Individual Project (CS3IP16)

Department of Computer Science

University of Reading

Project Initiation Document

## PID Sign-Off

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| **Degree programme** (BSc CS/BSc CSwIY) | **BSc CS** |
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| **Supervisor Name**  *(Consultation with supervisor is mandatory)* | **Carmen Lam** |
|  | Supervisor to sign PID form on Bb (grade centre) |
| **Date** | **23/08/2021** |

# SECTION 1 – General Information

## Project Identification

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| **1.1** | **Project Title** |
|  | Multiplayer networked game. |
| **1.2** | **Please describe the project with key-phrases (max 5)** |
|  | 2D game.  Online multiplayer.  Shooting game.  Android app.  Unity game engine – C#. |
| **1.3** | **E-logbook maintenance agreed with supervisor**  *Use Google doc, OneDrive, or any mobile App whereby you will be able to generate a PDF copy* |
|  | Word Document on OneDrive.  <https://livereadingac-my.sharepoint.com/:w:/r/personal/fe010336_student_reading_ac_uk/Documents/Final%20Year%20Project/E-Logbook.docx?d=wbff77e7e32484d9388a6aa38fda40e6e&csf=1&web=1&e=JZ2wJW> |
| **1.4** | **GitLab link for maintain source code and research data**  *Any change in GitLab link and Source code repository MUST be explicitly mention in final report* |
|  | <https://csgitlab.reading.ac.uk/fe010336/final-year-project.git> |

# SECTION 2 – Project Description

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| **2.1** | **Summarise the project’s background in terms of research field /application domain (max 100 words).** |
|  | I had researched existing games from different genres and noted down player’s reviews. What was noticeable, was that there weren’t many 2D shooting games that had the online multiplayer feature. This inspired me to develop a unique game from a popular genre.  During my research, I had found one existing game of this specific game type, named Deadswitch 3, which had the online feature. So, I looked through the players’ reviews and found the flaws that they have experienced. The main issue was that they kept “teleporting” due to lag. I also took in consideration of the issues that people have been finding with other games, such as Terraria. |
| **2.2** | **Summarise the project aims, objectives and outputs (max 250 words).** These aims, objectives, and outputs should appear as the tasks, milestones and deliverables in your project plan (fill out Section 3). |
|  | *Aim*  To create an Android 2D game which has the online multiplayer feature.  *Objectives*   * To research existing games and come up with a new concept for the game.   + *Output:* Features of the game are produced. * To design the game architecture to illustrate how the players will connect to the game.   + *Output:* Game architecture illustrating the low-end version of the game. * To develop prototypes until a final version of the game is produced.   + *Output:* Multiple players will be able to play the game. * To produce a test plan to test if there are any bugs.   + *Output:* Conclusion based on the test results. |
| **2.3** | **Initial project specification – roughly indicate key features and functions of your finished program/application. Indicate possible method, data source, technology etc. (max 400 words)** (Sensible and relevant Charts, Table, and Figures can be used) |
|  | My project will consist of a game where players will have to eliminate all the viruses. Listed below are the main key features and functions as well as some notes.  *Key Features and Functions*   * There will be different maps to unlock. * Players must shoot medicine at a virus spore (player’s aim must be accurate). * Virus spores will have different levels. * There will be different types of viruses – different shapes. * The medicine will have different strengths. Hence players will need to go to a place (such as Labs) to increase the strength of the medicine. * Viruses will move in different directions – some in random directions and others towards the players. * Players will spawn in base and must grab weapons ASAP. * Players will have both health and shield points whereas viruses will only have health points. * As the game progresses, the virus will mutate and become stronger (more health points). * There will be spawn centres for the viruses. * There will be a map mode where players are able to view their location. There could potentially be a mini map. * Players could have a health splash which would increase the health of all players nearby. * Power packs will refill the medicine, which could potentially spawn in random locations.   Listed above are the main base game features and functions. There are other features and functions which could potentially be implemented.  *Other Notes*  I will be using C# in Microsoft Visual Studio environment as I am quite familiar with it. I have made a couple of games using the C# in the specified environment. I am also going to be using Unity game engine as, after researching, I found that it is a lot more efficient than other game engines. To accommodate the Android aspect, I will be using an SDK from Android Studio.  I believe I will use a database system to store the information of the accounts of the players. |
| **2.4** | **Describe the social, legal and ethical issues that apply to your project. Does your project require ethical approval? (If your project requires a questionnaire/interview for conducting research and/or collecting data, you will need to apply for an ethical approval)** |
|  | As of now, there aren’t any social, legal, and ethical issues associated with this project.  However, there is a concern that shooting can be violent to younger children. Hence, I am planning to implement a disclaimer which will appear when players start up the game. |
| **2.5** | **Identify the items you may need to purchase for your project. A cost upto £200 can be applied (include VAT and shipping if known). You need to have consent of your supervisor. Your request will be assessed by the department.** |
|  | At present, no items should be needed. |
| **2.6** | **State whether you need access to specific resources within the department or the University e.g. special devices and workshop** |
|  | At present, no specific resources should be needed. |

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| **SECTION 3 - Project Plan** |
| Please provide your project plan.  Below is an example project plan, you can use any tool or software to generate yours. |
| I have produced a project plan in Microsoft Excel.    If you would like to take a closer look, please access the document via the Microsoft Onedrive Link:  <https://livereadingac-my.sharepoint.com/:x:/r/personal/fe010336_student_reading_ac_uk/Documents/Final%20Year%20Project/Project%20Plan%20Final%20Version.xlsx?d=w2697b879962345e783fb4ab125b3703e&csf=1&web=1&e=O8M9NX> |