

**STUDENT INDUSTRIAL INTERNSHIP PROGRAMME LOGBOOK**

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**Programme: Information Technology (IT)**

**Place of Training: Murdoch University, Australia**

**Period of Training: 7 months**

**Project Title: Nueromender Project**

**SIP LOGBOOK REPORT**

**LOG BOOK WEEK NO: 7-8**

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| **WEEK NO** | **DATE** | **BRIEF DESCRIPTION OF DAILY ACTIVITIES** |
| **7** | **14/10/2019** | * Change layout in Front Interface |
| **15/10/2019** | * Add in Player Nickname into player-listing |
| **16/10/2019** | * Research about teleporting in Multi-user environment |
| **17/10/2019** | * Fixing problem with database connection |
| **18/10/2019** | * Research about animated hands in Multi-user environment |
| **8** | **21/10/2019** | * Research about animated hands in Multi-user environment |
| **22/10/2019** | * Meeting with supervisor |
| **23/10/2019** | * Project Documentation * Fixing Database Access |
| **24/10/2019** | * Fixing Database Access |
| **25/10/2019** | * Fixing Database Access |

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| Logbook Weekly Evaluation by HOST COMPANY SUPERVISOR | | | | | |
| I**nstruction to Host Company Supervisor**  Please refer to the student’s to assess his/her performance.  Please award the scores based on the range below: | | | | | |
| **Student’s Score** | **Beginning**  **(<2.0)** | **Developing**  **(2.0 to <3.25)** | **Accomplished**  **(Rare)**  **(3.25 to <4.0)** | **Exemplary**  **(Exceptionally Rare)**  **(4.0 to 5.0)** | **Score** |
| Initiative & Creativity | Had little observable drive and did not have new ideas | Some observable drive and some new ideas | Mostly self-starter and sometimes sought new challenges and offered new ideas | Always a self-starter and consistently sought new challenge and offered new creative ideas | **/5** |
| Task Accomplishment & Commitment | Partially accomplished given task despite full supervision | Accomplished given task but with full supervision | Accomplished given task but with some supervision | Accomplished given task with very minimum supervision | **/5** |
| Attendance & Punctuality | Frequently absent and always late | Sometimes absent and sometimes late | Never absent and almost always on time | Never absent and always on time | **/5** |
| Attitude & Self Control | Unable to demonstrate positive attitude and hardly maintained self-control under pressure | Occasionally demonstrated positive attitude and occasionally maintained self-control under pressure | Sometimes demonstrated positive attitude and maintained self-control under pressure | Consistently demonstrated positive attitude and consistently maintained self-control under pressure | **/5** |
| Total Score | | | | | **/20** |
| **Comments:** | | | | | |
| **Host Company Supervisor’s Signature & stamp:** | | | | | |
| **Name & Designation:** | | | | | |
| **Date:** | | | | | |

*(make copies if necessary)*

**DETAIL REPORT WEEK NO: 7**

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| **Objective(s) of the activities :**   * **Change layout in Front Interface** |
| **Contents :**  In previous meeting with our supervisor, we were requested to change some layout in the interface because it is inconvenience for user when viewed in Virtual Reality (VR) environment. Figures below are some changes made to the interfaces.    Figure 17 Interface of Player List    Figure 18 Interface for Create / Join Room    Figure 19 Modules Selection Interface  All interfaces for user input were arranged to be at center. It allow user to be able to see the entire component clearly when it is compacted at center. |
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**DETAIL REPORT WEEK NO: 7**

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| **Objective(s) of the activities :**   * **Add in Player Nickname into player-listing** |
| **Contents :**  In Interfaces where users key-in input before entering module, the default setting for player’s nickname was unable to change. For example, once player connected to server, a default nickname “player” with random number will be displayed in the player listing menu although user has entered a nickname at first place before entering room. Figures below depict the situation:    Figure 20 Player entered a nickname in lobby    Figure 21 Name displayed after joining lobby  Challenges in changing the setting were:   * In the room scene, where it displays list of players, the connection is bounded with scriptable object script. All setting in scriptable object is default where changes only being made in script. * Since the scriptable object script established a new connection to server, therefore the user’s nickname couldn’t be set because it runs in the same scene. But after setting to only one scene for connection, it now able to capture the user nick name and display in list of players scene.     Figure 22 User's nickname displayed in Player Listing Menu |
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**DETAIL REPORT WEEK NO: 7**

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| **Objective(s) of the activities :**   * **Research about teleporting in Multi-user environment** |
| **Contents :**  In steamVR asset, there is teleporting setting which can be set to player. However, it only works when developer use it to develop a single user project. When using Photon for multiplayer project, there is a setting called “*photonview”* which can sync data to other player about position, rotation and scaling through Photon Transform View setting.  Both setting in steamVR for teleporting and Photon View are incompatible to rely on each other. Photon view does not support any setting in SteamVR. We must code the teleportation script to enable teleportation in multiplayer environment.  Challenges that I was facing along the way was:   * When searching through about teleportation, all results were suggesting us to use teleportation provided by SteamVR. Since there is no proper documentation for multiplayer environment as well as tutorial, the final decision was to find out the close solution possible to fit the situation.   There was one solution that enables teleportation in multiplayer environment that is relatable to our project. The teleportation was enabled after add in a tagging code in camera rig script. Player in multi-user environment now can see each other and synced their position when teleported in the scene. |
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**DETAIL REPORT WEEK NO: 7**

