INFSCI 2300: Human Information Processing

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Project Report

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Summary of the Project

1. Introduction

While studying the subject 'Human Information Processing', we came across human psychology numerous times. We could relate how the study of human psychology can benefit in designing various applications as well. And, the study of psychology takes us back to an old incident - one of our friends had an addiction to a certain game that she was introduced by her friend. In the beginning it was just to get relaxed, but after playing couple of rounds she was so addicted that she spent hours on that game, leaving her studies. She consulted with us about how to get rid of this bad habit and then we came up with some solutions. We did some research on the Internet and found out that the solutions were nothing but blocking the psychology exploitation that the game designers use. Years later, we found it as an opportunity to explore on this topic as a part of our project on 'Human Information Processing', or as it goes by a common name 'Cognitive Psychology'.

As almost everyone in the era of technology is familiar with gaming or at least have heard of video games or online games, we had an additional reason to speak on 'Game Designing' and do a thorough research on the psychology that plays a vital role behind-the-scene. The presentation was just an attempt to make the people aware that how their thought processes are being captivated and monitored by the game designers and the gamers have become cash cows by the lure of in-app-purchases and the perceived in game character upgrade. The main purpose our project was to discuss the role of psychology in game designing and what are the ways a game designer can use psychology to make their game more popular.

Although we were familiar to the gaming concept, believe it or not, it was not an easy task to gather information on the thought process of the game designers. Our objective was to do a walkthrough of their thought-process and make the audience think like them (the game designers) for some time. With this thought in mind, we began our research work. We read through a lot of blogs, articles and watched innumerous YouTube videos to gather data and make a fair idea. When the project just kicked off, we were individually doing research and gathering information, and meeting on a weekly basis and struggling on which points to keep in the presentation so that it can be informative and contains a proper presentation flow.

2. Sources of data/information

After long discussions, we were finally able to find the content of our presentation and this Medium article [1] helped us a lot in framing the base of the presentation. The above stated article was very informative. Although, we are indulged in playing games at regular basis, if not video games at least mobile games, we became aware of various strategies that the game designers follow while building various gaming applications and how we, as players, rather become intrigued in playing the games. Another article hosted on the website of 'Interaction Design Foundation' [2] helped us in identifying the various kinds of players, commonly known as '**Bartle's Player Types for Gamification**'. A couple of YouTube videos [3] also helped us out in figuring out for the content and better understanding for the topic of our presentation. We also read through a couple of more articles [4] for a better and complete understanding on the theory behind game design. The above stated sources have also been listed down in the 'Reference List' below for convenience purpose.

3. Team Findings

As we gathered a lot of information from the sources stated above, we gained a lot of insights on the topics like:

- Reward system and the motivation behind gaming.
- Feedback and how it is a crucial part of the reward system.
- Social Comparison helps in both motivation as well as a demotivation tool. Based on the usage.
- Personal gratification and external feedback behind motivation.
- What are the repercussions of getting a reward? Or, what if when a reward is not actually rewarding?
- How representativeness heuristic can play to the cognitive biases if a player
- How illusion of control satisfies the player's need to be in control

- Classical conditioning (through Pavlov's studies)
- Operant Conditioning (through Skinner's experiments)
- How do timing and control affect the gaming?
- Feeling of 'Near Misses' when a player has the notion that he is still in the game (not yet failing, he has still chance of succeeding).
- Various kinds of players

Beyond motivation, game designers can easily recognize that players come with a different kind of personality and they seek different kinds of enjoyment. It's important to recognize this and creates experiences that allow each of the player types to thrive in the game. Based on this personality trait, according to Bartle's principle, players can be classified into 4 types:

a. **Achievers**: enjoy gaining points, levels, equipment and other concrete measurements of succeeding in a game. They will go to great lengths to achieve awards and they will simply enjoy the prestige or honor of having it. Examples: World of Warcraft (World of Warcraft is a massively multiplayer online role-playing game released in 2004 by Blizzard Entertainment.)

b. **Explorers:** They enjoy discovering areas, create maps and learn about hidden places and treasures. They love to take their time to explore new areas and look around at their own pace. These types of gamers love to unravel mysteries. The games which have mystery elements can engage these gamers for hours. Examples: Myst (Myst is a graphic adventure puzzle video game designed by the Miller brothers, Robyn and Rand. In the game, players are told that a special book has caused them to travel to Myst Island. There, players solve puzzles and, by doing so, travel to four other worlds, known as Ages, which reveal the backstory of the game's characters.)

c. **Socializers:** They enjoy interacting with other players, and on some occasions, computer-controlled characters with personality. The game is merely a tool they use to meet others in-game or outside of it. Group games, which involves multiple players to accomplish a common goal, can engage these types of gamers. Examples: Animal Crossing (social simulation of video games, published by Nintendo) .In Animal Crossing, the player character is a human who lives in a village inhabited by various anthropomorphic animals, carrying out various activities including fishing, bug catching, fossil hunting, etc. The series is notable for its open-ended gameplay and extensive use of the video game consoles' internal clock and calendar to simulate real passage of time.

d. **Killers**: They enjoy competition with other players and are there to win against their peers. Examples: Call of duty Call of Duty is a first-person shooter video game franchise published by Activision. Starting out in 2003, it first focused on games set in World War II, but over time, the series has seen games set in modern times, the midst of the Cold War, futuristic worlds, and outer space.

- Various Game Mechanics
- Connection of Emotions while playing games
- Better side of the video games

- Player's take on the video games (Good or bad for the society?)

4. Conclusion

Overall, we think we did good in presenting the topic to the audience. We were able to share our findings and convey the thought process of the game designers to them – how they hack our minds and come to know which group of people like what kind of games and how to keep the players motivated when they are on the verge of leaving the game. We also discussed on the good and bad effects of the video games and finally we reached the conclusion that video games are not actually bad, after all they enhance the brain activity and help people getting intelligent; just that they need to know and differentiate between the good and bad or harmful games for the society. With the game played during the presentation, we demonstrate how promise of reward can motivate players to play games. The video that we played between the presentation, demonstrated the in-attentional blindness. The questions we presented were at the core of our topic. Overall, we think our presentation was able to engage audience and impart the knowledge related to Human Information Processing.

We think we were able to convey all of our findings. However, the topic itself is so vast that even 30 minutes fell short for the whole explanation.

References

[1] Medium Article: https://medium.com/@sachinrekhi/understanding-user-psychology-thinking-like-a-game-designer-3aafde81ae2d

[2] Interaction of Design Foundation Article: https://www.interaction-design.org/literature/article/bartle-s-player-types-for-gamification

[3] YouTube Video 1: https://www.youtube.com/watch?v=A2gIE5gyA6s&feature=youtu.be

YouTube Video 2: https://www.youtube.com/watch?v=tWtvrPTbQ_c

YouTube Video 3: https://www.youtube.com/watch?v=_bnnmWYI0lM

[4] Link 1: https://productpsychology.com/understanding-the-psychology-behind-game-design/

Link 2: https://www.psychologytoday.com/us/blog/darwins-subterranean-world/201809/video-games-and-emotional-states