Analysis

The Problem Definition / Game Description

Board games have always been a feature of family homes, they bring enjoyment and encourage collaboration between peers. However, board games are physical products that cost money, the expense of one is does not remain constant between each type. Some games retail at a penetration price whereas others are charged at a premium, as products are sold through distribution channels even elements such as discrimination pricing factor in, such as seasonal times e.g. Christmas. However, not all end users can afford to purchase this. As the end product is going to be available for single file download for the consumer this eliminates the aspect of cost, as well as this, the game will require no internet connection targeting consumers who don't have access to internet but may contain access to a computer (perhaps not one they own but maybe a public computer). Therefore, constructing a product like this appeals to end users of the product from different backgrounds. Not only that, taking a board game to play with a peer can be a lot of hassle; transporting the board (remembering all of the pieces contained within), packing the game and the assembly time included. As a result of this, my board game aims to eliminate all this association and instead contain everything in a file, as civilisation advances – consumers are more likely to socialise on a computer game rather than a physical board, especially the younger generation.

There aren't many board games currently available on the market which gives full interaction and customisation to the consumer, therefore, I aspire to meet this requirement and criteria. One substantially important factor I plan to incorporate is a factor that is obsolete from any existing board games, simple artificial intelligence. Currently on the digital and physical market, board games lack artificial intelligence computers will not play against the human and make logical decisions dependent on circumstances encountered within the program. I aim to build an electronic version of a board game that includes artificial intelligence.

As a result of this, I have decided that my game will be my own take on the classic board game – The Frustration Game. The game will be free of charge and available for use by opening a shortcut, no internet access will be required in order to play the game. The user is prompted with the first menu, here they can select from a range of options for their game play. An example of this would be, the user can select if they want to play the training game, inside of this, they will practice the board game on a difficulty that they can select. The other decision would be to begin a new game which will be statistically recorded in the data option.

When the game is started, the players will have to create their own personal profile. Inside of this, the users should choose which colour they want to be identified throughout the game. They should then decide on naming their character, this can be a nickname or actual name. The choice depends on the user's preference. The player should finish their personal profile by giving their 'character' a unique personal symbol. This can be chosen out of an already decided list or the user can create their own symbol. This customisation is critical for identifying one of the main criteria's that the client explicitly wanted, by incorporating this the user gets to operate the game in a way that is specific to their character.

With a personal profile determined for each player, the user will be prompted to select a difficulty, here four are outputted; Beginner, Easy, Medium or Hard. Beginner difficulty provides a clear board for the user to practice and 'learn the ropes'. Easy begins to develop the board, the chance cards are added to random locations on the board. Landing on a chance card will randomly give the player an event that they must adhere to. Medium keeps the characteristics of Easy and adds to it. In this

specified difficulty, a jail feature is incorporated. In the hardest difficulty, all the other features exist. However, to make it the most challenging difficulty to overcome, a return to Home Square will be incorporated, landing on this square will return one piece or the whole team of the active colour back to start. The game therefore appeals to different consumers, some users may find particular tasks more difficult than others, incorporating a difficulty feature allows the client to pick how they want to play which will be most suited to their needs.

The game will become active. Each user in the game will take turns sequentially starting with the first player decided. Once a player has taken a turn, the computer will then become active (if enabled), the computer will be a simple, but functioning AI. The computer will follow paths predefined and then make strategic decisions dependent on its location on the board. Incorporating this allows for the program to be unique in comparison to other games available currently on the market. Using an artificial intelligence provides another aspect into the customisation of the game. After each turn, the winning condition will test different elements of the game and identify whether the game is over or not (Game over will be determined when all of the user's pieces have successfully reached home base. All three need to be in their respective area).

Who Is The Game User?

The market segment that I have constructed and developed my game for is families. Within this category becomes two subdivisions, children and parents. Inside these divisions, the ages can be narrowed down further. In the children audience, I expect that the age will be in the range of 15 – 20. I see this to be an appropriate choice as these are individuals who will understand the game fully and be able to operate through making logical decisions dependent on circumstances encountered within the game and difficulty selected in the prior settings. I suppose children much younger than this age range will struggle with making quick decisions and strategizing against computers and peers in order to successfully win a round of the game or the series. Being a board game, I see it is important that parents can get involved with their family, I expect that parent's ages will be in the range of 40 – 60. This specific audience will be related as parents should have children around the decided age when they are within that bracket.

As a result, it is likely that families will come together, especially around seasonal holidays to play together. More and more in today's society, consumers will be more likely to play around a computer rather than play at a game board, especially as technology advances. Furthermore, linking back to my proposal appropriately. Not only that, but consumers don't just want to play a board game which is the same every time, therefore I aspire to make it as customisable each time, this includes; difficulty, board features, settings, personal profile etc. It is critical that the game can keep the client's attention and want to return to using it again after the first time. There is no limitation as to how the players can be involved, two people can represent one interactive player encouraging co-operation and strategy between family members. Once they are worked together, the sense of solidarity will be stronger in families rather than individuals being isolated and doing their own thing.

