidates who would normally be considered anomalous results (such as candidates blind guessing in order to provide an answer), due to the lack of candidates for comparison. Equally before testing I chose 3 different game genres, in order to best represent the game market, and encompass as much variance as possible, however this also meant that there was very little in line for useful comparison, especially in regard to scenario (some games have scenes which will not exist in others). Further studies should be limited to a single game genre, with a similar interface as this should also allow better study and control of the immersive/attentive factor. Another limitation could be the use of an individual culture or region, such as East Asia, as in some instances having many different cultures meant the clips from contrasting cultures may have been more contrasting in some instances than others. For example the use of music with acoustic instrumentation will not appear as different from traditional Asian instrumentation as the use of an electric ensemble, however for a traditional Hawaiian slide guitar, an electric ensemble may not be as disparate.
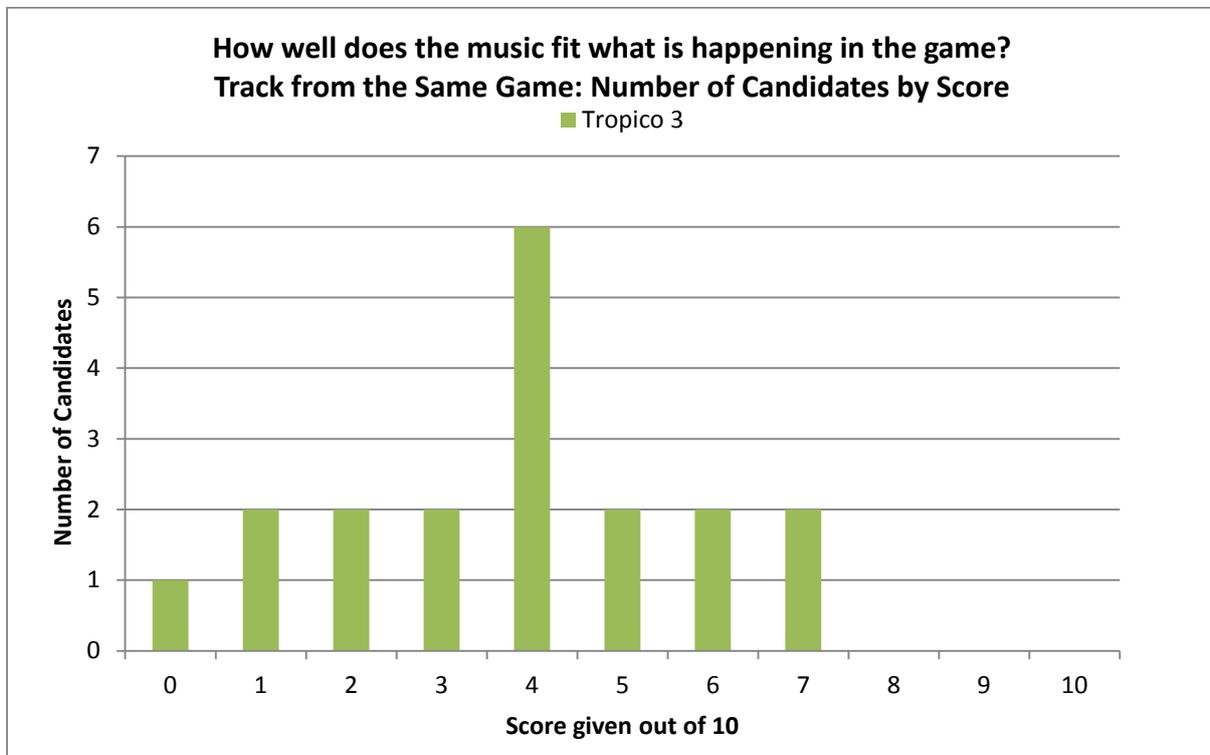
However despite this lack of useful data in this test, in regards to music and cultural representation, this test has perhaps shown to some extent the concepts and theories raised in the earlier discussion; specifically the fact that the use of non-western instrumentation in matching environments, appears to have a positive effect on a video games soundtrack. Also there are several interesting more individual points, raised during the course of the testing and analysis, which can be afforded further discussion.

