Evolution of the Online Poker Ecosystem

Neil Allen

A dissertation submitted to the University of Dublin
in partial fulfilment of the requirements for the degree of
MSc in Management of Information Systems

2013

Declaration

I declare that the work described in this dissertation is,

except where otherwise stated, entirely my own work, and

has not been submitted as an exercise for a degree at this

or any other university. I further declare that this research

has been carried out in full compliance with the ethical

research requirements of the School of Computer Science

and Statistics.

Signed:_____

Neil Allen

Permission to lend and/or copy

I agree that the School of Computer Science and

Statistics, Trinity College may lend or copy this

dissertation upon request.

Signed:_____

Neil Allen

Acknowledgements

I would first like to thank all the staff and lecturers at Trinity College Dublin, for their assistance and expertise throughout the two year duration of my course which has culminated in this paper.

I would like to thank everyone who took the time to undertake the survey, and a special thanks to the three managers who agreed to undertake the interview process for my research.

I would also like to thank my family members and work colleagues for their support throughout the two years.

Lastly I would like to reserve a big thanks to my dissertation supervisor Paula Roberts for her invaluable advice and time throughout the year, and particularly her patience and understanding throughout the process.

Abstract

Online Poker is a pastime consisting of people playing poker over the internet using computers and in recent years using hand held devices such as tablets and smart phones. In this Dissertation literature was reviewed to provide an overview of the evolution of the Online Poker product concentrating on software and game design, as well as the demographics of the different type of players involved in the Online Poker ecosystem. This literature review was then extended to include existing Game Design theories used in the industries of Casual, Social and Educational games. The Dissertation discusses the possibility that these theories could be implemented to improve the Online Poker Product.

The Dissertation investigates the perceptions of professionals working in the Online Poker industry in regards to the design of the Online Poker product. The research involved two studies and the data was collected using a mixed method of quantitative and qualitative data. Interviews were used for three senior managers working in the Online Poker industry and a survey method for other staff working in the Online Poker Industry.

The Dissertation concludes that the Online Poker product excludes some of the recommended design values found in existing Game Design theories from the industries of Casual, Social and Educational games. Participants in the research acknowledged that different player demographics are recognized within their industry, but that there is no tailoring of the product for these different demographics of players. The research also highlights that even if Game Design specialists are present in an Online Poker company, decisions regarding product design and updates will typically be made by senior management.

A proposed Online Poker Ecosystem was created from reviewed literature. This Online Poker Ecosystem was then developed and improved upon during the course of the research. Based upon the findings of the research, this Online Poker Ecosystem was proposed with different software products offered to each player according to which poker player demographic the player belongs to.

Table of Contents

List of Figures

1 Introduction

1.1 Introduction

The purpose of this chapter is to provide background information to the research question. It also introduces the research topic and sub-questions. The scope of the research and the beneficiaries are discussed along with the rationale for the study.

1.2 Research Background

The Online Poker industry in the past 10 to 15 years has exploded in popularity to become one of the most popular global past times. (Andara, B. 2006) states for example that Online Poker would have more participants in the US than football which would be thought of as the nation's number one past time. The size of the industry is reflected in the revenues generated, the online poker industry is worth an estimated US$4.8 billion in 2010 (ICT, 2011). This growth in the popularity of Online Poker is evident in how the online game has increased the popularity of the "brick and mortar" version of the game and has been adopted by mainstream society, with poker articles and advertisements appearing in national magazines and dedicated poker television shows. Chris Moneymaker became a celebrity overnight and brought mainstream attention to the world of Online Poker, when working as an accountant he happened to win a $10,000 entry to the annual World Series of Poker in Last Vegas through a $39 satellite tournament played online (PokerListings, 2013) and won the prestigious World Series of Poker Main Event.

Moneymaker's winning of the 2003 World Series of Poker Main Event and the prize of $2,500,000 catapulted both himself and the world of Online Poker to the main stream media. Online Poker would just no longer be a game or hobby enjoyed by dedicated players, but was now being advertised in magazines and on television for everyone to sign up and play. The effects of this can be seen in the statistics of the World Series of Poker main event itself. In 1998 when the Online Poker industry was in its infancy there were 350 entrants to the Main Event final with the winner receiving a cash prize of US$1,000,000. In 2012 there were 6,598 entrants with the winner receiving a cash prize of US$8,527,982 (PokerPages ,2013)

Online Poker has been played since the early 1990's originally using the Internet Relay Chat (IRC) protocol. (Smith, E, 2011). Games played here were text based and not played for real money although the system did keep track of player's statistics for leader board purposes. However as soon as technology was sophisticated enough to develop Online Poker software

with a graphical interface Online Poker companies started to provide this service to players. Planet Poker would generally be referred to as the first Online Poker room launching for real money play on January 1st 1998 (Smith, E, 2010). Planet Poker was quickly followed by competitors such as Paradise Poker, who improved on the Planet Poker software model, and this model would continue to this day leaving us with a number of companies offering Online Poker software from industry giants such as PokerStars and Full Tilt Poker to smaller companies all offering a similar Online Poker product using the Planet Poker model. This poker product is typically poker software which the player downloads and installs onto their machine, the player then creates an account to play with and is presented with a games lobby which lists the poker tables and poker tournaments, where the player chooses which poker table or tournament to play.

The product offered in the Online Poker industry today is still built upon the same model used in 1998, and while technology has improved and the software offered is more efficient it could be argued that there has been little to no evolution in the product offered to Online Poker players by the majority of Online Poker providers. This paper will investigate what lessons can be learnt from the game design theories of both Casual Games and Social Games industries as these both offer a similar product to the Online Poker industry in that the player can logon and play for a few minutes or for hours. The paper will also investigate the area of Educational Games and adaptive technology which responds to players needs and could be used to teach the intricacies of the poker game to new players.

A similar industry to the Online Poker industry is that of Casual Gaming. One could argue that the invention of the arcade video game, Pong, in the 1980's is the first digital casual game. (Wallace, M. and Robbins, B. 2006) in reference to Casual Games state that the term

"… is used to describe games that are easy to learn, utilize simple controls and aspire to forgiving gameplay"

However the paper also acknowledges that this description doesn't suit all Casual Games and they also point out that you could simply describe Casual Games as games for everyone with examples such as Tetris or solitaire. (Casual Games Association 2007) states that the demographic of the Casual Gamer would be 51% Female, but when looking at those Casual Gamers who pay for their product this jumps to 74% female, which would contrast with the Online Poker demographic. (IGT ,2011) states the demographics of Online Poker players would be 60% male. This would indicate that while Online Poker and Casual Games are similar, the demographics for those playing the games are not.

Another similar industry to the Online Poker industry has emerged in the past five or six years in the form of the Social Gaming industry. The term Social Gaming today would typically refer to a Social Network Game and would immediately bring to mind the likes of Zynga and Facebook as they would be at the forefront of this industry. (GameBrief, 2011) polls a dozen online gaming professionals to provide their definition of what a social game is, and even here some of the definitions would be contradictory, with some professionals indicating that social game are those played on Facebook while others stating social games are a shared social experience independent of any platform. (Gamasutra, 2009) try to determine a concrete definition of what a Social Game is and they conclude some differing definitions or conditions including:

- Multiplayer games that utilize the social graph, i.e. a player's social connections, as part of the game. Examples: Parking Wars, PackRat
- Games in which the main gameplay involves socializing or social activities like chatting, trading or flirting. Examples: YoVille, Pet Society
- Turn-based games that are played within a social context or with friends. Examples: Texas Hold'em Poker, Scrabble
- Competitive casual games that include friends-only leaderboards. Examples: Who Has the Biggest Brain?, Word Challenge

In the definition above we can see that Texas Hold'em Poker itself is defined as a Social Game. (VentureBeat,2012) in fact highlights the popularity of Zynga poker with 33.8 million active players (per month), with 55 million hands played daily and has 61 million likes on Facebook, second only to Facebook itself in terms of likes.

However, although there has been an explosion in social gaming in the past 5 years, Gimv.com (2013) states that one Social Game, CityVille, currently tops the apps ranking with over 90 million monthly active users, it has to be noted that there is a significant difference in the demographic of the social gamers when compared to Online Poker players. (Casual Games Association,2012) states that the average profile of a Social Gamer would be a 40 year old female. (Kabam Social Gaming Research, 2011) breaks the demographics into two distinct groups, casual social gamers and hard-core gamers. Hardcore gamers would be those players that play first person shooter and Massive Multiplayer Role Playing Games. Of the casual social gaming group, this would be players playing games on social networks like Facebook and MySpace, e.g., Bejeweled Blitz, Diner Dash, FarmVille, Texas Hold Em, etc the demographic was made up of 61% females.

Lastly this paper will look at the area of educational game or "Edutainment" as well as the area of personalizing and adapting the player's journey through a game. (Desurvire, H. and Wiberg, C. 2008) propose Game Approachability Principles (GAP) as a set of useful guidelines for game designers to create better tutorials, or first learning levels—especially for the casual gamer which could be of benefit to those players wishing to learn poker.

In regards to personalising a player's journey through a game, (Bakkes, S. et al. 2012) define a personalised game as a game that utilises player models for the purpose of tailoring the game experience to the individual player, and this tailoring of the game would be based on player modelling. However, (Eagle, M. and Barnes, T. 2012) highlight that that the design of educational games would offer more of a challenge for the game designers when compared to designing a 'just for fun' game and propose a frame work for developing such games.

1.1 Scope of the Research

This research will focus on the product offered to Online Poker players by the Online Poker industry in comparison with Social Gaming, Casual Gaming and Educational gaming products

The quote by poker luminary Mike Caro where he stated, "Randy Blumer's vision and the early interface designs and methods that was Planet Poker 14 years ago serves as the recognisable template that still closely governs how Online Poker is played and looks in 2011." (Bluff.com, 2012) highlights the ingenuity of Randy Blumer, who designed Planet Poker the first real money Online Poker room, but it also could be said to highlight the lack of progress in the poker industry in terms of the product it offers.

This paper will look at what social games and casual games are, and why they appear to appeal to a different demographic than Online Poker and how we could apply lessons learnt from the social and Casual Gaming products and see would it be possible to apply these to lessons to the Online Poker product.

1.2 Research Question

The primary research question being asked in this paper is:

"*Can we learn lessons from other types of online gaming products to develop the Online Poker product and ecosystem?*"

Some sub questions arising from this are:

- What is different about social and casual games that appeal to a different demographic than that of Online Poker?
- Is it possible to replicate the features of social and casual games in Online Poker?
- Can the industry use lessons from Edutainment software and apply it to the Online Poker product to educate new players?
- Who is responsible for the Online Poker Product software/game design within companies in the industry? Do companies have a dedicated software/game design team? If so is this team looking to incorporate the lessons learnt from existing game design theories?
- Is there any attempt to differentiate the Online Poker product to appeal to different demographics? If not, who is the product designed for?
- Is there any planned journey for the customers within the product? Are tutorials, rewards, incentives used to encourage the player to go from being a new player to an experienced one?
- Should the Online Poker industry differentiate their product and have different solutions for different demographics playing in the same ecosystem?

1.3 Importance of this Research

(CardPlayer,2012) estimates that if Online Poker is legalized throughout the coming year in the United States, up to US$4 billion could be spent in the next five years on advertising the Online Poker product, so if the industry would be willing to invest this kind of spend in marketing it would make sense to look at its product and perhaps try to differentiate it to appeal to different demographics of players.

The first Social Gambling Conference took place in November 2012, which was hosted and attended by some of the biggest players in the online gambling industry, which highlights that social gaming is an area that these companies are interested in expanding into. Social Gambling would be an attempt to monetise Social Gaming, where as Social Gamers may play Casino game for example with virtual cash, Social Gambling would like to monetise these games and have player use real cash instead of virtual cash.

Perhaps another indication of the relevance of this research is the recent actions of Zynga one of the biggest companies in social gaming. Firstly Zynga have launched their own social gaming platform Project Z (Goode, L, 2012) which could be seen as part of their first step in independence from Facebook. In late 2012 Zynga also announced a partnership with Bwin

Party, an experienced Online Poker company, to provide real money Poker and Casino games in the first half of 2013 (Taylor, C, 2012)

So as this paper is being written, the merging of the worlds of Online Poker and social gaming is beginning to happen.

1.4 Beneficiaries of this Research

This research will be of interest to both academics and those employed in the Online Poker industry and Social Gaming and Social Gambling industries in general, as well as those players these industries wish to attract.

1.5 Dissertation Roadmap

The dissertation is constructed as follows:

Chapter 1 provides background information on the study. It also introduces the research topic and sub-questions. The scope of the research and the beneficiaries are discussed along with the rationale for the study.

Chapter 2 consists of a literature review. This critiques recent and relevant papers in the research topic. This review began during the formation of the research question and continued throughout the research.

Chapter 3 describes the research methodology used to explore the research question. It covers the method by which the research was conducted, how the participants were accessed and the process used to gain ethical approval.

Chapter 4 analyses the findings of the qualitative and quantitative research undertaken findings.

Chapter 5 presents the results of the research undertaken.

Chapter 6 discusses the results of the research undertaken.

Chapter 7 concludes the dissertation.

1.6 Conclusion

This chapter has provided a general introduction to the world of online gaming as well as posed the questions we intend to ask in this paper as well as provide a roadmap for the structure of this paper.

2 Literature Review

2.1 Introduction

The purpose of this literature review is to critically analyse literature available on Online Poker product design, game design for Casual and Social games and lastly the area of Educational games.

In this regard, the first section of this chapter will look at the game of poker and the Online Poker product. Secondly game design lessons offered by academic literature in relation to Casual Games will be reviewed. Thirdly similar lessons offered by papers in relation to Social Games will also be reviewed. Lastly the area of Educational Games will be explored.

This literature review will therefore strive to give an understanding to the game or poker and the world of Online Poker as well as reviewing the areas of Social Gaming/Casual Gaming and Edutainment and how the literature in this area could inform the design of the Online Poker product.

2.2 The Game of Poker

There are many versions of the game of poker the most popular being Texas Hold'em poker and there are many volumes written on poker strategy and how to play the game. The majority of these books are written by famous poker players which give an overview of the game and how to play it such as (Brunson, D., & Addington, C. 2005) and (Caro, M. 2008). In addition to books offering an overview of the game and how to play there are also books on specific aspects of the game such as the psychological aspects involved (Schoonmaker, A. N. 2000). Other books concentrate on the strategy involved in specific game types such as tournament play (Sklansky, D. 2007) or books that concentrate specifically on a type of poker game such as Omaha (Hwang, J. (2008).

There could be many dissertations written on the subject of the game of poker itself. However for this review the most popular form of the game Texas Hold'em will be the only game reviewed. Texas Hold'em is played using a deck of 52 cards. (St. Germain, and Tenenbaum, 2011) provide a good summary of how the game then plays out, and although there are a myriad of rules and situations that a player can encounter a game of poker will generally play out in the following way.

The game will usually start with the two players to the left of the dealer "the button" putting a predetermined amount of money "Blinds" before any cards are dealt. This is called "posting

the blinds." Usually the player to the left of the dealer , the "Small Blind" puts up half the minimum bet, and the second player, the "Big Blind" puts up the full minimum bet. The reason for playing the blind is to ensure there is something to win in each game. So Cash game with blinds of $1/$2 will mean there's at least $3 to play for in each hand. Each player sits at the table and is dealt two cards, known as "hole cards". These cards are kept secret by the player and they shouldn't let any of the other players know the value of their cards.

A round of betting takes place where the player can perform a number of actions such as bet, raise, check or fold. Any action up to now by the players such as if they raise or call the other player would be known as "pre flop" action. Three "community cards" are then dealt on the table, which is known as "the flop". These cards are dealt face up and all players can use these cards to make the best hand possible with the two cards they hold. Another round of betting will take place after the flop has been dealt. Then a fourth community card is dealt and placed on the table, this card is known as "The Turn". Again another round of betting takes place. The last community card known as "The River" is dealt and another round of betting takes place.

The winner of the hand is determined in two ways. If a player makes a bet and no one calls them or raises him then he/she wins the hand. This can happen at any of the betting rounds so a hand may not even make it to the flop in some cases. In this case the winning player doesn't have to show his hand if the other players haven't called his bet. The other situation is where all players stay in the hand, in this case players may have raised each other at times or checked throughout the hand but one or more players are still in the hand at the end and will show each other their cards. In this case the player with the highest value hand will win.

There are two different type of games players can play using the rules above, cash games and tournaments. (Leonard, T. 1994) discusses the difference between the two games. Cash games are played on one table with at least two players. Tournaments can also be played on one table but can also have multiple tables with players in the same tourney spread across multiple tables. As the game progresses and players are knocked out the amount of tables will shrink until there is one final table where the winner of the Tournament is decided. With a Cash game a player joins the table with their cash/chips and can leave with their cash/chips at any time. With a Tournament game the player buys entry to the Tournament and receives their starting chips. The winner of the tournament is the player who wins all the chips from the other players. Where a player finishes in the Tournament leader board is based on when they are knocked out of the Tournament.

In a cash game the blinds are the same for each hand. So if a player joins a table with blinds of $1/$2 this will be the same for each hand. In a Tournament game the blind levels will increase at determined intervals. So for example a player may start a Tournament with 1,000 chips and start with blinds of 10/20. After 15 minutes the blinds may increase to 20/40. Then 40/80 and in this way the game will progress quicker.

2.3 Online Poker

The Online Poker industry replicates the poker game described earlier in section 2.2, for players to play poker games from their home online. Similar to brick and mortar casinos Online Poker companies make their revenue through charging a "Rake" on players pots. So, as an example, if a player wins a €5 pot, the Online Poker company may take €0.10 from that pot. In regards to tournament players, again similar to casinos the poker companies will charge a tournament fee, so a €10 tournament may have a €1 fee so the player will pay €11 to join a tournament. The obvious advantage that the Online Poker product has over its brick and mortar progenitor is that games will be faster online than in a real casino, and also one player can play multiple tables online at the same time. Due to the increase in the speed of the game, which means more hands are played, and the volume in the increase of tables played, the revenue earned by Online Poker providers would dwarf that of the regular brick and mortar casinos (Parry, W. and Daley, H. 2013) cite a Morgan Stanley report that Online Poker when legalised will by 2020 earn the same revenue as both Las Vegas and Atlantic city Casino's combined.

(Shim, N. and Baecker, R. 2013) states that current Online Poker games are focused only on card play and the human element is lost. The subtleties in gestures, facial expressions, and conversation have been replaced with a calculating, number-crunching game. On top of this, hands start and end very quickly. This high speed of play further limits possibilities for social interaction.

(Pokerscout.com 2006) looks at the player traffic of the Online Poker sites. Looking at this list the majority of Online Poker sites' product would be very similar in what they offer. We will look at the examples of the three largest sites as an example of the Poker Product. Each product would be downloaded and installed on the player's laptop. When installed players are then presented with the Poker lobby when they run the software.
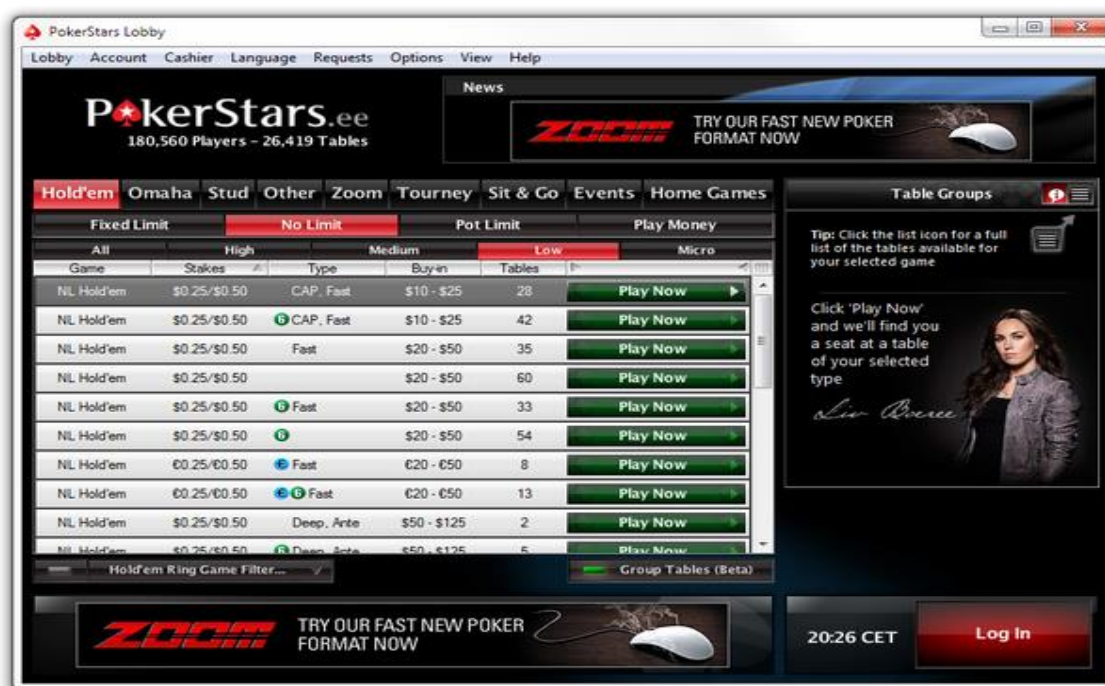
Figure 2.1 Pokerstars Lobby
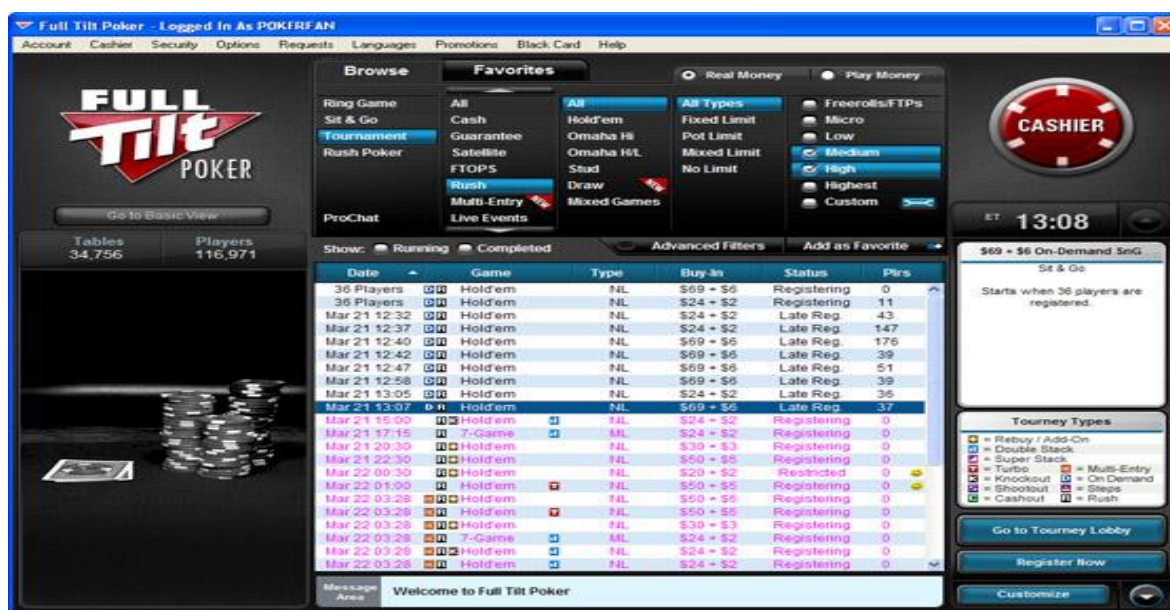
Figure 2.2 FullTilt Lobby

When players install the software for the poker site they generally have to create an account
to logon. An account will typically ask for an email address and players personal details.
Players then access the poker games they want to play through the game lobby above. If a
player wants a tournament game they would select the tournament option in the lobby and
then filter through the options they want until they find the tournament they want to play.

