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## Game Development -An Overview

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### ABSTRACT

Given the exponential increase in the use of smartphones and other high-tech devices around the world, it is not surprising that their owners install different software to make the most of them. However, it is intriguing to discover that almost all of the software and games found on such devices are from the West. Recently, the creation of high-tech Game has become a fundamental aspect of human life across many cultures thanks to the development of mobile devices and game consoles. Therefore, the purpose of this research was to create a unique game that would appeal to the gaming market in sub-Saharan Africa on a cultural level as well as help spread awareness of the potentials in the gaming industry.

Keywords-Smartphones, high-tech devices, high-tech games, Mobile devices, Gaming market

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### 1. PREFACE

Digital games have permeated every aspect of our culture. Game development is a significant sector in several nations. Institutions of higher learning now offer programmes that prepare students for employment in game creation. Such programmes should be based on sound academic principles, and students should be instructed on the research that supports the theoretical and practical course material. People play games to create in-the-moment experiences, whether they are completing challenging game challenges or looking for solace from daily anxieties, which suggests that players occasionally play games to decompress after a stressful day. Therefore, it is normal to observe people playing one kind of game or another for fun when they have free time or when they are taking a break from their daily activities.

#### 1.1 Literature view

In the middle of the 20th century, the first video games on computers debuted.

The game industry and the games generated have been driven by the same evolution, just as smaller but more potent technology has assisted in advancing computer generations. Technology has made it possible for development of strong consoles where games are really stored and played. The same technology that has made it possible for computers to be portable, as seen in laptops, personal digital assistants, and smartphones, has also made it possible for portable gaming consoles like the PSP, Gameboy, and Nintendo Wii to come into existence. With each advancement in technology, the gaming experience has been richer and more immersive, which has led to an expanding user base that is continuously entertained by the product. It should come as no surprise that many individuals play video games to briefly escape from reality, whether it is at work, school, or play. The average gaming console has evolved into a powerful, self contained device that can play expensive games with top-notch graphics and functionality. With the release of the PlayStation 4 and Xbox One, consoles that are currently in their fourth generation and have processing power comparable to that of a computer system, it comes as no surprise that games like FIFA almost perfectly mimic real-world situations to give the player a realistic gaming experience. Additionally, these consoles have been used for sophisticated simulations like flight simulation, which accounts for all the minute details involved in flying an aeroplane

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#### 1.2 Uses of Software Games

The use of software games for serious objectives that may be applied to a variety of fields, including education, commerce, and health care, is giving them increased prominence in the software development industry. Similar to entertainment games, serious games are intended to have an impact on the target audience, but they also appear to have a practical component. Both must appeal to a wide target audience and be attractive (Alvarez & Michaud, 2008). Particularly for serious games, their revenue has been rising along with its relevance to other domains. In 2012, games software was the software product with the highest revenue (Nayak, 2013).

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#### 1.3 Methods Used in Game development

1) Waterfall Method:

A development method, according to Robin (2009), is a systematic process that aims to produce a usable product on time and within budget. Various game development and design approaches (Castillo 2008). First, there is the waterfall approach, which is frequently employed in conventional software development. In contrast to game projects, production phase tasks are carried out in a “waterfall” fashion after the pre-production phase is over.

The operations are divided into groups according to assets and functionality

before being assigned to the appropriate teams. The requirements team spent a lot of time on front-end and functionality definition tasks, which suggests that level and mechanism implementation was delayed (Schwaber & Beedle, 2002).

2) The second development method:

The agile technique, which is frequently employed in game development, is the second development methodology. These techniques don't focus on documentation and are quite Iterative. Small iterations are broken up into

the production phase, which concentrates on the most important features. Each iteration starts with a team meeting where specific goals are established. Clients are informed of the outcomes at the conclusion of each iteration. Through regular meetings, these strategies support varied team dynamics and cycles. Extreme programming (XP), rapid prototyping, and

Scrum are the most popular agile game development approaches (Godoy & Barbosa, 2010)

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#### 1.4 Reasons to learn Game development

1. Acquire problem-solving abilities
2. Improve Your Designing Capabilities
3. Expertise brings in money
4. Develops Teamwork
5. Improves Self-learning

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#### 1.5 Importance of Game development:

According to research, playing video games can enhance some brain regions.

Which are in charge of your attention and visual-spatial abilities and improve them. Additionally, playing video games lowers stress. However, it depends on the kind of video game you are playing right now. The purpose of the majority of video games is to annoy players, push them, and keep them coming back for more. Most people refer to these games as “strategy games. Since many developers have experimented with them, video games have been the subject of extensive study. If you didn't know, gamers can enjoy a huge variety of video games both online and off. Minecraft is one of the most played games right now. But there are also well-known games like Call of Duty and Grand Theft Auto. One of the reasons these video games are so popular globally is that they are entertaining and seriously addictive. One can play video games on a desktop computer, another on a gaming console, and a third on a mobile device, among other options. Naturally, those are not the only devices you can use to enjoy a video game, but regardless, video games are solely designed for entertainment

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#### 1.6. Conclusion

The fact that the video game industry has a gross income that is comparable to the movie industry makes it a multi-billion dollar business. Conclusions drawn from this research work suggest that it is possible to develop games that can withstand the test of time and maintain rich traditional content with the right tools, though this requires a certain set of specialised skills that can be developed during the development process. More study can be done on the way that games are made to stimulate the player's cognitive abilities rather than just make them

have fun. In light of the aforementioned, it is significant that new technologies are rapidly entering the game industry and that it is still growing. Technology is still developing at incredible rates. The game system can be further improved because, as the digital age progresses, new and improved innovations and technologies are released every day. In order to keep up with evolution and to stand out in the competitive gaming industry, upgrades and new ideas would be required. This would allow the game to be categorised as nearly perfect and in line with international best practise

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