Furthermore, the system should be prevented in such a way that it is clear and doesn't lack detail. This should be executed by having a menu that provides a range of options to prevent repetition and allow the user to select different options. To successfully develop this, the menu should be clear. This would include short heading names and an obvious way of making selection. Like the rest of the game, producing a text based menu may be the best way to produce a thorough and straightforward menu.

How Did You Research The Problem?

In order to develop a program that is necessary and has a purpose researching into the criteria is a significant part. Originally, I would speak to my peers to identify what sort of problem they want to be solved, how they want it to be presented and what to include.

In researching my project, I used two surveys. The objective of this was to identify what type of project should be produced and gather information about what is their favourite pre-existing solution.

In each questionnaire, 20 people were asked.

Sample Questionnaires Distributed

Sample questionnaire used – No. 1

A Level Coursework Project

1. What solution would you find most useful?
   a. Database
   b. Game
2. If for question one you chose database, what system would be most useful?
   a. Store management,
   b. Library management,
   c. School registers.
3. If for question one you chose board game, what is your favourite board game?
   a. Monopoly,
   b. Frustration Game,
   c. Snakes & Ladders.

Questionnaire No.1 Results

1. Game (75%), Database (25%)
2. Unnecessary
3. Monopoly (35%), Frustration Game (40%), Snakes & Ladders (25%).

After the first questionnaire, results were analysed. Following this the second was distributed to the same group.

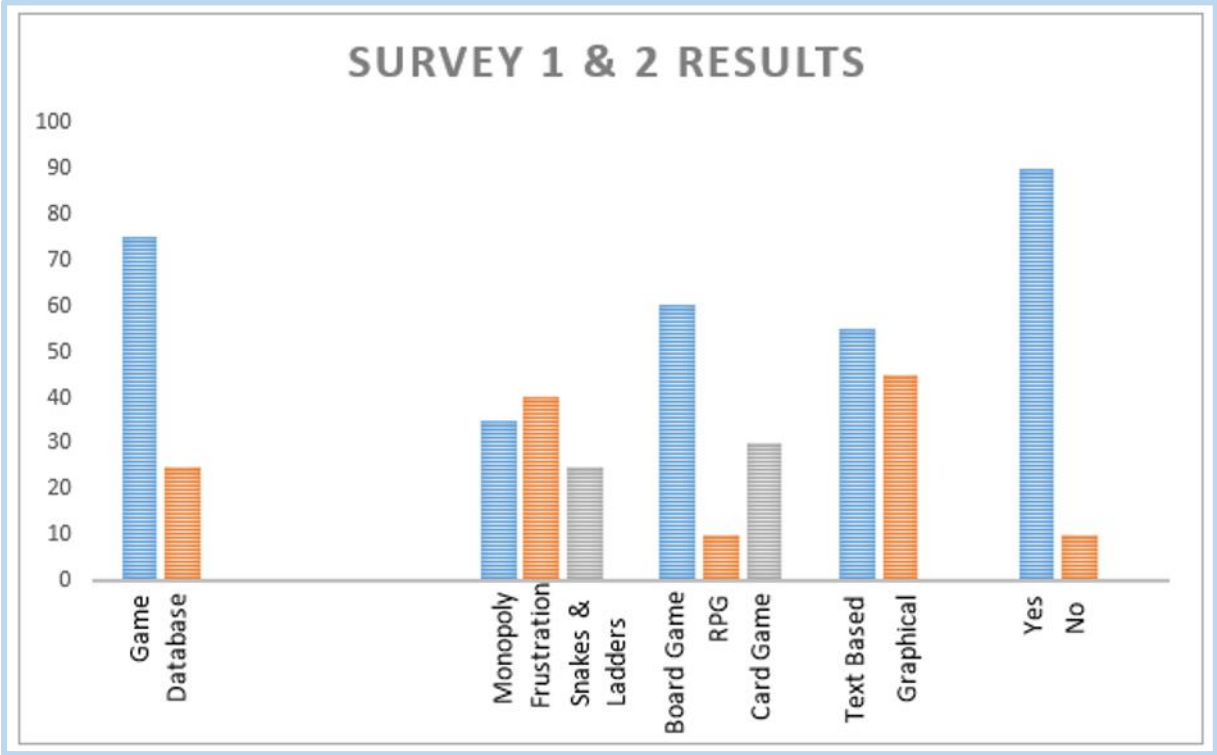
Sample questionnaire used – No.2

A Level Coursework Project

1. As the prominent result was game, what is your favourite type of game?
   a. Board game,
   b. RPG,
   c. Card game.
2. How would you like the game to be presented?
   a. Text based,
   b. Graphical.
3. Would customisation of the game be important, e.g. personal character profiles or would you like this to be predetermined?
   a. Yes,
   b. No.

Questionnaire No.2 Results

1. Board game (60%), RPG (10%), Card game (30%).
2. Text based (55%), Graphical (45%)
3. Yes (90%), No (10%)



Analysing the questionnaires drawn the recurring conclusion that a board game which gives creative control to the player is specifically wanted. Physically produced board games lack creativity, the board is always produced in a specific way - each square will contain an in-game event which will not change, players are limited to defining a unique player – board games like monopoly only give the user certain symbols to choose out of and most importantly board games do not have the option to incorporate difficulty, the rules are outlined and this is final.