Similarly the same method would apply to cash games where players would search through the lobby until they find the game they want to play.

The majority of Online Poker sites would have tools to help the players choose what game they wish to play, such as waiting list options for players to get onto a table that is full and tournament notifications for players for upcoming tournaments. In addition to this most lobbies would have short cut to tools for players to access their account information/cashier/rewards section etc.

Once the player has selected the game they wish to play the game table then opens. In regards to Cash games a table will open immediately. In regards to tournaments the player will be brought to a tournament information screen which will present the details of the current tournament the player is playing on. To play the game; whether cash game or tournament, the player is brought to the game table. Again this would be a generic design for most Online Poker providers the player will sit at a graphical representation of the poker table and will see his opponents seated on the same table.

Figure 2.3 PokerStars Table

What is apparent from the quick look at the software provided is that there doesn't seem to be any differentiation in terms of the product offered by Online Poker companies to their players. However it can be argued that there are different types of poker players. This is why the term Ecosystem can be used in the context of Online Poker, because we have different types of players interacting with each other in the Online Poker system. (Siler, K. 2010) was a study of 'strategic demography' of poker players at different levels of play (from small-stakes to high-stakes), and analyses which strategies are conducive to winning at these different levels. (St. Germain, and Tenenbaum, 2011) in a similar study on how decision making skills in poker players affects success at different levels, again graded players for their study into novice, intermediary and expert levels.

(Radburn, B. and Horsley, R. 2011) again also categorize players into the categories of gambler, grinder, maverick, non-gambler and lastly the professional poker player. (IGT 2011) categorize players this time from the Online Poker industry's market perspective, and would classify players into Minnows, Casual, VIPs and Sharks. They also touch on the value of each player to the Online Poker companies. For example all companies would obviously like to attract new players/minnows, and keep their casual and VIP players as they generate revenue, whereas a player who is categorised as a Shark would be a net winner taking cash out of the ecosystem. This is why the Online Poker ecosystem should be managed carefully by their owners. For example if the ecosystem has too many sharks then no other player will enjoy playing there, and so the whole ecosystem may collapse if players avoid the games because they are getting beaten by the sharks.

In terms of the types of players identified there doesn't seem to be any attempt by the Online Poker industry to differentiate their product to suit each demographic. Players all use the same software and each player would be expected to find their own level. For beginner players there are play money games, where players can play against other players without risking any cash. In terms of in game rewards again this is typically standard throughout the industry. Some companies such as PartyPoker offer beginner tables where only newly opened accounts can play, but this is assuming that new accounts will not be as good as old players and any seasoned player would need just to open a new account to play at these tables. Players are awarded points/levels for play based on their rake generated, and from these points are awarded rewards such as the release of bonus funds or the ability to purchase items with their points. One common feature not offered by all providers is a promotion called Rakeback. This system automatically awards players a percentage of the rake that they paid back to them. This can be advantageous to a lot of players for example if

somebody was only breaking even through their poker play they would rely on their Rakeback payments to make a profit.

Although there is no differentiation in the product offered to individual players a sub industry has spun off from the Online Poker industry which offers third party tools to poker players to help them with their play on Online Poker sites. (Pokersoftware.com) discusses such tools known as HUD's (Heads Up Displays). These tools typically use data tracked from poker sites about the play of other players. In this way a player can view statistics about other players they play at the tables. However some sites actively take action to make such tools incompatible with their software with Pokerstars threatening some HUD providers with legal action while Bodog have remove player id's from their software so as to make such tracking tools useless.

2.3.1 Online Poker Recent Developments

Although it could be argued there has been little development in the product offered to Online Poker players, it would be unfair to say there hasn't been any evolution of the poker product particularly in the last few years. In 2010 Fulltilt Poker developed "Rush Poker".In this variant of Hold'em poker the moment a player folds their hand they are move to another table and a hand is started immediately. This innovation has been copied by other providers such as Pokerstars whom have since acquired the FullTilt company and the patent for "Rush Poker". The company PKR has also attempted to differentiate their product. Although they use the same Poker lobby template used in other sites they have taken a different approach in regards to the game play at the tables in relation to having a 3D virtual reality type table more akin to recent computer games, rather than the simple graphical interface of other poker rooms.

2.4 Casual Games

Although as discussed earlier in 1.2 Research Background, Casual Games appear to attract a different demographic to Online Poker specifically with more women playing than we would see in Online Poker. However (Kuittinen, J. and Kultima, A. 2007) would reinforce that these games aren't designed specifically for women but rather are heterogeneous products with the games being designed for play by all and not one specific group.

So what is a Casual Game? Although it is hard to define Casual games they are typically games that can be picked up and played easily and quickly without much investment of time however (Wallace, M. and Robbins, B. 2006) point out that players can play upwards of 20

hours a week playing these games. (Kuittinen, J. and Kultima, A. 2007) discuss the different meanings of Casual in relation to game culture and provide the model below:
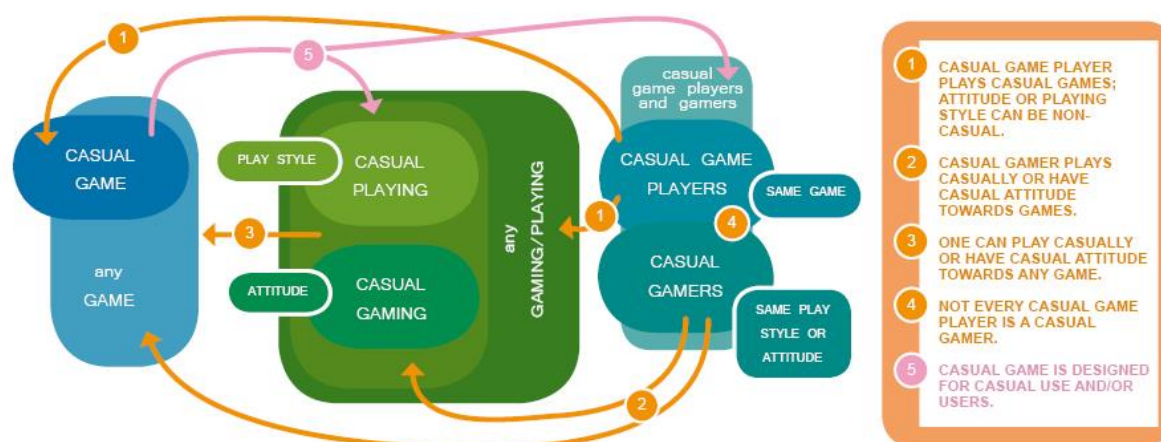
Figure 2.4 Relations of the meanings of casual in games cultures (Wallace, M. and Robbins, B. 2006).

(Kultima, A. 2009) present the categories of design values inherent in Casual Game design that they have abstracted from various discussed design solutions. The design Categories they present can be summarised as:

Acceptability: The Games should be designed for a universal audience and avoid any sexual or violent or adult content. As the appeal is universal you should avoid themed games such as a Star Trek world that will really only appeal to Star Trek fans. The game should also use Game Mechanics of established real world games such as puzzles, chess or solitaire that players can recognise.

Accessibility: The game should be easy to access and play regardless of the limitations of players. Information presented should be clear and concise and players should not have to learn the rules before they can start playing the game.

Simplicity: The game should be as simple to play and easy to use as possible. Anything that can be automated in the game should be such as saving games etc.

Flexibility: Flexibility in game designs enables the designer to support changes in the user's situation. For example, it allows the player to play the game on different devices, or indeed allows them to divert their attention elsewhere, so for example the player could be watching TV or listening to music while playing his game.

(Kultima, A. and Stenros, J. 2010) discuss the casual game design in the terms of an Expanded Game Experience (EGE) Model. In this model it is argued that when designing games for a heterogeneous audience an holistic approach must be taken. When designing games we must look at the level of the overall experience, covering the different aspects from the player starting the game environment all the way to product disposal.

The EGE model is presented as a cyclical model with six unique activity phases. The first phase is the user actually choosing to play. After this phase they enter the enabling phase where the user chooses which game they which to play. Once they have selected a game the user then enters the preparation stage where the game is prepared for the user to play which may involve installing software. After this phase the user enters the Gameplay phase where the game plays out as designed until the user chooses to quit. The user will then enter the Afterplay phase where a number of activities can take place, such as reviewing their play or sharing their experience with other users. The user then has the option to choose to replay which will start a new cycle from the beginning once again. The user can also enter the final phase which is abandonment, this could include exiting the software or taking the decision to uninstall and we must take into account that the player can abandon the cycle at any phase during the cycle.

(Kultima, A. and Stenros, J. 2010) also state the game design should take into account the User States, Affordances and Thresholds. So, for example, we have to take into account the players motivations for playing the game, which usually the designer can't affect, but it is possible to design games for certain situations. For example, does a player only want to play a game for 5 minutes or does he want to settle in to play a game for a few hours. Secondly, the players have resources such as time, attention, skill that they can commit to a game and any design would have to take this into account in terms of Affordances, for example the gaming skills of users they intend to play the game. Lastly the game design should take into account thresholds. Thresholds of use are the properties of the environment that prohibit the user from carrying on her experience without a certain input, or that limit the user's actions. Thresholds consist mainly of requirements and restrictions. A requirement would be the money, time or skill need by the player to start the game. A restriction would be something the game demands of the player, for example if you can only play the game at a certain time of the day or you have to spend so much in a certain time to play.
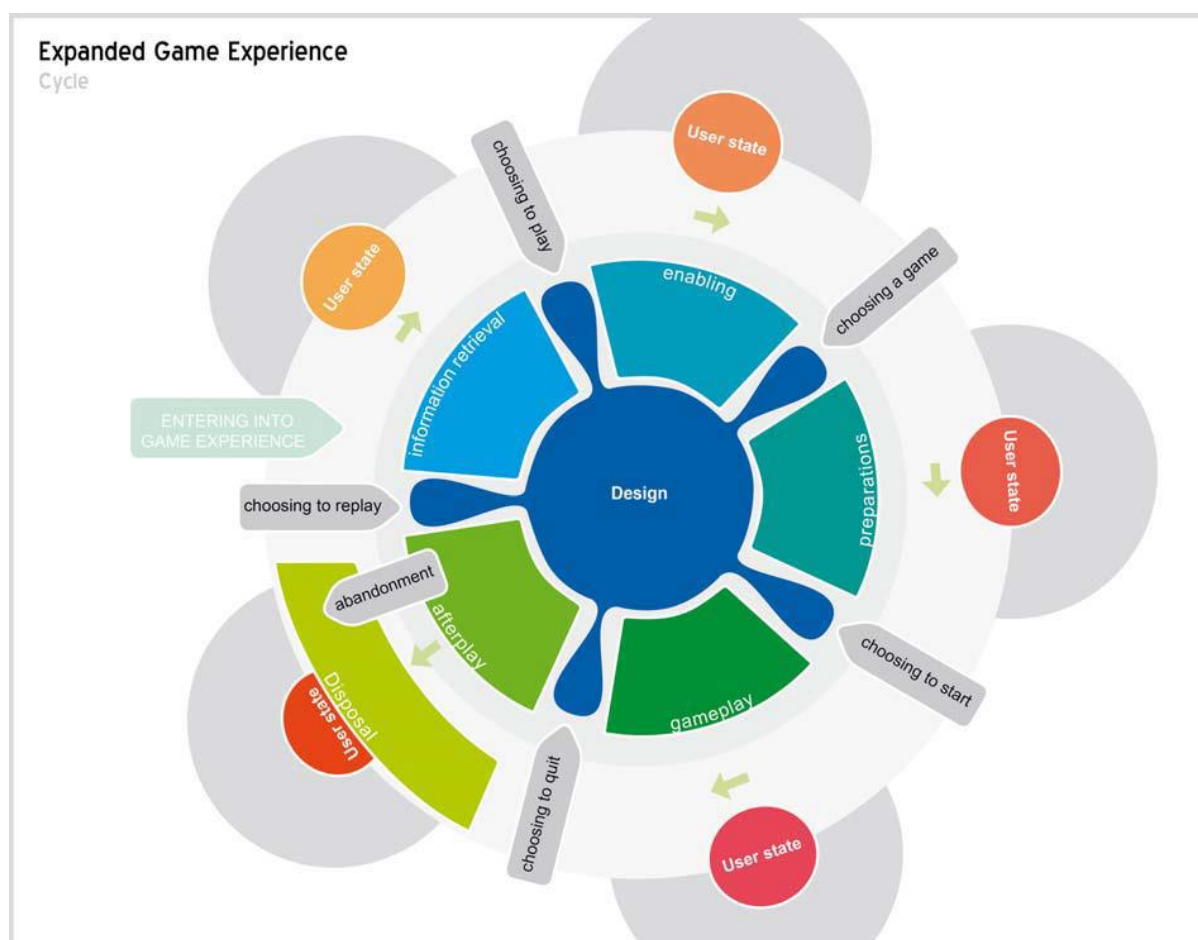
Figure 2.5 Expand Game Experience Model (Kultima, A. and Stenros, J. 2010)

(Harrigan, K. et al. 2010) discuss what casual game designers can learn from the design of online Slot machine games which similar to Online Poker bring would have both gaming and gambling aspects. They summarize their conclusions as:

- Rewards are intrinsic to video games, and as shown they can take the form of points, auditory or visual rewards, and help to increase the self-esteem of the player.
- Non-rewards or punishments provide enough of a frustrative value to make the game interesting for longer periods of time.
- Rewards are tied to reinforcement schedules in which players are kept interested through regular payouts of reward.
- Illusory rewards are also important to keep player interest while maintaining a degree of difficulty. Losses disguised as wins at an approximate 20% ratio of overall play-time are one example of these illusory rewards in slot machines.
- Near-misses at a 12:1 ratio encourage longer play times by raising excitement levels.

- Skill and competition also play very important roles in video games. Whether this is an actual skill or the illusion of skill, the player's perception of control is critical to the game.
- A degree of randomness or loss of control is also important.
- As player skill increases, competition is important to maintain motivation.

2.5 Social Games

At the time of writing it could be said that the Social Gaming boom has passed and even some years ago this industry was identified as being the next Tech Bubble (Tamika, C., 2010). Revenues for this industry are estimated to be as high as $2.1 billion for 2012 (Miller, R. and Washington, K. 2011) however unlike Online Poker where revenue is generated through rake as the player continues to play the game social game revenues are generated in a number of ways such as subscription fees, advertisement and the sale of virtual goods. In fact (Greengard, S. 2011) estimates that the sale of such virtual goods could reach as much as $14 billion by the year 2014.(Metsch, S. 2012) states that the key to a successful virtual economy present in social games is to give players an option to gain something where they perceive value and that players will spend money to differentiate themselves from other players or to get to higher levels or rankings within the game.

With such revenues available it is no wonder that this is an industry hotly contested by many of the big software providers such as Google trying to stake a claim to an industry that has been dominated by Facebook (Snider, M. and Martin, 2011). Social Games have existed long before Facebook, however Facebook has given game developers a platform to design games with more detailed and dynamic incentives with which to invite their friends to play. Usually this is done by a friends like or invitation to a free game on Facebook where money is then made through players buying extra items or rewards to use in the game. This has made Facebook the dominant platform for Social Games but platforms such as Google+ have now emerged to compete.

This paper has previously stated in section 1.2 that one definition of a social game can be a turn based game such as Texas Hold'em or scrabble. However as our research highlighted in section 1.2 Research Question it can be said that social games do appear to appeal to a different demographic to that of Online Poker. At the time of writing the worlds of social gaming and Online Poker are attempting to be merged with Zynga announcing a partnership with Bwin to provide real money Poker and Casino games in the first half of 2013 (Taylor, C, 2012).

(Lewis, C. et al. 2012) states that although Social games themselves are fairly simple when compared to other digital computer games, their appeal is based on the motivational techniques identified by behavioural economics and behavioural psychology. Behavioural economics study the effects of social, cognitive, and emotional factors on the economic decisions of individuals and institutions and the consequences for market prices, returns, and the resource allocation. (Camerer et al. 1997) provide a good example of this with New York Taxi drivers who rent their cabs for 12 hour shifts. Therefore the way to optimise their profit would to be to work long hours on good days, such as rainy days, and short hours on the less busy days. However this study found the opposite happens that drivers would work shorter hours on good days, as they made money quicker and actually spend longer hours working bad days.

(Lewis, C. et al. 2012) applies this field of thought to social games in a number of ways such as:

Anchoring: As players if we do not know what something is worth, then the first price we encounter will be used as a base to judge the value of everything else we encounter in a game. For example, in a car game if we paid $5 for an entry level car we'll base our judgement of supercars on that $5 price.

Contrast effect This concept describes how people have a tendency to perceive things relativistically. So if in our car game we start off with the entry level car, when we use the supercar going back to the entry level car will feel much slower and less satisfying.

Endowment progress effect describes how even the illusion of progress can encourage accelerated behaviour. So for example in the aforementioned car game again showing a player that they're close to earning the next car encourages them to play more.

Hedonic treadmill describes the player's anticipation of happiness when they reach a certain point in the game, but how this level of happiness baselines when they reach that level and also how this happiness is related to their peers. So again in our Car Game a player might concentrate on reach the level of a certain supercar but when they have the car realise they want the next car or the car their friend is using.

Loss aversion explains how people are comparatively more upset by a loss than they are made happy by an equal or similar gain. So again in the car game taking a car off a player would upset them more than earning that car would make them happy.

Reciprocal altruism describes how people will react to altruism with altruism and hostility with hostility. So in the car game a free car upgrade may encourage to play more, if a player feels the game is unfair then they stop playing.

Sunk cost fallacy Sunk costs are costs which have been incurred and can't be recovered. This can affect players behaviour for example if they bought 6 months membership to our car game they will continue to play after the first month even if they do not like the game, as they've paid for the remaining 5 months.

(Lewis, C. et al. 2012) then looks at Behavioural psychology, where an organism alters its voluntary behaviour due to some stimulus and how this is can be used in social games.

Goal-gradient hypothesis is the finding that as animals approach a reward, they expend more effort. This can be used in games with the use of a progress bar, so going back to the car game if a player is closer to the next supercar they may play more.

Schedules of Reinforcement are theories pertaining to how organisms react when a reinforcer is given after different periods. A reinforcer is an event that occurs in response to some action, and they can either be positive, such as a giving a food pellet, or negative, such as a loud noise. The schedules presented for social games are:

Fixed interval schedule A fixed interval schedule is one where the reinforcement is given after a period of time from the original response, regardless of what happens in between that time. So again in our car game, we might have a reward based on the amount of time a player has paid regardless of how well they are doing.

Avoidance fixed interval schedule This is a modification of the fixed interval schedule, where something negative happens after a fixed period of time unless a response takes place. So again in our car game we may penalise players for not reaching a certain mileage in a specified amount of time.

