Temasek Polytechnic

School of Informatics & IT

**Diploma in Game Design & Development (GDD)**

AY 2022/2023 Apr Semester Level 3

MP Terms of Reference

**Project Particulars**

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| **MP Supervisor** | Sean Lim |
| **Project ID** | 8 |
| **Project Title** | IIT School – VR Showcase for Open House |
| **Student Matric Card Number** | 2000218D, 2000410G, 2003345B |
| **Student Name** | Ryan Oh Tze Xuan, Stanley Lu Liang Yu, Ong Jian Qin |

**1. Introduction**

*Give a short introduction to the project. You may include information such as the purpose of the project, any relevant background information, the users and usage of the system, brief description of problems faced thereby leading to the need for this system, etc.*

This project is made to promote the new and upcoming Immersive Media and Game Development (IMGD) course to visitors during Temasek Polytechnic’s Open House.

The focus for IMGD during Open House will be Virtual Reality (VR). Using this project, we are to create exciting content for visitors to try out during their visit. The device that will be used is the Oculus Rift S. The VR game is to be developed using the Unity game engine, integrating the Oculus SDK.

**2. Objectives of the Project**

*Describe the objectives that you want to achieve through this project. Objectives may be both technical and non-technical.*

Through this project, there are many technical aspects and non-technical aspects that we want to achieve.

Since we are not familiar with game development in VR, we will need to learn more about the Oculus SDK in order to create a VR game using the Oculus Rift S. Since we are working in a team, we will have to learn how to create interfaces so that the programmers in the team can work on the game without breaking each other’s code. We will learn about the ideal workflow in a team so that bugs will be minimized as the game development progresses.

The user interface (UI) in VR will be different compared to PC and Mobile games, we will need to reference other VR games for their UI and craft out new UI that is suitable for the VR game.

There will also be much to learn for asset creation as the users will also be interacting with the models in the game and are able to see the models up close. We will need to create models that will look pleasant when viewed in VR.

For game design, we will need to take the user’s safety into account, as they are physically using the VR headset to play the game. There are other multiple issues we have to take into account too, such as the game’s immersiveness, the game duration, the user experience in VR and the amount of physical space we are working with.

As for non-technical aspects, as we are working on a major project as a group, we will need to constantly communicate with one another to discuss plans for the project. We need to make sure that ideas and opinions are communicated clearly to the members of the team so that everybody will be clear of what each member is thinking. The project can proceed smoothly when the team is on the same page.

Task delegation to the members will be easier once communication is clear. Each member will have their own roles and responsibilities. The team will be able to spot who is behind and try to plan the project development accordingly.

We will also be able to learn how to obtain information and references effectively using search engines like Google.

**3. Scope of the Project**

*Describe the work to be done on this project. This description does not need to be detailed; it can simply be a few sentences that give a general explanation.*

Deliverables:

Project Demonstration, VR Application, Unity Files, Game Cover Art, Installation Guide, Models created for the game, Textures created for the game, Handover Document, Team’s ATA and DOA, Art Documentation, Technical Documentation, Game Design Documentation.

Deadline: All Submissions by 16 Sept 2022

**4. Project Plan**

*[Use Microsoft Project 2003 to draw a detailed schedule, showing target dates for*

*completion of iterations and phases, release points, demos and other milestones. It should*

*also show the dependencies between activities, the estimated time required to reach each*

*milestone and the allocation of people to activities]*

Project Roles and Responsibilities:

Ryan: Programmer

Stanley: Game Designer

Jian Qin: Model/UI Artist

Project Schedule:

* Week 2: Hardware Research
  + Researching of locomotion in VR
  + Creating sample assets to test in VR
  + Thurs/Friday - Using the hardware: testing assets in VR with Vive
* Week 3: Grid puzzle game
  + Creation of the grid puzzle frame
  + Scripting of the grid puzzle game
  + Thurs/Fri: testing + debugging for the grid puzzle game in VR
* Week 4: Ball maze puzzle
  + Creation of the grid puzzle frame
  + Scripting of the grid puzzle game
  + Thurs/Fri: testing + debugging for the grid puzzle game in VR
* Week 5: Alpha demo
  + Integration of maze + grid into a single game
  + Tues/Wed: MVP: testing alpha demo of the game
  + Debug/improvement of the current puzzles
  + Continuation of the other puzzles
* Week 6: Setting up the puzzle flow, Asset creation
  + Creating a flow between the puzzles available
  + Asset creation for the room
  + Scripting for the puzzle flow
  + Wed/Thurs/Fri: Testing in VR
* Week 7: Number Lock puzzle
  + Asset creation of the number lock
  + Scripting for the lock
  + Thurs/Fri: Testing of the lock in VR
* Week 8: Beta Demo
  + Integration of other puzzle scripts
  + Setting up scene in VR
  + Thurs/Fri: Beta demo of the game
* Week 9: Implementation and Improvements
  + Debugging + further improvements to the overall aesthetics of the game
* Week 10: Pre-Release Demo
  + Demonstration for the final product of the game

Gantt Chart: <https://tasks.office.com/tp.edu.sg/Home/PlanViews/5gLBZlTsvEugWZEWSt9kH8gABlGu?Type=PlanLink&Channel=Link&CreatedTime=637987344857870000>

**5. Skills being assessed (to be completed by MP supervisor only)**

*Describe the key skills being assessed in this project.*