Conducting an interview

As previously discussed, my client segment will be aimed towards families. Therefore, I chose to speak to my Mom – Lynne, to find out exactly what sort of game would appeal.

"To me I have always been a fan of the frustration game. It is always challenging and can become extremely infuriating at times but that doesn't bother me. The enjoyment which I get out of playing it with my family is fantastic, it is an opportunity for everyone to get involved regardless of their age or interest's board games always bring entertainment. The best part of the game is that it doesn't drag on, games like monopoly can take hours to complete and some of the time, the game has to be left unfinished and doesn't give you the sense of accomplishment or success. You can always beat the frustration game and what's better than collaborating with your family in order to achieving a goal."

Reviewing this, it became clear to me that this is the most suitable game that I could make in order to reach my client segment.

After all the peer feedback, had been collected, reviewed and analysed, I decided to look into the internet and analyse pre-existing systems and solutions available. Looking at established games

(produced by competitors) was beneficial to see how the problem was identified, tackled and developed. I would categorise each type of board game and look for features that distinguish them against others, these key features were substantially important to gathering inspiration. Throughout this, it became critical was to recognise what is good about the game but most importantly how can it be developed, what will give my program a unique selling point in comparison.

Activity Log

Activity No.	Activity Description
1	Handed out first set of questionnaires (to decide which type of project to produce).
2	Handed out second set of questionnaires (to decide what type of game my potential clients want).
3	Produced graph and analysed results for each questionnaire filled in.
4	Researched pre-existing similar programs already available on the internet.
5	Looked into existing games already available on the market, physical and digital games.
6	Decided upon key features from each program.
7	Conducted an interview to find out what end client want in a game.
8	Reviewed the frustration game in detail to understand how the system works.
9	Produced a list of functionality objectives.
10	Decided on proposed solution.

Website Links

Website	Usefulness
http://www.therichest.com/rich-list/most-popular/the-top-10-most-sold-board-games-ever/	Helped identify what are the most popular board games ever created and therefore helped me understand what made them so popular.
http://www.bestproducts.com/parenting/kids/g985/best-family-board-games/?	Results for the best family board games.
http://www.vice.com/en_uk/read/rise-of-board-games	Why board games are so popular.
http://fivethirtyeight.com/features/designing-the-best-board-game-on-the-planet/	Finding out what makes users exactly want in their board games.
https://en.wikipedia.org/wiki/Trouble_(board_game)	Provides detail about the frustration game (due to survey results).

Functionality Objectives

1.0 The user needs an interactive menu interface, from this, they should be allowed to select from the following:
- 1.1 Start new game – loads game.
- 1.2 Save game – allows the user to return to menu and make a save.
- 1.3 Load game – whilst the user is in an active game and chose to return back to menu, they can leave the menu and pick up where they left off.
- 1.4 Data – data will contain a range of different statistics for the user to choose from:
  - Last played – displays the last date and time the game was loaded. Last played history – holds all data regarding each time the game was loaded.
  - Scoreboard – scoreboard works on colour identification. Each colour ID is recognised and outputted in the scoreboard, each colour holds a score of the amount of games won, not the amount of rounds. The board is then outputted counting numerically from highest to lowest score.

1.5 Load game rules – a text file displays all information that is required for a user to understand the game.

1.6 Play training game – training game is different to a normal active game. There is no accomplishment of winning the game, it is only used for developing experience and knowledge in order to play the game at a competition level.

1.7 Enter data username – whenever data is wrote to the statistics, it is clearer to understand who has accomplished what. Before each stat, the username of the individual who recorded it is shown.

2.0 A functioning board game that allows users to play between peers or against a computer. With the option to choose between starting a new game and starting a training game (in which the user learns about the game).

3.0 The game must be used without any connection to the internet and free of charge. The game should run when the file is called through a shortcut.

4.0 Be able to save the game and return to the menu (whilst the game is active) if necessary. Following this, they should then be able to load the game from the menu and continue from their save state.

5.0 Simplistic to operate but include creative control, the user should be able to customise the game if desired. Options should include:

5.1 Select which colour they want to be identified throughout the game. Name their character, this can be a nickname or actual name. The choice depends on the user's preference. Select a personal symbol. This can be chosen out of an already decided list or the user can create their own symbol.

6.0 A developed computer should be included into the program. If selected in the menu, the user will have the option to play against it solely or with other peers. Most importantly, the computer needs to operate in the way which a human would. The simple artificial intelligence will make decisions dependent on conditions which it encounters, this can include its position on the board, the path which it is following and whether it is randomly repositioned or not. Due to this, having an AI which is responsive to the game and can make decisions as to how to move is extremely important.

7.0 The game needs to be sensitive to different consumers. An important aspect of this is allowing the user to choose their difficulty – younger users (in the age range 7 – 10) would be more suited to the easier difficulties (Beginner / Easy). However, older consumers may be more likely to select a more challenging difficulty.