Variable ratio schedule This schedule is otherwise known as the slot-machine schedule: a certain probability of a reward given is set up, but it's unknown at which response it will pay out. Again with our car game this would mean our player would know there's a reward coming but there's no set time for this.

Shaping is a process that uses rewards to train animals to perform more complex behaviors, and is commonly seen in training animals. So for example in our car game if we wanted our players to play more or perform a certain part of a game more then we would have rewards for this behaviour.

(Paavilainen, J. 2010) present a critical review on Video Game Evaluation Heuristics from a Social Games Perspective and provide ten initial high level social games heuristics for design and evaluation of Social games which are:

Spontaneity. Provide easy and quick access to the game as the threshold for play should be as minimal as possible. Use common and familiar themes from popular culture which can be understood easily.

Interruptability. Use game mechanics which support playing in short, sporadic bursts. Use interruptions as an advantage in the design.

Continuity. Provide an asynchronous persistent game world and mechanics that allow the player to feel progress. Provide multi-level reward structures that make the player feel accomplishment in every play session and reward players for coming back into the game.

Discovery. Provide players with new, evolving content and offer an emergent game world. Provide achievements and trophies for players to acquire.

Virality. Use versatile means for direct and in-direct virality. Use "call to action" principle i.e. persuasive, inviting messages,for getting the attention of new players. Provide bonuses that encourage players to send requests and gifts which act as links for new players to start the game.

Narrativity. Use vivid stylized narratives for describing in game events and broadcast these narratives to engage players and elicit curiosity among others.

Sharing. Provide means for players to share information and in game resources.

Expression. Allow players to express themselves in the game world. Provide means for expressing game experiences through screenshots and video clips.

Sociability. Use social contacts as assets in the game and make them part of the game mechanics. Support group forming and provide bonuses for communicating and cooperating with contacts.

Ranking. Provide high-score lists for competing with friends. Provide hints and tips on how to climb the ladder and provide reasons for doing so.

(Järvinen, A. 2009) discusses the idea of game mechanics in traditional games, where Core mechanics are defined as the actions that players repeatedly take in a game, can be thought of as "verbs" that a game designer would give players to act in a game.

The verbs as mechanics are linked with the goals of the game, i.e. they are the means to reach the ends. The paper then discusses that compared to traditional games where the mechanics are interactions between the user and the system, in a Social Game this is more complicated because the system will be the social network as a whole, consisting of the service (e.g., the Facebook platform), individual players, and the community of players.

Game play in social networks is then defined as a feedback loop of player actions that try to accomplish goals, and are given feedback through the network, either through the system itself, or individual players, or community as a whole. This description of play then gives us idea of the scope and focus of designing games for social networks which is presented in the triangular model below:
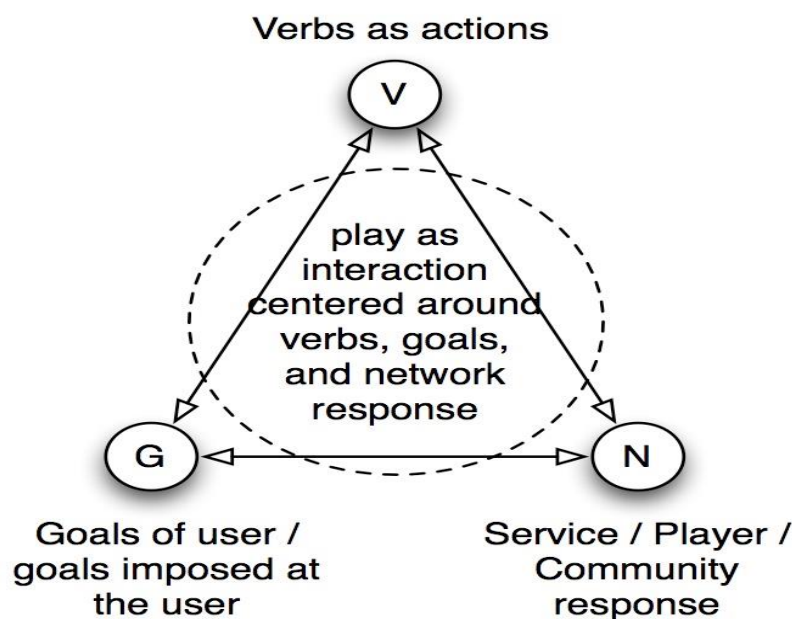
Figure 2.6 Verbs – Goals – Network play model. (Järvinen, A. 2009)

 (Järvinen, A. 2009) and again in (Järvinen, A. 2013) then builds upon this model of network play and based on social game motivations develops 5 design drivers for social games based on motivations identified by (RAO, V. 2008):

Symbolic Physicality The symbolic ways that Facebook games 'add physical depth to playful interactions', such as poking, drinking beer, hi-fiving, etc. These features essentially try to add 'human warmth' of actual physicality to the non-physical online space.

Spontaneity The apparent silliness and/or simplicity of Facebook games, such as complicated set of actions being simplified into a click of a single button, is there to support the inherent spontaneity of user behavior in online social networks.

Inherent sociability Playfulness has to exist in these social situation or the games will not get played. (RAO, V. 2008) lists fast rewards for player actions, abundance of positive feedback, no negative consequences for exploration, and ability to build on someone else's work as design solutions that support the inherent sociability.

Narrativity When studying how popular social network games' play dynamics work, it becomes evident how fundamental it is for the concept that various player actions

and play results are not only communicated but stylized into particular narrative rhetoric across the network.

Asynchronicity Finally, the last high-level design driver is one that can be used to guide design solutions regarding the tempo of the game, i.e. how design solutions concerning the other drivers come together in the social play of networks. This ties directly in with the verbs-goals network response model presented earlier, and how it's poles function as the triangle where network play emerges.

(Järvinen, A. 2009) then uses these theories to present the model of game design for playfulness in social games below.

Figure 2.7 Game Design Model for Playfulness (Järvinen, A. 2009)

2.6 Edutainment

(St. Germain, and Tenenbaum, 2011) state that poker is a game of incomplete information, its skill are based upon the ability of a player to accurately assess his/her opponents(s)

hand, and adjust his/her play in a way that results in the greatest profit. (Alon, N. 2007) however states that practice and study do help to improve in poker, and although luck may well play an essenti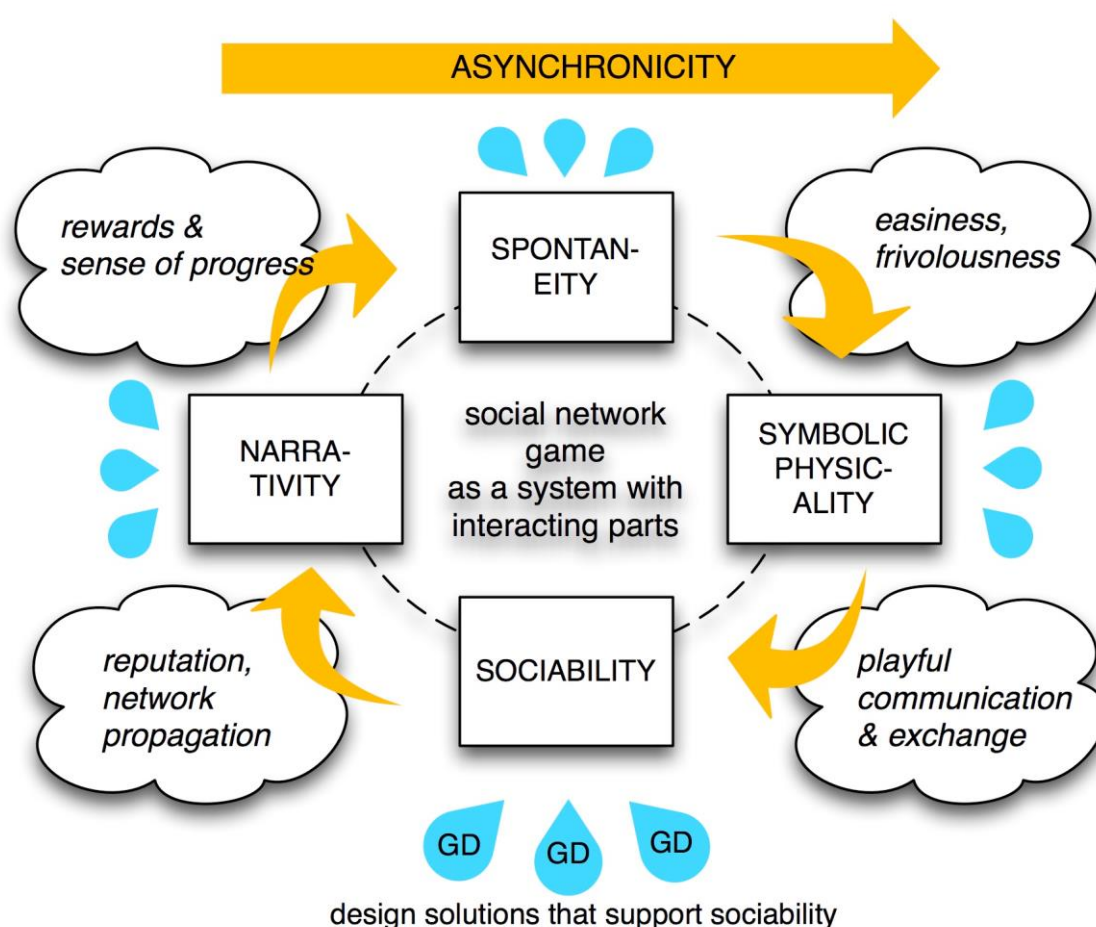al role in a single hand, skill is the major component, by far, in deciding the results of a long sequence of hands. Section 2.2 The Game of Poker discussed the different type of poker players; from the novice player to the professional. However, on the whole each player's journey through the poker software is the same. In fact, it could be argued that there is no journey. Each player downloads the software and finds their own level through the poker lobby. Most instructions would be hosted on the poker company's website in the terms of text or videos.

(Andersen, E. et al. 2012) discuss the effectiveness of in game tutorials on game of various complexities. They conclude that tutorials only really have any effect in very complex or unusual games and since players seem to learn more from exploring than from reading text, they believe that it is important to design early levels in a way that maximizes a player's ability to experiment and discover game mechanics. This paper recommends that future work is needed to understand how to break down a complex game into smaller "chunks" that can be learned through exploration; how to detect when a player is confused or frustrated, and how to intervene, if necessary, in a way that causes learning without negatively impacting engagement.

(Elearn Magazine 2011) concludes that there are three factors that determine a strong educational game:

> **Integration:** When a player is learning a game it needs to be built into the game that learning and play are integrated. This means that to succeed in the game the player also needs to master the learning goals behind the game. In developing a learning game, it must be recognized how integration works both in relation to the verbs in the game and the substantives.

> **Motivation:** The need to make sure that the game is as intrinsically motivating as possible. The actual key activity in the game must be interesting and engaging.

> **Focus:** Focus in the learning experience by exploring, operating and interacting within a setting like a historical map or a historical city. However for focus to be optimal during the learning experience it needs to be supplemented by working with the verbs.

(Amory, A. 2001) developed a model called "Game Object Model" (GOM) which combines educational theory and game design. This model was developed based on the constructivist educational theory where players would build their knowledge based on their own play rather than retrieve the knowledge from other sources. (Tan, P. and Ling, S. 2013) build on this education game model as well as others to provide a frame work for education game design. Their model is based on the player or learner themselves and then the design of the game itself. The game must be specially designed for the target learners so that the learners can easily adapt to the game. So before designing or selecting a game the following should be considered in regards to players:

Psychological needs: learners act and behave according to what they have in their mind and they are actually doing those to satisfy their psychological needs. Without knowing the stages they are experiencing, it may be difficult for game design to produce genre of games suitable for the learner. If the learners' needs are achieved, learners might develop an interest in continuously playing the game for the purpose of learning.

Cognitive Development: Human cognitive development also differs on different levels. It is important for designers to design a suitable game for the learners.

Learning Behaviour: Appropriate design which facilitates the learning behaviour of learners could provide better learning environment. Suitable types of behaviour are vital in constructing the game design in term of feedback and interaction.

(Tan, P. and Ling, S. 2013) then propose that game design should then contain the three subcomponents below:

Multimodal: Modality is the element which manages the interaction between learner and the game. It includes the multimedia elements, interface design, and narrative. The interface is should be simple but highly meaningful. It should be constructed based on learning curves to assist beginners to focus and avoid confusion.

Task: Tasks in the game help the learners to absorb the learning content. Thus, those tasks should be designed with different levels in order to help learners adapt to the game environment. Different levels of difficulty would help learners to learn without being discouraged.

Feedback: Feedback for learners is vital. Learners would be encouraged with the rewards and gain confidence in solving next task. On the other hand, if less or no rewards are obtained, learners should try to redo the same task again to gain higher achievement.

(Berger, F. 2013) discuss game based learning and the fact that it often lacks personalized features often found in other forms of e-Learning. This paper builds upon the work of (Charles, D., Kerr, A 2005) which presented a potential framework for adaptive game systems. However (Berger, F. 2013) state that this framework should be extended by an authored performance reference as well as an adaption threshold. This is necessary because fundamental educational design decisions should be made by a human author.
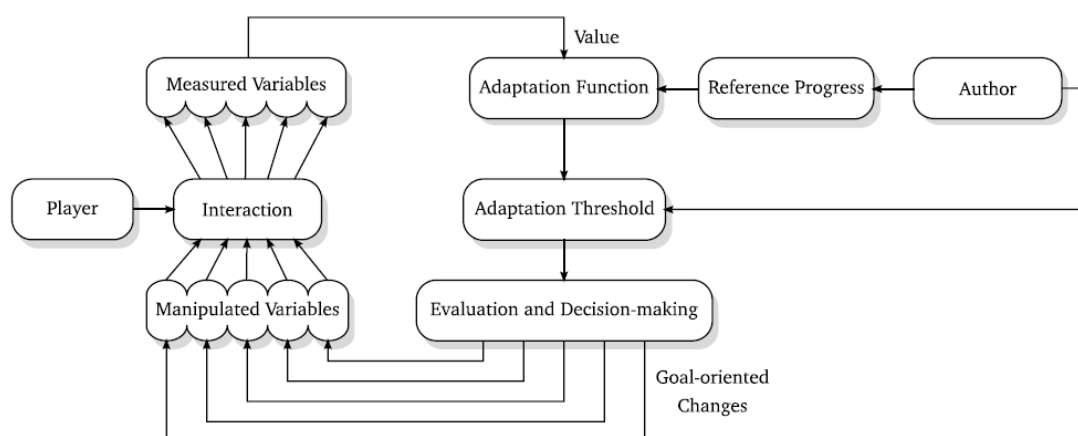
Figure 2.8 Framework for adaptive Game-based Learning applications (Berger, F. 2013)

(Linehan, C. and Kirman, B. 2013) state that Applied Behaviour Analysis (ABA) is a personalised method of teaching that has been demonstrated as highly successful wherever implemented. In ABA programmes the teacher defines each individual target behaviour that the student needs to improve on. They also define a target frequency of that behaviour, and clearly state the rewards for reaching that target.
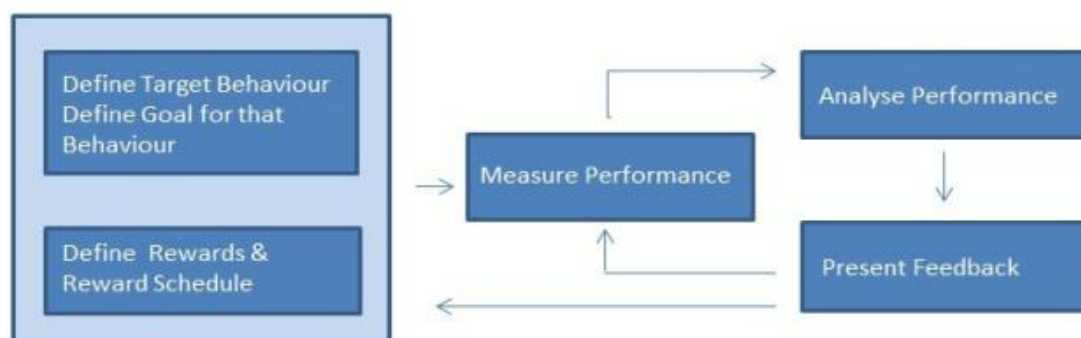
Figure 2.9 Diagram of the processes involved in an ongoing ABA programme.

(Linehan, C. and Kirman, B. 2013) conclude that this style of education is uniquely positioned to take advantage of the benefits that the medium of computer games offer; their ability to teach in a one-to-one manner, to adapt to the performance of each individual player, to deliver timely and specific feedback to players in a controlled manner, and to motivate players of a wide range of knowledge or skill levels allows for a personalised education for each player.

Any adaptive educational software would more than likely be based on user modelling. A user model (Shyamala, R. and Sunitha, R.2011) is a set of information structures designed to represent one or more of the following elements: 1) goals, plans, preferences, tasks, and/or abilities 2) common characteristics of users pertaining to specific user subgroups or stereotypes; 3) the classification of a user in one or more of these subgroups or stereotypes

(Bakkes, S. et al. 2012) discuss the use of player modelling in the design of personalised gaming. Player modelling techniques are a requirement for steering adaptive components that a game may have such as (1) space adaptation, (2) mission / task adaptation, (3) character adaptation, (4) game mechanics adaptation, (5) narrative adaptation, (6) music / sound adaptation, (7) player matching (multiplayer), and (8) difficulty scaling.
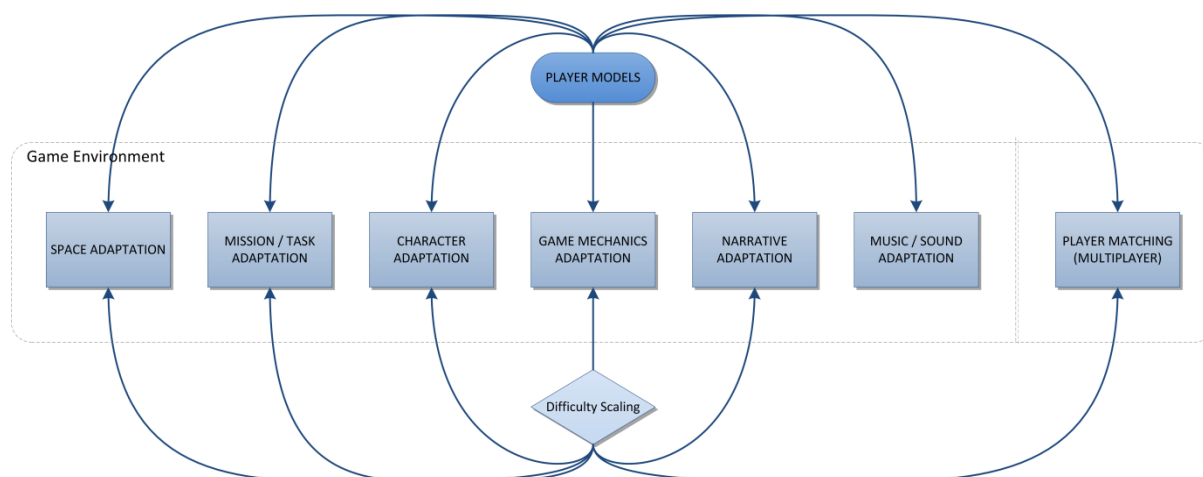
Figure 2.10 Personalised gaming, as resulting from player models (Bakkes, S. et al. 2012)

(Harrison, B. and Roberts, D. 2013) discuss that traditionally player modelling in computer games have been based using survey date or player questionnaires. However in their paper they show a method for it is possible to create a purely data-driven approach to player modelling using observations of players' actions in games. They conclude by moving away from surveyor user-study-based behaviour models and knowledge engineering techniques, they can create more robust models more efficiently, based on actual player behaviour rather than what the player may say they would do when questioned.

2.7 Conclusion

This chapter has reviewed literature in relation to four areas, that of Poker/Online Poker, Casual Gaming, Social Gaming and the area of Educational Gaming. From reviewing these areas it could be argued that there are a number of frameworks and theories that could be used by game designers to improve the design of the Online Poker product.

3 Methodology and Fieldwork

3.1 Introduction

This chapter describes the research philosophy and methods considered as part of this study. It describes a number of such methods and the rationale for choosing the methods eventually used.

3.2 Research Philosophy

Research can be defined as a systematic and methodical process of enquiry and investigation. (Saunders et al. 2009) define a research philosophy as an encompassing term for knowledge development and the process by which this knowledge was obtained through research. A number of different research philosophies or approaches have been identified.

Quantitative

Quantitative research usually involves analysing data that has been collected in research through a variety of means such as surveys, questionnaires or experiments. "*Quantitative is predominantly used as a synonym for a data collection technique (such as a questionnaire) or an analysis procedure (such as graphs or statistics) that generates or uses numerical data*" (Saunders et al. 2009).

(Burns, R 2000) discusses the strengths and weaknesses of quantitative research. The strengths highlighted is that this method of research is precise and reliable and allows control though sample and design. It is also possible to produce causality statements through the use of controlled experiments. Statistical techniques also allow for sophisticated analysis and lastly quantitative analysis is also replicable.

