UNIVERSITY OF GOTHENBURG

CHALMERS

Assignment 2 - Analysis of current gaming trends

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1 META AND MIXED REALITY: THE METAVERSE

The Metaverse is a term originally coined by science fiction writer Neal Stephenson in his novel Snow Crash. It refers to a future version of the internet where users can interact with each other in a virtual world that is realistic and immersive. This trend is starting to emerge in the gaming world, with some games such as Fortnite and Roblox already offering features that allow users to interact with each other.[1]

Mixed Reality (MR), also known as hybrid reality, is the blending of the virtual and the real worlds to create a new setting where real-time interactions between virtual and real-world items are possible. MR devices constantly gather new information happening in the surroundings, as opposed to VR (Virtual Reality), which completely immerses the users in a virtual environment, or AR, which merely overlays digital content on top of the actual environment without addressing its unique and dynamic composition. Such knowledge is essential for integrating digital content with the physical world so that consumers may engage with it. In situations when the virtual and the physical are linked, MR combines both worlds. [2]

Let's analyze the impact of this trend conducting a SWOT:

- **Strengths**:
  1. The Metaverse trend could lead to more immersive and realistic gaming experiences.
  2. It has the potential to bring people together from all over the world in a virtual space, which could lead to new friendships and relationships.

- **Weaknesses**:
  1. The Metaverse could have a negative impact on people's social lives, as the may spend more time interacting with people online instead of in person.
  2. It could also lead to people becoming addicted to gaming, as the line between reality and the virtual world becomes blurred.

- **Opportunities**:
  1. The Metaverse trend could be used to create educational experiences that are more engaging and interactive than traditional methods.
  2. It could also be used to create virtual spaces for people to socialize in, which could be particularly beneficial for introverts or people with social anxiety.

- **Threats**:
  1. There is the potential for people to become addicted to the virtual world and neglect their real-life responsibilities.

The Metaverse is a concept that has been around for decades, but it is only now that we are beginning to see its potential. The company Meta is at the forefront of this trend, with their Meta Quest Pro virtual reality headset. The Meta Quest Pro allows users to see and interact with digital content in the real world. This is just the beginning of the metaverse, and we can expect to see more and more companies explore this new frontier.

The ethical and social impact of the metaverse on gaming activities is mainly positive. The increased social interaction and immersion can lead to more meaningful relationships between players. In addition, the metaverse can provide a safe and controlled environment for players to explore and experiment with their identity. However, there are also some potential negative impacts. For example, the metaverse could increase social isolation and loneliness, as well as

addictive behaviors. It is also important to consider the wider impact of the metaverse on society. The metaverse has the potential to transform the way we live, work and interact with each other. It could create new opportunities for social and economic inclusion, but also increase inequality and exclusion.

2 MOBILE GAMING

With the advent of powerful smartphones and tablets, mobile gaming has become extremely popular. Games such as Candy Crush and Clash of Clans have become a global phenomenon, with millions of players logging in daily to play.

The technology involved in mobile gaming is constantly improving, with better graphics and more sophisticated gameplay. Mobile gaming is also becoming more social, with features such as leaderboards and chat rooms.

With 3.2 billion gamers worldwide in 2021, up from 1.9 billion in 2015, the mobile games market has been expanding at an amazing rate. More than half of the US population identify as digital gamers, which is a total of 180 million monthly players in the US alone.[3]

The SWOT analysis of mobile gaming would reveal the following:

- **Strengths**:
    1. Convenience: Mobile games can be played anywhere, anytime.
    2. Variety: There are now thousands of different mobile games available.
    3. Low cost: Mobile games are often very affordable or even free.

- **Weaknesses**:
    1. Small screen: Mobile games are often played on a small screen, which can be less immersive than playing on a larger screen.
    2. Battery life: Mobile games can drain a device's battery life quickly.

- **Opportunities**:
    1. New platforms: Mobile games can now be played on platforms such as smart TVs and augmented reality devices.
    2. eSports: Mobile gaming is becoming popular in the world of competitive gaming.

- **Threats**:
    1. Piracy: Mobile games are often pirated and downloaded illegally.
    2. Competition: There is a lot of competition in the mobile gaming market.