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| **Objective(s) of the activities :**   * **Fixing problem with database connection** |
| **Contents :**  As mentioned in previous problem regarding database, it cannot be accessed by other computer after the project was opened. In my opinion, the problem should not be the connection between database server and other computer, because the connection was checked before testing the project. If computer runs in the same server, database should be able to access by other computer.  When searching through about database, solution suggested were:   * To access all file with external links by updating the links (in the scripts) in new computer * Put all external files on the same folder as project. This way in my opinion is more convenient because we don’t need to update links whenever transferring into new PC, instead we just transfer projects along with external files to access database. If driver to access database was installed in the computer that own database, a server to access database must also be installed in other computer to enable access. |
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**DETAIL REPORT WEEK NO: 7**

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| **Objective(s) of the activities :**   * **Research about animated hands in Multi-user environment** |
| **Contents :**  In modules scenes, hands used to grab or holding objects was in static structure.  We were requested to have animated hand when holding an object. In steamVR, there are many hands poser that can be used to depict the action of hands when holding objects. However, since SteamVR can only be used for single user, script of hands must be code.  Challenges that I was facing along the way were:   * When searching through about animated hand, all results were suggesting us to use teleportation provided by SteamVR. Since there is no proper documentation for multiplayer environment as well as tutorial, the animated hands was still in progress state. |
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**DETAIL REPORT WEEK NO: 8**

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| **Objective(s) of the activities :**   * **Research about animated hands in Multi-user environment** |
| **Contents :**  While searching for animated hands, there are several possible ways with pros and cons:     * To use skeletal input by SteamVR, instead of using all whole setting provided in SteamVR, I tried to understand the concept and apply to the project. The Skeletal Input system enables each type of controller to provide applications with an animated skeleton of the user's hand. It also can be used in transferring data to remote clients in a networked multi-user application. However the application is invalid since SteamVR has been upgraded to 2.0 versions. The new version has new skeleton input called, Skeleton Behavior Poser which all setting are default and cannot be used for any changes. * To use Inverse Kinematics (IK), it is developer wants a character to touch an object at a point selected by the user or plant its feet convincingly on an uneven surface. It supported humanoid character with a correctly configured Avatar. This approach was applicable when there was an avatar set in the scene. While using camera rig with only head, it was impossible to apply this approach.   My other teammates has developed an animated hand that enable to pose as a fist but when grabbing object, the position of hands was not as intended as the hand goes inside the object. The position to grab the object also inconvenience as user need to search for the grabbing point to grab the object. |
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**DETAIL REPORT WEEK NO: 8**

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| **Objective(s) of the activities :**   * **Meeting with supervisor** |
| **Contents :**  We demonstrate the progress of our project modules. Improvisations needed for the project are :   * Need to fix the jittering problem in all modules * In grabbing Module, we need to fix the grab position. User should be able to grab the cubes from any position of the cube * Instruction in all modules must be modified for user to be able to read properly * In Interface that need user input, user should be able to click room listed in the scroll view space instead of typing the room name in the room input field. * Fix database connection from other PC, we need to be allow other PC to access the database.   We also need to try more users such as 3 to 4 players to test the connection and multi-user environment in terms of lagging and syncing between players. To test more players, we were suggested to integrate the modules using Windows Mixed Reality and Oculus. As we have approaching the end of our project, we also required to have documentations of project for reference purpose. |
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**DETAIL REPORT WEEK NO: 8**

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| **Objective(s) of the activities :**   * **Project Documentation** * **Fixing Database Access** |
| **Contents :**  Outline of project documentation has been draft. We are now working on updating the documentation.    Figure 23 Database Error in Console  Database : As for now I just have Xampp Installed in other PC, but the connection still not established as there are some error displayed in the console tab when running the project;   * 1. error encoding UTF-8 shows that there is no database accessed at that time to retrieved or sending data   2. hot control error : in Unity definition, the hot control is one that is temporarily active. When the user mousedown's on a button, it becomes hot. No other controls are allowed to respond to mouse events while some other control is hot. Once the user mouseup's, the control sets hotControl to 0 in order to indicate that other controls can now respond to user input. There is still no solution for the problem as for now. |
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**DETAIL REPORT WEEK NO: 8**

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| **Objective(s) of the activities :**   * **Fixing Database Access** |
| **Contents :**  Some changes were made to the database scripts :   * Change the IP address of the coding from accessing "localhost" to IP Address of the main PC. (mysql\_connect line) When the project executed, error as shown in figure below     Figure 24 Database Error   * "Host is not allowed to access error" means mysql supports per host permissions which mean that our database user must have permission to be able to connect from IP “xxx.xxx.xx.xxxx”. * Some user says that Error 1130 is a networking error. The server cannot resolve the hostname of the client. Or the host is not allowed to connect to the MySQL server.   There are some solution suggested such as :   * to enable firewall between both PC * ping connection between both PC (3/4 PC has stable connection when ping) * to flush previlege to other PC to enable it to access database |
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**DETAIL REPORT WEEK NO: 8**

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| **Objective(s) of the activities :**   * **Fixing Database Access** |
| **Contents :**  I tried to flush privilege to enable other PC to access database. However, there is some error appeared when trying to execute the query, the error appears in myphpadmin pages shown in figure below    Figure 25 Error when adding new user  Given guideline to flush the privilege was in coding form, but there's also a way to do it from myphpadmin page, however, the execution is different where admin need to add new user from myphpadmin page and check the privilege for new user. Refer figure below;    Figure 26 Add new user in myphpadmin  After executing the new user, all database in myphpadmin displaying error in certain index that needs to fix. When the database server restarted, the error solved. The error occurs when I tried to flush privilege by creating user and set privilege to the user. There is also another way which is flush certain database to certain user using IP address. It is still in progress because I would need other PC to create new user account in their database. |
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