However the limitations of the quantitative approach are also highlighted by (Burns, R 2000). Because of the complexity of human experience it is difficult to rule out or control all the variables, and it has to be considered that you can't plan how people will react in any research. Its mechanistic ethos tends to exclude notions of freedom, choice and moral responsibility and it fails to take account of people's unique ability to interpret their experiences, construct their own meanings and act on these. It also leads to the assumption that facts are true and the same for all people all of the time. It is not totally objective because the researcher is subjectively involved in the very choice of a problem as worthy of investigation and in the interpretation of the results.

Qualitative

Qualitative research can be said to be harder work than the qualitative and is focused on gathering opinions and peoples understanding of situations (Matthews, B & Ross L 2010)

*"qualitative research has 'traditionally' been conducted by means of direct observation of a sample, case studies, personal experiences, introspection, an examination of relevant texts, interviews, focus groups, life stories, and the researcher's own participation in the settings that she / he is researching. But, with the advent of various new types of information technology devices and media, the range of things to be directly observed in qualitative research has greatly increased" (*Hogan, J., Dolan, P., Donnelly, P. 2009)

(Anderson C 1998) discusses the strengths and weaknesses of qualitative research. In regards to strengths interviews are not restricted to specific questions and can be guided/redirected by the researcher in real time. The data based on human experience that is obtained is powerful and sometimes more compelling than quantitative data and subtleties and complexities about the research subjects and/or topic are discovered that are often missed by more positivistic enquiries.

(Anderson C 1998) also highlights the limitation of this qualitative research. The quality is heavily dependent on the individual skills of the researcher the researcher themselves can influence the results through their own bias. Rigor is more difficult to maintain, assess, and demonstrate and the volume of data makes analysis and interpretation time consuming. The researcher's presence during data gathering, which is often unavoidable in qualitative research, can affect the subjects' responses. Issues of anonymity and confidentiality can present problems when presenting findings and the findings can be more difficult and time consuming to characterize in a visual way.

Positivism

Positivist Researchers believe that reality is stable and can be observed and described from an objective viewpoint (Levin, 1988), i.e. a researcher can study their subjects without interfering in any way. Objects of the research should be isolated and the research itself can also be repeated. By working with observable social reality the researcher can produce an end product of 'law-like' generalisation as in physical/natural sciences.

The main disadvantage of the positivist method of research is the fact that subjects being objectively studied may not be acting as they usually do.

Interpretivism

Interpretivist researchers could also be known as anti – positivists in that they take the view that since human beings think and reflect, scientific methods are inappropriate for the study of society (Abbot D 2010). Unlike objects in nature, human beings can change their behaviour if they know they are being observed. Iinterpretivists argue that if we want to understand social action, we have to delve into the reasons and meanings which that action has for people. An interpretivist concept fits more with qualitative research methods such as observations, focus groups, questionnaires and surveys.

3.3 Research Strategies Considered

Experiment

An experiment usually tests a hypothesis, which is an expectation about how a particular process or phenomenon works.

Survey/Questionnaire

A single survey is made of at least a sample, a method of data collection (e.g., a questionnaire) and individual questions or items that become data that can be analysed statistically.

Case Study

Case studies typically examine the interplay of all variables in order to provide as complete an understanding of an event or situation as possible. This type of comprehensive understanding is arrived at through a process known as thick description, which involves an in-depth description of the entity being evaluated, the circumstances under which it is used, the characteristics of the people involved in it, and the nature of the community in which it is located. This also involves interpreting the meaning of demographic and descriptive data such as cultural norms and mores, community values, ingrained attitudes, and motives.

Action research

Action research involves the process of actively participating in an organization change situation whilst conducting research. Action research can also be undertaken by larger organizations or institutions, assisted or guided by professional researchers, with the aim of

improving their strategies, practices and knowledge of the environments within which they practice.

Interviews

An interview is a conversation between two or more people where questions are asked by the interviewer to elicit facts or statements from the interviewee. In terms of research the questions will be designed by the researcher in regards to eliciting information regards the research topic.

3.4 Research Strategies Chosen

(Lee, A. S. 1999) states that diversity in research methods is considered a major strength of information systems research. Mixed Methods research is a combination of both quantitative and qualitative methods often referred to as the third methodological movement, and is an approached favoured by some as it avoids some of the weaknesses of both approaches.

(R. Buber et al 2004) states that mixed methods are used to enrich understanding of an experience or issue through confirmation of conclusions, extension of knowledge or by initiating new ways of thinking about the subject of the research. However they also point out that Mixed Methods are inherently neither more nor less valid than specific approaches to research and that researchers have to be aware of the limitations of traditional methods as they are modified in a mixed methods environment. The researcher also must also be skilled enough to make appropriate use and interpretation of quantized coding from qualitative data.

(Hohenthal, J. 2006) used a similar approach in his research on international entrepreneurship. He concluded the qualitative study such as interviews made it possible to formulate better propositions and the quantitative study using surveys made it possible to test these propositions, and the qualitative study made it possible to understand the results in a better way.

3.5 Study one: Interview with Senior Management from Online Poker companies

The purpose of this study was to gauge the Managers perceptions to the subject of game/product design within their own company. In order to provide a broad range of feedback a senior manager from three different departments, Technical/Development, Operations and Marketing will be interviewed.

(Robson, C. 1995) describes an interview as *"a conversation initiated by the interviewer for the specific purpose of obtaining research relevant information and focused by him on content specified by research objectives of systematic description, prediction or explanation"*

(Robson, C. 1995) also identify three different types of interviews, structured, semi-structured, and unstructured interviews. For these interviews we will use semi-structured interviews, In this type of interviews, interviewers have a set of certain questions, but they can change their order and can give explanations and examples whenever needed. They can, also, use open-ended questions related to the context of the interview.

The interview questions will differ slightly for each manager as obviously coming from different backgrounds they will be knowledgeable about differing areas. All three of the managers are known to the researcher personally, with some I still have a working relationship others are people whom the Researcher has worked with in the past.

Game Design Project Manager

The Project Manager in question is responsible for game design for the company that they are working for. Questions here will concentrate on how the game design process works within the company they currently work for and companies they're worked for in the past.

Fraud/Security Manager

The Fraud/Security Manager in question is responsible for anti-Fraud measures for the company they are working for. Questions here will concentrate on how they see game design from a player's perspective specifically those of the experienced players.

Marketing Manager

The Marketing Manager in question is responsible for attracting new players for the company they are working for as well as retaining existing players. Again the individual in question has years of experience in the industry both as a player and as an executive. Questions here will concentrate on how they see game design from a Marketing perspective, especially in regards to attracting new players and retaining existing players.

Interviews will take place in person where possible and also over VOIP, and the findings of these interviews will be presented in Chapter 4.

3.6 Study Two: Survey with staff working within Online Poker companies

"Survey Monkey" was used to design, host and distribute the survey. The reasoning for this option was for both ease of distribution and collection of data for analysing as well as being a low cost solution.

(Downes-Le Guin , T. et al. 2012) discusses four styles of design presentation for online surveys, Text only, which would be the most common black text on white screens with the use of radio buttons etc. Secondly Decoratively Visual which adds images add coloured background to the text only solution. Thirdly Functionally Visual which adds items such as Flash objects which are integrated into how the questions and responses are presented. Lastly Gamified where rules, rewards and targets can be added to the survey content or process to engage the user.

(Biemer, Paul (2010) discusses the common dimensions of a survey quality framework using such dimensions as Accuracy, Credibility, Comparability, Usability/Interpretability, Relevance and Accessibility. However they also point out that even under the best circumstances, the potential for survey errors will always remain in some operations. Instead, the goal is to avoid the most egregious errors and control other errors to the extent that remaining errors are mostly inconsequential and tolerable.

The survey itself consisted of five sections:

- The first section consists of the Participant Information sheet and the Participant consent form. The section then gathers some information about the participant, what area of the Online Poker industry do they work in and what type of company do they work for.
- The second section concentrates on how the game design process works within the participants company.
- The third section asks if there is a differentiation in the product offered.
- The fourth section enquires about the educational aspects of the software in terms of learning the game
- The fifth section asks about what social aspects are present in the software.

(Please see Appendix A Survey Questions)

The survey will be distributed through contacts in the industry and findings will be presented in Chapter 4.

3.7 Research Ethics

Prior to the commencement of both studies independent approval by the School of Computer Science and Statistics (SCSS) Research Ethics Committee was obtained before commencement of data collection.

All of the participants who took part in the interviews and the questionnaires had the right to refuse and signed a consent form. All participants also had the option to leave the process at any stage.

3.8 Procedure

3.8.1 Pilot Survey

An initial survey was created using Survey Monkey and distributed to three colleagues to test and provide feedback. The logic on question one where the respondent is asked if they agree to the terms and condition of the survey was found to be incorrect, and the survey exited regardless of which answer the respondent gave. Once this was corrected the pilot was able to continue.

The three people in the survey provided that the questions were clear to understand, and that it took them around ten to fifteen minutes to complete.

3.8.2 Online Survey

The survey was distributed to friends and colleagues within the Online Poker industry on the 10th May 2013 and the survey was closed six weeks later on June 21st 2013. SurveyMonkey was used to both distribute the survey and store the results. The survey questions can be found in Appendix F.

3.8.2 Interviews

The interviews with the three managers took place on separate dates throughout June. The questions for the interviews can be found in Appendix C,D and E

3.9 Lessons Learned

While the feedback from the initial pilot survey was positive perhaps in hindsight having twenty questions in the survey was perhaps too much. This can be seen with the drop in responses to questions at the end of the survey.

Also there was a limited response to some of the open ended questions. The three participants in the pilot survey were colleagues with many years' experience in the industry but perhaps it may have been wiser to also include someone without that experience to see how they would evaluate the survey in the pilot phase.

3.10 Conclusion

This chapter investigated multiple research methods available to investigate the research topic. It was decided to conduct both a survey and interviews with those working in the Online Poker industry in order to investigate the research topic further.

4 Findings and Analysis

4.1 Findings and Analysis Introduction

This chapter will present the findings of the research conducted, and interpret and analyse the data collected from both the survey and the interviews conducted. This chapter will begin by presenting and discussing the results of the survey, and will then follow this by presenting the results of the interviews conducted.

The survey was distributed to friends and colleagues within the Online Poker industry on the 10th May 2013 and the survey was closed six weeks later on June 21st 2013. SurveyMonkey was used to both distribute the survey and store the results. The results of the survey were then downloaded and analysed in Microsoft Excel. In order to comply with the guidelines laid out by the School of Computer Science and Statistics (SCSS) Research Ethics Committee, participants were informed that they were permitted to skip any questions they did not wish to answer, because of this although we received 54 responses to the survey not all answers receive a 100% response rate, this seemed to particularly affect some of the open ended answer questions.

After the findings from the survey are presented, the findings from the interviews will also be presented. The questions for the interviews are similar to those found in the survey but are tailored to each manager's particular area of expertise. The transcripts for each analysis are analysed to compare and contrast them with the survey results to find common themes or attitudes.

The survey questions can be found in Appendix F. The questions for the interviews can be found in Appendix C,D and E

4.2 Survey Findings and Analysis

This section will examine the results of the survey examining the results of each question asked. 54 people replied to the questionnaire but again not all of the questions were completed. The original survey can be found in Appendix F

4.2.1 Do you agree to the Terms and Conditions of completing this questionnaire?

100% of participants agreed to the terms and conditions of the survey.

4.2.2 How long have you worked in the Online Poker Industry?

Three participants skipped this question and it would have to be considered that any analysis of this question would only be referring to 94.4% of the survey population.

Of the number that did reply only 15.89% have worked in the Online Poker industry for less than a year, with 43.14% of the population having worked in the industry for 5 – 10 years and 25.49% for 2 – 5 years and 7.84% for more than 10 years. This would indicate that according to this question the survey population, is comprised mostly of participants with years of experience within the poker industry. A full breakdown of the results of this question can be found in Appendix G.

4.2.3 What area of the Poker Industry do you work in?

Three participants skipped this question and it would have to be considered that any analysis of this question would only be referring to 94.4% of the survey population.

Of the number that did reply 30 people or 58.82% of participants worked in the Operations division of their company. Operations would consist of the customer support, security/fraud departments etc. 10 / 19.61% participants worked in the Technical side of their company this could be Development, Database, and Network Engineers etc.

8 / 15.9% of participants worked in the Marketing area of their company, while 3 / 5.88% of the participants would class themselves as Management in their company.

The results of this question where to be expected as with such organisations, the amount of Operations staff needed to deal with customers would outnumber those involved with other departments.

4.2.4 What type of company do you work for?

Five participants skipped this question and it would have to be considered that any analysis of this question would only be referring to 90.74% of the survey population.

24 / 48.98% of participants work for a Poker network which provides software to third parties. 15 / 30.61% of participants work for direct to consumer poker site which is part of a poker network. 6 / 12.24% of participants work for a standalone direct to consumer poker site. 4 / 8.16% of people work for a gaming company where poker is one of the games they offer players. From this analysis we can see that the majority of participants work with a poker network in some way.

4.2.5 Does your company have a computer game design specialist/team involved in the design of the product/software?

Seven participants skipped this question and it would have to be considered that any analysis of this question would only be referring to 87.04% of the survey population.

34 / 72.34% of participants answered yes to this question, while 13 / 27.66% answered no. This would suggest that the majority of the participants believe there to be a games design specialist working within their organisation.

4.2.6 Does your company have a formal process for prioritizing software changes/updates?

Six participants skipped this question and it would have to be considered that any analysis of this question would only be referring to 88.89% of the survey population.

35 / 72.92% participants answered yes to this question with, 7 / 14.58% participants saying they did not know if a process existed and lastly 6 / 12.50% participants stated that there was no such process in place. From this question we can infer that the majority of participants believe there is some process in regards to prioritizing software changes in their organization.

4.2.7 Does your company have a formal process for evaluating software changes that have been made?

Seven participants skipped this question and it would have to be considered that any analysis of this question would only be referring to 87.04% of the survey population.

17 / 36.17% of participants replied No to this answer, 16 / 34.04% answered that they did not know if a process existed while 14 / 29.79% replied yes. Of those people who replied yes they were prompted to describe what the process was.

Six people replied to describe the process, but of these replies four of them describe the Quality Assurance process before software is released. This process is basically just to ensure that software being released is working as specified, it wouldn't be part of a formal process for evaluating software changes it would be testing software changes that have already occurred. One other response described how they would send player feedback to their development team but that is as far as it went. The last reply described how the Product Manager would use a Project Management tool to grade the priority of projects being worked on and that this would be reviewed with stakeholders monthly.

From the feedback above it would be apparent that a lot of participants wouldn't feel there is a formal process for prioritizing software changes, or they're unsure if one exists. Of those that felt there was a process, some were confused and mixed up the process with software testing.

4.2.8 Who in your opinion has the most input into the design of your software/product within your company?

This question was our first open ended question in the survey which seemed to have a big impact on the participant's response. Twenty participants skipped this question and it would have to be considered that any analysis of this question would only be referring to 62.96% of the survey population. The results of this question are presented in the pie chart below.
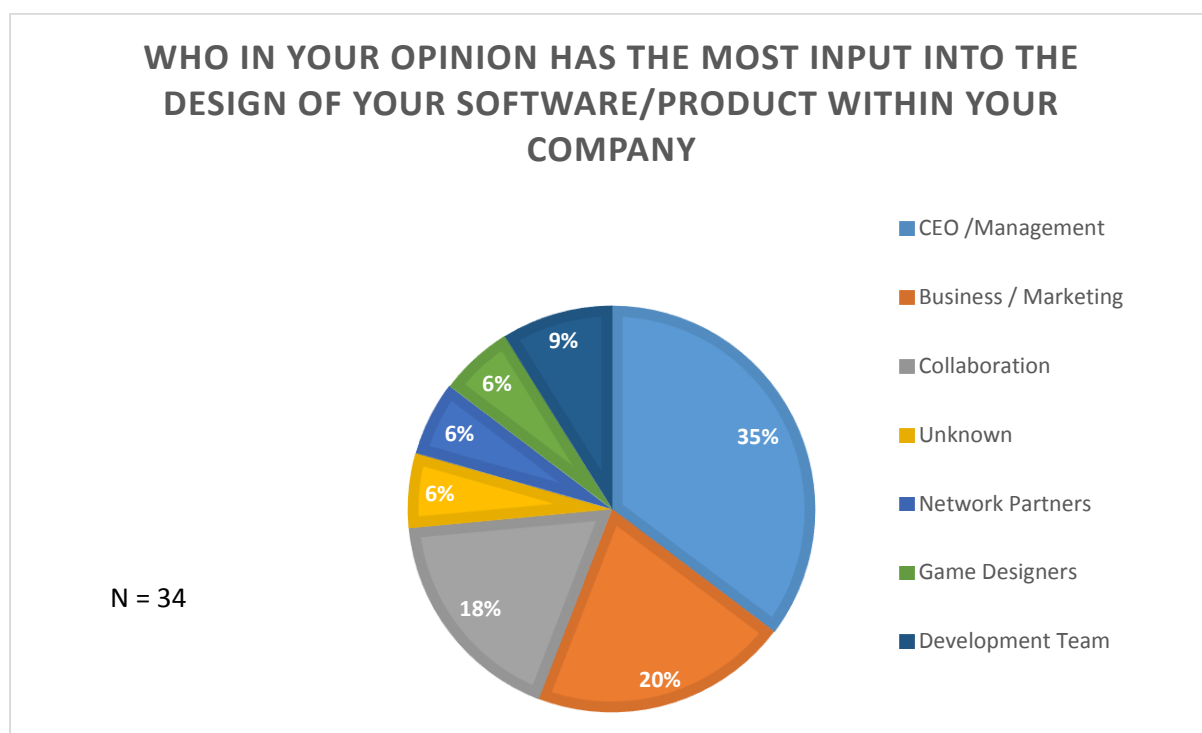
Figure 4.1 Who in your opinion has the most input into the design of your software/product within your company?

As you can see from the results the majority of people at 55% felt the CEO/Management team were responsible for Game design with the Business/Marketing team at 20% with 18% of participants feeling it was a collaborative process involving multiple teams.

Interestingly this question contrasts with question 4.2.5 "Does your company have a computer game design specialist/team involved in the design of the product/software?" In

this question 72.34% of respondents stated there was a game design specialist/team but in this question only 2% of respondents mentioned a game design specialist/team as having the most input into game design.

4.2.9 Do you offer the same product/software to all players?

Ten participants skipped this question and it would have to be noted that any analysis of this question would only be referring to 81.48% of the survey population.

20 / 45.45% of participants stated that they offer the same product to all players, with 17 / 38.64% stating that they offer the same product to players but across different platforms such as web or mobile based versions of their product. 7 / 15.91% of participants stated they offered different products to players. What could be assumed from the results of this question that the majority of respondents feel they offer the same product to all players.

4.2.10 Does your company differentiate their product for different type of players? Beginner's software would be different from professional players etc

Ten participants skipped this question and it would have to be considered that any analysis of this question would only be referring to 81.48% of the survey population.

24 / 54.55% of respondents answered no and that they offer the same product to all players while 20 / 45.45% of respondents answered that they do offer different types of software to different players. The results of this question is a bit perplexing as it's nearly a 50% split between yes and no yet if we contrast this to question 4.2.9 "Do you offer the same product/software to all players?" only 15.91% of respondents stated that they offered different products to player, but the results here seem to contradict this.

4.2.11 In your opinion how accessible is your software to a new user? (Does the software have to be downloaded, accounts set up or can players start playing straight away etc?)

Sixteen participants skipped this question and it would have to be considered that any analysis of this question would only be referring to 70.37% of the survey population.

9 / 23.68% respondents stated that the software was very accessible. Comments here spoke of how easy the software is to use with comments such as "Very simple to use. Anyone who can use a computer can use the software", and "It's really handy to use and easily accessible".

26 / 68.42% of participants stated that the software was fairly accessible. A phrase that appeared more than once was that the software was "industry standard". Another common theme was that once a player was familiar with downloading and installing software they should have no issue with their product.

3 / 7.89% of correspondents inferred that their product was not very accessible. One respondent stated that the product was not very intuitive and there was no differentiation for different players.

From the results of the question the majority of respondents feel that their software is accessible to most players, but some respondents indicate that this is to computer savvy players who have experience of installing games previously.

4.2.12 Is there any journey envisaged for your players through the software? Beginners start at one level and progress through their gameplay etc?

Nine participants skipped this question and it would have to be considered that any analysis of this question would only be referring to 83.3% of the survey population.

28 / 62.22% of respondents stated there was no planned journey through the software with 17 / 37.78% stating there was a planned journey. This would indicate that the majority of participants feel that once a player installs the product they are left to explore it themselves.

4.2.13 Is there any educational aspect to your software? Can players learn the game through the software alone?

Twelve participants skipped this question and it would have to be considered that any analysis of this question would only be referring to 77.78% of the survey population.

26 / 61.90% of participants stated that their product offered no educational aspects compared to 16 / 38.10% who stated that their software did offer an educational option for players.

4.2.14 Does the software encourage the player to advance to the next level? For example for a beginner player to become an intermediary player based on learning the game, hitting targets/rewards?

Twelve participants skipped this question and it would have to be considered that any analysis of this question would only be referring to 77.78% of the survey population.

23 / 54.76% stated that the product did not encourage players to advance to the next level, compared to 19 / 45.24% who stated that their product did.

4.2.15 Are rewards in the game based on the players play/skill or based on the revenue they generate?

Twelve participants skipped this question and it would have to be considered that any analysis of this question would only be referring to 77.78% of the survey population.