Mobile gaming has had a significant ethical and social impact on both gaming activities and the wider society. On the one hand, mobile gaming has made gaming more accessible and convenient for people of all ages and abilities, and has allowed people to connect with others in new and innovative ways. On the other hand, mobile gaming has also had a number of negative ethical and social impacts, including contributing to the spread of misinformation, and causing people to become addicted to gaming. Some studies have shown that mobile gaming can be addictive and lead to problems such as social isolation and poor school performance. [4]

3 AUGMENTED REALITY GAMING

Augmented reality (AR) is a technology that overlays digital information on the real world. AR is being used in a variety of gaming applications, from first-person shooters to puzzle games.[5]

In AR, a live image of a physical world is enhanced by digital sensory input including sound, graphics, films, or GPS data. In other words, augmented reality overlays the physical world by enabling users to view the real world through the screens of their phones or tablets, or by wearing smart glasses and altering it virtually on the screen. Apps can overlay digital content on our actual world using the cameras on phones, tablets, or smart glasses. This technology rests on top of any surface, using our real environment as a static background and not taking into account the surrounds of users or requiring interaction with their space. Some of the well-known AR examples are Pokemon Go, Snapchat filters, virtual make-up and furniture fittings.[2]

The technology involved in augmented reality is constantly evolving. AR headsets are becoming more sophisticated and user-friendly, and new AR platforms are being developed all the time.

The SWOT analysis of augmented reality would reveal the following:

- **Strengths**:
    1. Immersive: AR provides a very immersive gaming experience.
    2. Realistic: AR can make games feel more realistic and lifelike.

- **Weaknesses**:
    1. Cost: AR headsets can be expensive.
    2. Health concerns: There are some health concerns about AR, such as motion sickness and eye strain.

- **Opportunities**:
    1. New platforms: AR is being used on a variety of new platforms, such as mobile devices and consoles.
    2. Letting people try on clothes they see online so they do not have to get to the store and try them on.

- **Threats**:
    1. Competition: Since Pokemon Go was released, a lot of other companies realized that AR came to stay and they had to do something, meaning that there is a lot of competition in the AR market at the moment.
    2. Health concerns: There are some health concerns about AR, which could limit its adoption.

Augmented reality has the potential to impact both gaming activities and wider society in both positive and negative ways. On the positive side, augmented reality has the potential to enhance gaming experiences by providing players with more immersive and realistic environments. Additionally, augmented reality has the potential to improve social interaction by providing a more immersive and realistic way for people to interact with each other. However, there are also potential negative impacts of augmented reality. One such impact is that augmented reality has the potential to increase social isolation by providing people with an escape from reality. Additionally, augmented reality has the potential to create addictive behaviors in both children and adults.

AR real-life examples:

- IKEA has developed a smartphone app called "Ikea Place", which allows the customers to use AR through their smartphone camera to place the brand's furniture items into their own homes, so they can visualize how the products will look exactly in their setting. [6]
- Pokemon Go is probably the most well-known example of AR. The game was first introduced in 2016 and got very popular rapidly among people in all age groups till today. The main task of the game is that users have to go around in the real world to locate and "catch" the game characters which are virtually presented in the surroundings. I'm sure almost everyone today has seen people playing Pokemon Go on their phones, standing in certain locations in groups where the cartoon character is presented. However, with the help of AR, the users' experience is way more authentic and engaging. [7]
- Snapchat, the popular American messaging app, provides users with many very interesting and trendy filters with AR technology by imposing these filters on users' faces. The filters are digitally overlaid on the users' faces after detecting their faces with the help of artificial intelligence. The filters can turn users into numerous characters like a cat or even a piece of strawberry, which is extremely fun to use. [8]

AR is the trend that most impacted my game design choices since it is the one I have managed to test and enjoy more than any other trend out there. It is because of its simplicity and versatility that I like it the most, and because I got to play and get along with some AR apps and games for quite a long time now. AR showed me that making games and apps involved in our real world is as important and creative as creating a whole new virtual world. It makes people see reality in a new way, like they have never seen it before.

4 CONCLUSION

I believe that the impact of these trends is likely to be long term. The Metaverse future will resemble our real world in many ways. It may even replace some real-world activities as the metaverse concept begins incorporating Web3 technology enabled by blockchain [9]. When fully realized, the Metaverse future promises to provide true-to-life sights, sounds, and smells, such as a tour of ancient Greece or a visit to a Seoul cafe, all from the comfort of your home.