The first of these points is that there appears to be circumstances where a player will accept a games soundtrack as fitting culturally, only because the gameplay synchronises well with the track. One example of this is the original clip used for the RDR track, a piece called 'Far Away' by Jose Gonzalez. This piece is played during gameplay when entering Mexico for the first time, with the player tasked with riding towards a nearby town as the sun sets. Despite having no connection to Mexico in the music, almost every friend I knew who had played the game, commented on their enjoyment of the music in this scene, and how it improved the scenario – it 'fit' perfectly. However when asking the players to consider the cultural accuracy of the track critically during the testing, the results were 11 Yes, and 8 No. Not only was the result not unanimous, but as shown in the graph below, when asked if the music fit, there was no clear trend, with the answers mixed.

How well does the music fit what is happening in the game?
Original Track: Number of Candidates by Score
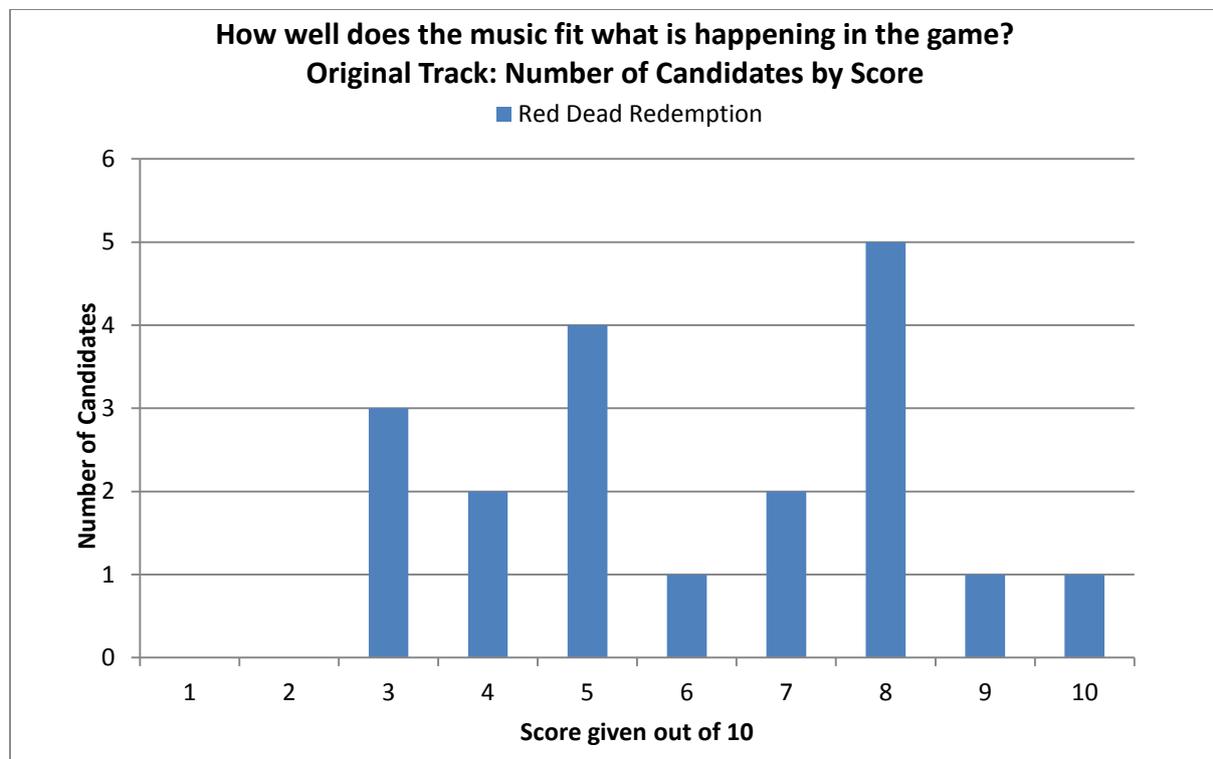
Another example of this is the music provided in Tropico 3. Generally highly regarded, the tracks receive very positive comments and ratings when posted on social media sites (such as YouTube),

with direct reference to the enjoyment of listening to the tracks during game play.   When placing the original tracks in the test however, they did not receive the same acclaim. In fact the second track chosen received a majority 'no' vote of 9 to 7 (3 'don't knows') when asked if it fit culturally, and a very mixed low average rating as to whether the track fit (as shown below).

