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中度可信度描述已自动生成

**Information System Review and Evaluation in Game industry**

Chenling Zhang 14234049

Department Of Information Technology University Of Technology Sydney

32557 Enabling Enterprise Information System

Dr.Amara Atiff

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**Content**

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# 1. Introduction

From Ancient times to the present, games are an in accessible part of human life, and before the invention of the first computer, people’s games stayed on card games, chess games, or role play game etc. However, when the appearance of ENAIC, the first computer in the world, and with it came the popularity of home computers and the Internet. The diversity of games increases rapidly. Many people are working for make a great computer game, or computer console games.

In the 1970s, Nolan Bushnell, the father of video games, developed a console game that swept the world called Pong. The advent of this game unshared in a new era for the game and bring game industry into a golden age. Science then, a variety of games and game continued to appear on the market. For example, the switch developed by Nintendo of Japan, the Play Station developed by Sony and the Xbox developed by Microsoft. The advent of these gaming platforms has revolutionized the way people define games.

**Application of information systems**

* E-commence
* Player Community
* Game live stream
* Game Data Mining

# 2. Physical and Digital Transformation

**Physical transform to Digitals:**

In the early days when the internet was just emerging, the speed of home networks was generally slow. That make game producer must find some carriers to store their games. Such as DVD, VCD or game cartridge. User need buy these carriers to install game or play the game directly. This is very inconvenient for players as well as game producer. As game producers they are constrained by the government import and export policies. That makes their products cannot arrive the market as soon as possible. Also, in player’s aspect, they must buy in store without any game demo for them to try. So, they do not know the game is suit for them or not. However, in today’s life, The Internet is speed up and the cloud technology support player’s and game producers allow them release game online and download games online. The game producers can release the game and demo online, players can download the demo for free to try, if they like this game, they will pay to the producer directly and get the permission form producer to download the formal version of this game.

**Digitals Transformation:**

In the early days of the game industry, information technology development was not as perfect as it is today. The business model of a game company in generally divided into two main business models. One is customers buy games from the internet or from stores. The profits that can be obtained by this business model are fixed. Because the customer base that is willing to pay for this game is fixed and there is only one purchase in the same game. This means that consumers are only willing to pay for the game once. This has led to game developers having to raise game pricing to recoup development costs, but the high price of game has also made it difficult for customers to pay for it. However, due to the information system improvement and the technology evolution. The business model of game industry has changed. Game makers have built a community of players for the game they develop. Enables then to pay more attention to the minds of gamers. Through big data analysis technology, the game manufactures can clearly know the player’s preference. As the result, the paid element that most players preferred is added to the update of the later game. That can make players incur multiple payments for the game’s content. There are also some manufactures that make MMO games such as Blizzard. They constantly updating their game content. Players can experience new content in the game by purchasing in-game time. This business model can allow game manufactures to profit from one development and multiple times.

# 3. Business Process

* Data Analysis:

Data analysis is a single functional area, used to analysis player’s data such as: what kind of role player like most, how long each player play game every day and how much players are willing to pay on game.

* Customer Relationship Management System

Customer Relationship Management System(CRM) is a single function area, used to improve player’s experience when they playing game and answer player’s questions.

* E-Commerce System

E-Commerce System is a cross-function area: This system accept player’s order and send money requests to the player’s bank to request money. When this system get money from bank will send an e-mail with the invoices to the customer.

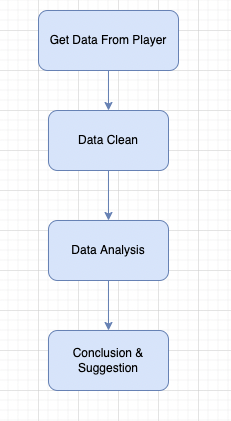
* Product Design:

Product design is a cross functional area, they got data from data analysis, and through the data analysis result, they design new materials for the game and send their design to the game development apartment.

## 3.1 Business process in Game industry

**Game data mining**

For a new game, it is important for players to enter the game and master the time spent in the early stage of the game. Just like Overwatch new players always think that mastering this game requires a lot of knowledge. Data mining collects the time it takes for players to master in-game knowledge, and helps game companies adjust their roles in game, operations, and strategies in the game through algorithms. Make it possible to better face more players (Braun et al., 2017). In addition, the use of data analysis to analyze the player’s feelings about the game interface can help game designer to better design the game interface that matches the player experience (Dutton, 2006). As a conclusion game data mining system is used to collect user’s data through the data clean and data analysis to get a conclusion or suggestion for game designer to make their game to be better. The process of data mining is one of the cross function areas. It’s collected data from user through the data clean and data analysis process to make a conclusion or suggestion to help game designer to make their game to be better.



(Figure .1)

**Product Design**

The product design is a cross-functional area. It needs the conclusion or suggestion support from data analysis center. Also

## 3.2 Detail business process in game industry

# 4. Ethicality, Legality and Privacy

There is no doubt that data has changed people’s daily lives and brought many conveniences to people’s lives. But while people enjoy the convenience of data, there still have some invisible problems to exist around people. With the widespread use of data analytics in game industry, game manufactures must maximize the analysis of player data and understand player preferences to obtain more benefits to win the attention of players in many games and the competition among peers. (El-Nasr & Drachen, 2013). Normally the player doesn’t know their action information and some other personal information are collect by game producer. When the producer gets this information from user, they can use this information to improve their game, to make their game more complex and more attractive. Also due to this data, can used to predict player’s future action to make addiction patterns. When the player once falls into the additive mode designed by the game manufacture. They will become overwhelmed int the game and will find that everything in the game is what they like. Thus, players will spending immeasurable money on the game. (GRIFFITHS & Essau, 2008)

This data from player will also be used by game producer to sell them to other

# 5. Threats to Information System

# 6. Conclusion

# 7. Reference

Braun, P., Cuzzocrea, A., Keding, T. D., Leung, C. K., Padzor, A. G. M., & Sayson, D. (2017). Game Data Mining: Clustering and Visualization of Online Game Data in Cyber-Physical Worlds. *Procedia Computer Science*, *112*, 2259–2268. https://doi.org/10.1016/j.procs.2017.08.141