A big majority of 36 / 85.71% respondents stated that rewards were based on revenue generated, while 6 / 14.29% started that rewards were based on play/skill.

4.2.16 Does the software offer any feedback to the player based on their play?

Twenty participants skipped this question and it would have to be considered that any analysis of this question would only be referring to 62.96% of the survey population.

29 / 85.29% of respondents stated that there was little to no feedback to the player based on their play through the software. However one respondent did mention that if a player were to complain about the fairness of the software a member of the security team may take the time to manually review their play and point out shortcomings in their play.

5 / 14.71% participants stated that players were given feedback, four of these highlighted a statistic function built into the software where by players could view their play via their game statistics. One respondent highlighted that the rewards function itself was a feedback feature, that a player could see how well they're doing based on their play. However in question 4.2.15 "Are rewards in the game based on the players play/skill or based on the revenue they generate?" 85.71% respondents stated that rewards were based on revenue so this would contradict this reply. Lots of rewards wouldn't mean a skilful player it would generally mean someone is playing a lot and generating revenue.

4.2.17 Is there any virality built into your software? For example can players broadcast their achievements to friends? Is there encouragement for players to get their friends to play?

Twenty one participants skipped this question so it would have to be considered that any analysis of this question would only be referring to 61.11% of the survey population.

26 / 78.79% of participants stated there was no virality built into the software. However some did quantify this by saying there was a refer a friend program, and the ability to share hand histories of games they had played in.

7 / 21.21% of respondents indicated there was some virality in the software with players able to share details of their games with friends.

4.2.18 Can players share their resources such as funds and rewards with other players?

This question offered participants 4 check boxes where they could check all four if they so wish to say yes to each option or leave each option blank to indicate a no answer.

38 / 70.37% of respondents said that players could share funds with other players

4 / 7.41% of respondents indicated that players could share their rewards with other players

2 / 5.16% of participants indicated that players cannot share funds with other players

14 / 25.93% of participants stated that they can't share their rewards with players

From the responses above it would indicate that players can freely move money to other players/friends in the software but the ability to move rewards is limited. The results of this question is displayed in the bar graph below.
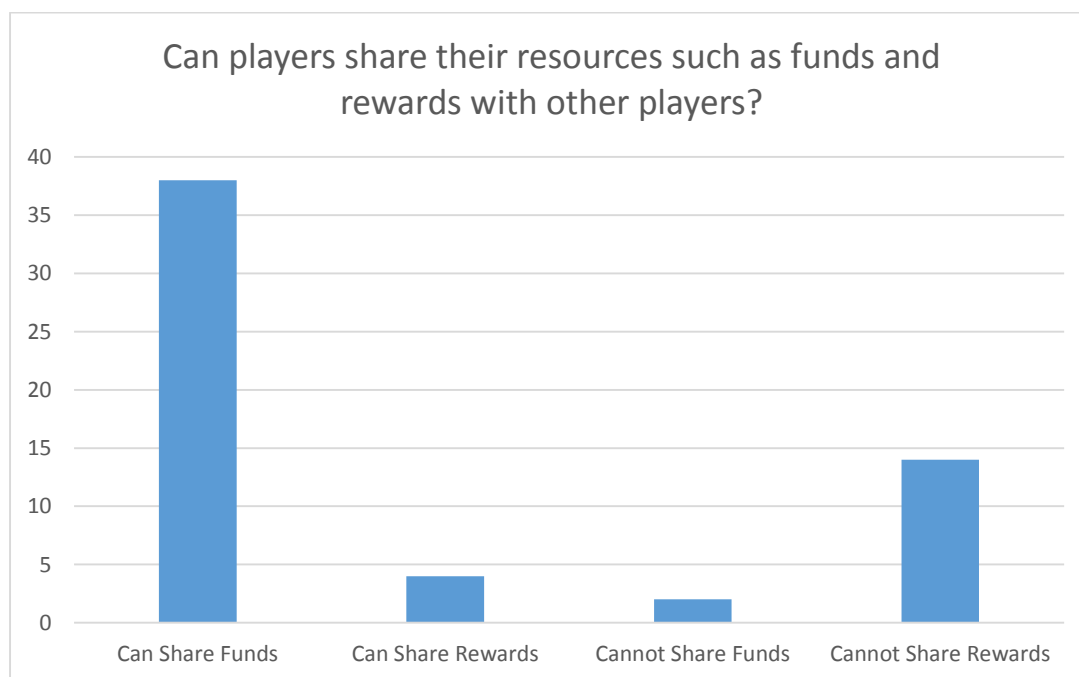
Figure 4.2 Can players share their resources such as funds and rewards with other players?

4.2.19 Is there any ability to use social contacts as part of the game, and make these contacts an asset in the game?

Seventeen participants skipped this question and so it would have to be considered that any analysis of this question would only be referring to 68.52% of the survey population.

32 / 86.49% of players stated that there was no ability to use social contacts as part of the game, while 5 / 13.51% stated that there was.

4.2.20 Please leave any additional comments you wish to make regards Online Poker Software

Seven of the participants left an extra comment once the survey was completed which brought some interesting feedback. Five of the participants referred to the need for more social interaction and virality in the software with one person mentioning "social interactions along with xbox achievement style ego stroking" and another stating "Move viral Marketing essential to refresh stale player base Mobile client should be a priority as it is essential and can open the site up to masses of opportunities to expand player base and move with both the industry and the technological times". However one person took the opposite view stating "not convinced at all that the 'social' elements of Zynga games and the like are of interest to real money poker players. Our belief is that the motivation for people to play Online Poker is to win money, not to achieve higher XP levels like a social game."

4.3 Interview Findings and Analysis

The purpose of the interviews was to get the opinions of senior managers working within the industry. The decision was taken to talk to one Manager from Marketing, Operations and Game Design departments so that this would give us opinions from different aspects of the organizations.

Each manager was asked similar questions to the survey presented in the previous section 42, however there are some questions unique to each manager. Where the managers are quoted their responses may be paraphrased or edited so that only relevant information from the interview is presented. The questions for the interviews can be found in Appendix C,D and E.

4.3.1 How long have you been working in the Online Poker Industry?

Each manager had worked in the Online Poker industry for a minimum of eight years, with over 10 years' experience for one manager. We can infer from this that the three managers interviewed are experienced professionals with expertise in the Online Poker industry.

4.3.2 What type of company do you work for?

Two of the managers worked for a poker network that offered products both directly to consumers as well as business to business services, one manager worked for a direct to consumer business.

4.3.3 Do you have a formal process for prioritizing software updates?

The response to his question varied as follows:

Marketing Manager	Security Manager	Games Design Manager
"There is a formal process in place, if you request a software change or new feature this has to be approved by the stakeholders involved such as CTO,COO,CEO and other project managers but in my opinion the process isn't formal enough at present"	*" As far as I'm aware there is no formal process for prioritizing software updates"*	*"We are trying to introduce a new process, the process used at the moment isn't working with some key management figures responsible for prioritizing projects/updates which causes too many bottlenecks"*

From the answer to this question it would seem that the prioritising of software updates happens in a haphazard manner, with typically senior management responsible for signing off on what is prioritized but there does not seem to be any structure to how this happens.

4.3.4   When marketing to players do you target different demographics?

This question was asked only of the Marketing manager. They responded that yes they would target different players when marketing, such as segmenting winning players versus losing players.

4.3.5   Do you have any input into software design? Would you consider the software as a tool for acquiring or retaining players?

Again this question was only asked of the Marketing Manager. They replied that yes they would have an input into software design, their input would consist of promotional tools/rewards built into the software, requests for new games or changes to existing games, and requests for improved statistical/account information tools to be developed for players to use in the software.

4.3.6   In your opinion do you feel there has been any evolution in the poker product over the past 10 years?

This question was asked only of the Security Manager. They replied that other than minor updates there has not been any noticeable evolution in the poker product with the exception of new types of games offered such as Rush poker a faster variation of the standard poker game, but other than this it's typically been variations of the same theme in regards to the Online Poker product.

4.3.7   How do you evaluate software changes after they've been released?

The response to his question varied as follows:

Marketing Manager	Security Manager	Games Design Manager
"It would depend on the software change. We can measure via revenue of certain games, active players, the amount of lapsed players returning to play.."	*"There isn't a structured evaluation process, more akin to a firefighting exercise if the upgrade isn't performing as expected"*	*"We would check revenue, player feedback and complaints as well as the monitoring of Online Poker forums, but we need more analytics in this regard"*

From the responses to this question, similar to the responses in question 4.3.3 regarding the prioritization of software updates, again in regards to evaluating software changes, it does seem to happen but again it seems to be a haphazard approach with no formal structure in place.

4.3.8   Would your prioritizations be changed based on your evaluation of previous products/updates?

This question was only asked of the Game Designer project manager. They replied that this would be the case, and that it has happened that planned updates have been changed due to the performance of similar previous updates.

4.3.9   In your opinion who has the most input into game design in your organisation?

The response to his question varied as follows:

Marketing Manager	Security Manager	Games Design Manager
"The CEO has the most input into software design"	*"Many people would have input into cosmetic elements of the product such as colours/graphics but at present there is no really emphasis on updates to the game/product design itself"*	*" The CEO would be the person with the most input"*

From the result of this question it would seem the experience of the managers is that senior management specifically the CEO's in their organisations have the most input into game design.

4.3.9   Do you offer the same product/software to all players?

The response to his question varied as follows:

Marketing Manager	Security Manager	Games Design Manager
"No, but some games are restricted based on players type so beginner games can be hidden from experienced players "	*"Some games are restricted based on the players location"*	*"The software can be different based on the players location due to the regulatory requests in different regions"*

From the answers given it would appear there is no attempt to differentiate the product for different types of players. Where there is differentiation this is based on hiding new player from experienced players or implementing features based on regulatory requirements in different regions, however the product offered is still much the same.

4.3.10 Does your company differentiate their product for different type of players?

The response to his question varied as follows:

Marketing Manager	Security Manager	Games Design Manager
"No, but again we limit beginner tables to certain tables"	*"No there is no player profiling in regards to the product we offer players"*	*"No each player would use the same solution"*

From the answers given it would appear again there is no attempt to differentiate the product for different types of players and the product offered is a one size fits all solution.

4.3.11 How accessible do you feel your software is to new players?

The response to his question varied as follows:

Marketing Manager	Security Manager	Games Design Manager
"Very accessible, players create accounts and download the software as per industry standard"	*"Fairly accessible, you have to create your account via a web browser, verify your email address and then you can start playing when you install the software. However improvements to the process could be made to simplify it"*	*"Terrible. About as accessible as Excel is to a new person using Excel.*

This question provided a mix response with two managers happy with the accessibility of their software/product with the third completely dissatisfied. The difference I believe comes from the point of view of different players. From a technically proficient player familiar with installing computer programs, the product is probably standard in terms of accessibility. However to the non-technically proficient player downloading and installing software could be a daunting process.

4.3.12 Is there any planned journey for players through your software?

The response to his question varied as follows:

Marketing Manager	Security Manager	Games Design Manager
"To an extent, the sign up process is planned but once the software is installed then no"	*"There is no planned journey, the solution is plug and play, you download the software and you find the games you want"*	*"No. There is some material hosted on a separate website but nothing in the product itself"*

From this question we can infer that in regards to using the software players are left to their own devices to explore the features. There are no prompts or tutorials in the software to guide the player through the various games and tools.

4.3.13 Is there any differentiation in your software for new players?

The response to his question varied as follows:

Marketing Manager	Security Manager	Games Design Manager
"No the product is the same for new players	*"No the product is the same but we do have beginners tables"*	*"No everyone uses the same product"*

The answers from this question were unanimous among the three interviewees that there is no attempt to provide a different product for new players.

4.3.14 Is there any educational aspects of your software in terms of learning the game?

The response to his question varied as follows:

Marketing Manager	Security Manager	Games Design Manager
"No there are some statistics available to players but this wouldn't be considered a learning tool in itself"	*"No but we do provide a tool that allows players to look at their game statistics. This wouldn't be actively teaching the player but allows them to see the outcome of previous play"*	*"No, but there is a link to a website which provides information on how to play poker"*

The answers from this question again were unanimous among the three interviewees that there is no educational facility in the software itself to teach players how to play the game.

4.3.15 Does the software encourage the player to advance to the next level?

The response to his question varied as follows:

Marketing Manager	Security Manager	Games Design Manager
"Yes we have a reward system, based on the revenue generated from play"	*"Not really there are certain rewards but they're based on revenue"*	*"No, there is a rewards system but this is based on revenue generated"*

From the answers given there are levels of progression available to players within the game but these are not based on gameplay or skill but rather how much revenue you generate.

4.3.16 Are rewards based on revenue or game play?

The response to his question was unanimous from all three managers, that rewards for players were based on the revenue they generate and not game play.

4.3.17 Does the software offer any feedback to the player based on their play

The response to his question varied as follows:

Marketing Manager	Security Manager	Games Design Manager
"No"	*"No apart from being able to view their statistics in the software themselves"*	*"No, there are automated emails for when you finish a tournament that notes your finish but nothing on the players play*

Again the responses to this question were very similar from each manager in that there is no feedback to players from the software, based on their play.

4.3.18 Is there any virality built into your software?

The response to his question varied as follows:

Marketing Manager	Security Manager	Games Design Manager
"We have a refer a friend program but players can't share their game information socially to other players"	*"No and it's unfortunate that we've never tried something where by players can brag about their wins"*	*"Yes, but we are limited in how much we can use social media sites such as Facebook due to agreements with them. We also have a site where players can brag about big wins and they can link this to their Facebook accounts"*

From the answers above we can see that for two of the managers the aspect of Virality isn't available in their product for the third manager it is something they've tried to do to an extent but are limited in what they can due on social media sites due to restrictions in place.

4.3.19 Can players share their resources such as funds and rewards with other players

The response to his question was unanimous from all three managers, that players could share cash with other players but not rewards.

4.3.20 Is there any ability to use social contacts as part of the game, and make these contacts an asset in the game?

The response to his question was unanimous from all three managers, apart from a standard refer a friend program where players would receive a bonus for signing up new players, social contacts play no part in the software/product.

4.3.21 Do you believe the software can be used to encourage players to move to different categories? i.e Progress a play money player to real money through the software?

This question was only asked of the Marketing Manager. They replied that the opportunity could be to use the rewards system to encourage players to advance to the next level, for example set targets for players to reach in the game and introduce the real money poker environment gradually.

4.3.22 Would enhancing social contacts as part of the game be considered a security risk in your opinion?

This question was only asked of the Security Manager. They replied that it would be no more of a Security risk than what they deal with day to day at present. In terms of monetary risk there would be little exposure to fraud, however for players there is the risk of online bullying/stalking.

4.3.23 What are the main challenges in designing poker software?

This question was asked of the Security Manager and the Game Design Manager the answers from both are presented below:

Security Manager	Games Design Manager
"The main challenge is to have a product that works exceptionally well in terms of efficiency. Poker players want a solution that allows them to logon and play without any interruptions. You will have a wide range of players from professionals to recreational players so the software should be easy on the eye and accommodate these players such as which colours are easier to stare at for long time for players playing longer sessions.	*"Trying to provide a product for a wide audience, with some internal resistance to allow multiple pathways for different players. Until agreement is reached that different pathways are needed with the product you will either annoy existing players with messages and prompts intended for new players or you follow the industry standard which is to have new players download the product and basically sink or swim"*

Both managers in their answer reference different types of players, however as we saw with previous answers the industry standard at the moment seems to be to offer the one size fits all for these players.

4.3.24 Do you have any other comments in regards to game design?

This question was asked of all managers but just the Security Manager and the Game Design Managers had comments to offer, the answers from both are presented below:

Security Manager	Games Design Manager
"In my opinion the Online Poker product is stale and does need a shot in the arm, especially when you look at the recent boom with social games. However it's hard to know how to implement the social gaming experience with poker properly. I believe the recreational side of Online Poker is pretty much dead, as it's been overpopulated by the type of player that takes the fun out of the game. It's a different game now it's not the recreational game where you could also make money as it was 7 – 8 years ago. In the last few years it's evolved where players are just playing to win cash at all levels even at the lowest level games. This has alienated the small stakes recreational player and the game hasn't evolved to accommodate all these different type of players.	*"As an industry it's disheartening to see that Online Poker as a sport has taken to ignore player's legacies. Every game you play is a battle against other players and most other games let you thrive on how well you've done in the past, what your highest score was how fast you won a game etc. As the game is set up to day, all the players motivation is basically just to win cash which is a shame as there's so much more enjoyment to have simply from playing the game, so even for example you did not win money in the game you still may have beaten your highest score. This is most likely influenced by how young the industry is, and how much it is still influenced by the brick and mortar game. People in control of the Online Poker industry in the past would have come from poker background but now we need to appeal to the generations that have grown up playing computer games. The video game industry has typically given you more to enjoy for your money, the game of poker has a lot of twists and turns it's an amazing game but we need to add more to allow players to enjoy it more. Las Vegas is an example of this, it is an entertainment hub with shows and attractions as it realised it needs to add entertainment to attract people to its games. The same can be said of the Online Poker industry it needs to add entertainment to the game it offers"*

Some very interesting points were made by both managers above. Both respondents refer to the game of poker as needing to change to appeal to different players. At present the only reason for Online Poker players to play poker is to win cash prizes but managers seem to feel more can be built on the foundation of the game to attract and attain new players.

4.4 Findings and Analysis Conclusion

This chapter has presented and analysed the results of both the survey and interviews undertake as part of this research. The information obtained through the survey was analysed in excel.

Although a relatively small survey population some valuable information was obtained by people working in different companies throughout the industry. In regards to product/game design in the industry there seems to be little formal process in place for prioritizing changes to the product and indeed when changes are made again there seems to be no formal structure in place to confirm how successful these changes are.

The majority of participant's stated that there were game design specialists employed by their organisations, but that senior management would have the most input on game design.

Most of the participants felt their product was very accessible to new players however with the caveat that it was industry standard, and that if a player was used to installing software they would have no problem installing their software. Some of the participants felt the software was not accessible with one interviewee feeling strongly that accessibility for new players was terrible.

In regards to different players there seems to be no attempt to differentiate the software based on the profile of the player. There is a one size fits all solution for all players. Strangely there seems to be little to no educational aspect in the product offered. There is no planned journey with the product and no "in game" tutorials. It is reliant on the player to research documentation relating to how to use the software and indeed how to play the game of poker if they are unsure of this.

Rewards in the product offered seem to be based entirely on revenue generated. Therefore rewards aren't based on skill but simply how long you play and generate revenue. Oddly there is no broadcasting of achievements for players. Limited statistics are available with some providers but there is no notification if you beat your best finish or other milestones as you would see in the video game industry.

The organizations of both the survey respondents and interviewees seemed to have made little attempt to incorporate any aspect of social gaming into their product. They may be hampered in this regard as social media sites may prohibit them from operating, but there is the opportunity to develop some aspects of the social gaming solutions internally with their player base, but they seem to have ignored this. For example players can share funds but not the rewards they earn from their play.

One word that came up both during the interviews and survey was the word stale. It seemed to be a general consensus that there was scope for improving the product offered to players in the Online Poker industry

5   Results

5.1 Introduction

At the beginning of this study in section 1.2, it was stated the objective was to see if it's possible to learn lessons from other types of online gaming products and apply them to the Online Poker product. Some questions arising from this objective led the paper to investigate what is different about social and casual games that appeal to a different demographic than that of Online Poker, and is it possible to replicate these features of social and casual games in Online Poker.

This paper also wanted to investigate who is responsible for game design within the Online Poker industry, and if possible determine who they are designing the software for. If there are game designers working within the industry are they building upon lessons learned from Social/Casual game and also Edutainment software and applying it to the Online Poker product to educate new players? The paper also wanted to investigate if the Online Poker industry should differentiate their product and have different solutions for different demographics playing in the same ecosystem.

After defining the objectives a literature review was undertaken. First literature in relation to the game of poker was reviewed. Unfortunately there is little to no academic research on the topic of Online Poker design it at present, however papers were reviewed where different types of Online Poker players were identified, from beginning/novice players to professional poker players. However, all these players would typically use the same software when playing the game of Online Poker.

The review then concentrated on literature in relation to the design of Social/Casual games and how players can be educated how to play a game through playing the game itself. From looking at the literature in these areas there are a number of frameworks and theories that could be used by game designers to improve the design of the Online Poker product.

Post the literature review multiple research methods available to investigate the research topic were considered. It was decided to conduct both a survey and interviews with those working in the Online Poker industry in order to investigate the research topic further. The survey was distributed to colleagues and friends working throughout the poker industry. Three interviews were conducted with senior managers working in the industry, each working in different companies for different departments; Marketing, Operations and Game Design.

5.2 Results

In the earlier section "1.2 Research Question" it was stated that the primary research question being asked in this paper was "*Can we learn lessons from other types of online gaming products to develop the Online Poker product and ecosystem?"*

This section will attempt to answer this question looking at the sub questions asked in section "1.2 Research Question" and attempting to answer them in light of the research undertaken in this paper. The questions asked were:

- What is different about social and casual games that appeal to a different demographic than that of Online Poker?
- Is it possible to replicate the features of social and casual games in Online Poker?
- Can the industry use lessons from Edutainment software and apply it to the Online Poker product to educate new players?
- Who is responsible for the Online Poker Product software/game design within companies in the industry? Do companies have a dedicated software/game design team? If so, is this team looking to incorporate the lessons learnt from existing game design theories?
- Is there any attempt to differentiate the Online Poker product to appeal to different demographics? If not who is the product designed for?
- Is there any planned journey for the customers with the product? Are tutorials. rewards, incentives used to encourage the player to go from being a new player to an experienced one?
- Should the Online Poker industry differentiate their product and have different solutions for different demographics playing in the same ecosystem?