How well does the music fit what is happening in the game?
Track from the Same Game: Number of Candidates by Score

Here we are seeing a strong suggestion that music may be enjoyed as an accompaniment to gameplay, however when observed critically, it is considered more negatively. One can therefore suppose that gamers are accepting the soundtrack of many games without consideration, unless it Is particularly enjoyable or poor (is drawn to their attention).

Finally, the only other interesting point to note was when playing Tropico however there was a noted increase in attentiveness in regards to the music, with a lot of verbal comments or physical signs during the testing process (many of the candidates laughed, smiled, and even danced along to several tracks). The in game behaviour was also drastically different from track to track, with some players appearing to play faster or rush more during certain tracks. With more time/consideration for the music, on average the music for Tropico was also more critically rated, with an average score of 4.62 for the first question, compared to RDR and TWS2's averages of 6.03 and 6.22 respectively.

3.7 Test 4

With the previous tests focusing on the identification of cultures and the role of culture-specific instrumentation (or other ACS) in reinforcing that culture, I wanted to briefly investigate the possibility that audio through soundtrack could actually enforce culture upon an audiovisual environment. The current arguments show that audio within an audiovisual environment provides emotion, and alternative information, however clearly subservient to the visual. However if the visual information is not clear, and the audio presented contains strong audible cultural stimuli, then can a user be influenced towards the culture presented by the audio alone?

In order to conduct this test I needed as close to a culturally neutral in game environment as possible. I therefore settled on the sandbox game Minecraft as the most appropriate option. The game itself is based around a game world where everything is in block form, from clouds to the earth. The world itself is split into different biomes – geographical regions with individual landscaping and fauna, mimicking various natural habitats around the world.

Snow Biome, Minecraft (Mojang, 2009)

While areas of the world might be distinguishable by these different features, there is no cultural reference, other than what the user chooses to enforce when constructing buildings in-game. Therefore biomes may refer to multiple cultures. I chose two biomes that contained geographical

and vegetable markers, but could be placed in a number of different cultures, the desert and mountainous biomes.

Mountainous Biome, Minecraft (Mojang, 2009)

Desert Biome, Minecraft (Mojang, 2009)

After completing test 3 I showed each subject one of these environments, panning the camera slightly to give them some perspective. During which I played one of the audio tracks from the first test. To the desert biome subjects, I played the Duduk – as during the first test there were a number

of people who identified it as either Arabic, or Egyptian. To the mountainous biome I played the rural Sizhu ensemble. The candidates were then asked two questions.

Where do you think you are in the world?

Do you think the music fits the visual?

This test was completed at the end of test 3, and the results show that the culture can be enforced audibly, given the correct circumstances. The half of the candidates who were shown the mountainous biomes combined with the Sizhu ensemble, suggested a wide range of locations, specifically: South East Asia, North America, Some form of highlands (Peak district/Lake district) [England], Valley somewhere – possibly savannah, China (Guilin), India , and with two candidates who could not give an answer, even when pressured further.

Musically however 5 of the 9 candidates claimed the music fit, including those who could not guess at a location. With the other 9 candidates, the answers were much more similar, with the answers broken down as: 3 x Sahara, Arab Desert, Mexico, Desert in America (dustbowl), Desert region (possibly Egypt), and Desert but North American. Out of these responses 5 of the candidates said the music fit, with one candidate even remarking that the music 'decided the first choice'. The candidates who thought the music did not fit, were those who saw the desert as being North American (one commented how there were no cacti in the Sahara).

With over half the candidates (10/18) showing that music can fit an environment it either 'suits' or it bears no relation/association to, it is clear that music has the ability to culturally override the visual given the correct circumstances, and while beyond the scope of this study, warrants further investigation.