I think it is inevitable that mobile gaming will develop into a long-lasting trend. Globally, there are more than 3 billion gamers, and more than half of them play on mobile devices [10]. It makes sense because there are far more smartphones than gaming consoles in use today and because everybody with a smartphone in their pocket has the ability to play games. Why does that matter to the players and the industry? Increased gaming activity increases income. Developers will have more opportunities with more money. There will be more games and competition on the market as there are more developers. Increased competition leads to more and better games.

The potential of augmented reality will start to be widely used if it finds a compelling, feature-rich platform with a clue that a sizable portion of customers are becoming adept in augmented reality. AR will amazingly assist every business, from architecture to education, sports to military training, and retail trade. [11]

Before augmented reality technology achieves its zenith, mobile devices must stop treating it like an afterthought. Tech industry adviser Tim Bajarin asserts that "for AR to become truly useful, somebody will have to develop a powerful platform to undertake a range of apps and services." [12]

Overall, the impact of these trends is likely to be long term. The Metaverse, mobile gaming, and augmented reality are all technologies that are here to stay. These trends are likely to dominate the gaming landscape for years to come.

It is difficult to predict what will be the dominant trends in gaming in five years time but we can try to guess from what we are seeing now. Some believe that the industry is moving towards more casual, social games which can be played on mobile devices and computers. One popular trend that we started to see a couple of years ago is that of the use of micro transactions, or in other words, in-game purchases. This allows companies to reduce the price of their games or even release them for free, which allows gamers to spend their money in buying items or power-ups to help them through the game. Another trend is the rise of eSports, or competitive gaming, which has seen a surge in popularity in recent years. However, there is one trend that I strongly believe that will be dominant in gaming for a long period of time, and that is virtual reality and augmented reality. This two technologies, mixed or not, offer a whole new world to explore when it comes to gaming, evolving the immersive experience offered to the player.

REFERENCES

[1] Wikipedia Contributors. *Metaverse*. 2022. URL: https://en.wikipedia.org/wiki/Metaverse.

[2] Henrique Centieiro. *The roles of VR, AR and MR on the metaverse*. 2022. URL: https://medium.datadriveninvestor.com/the-roles-of-vr-ar-and-mr-on-the-metaverse-593569cfb686.

[3] Sarah Kelly. *6 Interesting Mobile Gaming Trends You Should Know About in 2022*. 2022. URL: https://www.swrve.com/resources/weblog/6-interesting-mobile-gaming-trends-you-should-know-about-in-2022.

[4] Deanna Herbert. *Exploring the relationship between social gaming, anxiety and loneliness*. URL: https://www.unco.edu/news/articles/social-gaming-anxiety-and-loneliness.aspx.

[5] Adam Hayes. *Augmented Reality (AR) Defined, with Examples and Uses*. 2022. URL: https://www.investopedia.com/terms/a/augmented-reality.asp.

[6] Ikea. *Hur använder jag appen IKEA Place?* 2022. URL: https://www.ikea.com/se/sv/customer-service/knowledge/articles/0f54b979-6055-474g-8g81-1g9c779ecg88.html.

[7] McGarrigle. *Explained: What is Pokémon Go?* 2016. URL: https://www.webwise.ie/parents/pokemon-go/.

[8] Maggie Tillman. *What is Snapchat, how does it work, and what's the point?* 2022. URL: https://www.pocket-lint.com/apps/news/snapchat/131313-what-is-snapchat-how-does-it-work-and-what-is-it-used-for.

[9] Thippa Reddy Gadekallu et al. "Blockchain for the Metaverse: A Review". In: (2022). URL: https://arxiv.org/pdf/2203.09738.pdf.

[10] Josh Howarth. *How many gamers are there? (new 2022 statistics)*. 2022. URL: https://explodingtopics.com/blog/number-of-gamers.

[11] Erkan Bal. "The future of augmented reality and an overview on the to researches: a study of content analysis". In: *Qual. Quant.* 52.6 (2018), pp. 2785–2793.

[12] Tim Bajarin. *Why This Futuristic Tech Will Be The Future of Computing*. 2017. URL: https://time.com/4761298/augmented-reality/.