The questions will now be looked at again post the research undertaken.

5.2.1 What is different about social and casual games that appeal to a different demographic than that of Online Poker?

Section 1.2 Research Background identified from a number of sources that Social and Casual games appeal to a different demographic than that of Online Poker's predominantly male demographic.

(Wallace, M. and Robbins, B. 2006) state that Casual games are typically games that can be picked up and played easily and quickly without much investment of time. However, they

also point out that players can play upwards of 20 hours a week playing these games. (Gamasutra, 2009) define a Social Game using a number of definitions one of which is "Turn-based games that are played within a social context or with friends. Examples: Texas Hold'em Poker, Scrabble". So again we can see that the game of Online Poker could fit the definition of both a Casual and Social game, so why aren't Casual/Social players playing Online Poker?

(Kultima, A. 2009) presents four different categories of design values inherent in Casual Game design which are Acceptability, Accessibility, Simplicity and Flexibility. In section 4.2.11 the question was asked if the Online Poker software was accessible to new players. 23.68% of respondents stated the software was very accessible while 68.42% said the software was fairly accessible with 7.89% stating the software was not accessible at all for new users. However, a phrase that appeared more than once in the survey was that the software was "industry standard" and that once a player was familiar with downloading and installing software they should have no issue with the Online Poker product. The same question was asked of the Managers in section 4.3.11 and the response varied here from very accessible, fairly accessible and very inaccessible. Again with the positive replies to this question it's comparing their software to industry standards. In that regard the positives answers would be given in the context 'yes our software is accessible to new players' compared to the industry standards. Basically the software is accessible if the user is technically proficient with installing software. With this in mind it could be argued that the Online Poker product fails to meet the design criteria of Accessibility and Simplicity two of the design values (Kultima, A. 2009) identify for Casual Games.

(Kultima, A. and Stenros, J. 2010) also state the game design should take into account the User States, Affordances and Thresholds, but again here the Online Poker product can be found wanting. Affordances would refer to the fact that the players have resources such as time, attention, skill that they can commit to a game. In section 4.2.9 it was asked in the survey if the same product is offered to all players. Only 15.91% of participants stated they offered different products to players. The same question was asked in our interviews in section 4.3.9 and the response was unanimous that the same product was offered to all players. It can be concluded if the same product is offered to all players then it could not take into account the different skill levels of different players as recommend by (Kultima, A. and Stenros, J. 2010).

(Paavilainen, J. 2010) provide ten initial high level social games heuristics for design and evaluation of Social games. Again the Online Poker Product meets most of these criteria but

would be found lacking in the areas of Discovery, Virality, Narrativity, Sharing, and Sociability. In regards to Discovery in section 4.2.12 in our survey it was asked was there any planned journey though the software 62.22% of respondents stated there was no planned journey. The same question was asked in our interview in section 4.3.12 and the three managers were unanimous that there were no planned journeys for players. In regards to Virality again we asked this question in our survey in question 4.2.17 and 78.79% of participants stated there was no virality built into the software. In regards to Narrativity again in section 4.2.16 it was asked in our survey if the software offered feedback to players and 85.29% of respondents stated that there was little to no feedback to the player based on their play through the software.

In regards to Sharing in question 4.2.18 it was asked in our survey if players could share resources with other players and 70.37% of respondents said that players could share funds with other players. However, only 7.41% of respondents indicated that players could share their rewards with other players. In regards to Sociability it was asked in question 4.2.19 was it possible to use social contacts in the game and 86.49% of players stated that there was no ability to use social contacts as part of the game. The same question was asked in the interviews in section 4.3.20. Response to this question was unanimous from all three managers; apart from a standard refer a friend program where players would receive a bonus for signing up new players, social contacts play no part in the software/product.

5.2.3 Is it possible to replicate the features of social and casual games in Online Poker?

It could be argued that there is scope to incorporate some of the features of Social and Casual games into the Online Poker product. Indeed, from the previous section 5.2.2 and from our literature review we can see that Online Poker could be defined as both a Social and Casual game.

However as seen in section 5.2.3 the typical Online Poker product is sorely lacking when we look at any design values or heuristics that have been identified for Social/Casual games. It could be argued that of utmost importantance is the accessibility of the games themselves. For example, if a player logs on to Facebook they can begin playing a Social game in their web browser with the click of a few buttons. However to start playing Online Poker with some providers the player has to go to their website, input their details such as name, address, validate their email address and then download and install the software. For players who aren't computer savvy this could be too big a barrier to entry. In addition to this when I do install the software there is no planned journey for me. If the player is new to both

Online Poker and indeed the game of poker itself again this could be too big a barrier to entry, as it can be hard to know where to begin playing.

So the first features the Online Poker product should adopt is an easier and simpler way for players to start playing and learning in terms of both the software and game of poker itself.

(Järvinen, A. 2009) presents a model of game design for playfulness in social games. These include Symbolic Physicality: adding playful interactions such as poking, drinking beer, hi-fiving to the game. Spontaneity: incorporating complex actions in a game into a single click of a button to make the game more spontaneous. Inherent sociability: rewards, feedback etc make the game more fun to play. Narrativity: various player actions and play results are not only communicated but stylized into particular narrative rhetoric across the network.Lastly, Asynchronicity: the last high-level design driver is one that can be used to guide design solutions regarding the tempo of the game.

Feedback and Discovery needs to be improved in regards to what the software offers the players at present. Again in section 5.2.3 it was stated that there is little feedback to players and no encouragement to explore new games or to improve their game. Sharing needs to be improved to incorporate rewards into the game that can be broadcasted and shared among friends. At present only cash is allowed to be shared. Virality is also non-existent in Online Poker at present with the exception of basic refer a friend programs. In some regards Online Poker providers may be limited to what they can do on existing Social media platforms such as Facebook, but again poker is a social game at heart and there should be scope to build virility within the game and indeed internal social systems could be incorporated into the game as well as trying to use existing third party social networks.

5.2.4 Can the industry use lessons from Edutainment software and apply it to the Online Poker product to educate new players?

(Andersen, E. et al. 2012) conclude that tutorials only really have any affect in very complex or unusual games and since players seem to learn more from exploring than from reading text, they believe that it is important to design early levels in a way that maximizes a player's ability to experiment and discover game mechanics. (Tan, P. and Ling, S. 2013) propose that game design should then contain the three subcomponents, Multimodal: describes the interface between users and the games and this should be simple but meaningful. Tasks: players should be given tasks to learn the game and lastly Feedback: players should be given feedback on their play.

(Linehan, C. and Kirman, B. 2013) state that Applied Behaviour Analysis (ABA) is a personalised method of teaching that has been demonstrated as highly successful wherever implemented. This is particularly useful in video games as it allows the game to deliver timely and specific feedback to players in a controlled manner, and to motivate players of a wide range of knowledge or skill levels allows for a personalised education for each player.

(Bakkes, S. et al. 2012) discuss the use of player modelling in the design of personalised gaming. Player modelling techniques are a requirement for steering adaptive components that a game may have such as (1) space adaptation, (2) mission / task adaptation, (3) character adaptation, (4) game mechanics adaptation, (5) narrative adaptation, (6) music / sound adaptation, (7) playermatching (multiplayer), and (8) difficulty scaling.

In section 4.2.13 it was asked in our survey whether the software offered any educational tools. 61.90% of participants stated that their product offered no educational aspects. In section 4.3.14 we asked the same question of our Managers, again apart from player statistics available for players to review themselves there is no Educational aspect to the software.

Again this seems a barrier to entry to new players in the fact that Online Poker software in general has no educational aspect for players in terms of how to use the software itself and to play the game of poker.

5.2.5 Who is responsible for the Online Poker Product software/game design within companies in the industry, do companies have a dedicated software/game design team? If so is this team looking to incorporate the lessons learnt from existing game design theories?

In section 4.2.8 it was asked of respondents who they felt was responsible for game design in their organisation. The majority of people at 55% felt the CEO/Management team were responsible for Game design with the Business/Marketing team at 20% with 18% of participants feeling it was a collaborative process involving multiple teams.

Again this question contrasts with section 4.2.5 where it was asked "Does your company have a computer game design specialist/team involved in the design of the product/software?" In this question 72.34% of respondents stated there was a game design specialist/team but in this section 4.2.8 only 2% of respondents mentioned a game design specialist/team as having the most input into game design.

A similar question was asked of the three managers in section 4.3.9 and two answered that their CEO would have the most input with the third stating there really are not many updates/changes made to the game design other than cosmetic changes.

From the results of the questions above it could be hypothesized that the decisions regarding game design in the Online Poker industry would ultimately be made by upper management in the companies themselves, and again it could be assumed that even where Game Design teams exist in organisations that Game Design theories may not be applied when updating the product.

5.2.6 Is there any attempt to differentiate the Online Poker product to appeal to different demographics? If not who is the product designed for?

In section 4.2.9 the respondents were asked if they offer the same product/software to all players, and only 15.91% of participants stated they offered different products to players. When the same question was asked of the interviewees in section 4.3.9 all three managers gave a unanimous response that the same product was offered to all players.

Although it can be said that there are different types of players, from beginners to professionals, the software product in the Online Poker industry seems to be a one size fits all solution and is not designed for any one demographic of player.

5.2.7 Is there any planned journey for the customers with the product? Are tutorials. rewards, incentives used to encourage the player to go from being a new player to an experienced one?

In section 4.2.12 the survey respondents were asked is there any journey envisaged for your players through the software. 62.22% of respondents stated there was no planned journey through the software. This would indicate that the majority of participants feel that once a player installs the product they are left to explore it themselves.

Similarly in section 4.2.15 it was asked if player rewards are based on revenue or gameplay. A big majority of 85.71% respondents stated that rewards were based on revenue generated. The same question was also asked of the three interviewees in section 4.3.16 and the response to his question was unanimous from all three managers; that rewards for players were based on the revenue they generate and not game play.

The fact that rewards are based on revenue generated and not gameplay may be a barrier for progression to players, specifically new players. For example if players are rewarded with

a virtual gold crown for generating $100. Player A may deposit $20 and be a winning player. This player may generate $100 in revenue over the space of a few days without having to deposit further. Player B may deposit $20 and be a losing player. He could quickly lose his $20 to other players and not generate $100. Will this player continue to deposit and lose funds to get the Gold Crown? Rewards for entry level players should encourage them to learn the game, and be based on increasing their skill at the game rather than the revenue they generate.

5.2.8 Should the Online Poker industry differentiate their product and have different solutions for different demographics playing in the same ecosystem?

(St. Germain, and Tenenbaum, 2011) in a study on how decision making skills in poker players affects success at different levels, graded players for their study into novice, intermediary and expert levels. (Radburn, B. and Horsley, R. 2011) again also categorize players into the categories of gambler, grinder, maverick, non-gambler and lastly the professional poker player. (IGT 2011) categorize players this time from the Online Poker industry's market perspective, and would classify players into Minnows, Casual, VIP's and Sharks. They also touch on the value of each player to the Online Poker companies. For example all companies would obviously like to attract new players or the minnows, and keep their casual and VIP players as they generate revenue, whereas a player who is categorised as a Shark would be a net winner taking cash out of the Online Poker company's ecosystem.

From these studies it can be seen that there are different demographics of poker players, some of whom are more valuable to the poker companies. However in section 5.2.7 it can be seen that there is no differentiation in the product offered to these different players. In section 4.3.4 however it was asked of the Marketing manager do they market to different demographics of players and they confirmed that they do. So it could be inferred that providers in the Online Poker industry are aware of different types of players but on the whole are offering them all the same product.

5.3   Conclusion

This chapter has revisited the questions asked in section 1.2 Research Question and attempted to answer them taking into account the research undertaken in the course of this dissertation

6   Discussion

6.1 Introduction

This chapter will look at the research undertaken during this dissertation and offer opinions on how the results of this research could be applied to the Online Poker product and ecosystem.

6.2 Discussion

It could be argued that the Online Poker industry should be offering different solutions to different demographics of players. Does this mean that the Online Poker industry should be transitioned into a Social Network game? At the time of writing social game provider Zynga has merged with Bwin.Party to provide an Online Poker product to their players. This new poker product launched in April 2013 but doesn't seem to address the topic of applying social game design aspects to the Online Poker product. Rather, this solution seems to be offering the existing Bwin.Party poker product to the Zynga player base, basically putting the Zynga brand on their product.

It could be argued there is no need to turn the Online Poker product into a social game, but that lessons can be taken from the Social/Casual video game industry and incorporate them into our Online Poker product. However the Online Poker industry must take into account different types of players and the product and environment they're offering these players. Each product should be designed for a target demographic, with each product and demographic of player existing within the same ecosystem.

6.2.1 Player Demographics

This paper has looked at sources in section 2.3 which has identified a number of different types of players ranging from the beginner/novice poker player to the professional poker player who makes a living playing the game full time. For the discussion of my proposed Online Poker ecosystem in this chapter I am going to split our players into three demographics based on the study (St. Germain, and Tenenbaum, 2011) which graded players into novice, intermediary and expert/professional levels.

However it would have to be acknowledged that three category of players is hardly an exhaustive list of the different type of Online Poker players that could be identified. It would be possible to write a separate dissertation on the topic of categorising different the type of poker players, and for the three categories of players identified there would most likely have sub categories of players.

Any proposed ecosystem would also have to take into account the category of players identified by (IGT 2011) that categorised players this time from the Online Poker industry's market perspective, and would classify players into Minnows, Casual, VIP's and Sharks. Specifically how we manage players identified as "Sharks" and "Fish"? A Fish would be described as a new or unskilled player, and one that may play loosely in terms of their gameplay. A Shark would be the opposite of a Fish. They would be a very good player who tends to look to play with Fish so that they can win chips from them. However, as with any ecosystem, if there is an abundance of successful predators they may see their prey becoming extinct.

This segregating of players would have to be considered at all levels of the Ecosystem. For example, a player using the Beginner software would have access to games where they would rarely interact with those players on the Intermediate or Professional levels. However, it would also have to be considered that some of the Beginner players may become Sharks themselves at this level. So it would have to be considered how we manage these players as again it is not fun for new players to start a game and be repeatedly beaten by more experienced players.

In the case of the Online Poker ecosystem this means that if the Fish are regularly losing to other players it will not be a fun game for them. In addition if they are playing for real money they will quickly lose their funds. This has already been seen in the industry with some poker sites restricting access to games for both Fish and Sharks, so that the Fish will not lose their chips/funds quickly and will continue to play for the long term. There has, however, been a negative reaction on Online Poker forums by players who wish to continue winning from the Fish. However, it could be argued that this is necessary for any successful Online Poker ecosystem to survive. There would have to be proactive management of the players at each level in terms of separating Sharks from the player base, or there would have to be a rewards system introduced which is heavily in favour of the Fish.

6.2.2 Beginner Players

At present it could be said the industry standard of how players sign up by creating accounts and installing the software is a barrier to entry especially for those players new to the process and not technically proficient. If a player is new to the game they should be able to logon and play within a few seconds similar to how they would with games on social networks, and not have to go through a lengthy sign up and installation process. It is understandable that companies are limited in what they can offer on third party social networks, but if a player is interested in using their product they should be able to be playing

at the tables within a few clicks. The most the player should have to do at this stage is to choose a user name, password and enter an email address.

An effort should also be made to recreate the social network environment within the poker ecosystem all players are playing on, in addition to using third party social networks where possible. This way the Online Poker Company has more control over the virality social aspect of their product, as they would now have their own social network built in as part of the game. However, at all levels the player should have the option of disabling the social function if they wish to play without broadcasting their play or being visible to friends then they should be able to.

From here should then be a planned journey for players. New players should be motivated with tasks and rewards to encourage them to learn how to use the software, how to play the different type of games and the different hand rankings. The product offered at this level, should be fun and sociable using the game design Techniques discussed in our literature review and in sections 5.2.1, 5.2.2 and 5.2.3. The rewards for players at the entry level should be the first level of rewards for the ecosystem and in this regard as these players grow and hopefully graduate to more advanced products the reward system and game interface will be familiar to them. However although its important players should be encouraged to grow and graduate to the next level in the ecosystem, this should not be the aim of the company for each level.

Each level and product of the Ecosystem should pay for itself and contribute to the ecosystem. At the initial levels where the players will not be players depositing to stake their money against other players, lessons on how to monetise this level can be learned from existing social/casual games, or indeed the introductory level of the ecosystem could be seen as a marketing expense to attract new players to the company. One way to monetise this level is allow players the option to purchase rewards rather than earn them, as is seen in other Social/Casual games. The recommendations for this level of our ecosystem can be summarised as follows:

- Simple Account Creation, we should at a maximum ask for a player's email, user name and password
- Games should be browser based at this level. The player should be able to begin play with a few clicks without having to install anything. This browser based game could be reproduced for mobile.

- Sync with players' existing Social Media accounts. Try to create an internal social media platform. Encourage players to broadcast their play and achievements to other players

- Let player contacts be an asset in some games.

- Planned journey for players to learn both the game of poker and the poker software through interactive tutorials or challenges.

- Rewards at this level should encourage players to learn the game, and for improving their skill and beating records/milestones.

- Players should be given feedback on their play.

- Rewards should be sharable with friends. Scope also for players to purchase rewards if they so wish.

- Rewards at this level should form the basis of the rewards system in our ecosystem.

- Players should be encouraged to learn the game and graduate to the next level in our ecosystem, but players should always be permitted to return to this level if they so wish.

6.2.2 Intermediate and Expert Players

Intermediate or expert players should of course be offered a different product to the beginner players. For example players should not be forced to learn a game they already know, nor be rewarded for it. However the educational aspect of the game should still be available to players here. Intermediate players may want to play with the more advanced software but would they may still need education on the software and indeed the game of poker itself.

Experienced Online Poker players are usually playing the game to win cash. As one of the survey respondents replied in section 4.2.19 "not convinced at all that the 'social' elements of Zynga games and the like are of interest to real money poker players. Our belief is that the motivation for people to play Online Poker is to win money, not to achieve higher XP levels like a social game."

From this statement it could be argued that the Online Poker product has not evolved that much because it provides what poker players want, an environment to play poker and win cash from other players.

However, during the survey on three separate occasions the word "stale" was used to describe the Online Poker product in responses by those working in the industry. In section 4.3.24 our Security Manager has described how the recreational aspect of Online Poker that existed 7 – 8 years ago has been lost, at all levels of the game even the lowest level players

are just playing to win cash, and a lot of fun has been taken out of the game. Indeed some poker players may be referred to as "grinders" for whom poker is a job and they play low-risk poker with the intention of making a small but steady profit from small wins and bonuses they earn. But for this type of player is poker a game anymore or even fun, or is it just a monotonous boring job like any other? The recommendations for this level of our ecosystem can be summarised as follows:

- Planned journeys for players but players have the option to ignore tutorials and challenges.
- Feedback to players is still available but can similarly be ignored.
- Players should have a number of interfaces to choose from: Browser, desktop client, mobile.
- Software should allow player to play multiple games at once. Interface for this should be highly customisable to allow players to adjust it to suit their needs.
- Rewards again should be based on skill and beating records/milestones.
- The software should make use of players Social Media accounts. Try to create an internal social media platform. Encourage players to broadcast their play and achievements to other players.
- Players should be able to share rewards with friends, and purchase rewards.
- Again there should be some games where players can use their friends as assets.

It could be argued that even at the higher level of experience or professional players the reward system has to be moved from being based on the revenue players generate to a more entertaining reward system based on achievement and players' skill. This would hopefully see more motivation to play and enjoy the game of poker itself in addition to seeing the game as a way to generate cash. I would echo the comments of the Game Designer in section 4.3.24 that Online Poker has to be more entertaining and that we should use the lessons learned from other video game platforms to build on the game of Poker to deliver a more entertaining, engaging and rewarding Online Poker ecosystem for players of all levels. For example in the brick and mortar game winning a World Series of Poker bracelet awards a player status equivalent to other medals in sports, however no Online Poker product seems to have made an effort to replicate this with prizes/trophies offering prestige to online players, with the exceptions of some Online Poker company sending T-Shirts to players for beating professional players in their tournaments.

The main issue with providing a product for professional players is that these players are the players who typically will be playing the game to make a profit. They may not be interested in

collecting points/rewards and simply want to logon and win money from other players, most likely Fish, and cash out these funds. However, this would lead back to the issue of the poker product being stale, and also the fact that these professionals and other players who grind are no longer playing the game for fun but rather it has become a monotonous job for them. At this level it could be argued that we should base the rewards for the player based on their play again rewarding players based on reaching goals/milestones. At this high skill level it is hoped that as the Poker Professionals will be playing against other poker players of similar skill, the fun and challenge of the game will prove more rewarding. This level of the Ecosystem could also be made an exclusive level, invitation only or has to be earned through play at the lower levels of the Ecosystem.