4. Conclusion

With video games dominating the entertainment market in recent years, and the popularity and scale of the industry ever increasing, it seems vital that more research is conducted into this field. With many games featuring foreign locations, and music with non-western elements, it would seem that these cultures are being directly represented by the music in these games. Further to this, it seems that there are vast differences in the way that these non-western elements were being incorporated into the video game soundtrack, ranging from the inclusion of traditional music unaltered from traditional performance, through to the use of non-western instrumentation which does not even pertain to the represented culture. I have discussed how there are very few sources which relate to video game music, and in fact none found which relate to the direct questions of this thesis. This has led to drawing from various other related genres, including a focus on World Music, Music Perception (specifically Associationism), Film Music, and Music in Advertising. It is important to note again however (and I will discuss this later), that certain areas could not be included in considerable detail, due to a lack of required applied testing, or scope of the thesis in general.

This project contains a considerable amount of original research, and lot of this time was simply listening to video game soundtracks, both in the presence of gameplay and without (and in various stages of concentration/immersion, discussed earlier in my methodology). The main focus of the thesis was based towards modern games, and more popular (and often more heavily marketed) series and or franchises. This was in the hope of viewing the gameplay and respective audio which is targeted towards the main gaming demographic. However I had a specific focus towards 7 specific games, which featured specific non-western settings, and considerable non-western elements in their soundtracks.

It is apparent from the beginning of the video game industry that there was an obsession with realism, and the soundtrack was almost always the first aspect to be 'cut' when financial or technological constraints appeared.[122] Equally the composer was often not credited, and the programmers were also often left in charge of the soundtrack. Dynamic music came about in the early 80's, and this is where we began to see music akin to that today. Other similarities are differences in soundtrack between genres, such as longer musical loops in RPG games. Recently there is a change towards soundtracks very similar to film music, with sweeping orchestral music during narrative sections. With film music's role generally considered to be the facilitation of the emotional narrative, we can therefore assume that music in video games will be responsible for influencing the emotional state of the player. Along with this change we now see far more respect

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[122] Collins, (2009)

towards the game composer, and the rise of more established composers working for video game projects (such as Hans Zimmer).

In terms of the role of a video game's soundtrack, there is argument[123] that there are both sensationalist and connectionist properties present. This means that not only could the auditory parameters affect the mood of the gamer, but also provide other references, including cultural connections. With music having this connectionist property, we can therefore assume that non-western instruments, styles, songs, or other elements will create associations between the audio and culture, as well as the visual. Nicholas Cook remarks on this, by claiming that music can personally identify with an individual and that specific music can provide specific images to a specific social or cultural demographic[124]. With video game soundtracks becoming available before games are released, there is a chance that today's gamer will encounter the soundtrack before playing that section of the game, and perhaps even build associations at this earlier stage.[125] These musical associations succeed only when 'fitting' with the visual, and concepts such as music message congruency can been seen to reinforce the argument that, when the audio and visual do 'fit', the music is far more effective in both reinforcing and transferring associations. By looking at the world music argument, we can also assume that due to technology and globalisation, the world's music is at our fingertips, that there exists a commercial desire for the authentic of the elsewhere, that non-western musical styles are becoming standardised due to popularity and commerciality, and that these cultures are being represented almost entirely by these standardisations.

The vast majority of games still adhere to the concept of adaptive audio, whereby the music will change to reflect the mood and or scenery/location which is occurring on screen. We see that when the gamer has little or no control over the game, such as heavy narrative sections or 'cut scenes', the music becomes much more prominent, almost comparable to an orchestral film soundtrack, however when in basic gameplay, the music switches to much more basic repetitive sections. While studying video games soundtracks' objectively, there appears to be a vast difference in styles and themes, however a lot of similarity can be found within games of the same genre. This is often found regardless of the style of gameplay, where games focusing on a more relaxed arcade experience, will often have an extremely similar soundtrack to that of a game promoting realism, with the only differences being a lack of non-western elements. First person shooters for example will often feature a considerable amount of electronic instrumentation, specifically the almost

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[123] Cohen, (1993)
[124] Cook, (1994) pp 35
[125] Though given that the music not the primary focus in game however, other than this scenario, it is unlikely to cause significant effect.

constant use of a drum beat, accompanied by electric guitars/bass guitars. In contrast strategy games will generally favour much more orchestral/acoustic soundtracks, and sports games will often feature a soundtrack almost entirely un-original, or contain no music at all[126].

