**Educational Game for Children**

**Acknowledgements:**

My project wouldn’t be as it is if not thanks to my supervisor Dr. Bourazeri, Katerina who helped me all the way by giving me advice on changes and/or additional ideas that could be added to the project, my fellow computer science friends who helped me by encouraging me, giving advice on what tools I could be using or coding advice and especially my cousin Brusk, who is now writing his bachelor in 3D Graphics. Even though he’s busy, he’s been taking time on the side to design my project.

Including the book “Java for Programmers” by Douglas A. Lyon that I’ve been borrowing since the beginning of my final year from the University of Essex library.

**Abstract/summary:**

My project focuses on helping children to further develop their knowledge and skills on specific topics and subjects. To achieve this, I developed an application written in Java, which includes three different mini-games: a language/alphabet game, general-knowledge(animals and/or insects) and an interactive world map game.

The application has a login page where every child will have an unique ID and password for their account. Depending on the children’s age, the level difficulty will increase, e.g., first graders at primary school will work with (by choice) cities, counties or a combination of both in the UK, whereas second graders will have other options (i.e., countries or flags) in Europe or a combination of both and so on.

The easiest level of the language/alphabet game is about learning letters in both uppercase and lowercase. In this game, children will see an image of a letter and have to type the correct letter in the input bar. This game also has a combination choice of uppercase and lowercase letters.

The first level of the animal game is about learning and knowing what different animals look like. It’s a different variation to other minigames as it includes images of animals. As the level increases, the game becomes more complicated. Insects, bugs, and animals are combined and the number of questions is increased.

**Table of contents:**

**Inspiration**

I have been playing video games most of my life, I have fond memories of fun times when I was younger. Figuring out the mechanics of the game, the maps as well as how to use tools. My experiences have made me realise there are many things to be learned from video games. English is not my native language, I learned lots of vocabulary, grammar and mathematical skills largely through video games, I also learned problem solving skills, time management and how to think strategically to break down problems. I believe these are valuable skills to learn at a young age and they can be taught exceptionally well through the gaming experience. I wanted to create something that allows children to learn but to also have fun at the same time.

This project has allowed me to create something which not only makes use of my programming skills but at the same time I am able to turn my hobby into a product that can educate children. This has luckily made it easy for me to stay engaged and motivated throughout the project. I realised that I can use my gaming experience to guide my programming.

I also wanted from the beginning to create a project that was relevant, something that people could interact with and make use of. I did not want my project to be theoretical or too technical because I believe that takes away from user experience.

Another inspiration for choosing this project was based on my career. I want to apply for application programming roles in the near future, Knowing that I will be able to use this project as evidence of my capabilities and skills convinced this project was worth it.

**Non-technical Struggles**

Outside the programming, the biggest struggle was time management. I had many other deadlines around the same time as this capstone, which meant I had to figure out how to prioritise . I did not accomplish as many tasks as I wanted to early in the year which meant I had a lot of pressure on me right before the deadline. The lack of good time management meant I could not focus on each individual task for as long I wanted to and which had a snowball effect on my productively. It also meant I had to abandon a lot of great ideas that I came up with later on.

Another struggle I faced was working during Ramadan. I am a Muslim so during the month of April I was fasting every day, this meant no water or food until sunset. This really effected my productively during the day. I was fatigued and could not focus for more than short periods of time. During the night I would be eating and praying as well, this of course took a lot of time.

I was at home in Norway for a significant period of time dealing with family matters, during those months I was anxious and because of that I did not work on my capstone at all.