Poker Professionals have been used in the Online Poker industry are used as a marketing tool so in this regard we can have players use their existing Social Media accounts and perhaps have some kind of reward system for Professional players who use this facility to sign up more players. This version of the software could be used as an exclusive club in that it's only reserved for high stakes players. Indeed, this version of our product could be used to allow other players to watch the professionals at play in a spectator capacity. The recommendations for this level of our ecosystem can be summarised as follows:

- Feedback to players is still available but can similarly be ignored.
- Players should have a number of interfaces to choose from. Browser, desktop client, mobile.
- Software should allow player to play multiple games at once. Interface for this should be highly customisable to allow players to adjust it to suit their needs.
- Rewards again should be based on skill and beating records/milestones.
- Again the software should make use of players Social Media accounts. For professional players we could have a rewards system that rewards them for encouraging players to sign up or to use these players as a promotional tool within our internal social media client
- Players should be able to share rewards with friends, and again purchase rewards.
- Again there should some be some games where players can use their friends as assets
- Players should be rewarded for player high stakes games which would attract an audience of other players to view.
- There should be highly exclusive rewards at this level, with annual prizes that award prestige to players as well as financial rewards.

A summary of the recommendations for the Online Poker Ecosystem can be found in the diagram below:

Intermediate Players

- Planned Journey but players can ignore this and explore
- Feedback is optional
- Multiple customizable interfaces to choose from
- Players at this level can move between the previous and next levels if they so wish

Beginner Players

- Simple Account Creation
- Browser Based Game
- Planned journey for players to learn the game and software
- Feedback for players
- Encouraged to graduate to the next level of the Ecosystem but can return to this level

Online Poker Ecosystem

Professional/Expert Players

- Planned Journey but players can ignore this and explore
- Feedback is Optional
- Multiple customizable interfaces to choose from
- Reward players for playing high stakes games that will attract other players
- Big annual awards that offer prestige as well as financial rewards
- Option to use this level as a VIP club, as a reward that has to be earned.

Common Features across all levels

- Sync with players existing Social Media accounts
- Create a Social Media platform in the game
- Player Contacts can be an asset in some games
- Rewards based on skill, beating records/milestones
- Rewards should be shareable with friends
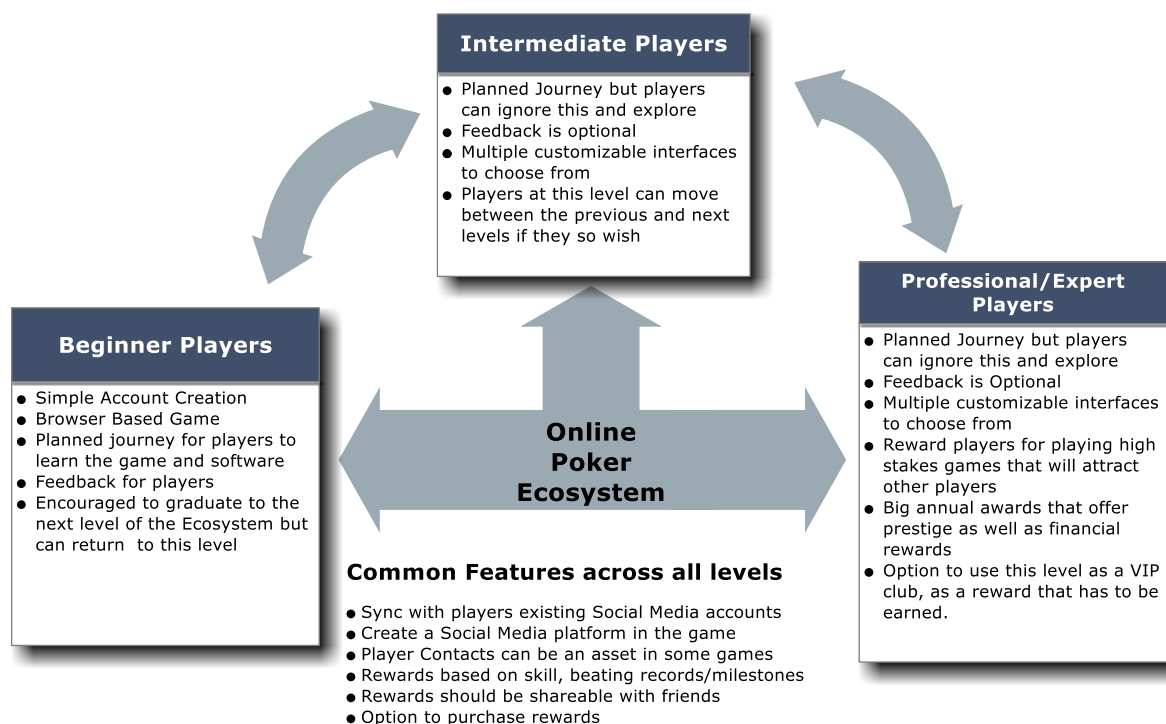- Option to purchase rewards

Figure 6.1 Online Poker Ecosytem

6.3   Conclusion

This chapter has looked at the results of the research undertaken in this dissertation and offered opinions on how this research could inform the design of the Online Poker product/ecosystem.

7   Conclusions

7.1 Introduction

In this chapter we will discuss the conclusions, limitations and future work of the research that has been undertaken in this study. The conclusion will discuss the findings of our research and whether the research question has been answered. The limitations are discussed from the perspective of the methodology chosen. The final section will then discuss the possibility for future work.

7.2 Conclusions

In section 1.2 Research Question it was stated that the primary research question being asked in this paper was "*Can we learn lessons from other types of online gaming products to develop the Online Poker product and ecosystem?*"

To help provide an answer to this question a number of sub questions were asked which are repeated below:

- What is different about social and casual games that appeal to a different demographic than that of Online Poker?
- Is it possible to replicate the features of social and casual games in Online Poker?
- Can the industry use lessons from Edutainment software and apply it to the Online Poker product to educate new players?
- Who is responsible for the Online Poker Product software/game design within companies in the industry, do companies have a dedicated software/game design team? If so is this team looking to incorporate the lessons learnt from existing game design theories?
- Is there any attempt to differentiate the Online Poker product to appeal to different demographics? If not who is the product designed for?
- Is there any planned journey for the customers with the product? Are tutorials. rewards, incentives used to encourage the player to go from being a new player to an experience one?
- Should the Online Poker industry differentiate their product and have different solutions for different demographics playing in the same ecosystem?

Chapter 5 Results revisited these questions post the research undertaken in this dissertation, these results were then evaluated in Chapter 6 Discussion.

In regards to the results, although Online Poker could be classified as a Social or Casual game, the current Online Poker Product does not meet the design standards the research identified for these categories of games. It can be argued that the Online Poker product does not meet the design criteria of Accessibility and Simplicity, two of the design values (Kultima, A. 2009) identify for Casual Games. Also it could be said that if the same product is offered to all players then it could not take into account the different skill levels of different players as recommended by (Kultima, A. and Stenros, J. 2010).

(Paavilainen, J. 2010) provide ten initial high level social games heuristics for design and evaluation of Social games. Again the Online Poker Product meets most of these criteria but would again be found lacking in the areas of Discovery, Virality, Narrativity, Sharing, and Sociability. At present with the exception of refer a friend bonus programs it would seem social contacts play no part in the software/product offered in the Online Poker product.

(Andersen, E. et al. 2012) conclude that players seem to learn more from exploring than from reading, but from our research there does not seem to be any planned journey for players within the Online Poker software. (Linehan, C. and Kirman, B. 2013) state that Applied Behaviour Analysis (ABA) is a personalised method of teaching that has been demonstrated as highly successful wherever implemented. However, in terms of Online Poker software there seems to be little attempt to educate players in the game itself. Rather, educational material is hosted on a separate website for players to discover.

The Online Poker product does not seem to be designed with any particular type of player in mind. Although the research has identified that there are different types of players, from beginners to professionals, from our survey and interviews the software product in the Online Poker industry seems to be a one size fits all solution and is not designed for any one demographic of player.

From the results of the surveys and interviews it could be assumed that the decisions regarding game design in the Online Poker industry would ultimately be made by upper management in the companies themselves, and that even where Game Design teams exist in organisations that Game Design theories wouldn't be applied when updating the product.

This paper has looked at sources which has identified a number of different types of players ranging from the beginner/novice poker player to the professional poker player who makes a living playing the game full time. It then proposed an Online Poker ecosystem splitting the players into three demographics based on the study (St. Germain, and Tenenbaum, 2011)

which graded players into novice, intermediary and expert levels. Based upon the findings of the research an Online Poker Ecosystem was proposed with different software offered to each player according to their category.

5.3 Limitations for this research

In regards to the empirical research undertaken, we are limited in that the opinions collected only refer to the small number of responses of fifty four respondents. Although all respondents work within the Online Poker industry we could not consider the results as indicative of opinions in the industry as whole, due to the small number of responses. The questionnaire itself was designed to be relatively quick and easy to answer however we did see some of the open ended questions receive a smaller response in addition to more questions being left unanswered towards the end of the survey.

In regards to the qualitive research, a structured interview was selected to match the questions to the survey where possible. (Doody 0, Noonan M ,2013) state to conduct a successful interview, researchers need to develop their interview technique, choose the right method and carefully plan for all aspects of the process, and so we would have to take into account that the researcher is not an experienced interviewer.

Due to limited resources it would not be possible to investigate the topic using other techniques such as case studies to test some of the opinions collected from the survey and interviews.

5.4 Future Research

This study has looked at the topic of how lessons learned from the game design theories of Social, Casual and Educational games can be applied to the Online Poker Product.

It is hoped that this research can be used to inform further research into this area. In particular there is scant existing research into the topic of Online Poker game design in comparison to other game platforms such as Social and Casual games. One area that may warrant further investigation is how to design an Online Poker product for those players who will be spending multiple hours in front of their computers playing. Should there be different colours and interfaces for someone playing for a ten hour stretch?

Also further research could be untaken into the rewards offered to players in the Online Poker ecosystem. At present this tends to be based on the revenue they generate but there is scope to design a system that is more based on skill and achievement to reward players

of all levels. This would perhaps be the first step in developing an ecosystem for all players to interact with. The reward system at the entry level would have to exist with the level at the very top of the ecosystem.

There is also the opportunity to implement some of the conclusions reached in regards to designing an Online Poker Product using the game design theories explored, however this may be prohibitive due to the costs involved of developing and implementing such software.

5.5 Summary

In this chapter the conclusions, limitations and possible future work of the research that has been undertaken in this paper has been discussed.

A number of game design theories from Social, Casual and Educational games where investigated and whether these theories can be applied to the Online Poker product. The topic of how game design works within the poker industry itself, and who is responsible for game design within organisations in the industry, was also investigated.

The paper concludes that a number of existing game design theories could be applied to the Online Poker model, and indeed that some effort should be made by those in the Online Poker industry to invest time in making the Online Poker game more entertaining.

The limitations of the research particularly in the aspects of qualitative analysis and the limitation of the survey results in addition to the limitations of the interviews undertaken was also investigated. Future work regarding research into the area of Online Poker design was then recommended.

References

Abbot D (2010) Sociology Revision - Methodology, Positivism and Interpretivism. [online] Available at: http://www.tutor2u.net/blog/index.php/sociology/comments/sociology-revision-methodology-positivism-and-interpretivism [Accessed: 23 Mar 2013].

Alon, N. (2007), "Poker, Chance and Skill", Tel Aviv University, working paper, available at: www.tau.ac.il/~nogaa/PDFS/skill4.pdf.

Amory, A. (2001) Building an educational adventure game: Theory, design, and lessons. Journal of Interactive Learning Research, Volume 12 (2-3), p.249-263.

Andara, B. (2006) Could Online Poker Become The New National Pastime ?. [online] Available at: http://brain.phpbeast.com/network/therx.com/blog_blog_could-poker-become-the-new-national-pastime.php [Accessed: 13 Apr 2013].

Anderson C (1998) Presenting and Evaluating Qualitative Research: Strengths and Limitations of Qualitative Research. [online] Available at: http://www.medscape.com/viewarticle/731165_3 [Accessed: 23 Mar 2013].

Andersen, E. et al. (2012) The impact of tutorials on games of varying complexity. In: Unknown. eds. (2012) CHI '12 Proceedings of the SIGCHI Conference on Human Factors in Computing Systems. 1st ed. New York: ACM, p.Pages 59-68

Bakkes, S. et al. (2012) Personalised gaming: a motivation and overview of literature. IE '12 Proceedings of The 8th Australasian Conference on Interactive Entertainment: Playing the System, p.Article No. 4 .

Berger , F. (2013) Evaluating an implementation of an adaptive game-based learning architecture. In: Unknown. eds. (2012) UMAP'12 Proceedings of the 20th international conference on User Modeling, Adaptation, and Personalization. 1st ed. Berlin: Heidelberg, p.Pages 351-355 .

Biemer, Paul (2010) Total Survey Error: Design, Implementation, and Evaluation. Public Opinion Quarterly, 74 (5), p.817-848.

Bluff.com (2012) *Bluff Magazine Archives » November 2011 » Randy Blumer and the Birth of Online Poker*. [online] Available at: http://www.bluff.com/magazine/randy-blumer-and-the-birth-of-online-poker-1161/ [Accessed: 19 Jan 2013].

BRUNSON, D., & ADDINGTON, C. (2005). Doyle Brunson's super system 2: a course in power poker. New York, Cardoza Pub.

R. Buber, J. Gadner, & L. Richards (eds) (2004) Applying qualitative methods to marketing management research. UK: Palgrave Macmillan, pp141-156 Burns, R (2000) Introduction to Research Methods, London, Sage

Camerer, Colin, Linda Babcock, George Loewenstein, and Richard H. Thaler. "Labor Supply of New York City Cabdrivers: One Day at a Time." Quarterly Journal of Economics 112, no. 2 (1997): 407–441.

CardPlayer (2012) *Ad Age Speculates On Online Poker Advertising Boom*. [online] Available at: http://www.cardplayer.com/poker-news/14332-ad-age-speculates-on-online-poker-advertising-boom [Accessed: 20 Jan 2013].

CARO, M. (2008). Caro's secrets of winning poker. Las Vegas, NV, Cardoza.

Casual Games Association (2012) *Social Network Games 2012: Casual Games Sector Report*. [report] SuperDataResearch.

Casual Games Association (2007) Casual Games Market Report. [report] Pearl Research.

Charles, D., Kerr, A (2005). Player modelling and adaptive digital games. In: Digital Games Research Conference, Selected Papers Publication,pp. 285–298 (2005)

Chen, S. (2009) *The Social Network Game Boom*. [online] Available at: http://www.gamasutra.com/view/feature/132400/the_social_network_game_boom.php [Accessed: 19 Jan 2013].

Desurvire, H. and Wiberg, C. (2008) Master of the game: assessing approachability in future game design. CHI EA '08 CHI '08 Extended Abstracts on Human Factors in Computing Systems, p.3177-3182.

Downes-Le Guin , T. et al. (2012) Myths and realities of respondent engagement in online surveys..*International Journal of Market Research*, 54 (5), p.613-633.

Doody 0, Noonan M (2013) Preparing and conducting interviews to collect data.Nurse Researcher. 20, 5, 28-32.

Elearn Magazine (2011) What Makes a Good Learning Game? Going beyond edutainment. [online] Available at: http://elearnmag.acm.org.elib.tcd.ie/featured.cfm?aid=1943210 [Accessed: 24 Feb 2013].

Eagle, M. and Barnes, T. (2012) A learning objective focused methodology for the design and evaluation of game-based tutors. SIGCSE '12 Proceedings of the 43rd ACM technical symposium on Computer Science Education, p.Pages 99-104 .

GameBrief (2011) *WHAT IS A SOCIAL GAME?*. [online] Available at: http://www.gamesbrief.com/2011/01/what-is-a-social-game/ [Accessed: 19 Jan 2013].

Gimv.com (2013) The social gaming boom and the promise of gamification. [online] Available at: http://www.gimv.com/view/en/2965- +mail+online+viewer+.html/5277X69038278413X6903623/mail/viewonline.html

Golle, P. and Ducheneaut, N. (2005) Preventing bots from playing online games. Computers in Entertainment (CIE) - Theoretical and Practical Computer Applications in Entertainment, Volume 3 (Issue 3), p.Pages 3-3.

Goode, L. (2012) *Zynga's "Project Z" Revealed*. [online] Available at: http://allthingsd.com/20120301/zyngas-project-z-revealed-social-games-on-its-own-web-site-through-facebook-of-course/ [Accessed: 20 Jan 2013].

Greengard, S. (2011) Social Games, Virtual Goods. Communications of the ACM, Volume 54 (Issue 4), p.Pages 19 - 21.

Grohman, C. (2006) Reconsidering Regulation: A Historical View of the Legality of Internet Poker and Discussion of the Internet Gambling Ban of 2006. Journal of Legal Technology Risk Management, Volume 1 (Issue 1), p.34-74.

Hannum, R. et al. (2013) ECONOMICS OF POKER: THE EFFECT OF SYSTEMIC CHANCE. Journal of Gambling Business & Economics, Volume 6 (Issue 1), p.Pages 24 - 48.

Harrigan, K. et al. (2010) Addictive gameplay: what casual game designers can learn from slot machine research. In: Unknown. eds. (2010) Futureplay '10 Proceedings of the International Academic Conference on the Future of Game Design and Technology. 1st ed. New york: ACM, p.Pages 127-133.

Harrison, B. and Roberts, D. (2013) Using sequential observations to model and predict player behavior. In: Unknown. eds. (2013) FDG '11 Proceedings of the 6th International Conference on Foundations of Digital Games. 1st ed. New York: ACM, p.Pages 91-98.

Hohenthal, J. (2006) Integrating qualitative and quantitative methods in research on international entrepreneurship. Journal of International Entrepreneurship, 4 (4), p.175-190.

Hogan, J., Dolan, P., Donnelly, P. (2009) 'Introduction', in J. Hogan, P. Dolan and P. Donnelly (eds) Approaches to Qualitative

Research: Theory and Its Practical Application, pp. 1-18. Cork: Oak Tree Press.

HWANG, J. (2008). Pot-limit Omaha poker: the big play strategy. New York, Lyle Stuart.

IGT (2011) *IGT Internet Gambling Overview NIGA-DC-2011*. [report] DC: IGT.

Järvinen, A. (2009) Game design for social networks: interaction design for playful dispositions. In: Unknown. eds. (2009) Sandbox '09 Proceedings of the 2009 ACM SIGGRAPH Symposium on Video Games. 1st ed. New York: ACM, p.95 - 102.

Järvinen, A. (2013) Workshop: game design for social networks. In: Unknown. eds. (2009) MindTrek '09 Proceedings of the 13th International MindTrek Conference: Everyday Life in the Ubiquitous Era. 1st ed. New York: ACM, p.Pages 224-225.

Kabam Social Gaming Research (2011) *Social Gamer Research Study September 2011*. [report] Kabam Social Gaming Research .

Kuittinen, J. and Kultima, A. (2007) Casual games discussion. In: Unknown. eds. (2007) Future Play '07 Proceedings of the 2007 conference on Future Play. 1st ed. New York: ACM, p.Pages 105-112 .

Kultima, A. (2009) Casual game design values. MindTrek '09 Proceedings of the 13th International MindTrek Conference: Everyday Life in the Ubiquitous Era, p.58-65.

Kultima, A. and Stenros, J. (2010) Designing games for everyone: the expanded game experience model. In: Unknown. eds. (2013) Futureplay '10 Proceedings of the International Academic Conference on the Future of Game Design and Technology. 1st ed. New York: ACM, p.Pages 66-73 .

Laasonen, J. et al. (2011) Eliciting collusion features. SIMUTools '11 Proceedings of the 4th International ICST Conference on Simulation Tools and Techniques, p.Pages 296-303 .

Lee, A. S. 1999. "Rigor and Relevance in MIS Research: Beyond the Approach of Positivism Alone," MIS Quarterly (23:1), pp. 29-34.

Leonard, T. (1994) Cash Games vs. Tournament Poker | Pokerology.com. [online] Available at: http://www.pokerology.com/lessons/cash-games-vs-tournaments/ [Accessed: 6 Feb 2013].

Levin, D. M. 1988. The opening of vision: Nihilism and the postmodern situation. London: Routledge.

Lewis, C. et al. (2012) Motivational game design patterns of 'ville games. In: Unknown. eds. (2013) FDG '12 Proceedings of the International Conference on the Foundations of Digital Games. 1st ed. New York: ACM, p.Pages 172-179.

Linehan, C. and Kirman, B. (2013) Practical, appropriate, empirically-validated guidelines for designing educational games. In: Unknown. eds. (2011) CHI '11 Proceedings of the SIGCHI Conference on Human Factors in Computing Systems. 1st ed. New York: ACM, p.Pages 1979-1988 .

Matthews, B & Ross L 2010. *Research Methods: A practical guide for the social sciences*, Pearson Longman.

Metsch, S. (2012) From Start to Finish: Playing the Social Game. The Computer & Internet Lawyer, Volume 29 (Issue 5), p.1- 10.

Miller, R. and Washington, K. (2011) Entertainment, Media & Advertising Market Research Handbook. 11th ed. p.p304-306.

Oxford, N. (2011) *Social Games: The Past, Present, and Future*. [online] Available at:
http://gametheoryonline.com/2011/10/10/social-games-history-future-facebook/ [Accessed:
19 Jan 2013].