Other stylistic examples are found across the genre, where composers appear to be attempting to draw other associations into the gameplay through the music.   A prominent example of this is the mimicry of film soundtracks, such as the 'James Bond' musical references found in Just Cause II, or the similarity to 'Spaghetti Western' soundtracks in 'Red Dead Redemption'. Equally similar to film music, dissonance and chromaticism is also found when trying to create tension within gameplay. Another stylistic method is found in that of long franchise, such as Pokémon. Here we see the music constantly referencing previous themes from games past, meaning that quite often as the games evolve (and with an increased capability in graphics begin to draw from more cultural themes), the music does not, instead simply regurgitating similar themes to those found previously, with different arrangements and improved samples.

In terms of cultural representation we begin to see several different methods of including non-western elements in a soundtrack. The first of these is where the composer references the location through the use of instrumentation, though in a restrained manner. Here non-western instrumentation is used to add to the soundtrack, however not really playing a considerable role, more as a 'cultural flavouring'. Instead they tend to feature more prominently at the beginning or end of tracks, or placed as descant melodic lines as a very basic accompaniment to the main themes (which are predominantly using western instrumentation). This is often tied into the adaptive audio, where certain sections of the game will contain different cultural elements. The obvious previously mentioned example is of the two extremely similar tracks found on 'Red Dead Redemption', which are differentiated only by the used of Mexican cultural flavouring found in one.   Flavourings are also found representing western cultures, with horns in 5ths providing a western military aesthetic in 'Call of Duty: Black Ops'. These flavourings, if not fulfilling a basic role, are often presented in small snippets, presumably to prevent the fact that if the gamer does not respond well to the associations and the musical elements are rejected, it will not inhibit the gaming experience to any great extent.

This 'cultural flavouring' is found across a number of game genres, and despite marked differences in soundtracks between different genres, appears to be implemented in a very similar manner.   The second use of non-western elements is found where we see more of a significant role given to non-western instrumentation within the compositional process. Examples such as 'Far Cry 2' show us

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[126] Given that the majority of sports games feature an international aspect, it is strange to see no use of non-western music elements, given their nationalistic use in a strategy game.

that non-western instrumentation can be far more prominent, and instead of flavouring the music, can be used in synthesis with more western instrumentation. Here we also begin to find not only instrumentation but also stylistic features appearing in the music, such as rhythmical patterns, or tonalities. 'Guild Wars: Factions' is an example of this, with a lot of the soundtrack being based around a pentatonic style, mirroring the East Asian cultural references.

A combination of the previous two examples is found in Civilization V, where traditional instrumentation is used alongside traditional pieces to represent a very specific culture (almost nationalistically). However the themes used are arranged whereby in some instances they have become so altered the non-western instrumentation is simply being used to culturally flavour a seemingly original composition. This is still interesting however, as it is still using styles (however sparse), and instrumentation to directly represent/associate with a specific culture. A stylistically accurate use of traditional instrumentation and themes is found in some games, such as the previously discussed 'Total War: Shogun 2'. Here we see an almost exclusive use of non-western traditional instrumentation, with both original compositions stylistically accurate to the relevant genre, and the use of traditional pieces, accurately performed. This shows a marked difference to other strategy games, though we must consider the fact that only one culture is being represented at a very specific point in history. 'Tropico III' has also shown us a slightly different scenario whereby traditional popular music is used to represent a culture, with Cuban Jazz being used to reinforce the location.

We have also seen examples of non-western musical elements being used to generate a semblance of exoticism. Here games such as 'Diablo II' employ a vast amount of non-western instrumentation, however none of which relate to the cultures which are represented (or at least drawn from) visually. Equally we see games which choose to employ this on a much smaller scale, with games such as 'Rome Total War' using the odd instrument such as an individual tabla. A lot of these games which feature this exoticism are often set in fantasy and/or ancient worlds. It can therefore be suggested that perhaps the use of the non-western instrumentation not only brings an exoticism to the soundtrack, but also a sense of the ancient, through the unfamiliar. Subtle use of non-western instrumentation alongside electric, acoustic, and general noise samples are also found in some simulation games, similarly trying to blur cultural lines, and create a diverse cultural feel in-game. The last application of non-western elements is the exclusive use of instrumentation to flavour a theme, without stylistic considerations. The main example of this being 'Angry Birds: Seasons', where the various themes used are all arrangements of the same tune, played with traditional instrumentation to represent each culture. However despite slight introduction differences, the

main theme is entirely unchanged, and is simply being played using non-western instrumentation to evoke the required cultural reference.

It appears that these non-western flavourings are often extremely similar, in that when a certain culture is represented in a video, the same element(s) are frequently used. These representations I have called Audio Cultural Stimuli (ACS), as when used effectively, I believe they positively stimulate and/or reinforce the intended culture in combination with the visuals. This works in line with the research conducted by Cohen[127] and Tagg[128] who both suggest (through associationism and genre synecdoche respectively), that the use of one point of reference in regards to a culture, will attach many others – transferring messages and associations. I also believe that given the constant use of very specific ACS ensures that when an ACS is used, the more effective it becomes (a self-reinforcing process)[129]. My original research was initially designed therefore to test this theory, and the first test was aimed at identifying several commonly found ACS alongside their matching cultures. The candidate was played several audio tracks lasting 10 seconds in length, and was asked to answer with the culture immediately stimulated. There were 25 participants in this test, mostly male, with the vast majority (excluding 2 candidates), between the ages of 18-25.

The results show that the ACS theory appears to ring true, with strong connections to cultures, nations, or specific locations (such as a 'desert' sound). The candidates also appeared to find the tracks very evocative, and gave very specific visual answers, such as 'hazy' or 'sultry'. Interestingly candidates would frequently mention the same (or extremely similar) visual associations, even when associating with different cultures. References to associations from advertising and films were also found, where steel drums gave the impression of a party atmosphere, as well as The Little Mermaid, providing further evidence that in an audio visual environment, the ACS are being observed, recalled, and combined/compared. Evidence to the ACS theory was also found in error, when candidates answered incorrectly and assumed a track was Indian, because they mistook a zither for a sitar (and thus trusted their previously known associations). Many candidates reference stereotyping throughout the answers, identifying the fact they are aware that this is an association they believe they should be making. Interestingly though they believe this to be a negative, not a positive quality, and in some instances when candidates made the connection with a 3rd world or more rural culture, believed their answers were actually racist[130]. Finally, when candidates could not connect to an ACS at all, the result was extremely negative both in terms of comments and visual

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[127] Cohen, (1993)
[128] Tagg, (2004)
[129] If a culture is always represented alongside a sound, associationism will attach that culture to that sound, and more strongly with each repetition.
[130] Particularly found in the Romany music clip

associations, demonstrating that if an ACS is not strongly recognised, it makes the listener feel quite uncomfortable.

The second test was identical, except that the music chosen was taken directly from the soundtracks of video games. As well as identifying ACS by culture, this test was also to look at the importance of cultural reference within a game's soundtrack, by exploring whether or not other specific factors are more apparent/recognizable than cultural references (such as mood). This test showed very similar results to the previous test; however the candidates struggled to identify the ACS as easily when it was placed in game music. It was found that candidates referenced the instrumentation more frequently and specifically as the identifying feature in recognising culture, and in terms of importance of cultural references, it also appeared that if a candidate was unable to identify the culture, they struggled to suggest a role for the music. However this of course may simply be an example of them struggling to identify with the music at all, regardless of the cultural aspect.