Paavilainen, J. (2010) Critical review on video game evaluation heuristics: social games
perspective. In: Unknown. eds. (2010) Futureplay '10 Proceedings of the International
Academic Conference on the Future of Game Design and Technology. 1st ed. p.Pages 56 -
65.

Parry, W. and Daley, H. (2013) Brick and mortar casinos brace for competition with Internet
gambling. [online] Available at:
http://www.masslive.com/news/index.ssf/2013/05/brick_and_mortar_casinos_brace.html
[Accessed: 19 May 2013]

PokerListings (2013) *About Chris Moneymaker*. [online] Available at:
http://www.pokerlistings.com/poker-player_chris-moneymaker [Accessed: 19 Jan 2013].

PokerPages (2013) *World Series of Poker 1970 - 2012*. [online] Available at:
http://www.pokerpages.com/pokerinfo/tournamentgallery/wsop/wsop.htm [Accessed: 19 Jan
2013].

Pokerscout.com (2006) Online Poker Traffic Rankings & News | Poker Sites & Networks |
PokerScout. [online] Available at: http://www.pokerscout.com/ [Accessed: 6 Feb 2013].

Pokersoftware.com (n.d.) HUDs - Online Poker Heads Up Displays. [online] Available at:
http://www.pokersoftware.com/categories/huds.html [Accessed: 7 Feb 2013].

Radburn, B. and Horsley, R. (2011) Gamblers, grinders, and mavericks: The use of
membership categorisation to manage identity by professional poker players. Journal of
Gambling Issues, Volume 1 (Issue 26), p.Pages 30 - 50.

Radoff, J. (2010) History of Social Games. *Jon Radoff's Internet Wonderland*, [blog] 24 May
2010, Available at: http://radoff.com/blog/2010/05/24/history-social-games/ [Accessed: 19
Jan 2013].

RAO, V. 2008. 'Playful Mood: the Construction of. Facebook as a Third Place.' MIndTrek
Conference 2008, Tampere, Finland.

Robson, C. (1995). Real World Research: A resource for Social Scientists and PractitionerResearchers. Oxford: Blackwell.

Saunders, M., Lewis, P. & Thornhill, A. 2009, Research Methods for Business Students

Fifth Edition, Pearson Education Ltd, England.Shim, N. and Baecker, R. (2013) TableTalk Poker: an online social gaming environment for seniors. In: (2010) Futureplay '10 Proceedings of the International Academic Conference on the Future of Game Design and Technology. 1st ed. New York: ACM, p.Pages 98-104.

SCHOONMAKER, A. N. (2000). The psychology of poker. Henderson, NV, Two Plus Two.

Shirazi, A. and Döring, T. (2009) Poker Surface: Combining a Multi-Touch Table and Mobile Phones in Interactive Card Games. MobileHCI'09.

Shyamala, R. and Sunitha, R. (2011) Towards Learner Model Sharing Among Heterogeneous E-Learning Environments.. International Journal on Computer Science & Engineering, Vol. 3 (Issue 5), p.Pages 2034-2040.

Siler, K. (2010) Social and Psychological Challenges of Poker. Journal of Gambling Studies, Volume 26 (Issue 3), p.Pages 421 - 420.

SKLANSKY, D. (2007). Tournament poker for advanced players. [Henderson, Nev.?], Two Plus Two Pub. LLC.

Smith, E. (2011) *IRC POKER ERA*. [online] Available at: http://www.pokerhistory.eu/history/irc-poker-era [Accessed: 19 Jan 2013].

Smith, E. (2010) *PLANET POKER ERA*. [online] Available at: http://www.pokerhistory.eu/history/planet-poker-first-online-poker-room [Accessed: 19 Jan 2013].

Snider, M. and Martin, . (2011) Google takes a swing at Facebook with social games. USA Today, 8th December.

St. Germain, and Tenenbaum, (2011) Decision-making and thought processes among poker players. High Ability Studies, Volume 22 (Issue 1), p.Pages 3 - 17.

Takahashi, D. (2011) How Zynga grew from gaming outcast to $9 billion social game powerhouse. [online] Available at: http://venturebeat.com/2011/12/12/zynga-history/

Tamika, C. (2010) Social Gaming, the New Tech Bubble?. *Mergers & Acquisitions: The Dealermaker's Journal*, Volume 45 (Issue 10), p.Pages 14 - 48.

Tan, P. and Ling, S. (2013) Adaptive digital game-based learning framework. In: Unknown. eds. (2007) DIMEA '07 Proceedings of the 2nd international conference on Digital interactive media in entertainment and arts. 1st ed. New York: ACM, p.Pages 142-146.

Taylor, C. (2012) *Zynga Makes Its First Move Into 'Real Money' Games, Partners With Casino Gaming Giant Bwin.Party*. [online] Available at: http://techcrunch.com/2012/10/24/zynga-makes-its-first-move-into-real-money-games-partners-with-casino-gaming-giant-bwin-party/ [Accessed: 20 Jan 2013].

Wallace, M. and Robbins, B. (2006) 2006 Casual Games White Paper. [report] www.IGDA.org.

Wilson, J. (2012) *Zynga Poker's daily payout of 16 trillion chips could cover the national debt*. [online] Available at: http://venturebeat.com/2012/06/26/if-we-could-only-pay-off-the-national-debt-in-zygna-poker-chips/ [Accessed: 20 Jan 2013].

Appendix

Appendix A Research Ethical Application Form

School of Computer Science and Statistics

Research Ethical Application Form

1.Title of project:

Game Design and the Online Poker Product

2. Purpose of project including academic rationale

This dissertation is being written as part of my requirements for the MSc in Management Information Systems. I have worked in the operations side of the Online Poker industry for nearly ten years now with previous experience as a Programmer/Analyst in a different industry.

The product offered in the Online Poker industry offered today is still built upon the same template used in 1998, and while Technology has improved and the software offered is more efficient it could be argued that there has been little to no evolution in the product offered to Online Poker players by the majority of Online Poker providers. This paper will investigate what lessons if any can be learnt from the game design theories of both Casual Games and Social Games as well as investigate instead of offering one product solution to all players, is there an opportunity to look at the area of Edutaintment and adaptive technology which responds to players needs and can teach the intricacies of the poker game to new players.

3. Brief description of methods and measurements to be used

This will be a qualitative study designed to explore perceptions of game design within the Online Poker industry by employees in that industry. There will be two participantgroups.

- Selected Managers will be interviewed to give their opinion on game design from their experience within the poker industry. Three managers will be interviewed in total one Game Design Manager, one Marketing manager and one Operations manager. (see structured interview questions in Appendix). These interviews are expected to last up to 40 minutes.

- A larger group of people employed in the Online Poker industry will be surveyed about their views on game design. The questionnaire will take about 20-25 minutes to complete. The questionnaire for this group will be online (Survey Monkey https://www.surveymonkey.com/s/96HHY9Z)

-

4. Participants - recruitment methods, number, age, gender, exclusion/inclusion criteria,

including statistical justification for numbers of participants

The three managers to be interviewed have many years' experience in the Online Poker industry and are known to me personally as they are colleagues of mine or have been in the past. It is hoped that having three senior figures from different departments will give a better picture to how game design is viewed and implemented within an Online Poker company.

The larger group or people being surveyed will be acquired through sending the survery to friends and colleagues in the industry. It is hoped that this will again that different levels of staff from different departments will give a good insight into how game design is viewed.

5. Debriefing arrangements

Participants who have consented to take part in the interviews and questionnaires will all have to fill out the consent form to engage in the process. As part of the participant consent form the participants have the right to withdraw or choose not to answer any of the questions that they are being asked in the questionnaire or the interviews at any time.

Before the data is analysed the quotes from the interviews that I choose to use will be

sent to the individual users by email or appointment to review, at this point they have the

right to refuse the publication of their comments.

Questionnaires that are filled in online are anonymous.

6. There are no ethical concerns at this stage in the Dissertation

7. Confidentiality will be provided to the fullest extent possible by law under the terms defined by the data protection act 1988

Appendix B Informed Consent Form

TRINITY COLLEGE DUBLIN
INFORMED CONSENT FORM

LEAD RESEARCHERS: Neil Allen

BACKGROUND OF RESEARCH: This interview is part of my academic research in Game Design and the Online Poker product I'm undertaking as part of my requirements for completion of an MSc in Management of Information Systems with Trinity College Dublin.

PROCEDURES OF THIS STUDY: The research will be based on 30-45 minute interviews with the participants. The data collected will then be analysed and then categorised.

PUBLICATION: All data will be used anonymously for the completion of a dissertation as part of the completion of the MSc in Management of Information Systems, Trinity College Dublin.

Individual results will be aggregated anonymously and research reported on aggregate results.

DECLARATION:
- I am 18 years or older and am competent to provide consent.
- I have read, or had read to me, a document providing information about this research and this consent form. I have had the opportunity to ask questions and all my questions have been answered to my satisfaction and understand the description of the research that is being provided to me.
- I agree that my data is used for scientific purposes and I have no objection that my data is published in scientific publications in a way that does not reveal my identity.
- I understand that if I make illicit activities known, these will be reported to appropriate authorities.
- I understand that I may stop electronic recordings at any time, and that I may at any time, even subsequent to my participation have such recordings destroyed (except in situations such as above).
- I understand that, subject to the constraints above, no recordings will be replayed in any public forum or made available to any audience other than the current researchers/research team.
- I freely and voluntarily agree to be part of this research study, though without prejudice to my legal and ethical rights.
- I understand that I may refuse to answer any question and that I may withdraw at any time without penalty.
- I understand that my participation is fully anonymous and that no personal details about me will be recorded.
- I have received a copy of this agreement.

PARTICIPANT'S NAME:

PARTICIPANT'S SIGNATURE:

Date:

Statement of investigator's responsibility: I have explained the nature and purpose of this research study, the procedures to be undertaken and any risks that may be involved. I have offered to answer any questions and fully answered such questions. I believe that the participant understands my explanation and has freely given informed consent.

RESEARCHERS CONTACT DETAILS:

INVESTIGATOR'S SIGNATURE:

Date:

Appendix C Interview questions for Game Design Project Manager

4   How long have you been working in the Online Poker Industry?
5   What type of company do you work for?
6   Do you have a formal process for prioritizing software updates?
7   How do you evaluate software changes after they've been released?
8   Would your prioritizations be changed based on your evaluation of previous products/updates?
9   In your opinion who has the most input into game design in your organisation?
10   Do you offer the same product/software to all players?
11   Does your company differentiate their product for different type of players?
12   How accessible do you feel your software is to new players?
13   Is there any planned journey for players through your software?
14   Is there any differentiation in your software for new players?
15   Is there any educational aspects of your software in terms of learning the game?
16   Does the software encourage the player to advance to the next level?
17   Are rewards based on revenue or game play?
18   Does the software offer any feedback to the player based on their play
19   Is there any virality built into your software?
20   Can players share their resources such as funds and rewards with other players
21   Is there any ability to use social contacts as part of the game, and make these contacts an asset in the game?
22   What are the main challenges in designing poker software?
23   Do you have any other comments in regards to game design?

Appendix D Interview questions for Fraud/Security Manager

1. How long have you been working in the Online Poker Industry?
2. What type of company do you work for?
3. Do you have a formal process for prioritizing software updates?
4. How do you evaluate software changes after they've been released?
5. In your opinion do you feel there has been any evolution in the poker product over the past 10 years?
6. In your opinion who has the most input into game design in your organisation?
7. Do you offer the same product/software to all players?
8. Does your company differentiate their product for different type of players?
9. How accessible do you feel your software is to new players?
10. Is there any planned journey for players through your software?
11. Is there any differentiation in your software for new players?
12. Is there any educational aspects of your software in terms of learning the game?
13. Does the software encourage the player to advance to the next level?
14. Are rewards based on revenue or game play?
15. Does the software offer any feedback to the player based on their play
16. Is there any virality built into your software?
17. Can players share their resources such as funds and rewards with other players
18. Is there any ability to use social contacts as part of the game, and make these contacts an asset in the game?

19. Would enhancing social contacts as part of the game be considered a security risk in your opinion?
20. What are the main challenges in designing poker software?
21. Do you have any other comments in regards to game design?

Appendix E Interview questions for Marketing Manager

1. How long have you been working in the Online Poker Industry?
2. What type of company do you work for?
3. When marketing to players do you target different demographics?
4. Do you have any input into software design? Would you consider the software as a tool for acquiring or retaining players?
5. Do you have a formal process for prioritizing software updates?
6. How do you evaluate software changes after they've been released?
7. In your opinion who has the most input into game design in your organisation?
8. Do you offer the same product/software to all players?
9. Does your company differentiate their product for different type of players?
10. How accessible do you feel your software is to new players?
11. Is there any planned journey for players through your software?
12. Is there any differentiation in your software for new players?
13. Is there any educational aspects of your software in terms of learning the game?
14. Does the software encourage the player to advance to the next level?
15. Are rewards based on revenue or game play?
16. Does the software offer any feedback to the player based on their play
17. Is there any virality built into your software?
18. Can players share their resources such as funds and rewards with other players
19. Is there any ability to use social contacts as part of the game, and make these contacts an asset in the game?
20. Do you believe the software can be used to encourage players to move to different categories? i.e Progress a play money player to real money through the software?
21. Do you have any other comments in regards to game design?

Appendix F Survey Questions

To Whom it may Concern,

This survey is part of my academic research I'm undertaking as part of my requirements for completion of an MSc in Management of Information Systems with Trinity College Dublin.

The purpose of this survey is to collect information about your opinion and experience in regards to the design of software in the Online Poker Industry.

The title of my dissertation is: "Game Design and the Online Poker Product".

My dissertation will study Game Design theories from other industries such as casual and social games and how they can be applied to the online poker product.

This survey aims to collect employees experience of game/product design within the industry.

I would be grateful if you would take the time to fill out this short questionnaire. Each question is optional, feel free to omit a response to any question; however the researcher would be grateful if all questions were responded to. You responses are strictly confidential and anonymous. Confidentiality will be provided to the fullest extent possible by law under the terms defined by the data protection act 1988. Please do not name third parties in any open text field of the questionnaire. Any such replies will be anonymous. The survey does not collect any personal identifiable information about you that you do not wish to give voluntarily. In the extremely unlikely event that illicit activity is reported I will be obliged to report it to appropriate authorities.

All data will be used anonymously for the completion of a dissertation as part of the completion of the MSc in Management of Information Systems, Trinity College Dublin.

DECLARATION

- I am 18 years or older and am competent to provide consent.
- I have read, or had read to me, a document providing information about this research and this consent form. I have had the opportunity to ask questions and all my questions have been answered to my satisfaction and understand the description of the research that is being provided to me.
- I agree that my data is used for scientific purposes and I have no objection that my data is published in scientific publications in a way that does not reveal my identity.
- I understand that if I make illicit activities known, these will be reported to appropriate authorities.
- I understand that I may stop electronic recordings at any time, and that I may at any time, even subsequent to my participation have such recordings destroyed (except in situations such as above).
- I understand that, subject to the constraints above, no recordings will be replayed in any public forum or made available to any audience other than the current researchers/research team.
- I freely and voluntarily agree to be part of this research study, though without prejudice to my legal and ethical rights.
- I understand that I may refuse to answer any question and that I may withdraw at any time without penalty.
- I understand that my participation is fully anonymous and that no personal details about me will be recorded.
  I understand that if I or anyone in my family has a history of epilepsy then I am proceeding at my own risk.
  I have received a copy of this agreement.

If you have any questions about the research or your role in the research please contact
Neil Allen by email at allenne@tcd.ie or by phone on 353 087 9971797

*1. Do you agree to the Terms and Conditions of completing this questionnaire?

○ Yes I Agree

○ No I do not Agree

2. How long have you worked in the Online Poker Industry?

- ○ Less than 1 year
- ○ 1 to 2 years
- ○ 2 to 5 years
- ○ 5 to 10 years
- ○ 10 years or more

3. What area of the Poker Industry do you work in?

- ○ Operations (Customer Support, Security/Fraud etc)
- ○ Marketing (Marketing, Affiliate, Player Retention etc)
- ○ Technical (Development, Database, Network Engineers etc)
- ○ Management (Human Resource, Accounting, CEO etc)

4. What type of company do you work for?

- ○ Direct to Consumer Poker company
- ○ Direct to Consumer Poker company which is part of a Poker Network
- ○ Poker Network which provides software to third parties
- ○ Gaming Company where Poker is one of a number of products offered

5. Does your company have a computer game design specialist/team involved in the design of the product/software?

○ Yes

○ No

6. Does your company have a formal process for prioritizing software changes/updates?

○ Yes

○ No

○ Don't Know

7. Does your company have a formal process for evaluating software changes that have been made?

○ Yes

○ No

○ Don't Know

If answered Yes can you please describe the process used?

8. Who in your opinion has the most input into the design of your software/product within your company?

9. Do you offer the same product/software to all players?

○ Yes we offer the same product to all players

○ Yes we offer the same product to all players, however there are different versions for different environments (Mobile, Web based versions of our product)

○ No we offer a number of different products to our players

10. Does your company differentiate their product for different type of players? (Beginners software would be different from professional players etc)

○ Yes we offer a different product to players based on their level

○ No the product we offer is the same for all players

11. In your opinion how accessible is your software to a new user? (Does the software have to be downloaded, accounts set up or can players start playing straight away etc?)

12. Is there any journey envisaged for your players through the software? Beginners start at one level and progress through their gameplay etc?

○ Yes

○ No

13. Is there any educational aspect to your software? Can players learn the game through the software alone?

○ Yes

○ No

14. Does the software encourage the player to advance to the next level? For example for a beginner player to become an intermediary player based on learning the game, hitting targets/rewards?

○ Yes

○ No

15. Are rewards in the game based on the players play/skill or based on the revenue they generate?

○ Rewards are based on play/skill

○ Rewards are based on Revenue Generated

16. Does the software offer any feedback to the player based on their play?

17. Is there any virality built into your software? For example can players broadcast their achievements to friends? Is there encouragement for players to get their friends to play?

18. Can players share their resources such as funds and rewards with other players?

☐ Players can share funds with other players

☐ Players can share rewards with other players

☐ Players can't share funds

☐ Players can't share rewards

19. Is there any ability to use social contacts as part of the game, and make these contacts an asset in the game?

○ Yes

○ No

20. Please leave any additional comments you wish to make regards Online Poker Software

21. Do you wish to submit your responses?

○ Submit

○ Exit without Submitting

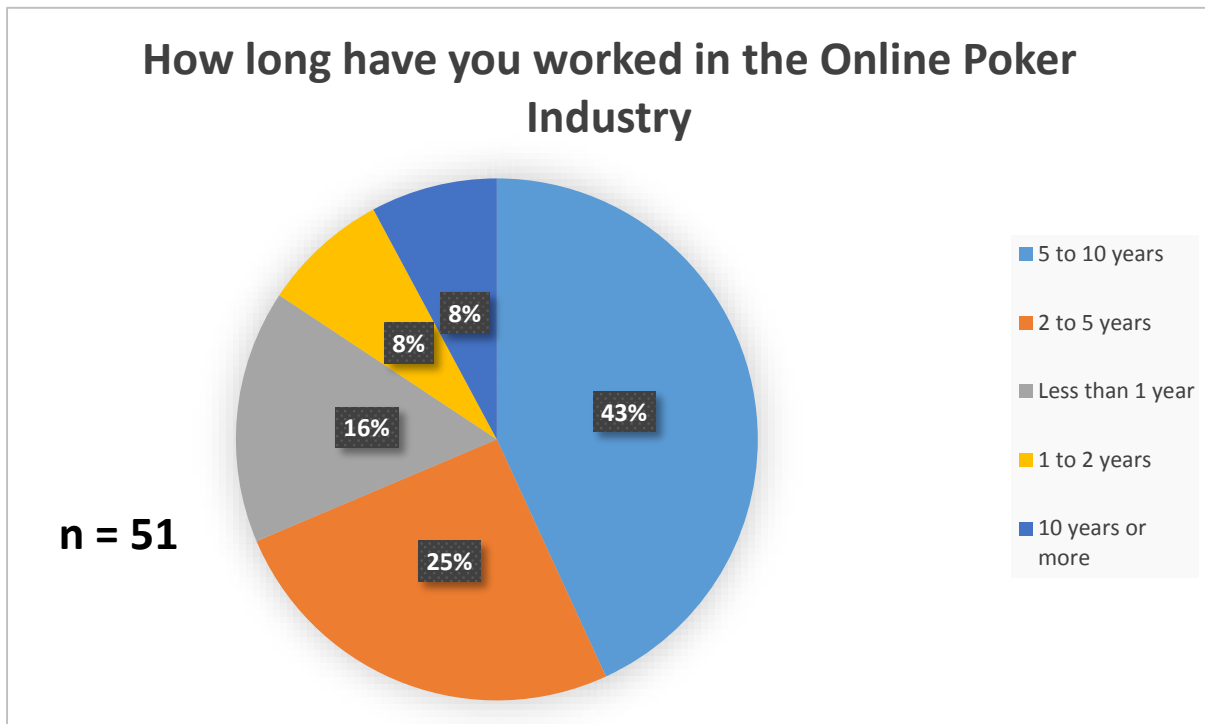**Appendix G How long have you worked in the Online Poker Industry**

Figure Appendix G How long have you worked in the Online Poker Industry