Test 3 involved the candidates playing 3 video games which differed in terms of genre and console, and then rating the suitability of the music's role in accompanying both the scenario and culture. This test provided interesting suggestions, however did not provide conclusive evidence due to a lack of a large sample size, and a number of inconsistences in the test's design. The suggestions are worth considering however, and I believe will in fact provide a good starting point for further research. The first point found was that game music from similar genres and cultures are extremely interchangeable. It was noticeable that in a lot of instances these musical extracts were in fact looked on more positively that the original in-game tracks. Along these lines, it also appeared that when looking at the ratings given by the candidates that provided the music was in the right mood, the culture was not as important to the listener, and a more varied response was given. This is interesting, and would pose a topic for further research, for while I do not expect the main purpose of the soundtrack is to provide cultural/passive information to the gamer, the relationship/importance of information and mood is vital, as is the use of mood itself, especially in connecting the audio and visual into one immersive game environment. This would be worthy of considerably more discussion, however does not lie within the scope of this thesis.

With 3/7 tracks culturally 'correct', it was also interesting that in the two more immersive games, Red Dead Redemption (RDR), and Total War: Shogun 2 (TWS2), there was a 50% positive culture response across the tracks. This meant that in these two games some non-related cultures were also accepted as fitting with the represented culture on-screen. This was mirrored in Tropico 3 (T3), which was more interesting, as the game had a much higher number of culturally 'correct' tracks than the others, at 4/7. With the only major difference between T3 and RDR/TWS2 being the very

high level of concentration observed in the latter two games, it leads us to believe that people are far more critical of cultural referencing in the music when they can focus more on the music. This is also reinforced by the fact that the candidates rated the Tropico tracks much lower on average, with a mean score of 4.62 on the first question, instead of 6.03 and 6.22 for RDR and TWS2 respectively. Test 4 was conducted to test the theory that culture could be enforced with audible stimuli (such as ACS), on an environment which visually is very culturally plain. In short, with just over half of the candidates showing that music can fit an environment it either suits or bears no relation/association to, it is clear that music has the ability to culturally override any visual stimuli.

With the various existing arguments presented, and original research considered it seems appropriate to return and propose answers to the original questions that were set out at the beginning of this thesis.

1. In what ways does music contribute to the game player's experience?
   - In a similar way to that of a film soundtrack, the soundtrack in a game clearly aims to enhance to visual, and reinforces sub-themes and emotions throughout. We can also see evidence that music is used to add extra associations to the in-game scenario, and that these can range from visual to cultural references.
2. To what extent are non-western musical instruments, patterns, and other stylistic features used in video game audio?
   - It is clear that in games set in non-western environments, are reinforced with a considerable amount of musical elements from non-western music, yet this is often subsidiary to a more standard western soundtrack, whether it is orchestral, acoustic, or electronic. Non-western elements are also found in games with no cultural references, but are instead used to evoke an exoticism, or feeling of the unknown. The prevalence of these elements also appears highly dependent on the games genre, as each genre appears to have similar soundtrack composition.
3. What approaches are used in successfully incorporating these non-Western elements in video game audio?
   - The majority of examples where non-western elements are featured contain the use of 'cultural flavouring', whereby non-western instrumentation, styles or themes are added to a western dominant score. Here the elements are being used to add a cultural aspect to the music, however are used reasonably infrequently to avoid inhibiting the experience to gamers who do not associate

with the chosen elements. Other examples show a large proportion of original compositions mixed with original themes, whereby the new material is stylistically accurate to the non-western culture represented.

While I believe in the majority my introductory approach into this field was sound, there were clear issues following the investigation into video game music during gameplay, and I believe certain refinements could have been made to test 3 specifically. Firstly, the cross console/genre approach was too ambitious, as it allowed for too many variables in the results. Many players would struggle giving ratings to games they had not played before, and I believe that a large aspect of this was the fact that they were still learning to engage with the interface. I believe that if completed again, I would use only one console, therefore limiting the interface, and generating familiarity. Another consideration to help engage with the interface would be to add an example game before the testing, so that people could get to grip with the testing process, and again better react with the interface.

Equally, a culture should be chosen that is largely familiar or recognisable, and pick games across that genre to allow gamers to better rate games in comparison. With this method I believe it would also be easier to identify gamers who did not positively associate with the culture, either by producing heavily biased or erratic results. Finally on test 3 (although previously mentioned in the discussion) the number of candidates needs to be significantly increased, and the timescale of the test reduced in order to facilitate a larger sample.

The only other change to my testing would be the alteration of clips chosen for test 1. As mentioned previously I chose clips largely from YouTube, in the hope that there would be a chance of greater familiarity with the music, and that the testing was built around previous associations. This choice however was flawed, given that the test should be identifying associations with an entire style, not just a specific clip, and that choosing tracks from 'world music' CDs would have provided more accurate and/or generic clips.

Finally I think it is important to discuss the potential research that this thesis could stimulate. With this a very broad introductory study, much of the aim was to discover the validity of further research in this field.   Firstly, as largely outlined above, I would like to continue with a refined version of the previously testing, instead now with a considerably greater sample size. As well as increasing the number of candidates I would also like to look at various ways in which the candidates could be more varied, and therefore selecting a much broader demographic. Along these lines I would also

like to tie in the concept that associations are built up over time[131], with a longitudinal study of children – tests taken of the same children at different ages. This would therefore better verify the theory that ACS in regards to non-western music are built up through repetition over time. A multiple age study would also be possible, and though might not show progress over time, would at least hopefully identify a trend across the age groups.

An approach containing interviews with both game composers and producers would also be invaluable, and after struggling to receive responses from initial contact/realising the already broad nature of this thesis, this was something that was omitted, despite my original intentions of featuring such discussions heavily in this study. This would provide a lot of good context for the discussions on instrumentation, and allow us to better understand the remit of the game composer, and their role in the process. I do however believe that by not including this currently, it has forced me to take a far more objective and face on approach to the research, which has been useful as a general start point in this field.

Equally, another aspect which I chose to exclude was an in depth discussion on immersion. A term used repeatedly in advertising video games, this is an extremely broad topic, covering various different subjects, from psychology to computer science. While providing an awareness and background context, I felt that for a discussion on this topic to effectively contribute to this thesis, it would involve a considerable section of the literature, and would move the focus away from the intended research. As a further investigation however, it again would provide excellent insight into the experience and environment the gamer is engaging with.

Another line of research which stems from this thesis would be to engage in a far more detailed analysis of the instrumentation and compositional techniques present in video game music. The frequency and stylistic use of non-western instrumentation are of course vital to this thesis, however being able to spend a lot more time viewing a broader and larger sample of older or less accessible games, and to look at trends within their soundtrack composition may provide a far more accurate insight into the compositional methods and practices that have developed and are now found in video game soundtracks today.

Lastly a study focused not on cultural representation/non-western elements, but instead on the relationship between mood/emotion and the video game soundtrack warrants considerable attention. With such a broad reaction to the music present in games, and such a vast array of different game soundtracks, there is a considerable amount of variation in the way that gamers react

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[131] Which would present interesting discussion in relation to the accessibility/exposure of the layman to world music, in its own right

to the entire in-game audio. By applying technology to the research methods such as linked video of gameplay, the gamer, and the soundtrack audio, it would be possible to accurately monitor the reactions of changing soundtracks over a number of candidates, without breaking the concentration from the game to make comments.

With Nicholas Cook stating that the study of multimedia must be focused on the perception of the interaction of those media[132], we can see that this research identifies video games as a form of multimedia with some significant interaction between music and gameplay. Kellaris et al quote research by Rigg to tell us that instrumental music can convey very specific meanings, and this has been an accepted theory for almost a century[133]. It is clear that elements of non-western music feature across a broad range of video games, albeit with differences in approach in both the amount and method of their use. We must therefore conclude that these musical elements have an effect on the gamer and, while the music is not a major aspect of the immersive experience, it can inhibit or enhance a gamer's experience.

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[132] Cook, (1994)
[133] Kellaris, (1993)

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