

**STUDENT INDUSTRIAL INTERNSHIP PROGRAMME LOGBOOK**

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**Matric No: 24657**

**Programme: Bachelor in Business Information System**

**Place of Training: Universiti Teknologi PETRONAS (UTP)/ Murdoch University, Perth, Australia**

**Period of Training: 06th May 2019 – 06th December 2019**

**Project Title: Neuromander Stroke Rehabilitation System**

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| **WEEK NO** | | **DATE** | **BRIEF DESCRIPTION OF DAILY ACTIVITIES** | | | | |
| **11** | | **15.07.2019** | * To connect Virtual Reality equipment, HTC Vive using different PCs. | | | | |
| **16.07.2019** | * To transfer the authentication data to the hosted server. | | | | |
| **17.07.2019** | * To update the progress of the project to the supervisor. * To try connect the multiplayer in the sample game. | | | | |
| **18.07.2019** | * To install and setting up MySQL Workbench. | | | | |
| **19.07..2019** | * To continue connect the multiplayer to running on two headsets going through the server. * To connect the multiplayer authentication to Photon server. * To update the progress to our supervisors. | | | | |
| **12** | | **20.07.2019** | * To figure out how to connect the server with the other PC. | | | | |
| **21.07.2019** | * To connect the server with the other PC. | | | | |
| **22.07.2019** | * To recreate the scene for multiplayer. | | | | |
| **23.07.2019** | * Student Industrial Training Presentation with UTP supervisor. * To connect the multiplayer in different PCs but in the same room. | | | | |
| **24.07.2019** | * To update the progress of project to supervisors. * To continue make the multiplayer see each other in the Virtual Environment. | | | | |
| 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:** | | | | | | | | | |

**DETAIL REPORT WEEK NO: 11**

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| **Objective(s) of the activities :**   * **To connect Virtual Reality equipment, HTC Vive using different PCs.** |
| **Contents :**  **Monday [15th July 2019]**   * **I tried to connect two (2) Head-Mounted Display (HTC Vive) using different PCs.**   **-Purpose: to connect the multiplayer in the game.**   * **We played multiplayer games where we interact with the player in the virtual environment.** * **Challenges:**  1. **At first, we having some difficulties where when we try to connect the two Head-Mounted Display in one time, one of the Vive will terminate from the Steam VR.** 2. **The problem was that, we could not connect two HMDs using one Steam VR at one time so we have decided to sign up another Steam VR account.** 3. **When we try to play the sample games in one of the PC, the Steam VR sends notify that space of the disk is not enough to download the games.**  * **Solution: I try to clear the download cache to fix the problem.** * **Based on my reading, there can be a conflict with an installation and with the steam client. It may be possible that the game that we are trying to run is partially downloaded because of any error. Because of this, steam does not understand whether to install it or download it again. Hence, it pops up an error that there is not enough disk space.** * **We can try deleting the downloading file and running the game again.** * **Steam may download some files again but it will run expected if it’s does.** |
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**DETAIL REPORT WEEK NO: 11**

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| **Objective(s) of the activities :**   * **To transfer the authentication data to the hosted server** |
| **Contents :**  **Tuesday [16th July 2019]**  **• I have decided to use PlayFab in order to secure login/authentication. All I’ve got to do is to transfer all the authentication data to the hosted server.**  **• What I was originally going to do was the client login to PlayFab, the cloudscript would send a REST request to server.**  **• Problem:**   1. **I am not sure how the server would ensure the client trying to connect is the right one.** 2. **Is there a simpler way to use PlayFab as middleman for authentication? All I need is to go from getting the user logged in (I already have the PlayFab client running fine on Unity) to have them authenticated/identified with the hosted server.**   **• Solution:**  **1) Using externally hosted game servers with PlayFab. With this solution, we will still using the existing server, all I need to do is adding some code to integrate with PlayFab and in server.**  **2) Once we have made the decision to use externally hosted servers, the setup is easy.**  **3) In the settings, API features tab of the PlayFab Game Manager, select the “Use external game server provider’ option and click “SAVE API Features”** |
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**DETAIL REPORT WEEK NO: 11**

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| **Objective(s) of the activities :**   * **To update the progress of the project to the supervisor.** * **To try connect the multiplayer in the sample game.** |
| **Contents :**  **Wednesday [17th July 2019]**   * **We update the progress of the project to our supervisors.** * **Feedback:**  1. **The server is headless.** 2. **Try to extract the data into the database.** 3. **Try to find a sample multiplayer VR application and try to running on two headsets going through the server.**  * **I took my part on finding a sample multiplayer VR application to run on two headsets going through the server.** * **My partner, Nur Amiera and I try to run the sample VR game without user login and authentication.** * **A first, we try to find the sample game but end up we try to do the sample our own.** * **We refer to tutorial video on YouTube to make a simple game to connect with two headsets.** * **We also create room so that client can enter and interact with other player in the Virtual Reality environment.** |
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**DETAIL REPORT WEEK NO: 11**

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| **Objective(s) of the activities :**   * **To install and setting up MySQL Workbench.** |
| **Contents :**  **Thursday [18th July 2019]**   * **We try to install and setting up database. The database is to store clients’ data, so we have decided to use MySQL Workbench because it has an application interface that visualize the table and running server in one application.** * **To setup a free database, we chose to download MySQL workbench community as it is free to download and use.** * **After the connection in the MySQL server has been setup, we tried to figure out on how to connect data from Unity to database of MySQL workbench.** * **However, we cannot retrieved the data from Unity.** * **There are several questions and challenges that we need to overcome:**  1. **Which address we need to use to connect to database when coding the .cs file? Is it the local host of the database or IP address of the PC?** 2. **In which files should the SQL queries (the connection setup) placed? Is it in the cs? We tried to follow a tutorial, the tutorial code the connection setup in C# file by including namespace of system and MySQL. However, when we run the code, there’s error that client cannot be authenticated and need to consider upgrading MySQL client. We are not sure about this error because the solution from website suggested that we Grant a privilege for the localhost, but the solution does not work as the same error keeps appearing.** 3. **Is database connection related to Photon server connection? Should we use the same IP address used in Photon server when establishing a database connection? We tried to include the IP address of Photon server (which is also an IP address of local PC) but the connection can’t be established.** |
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**DETAIL REPORT WEEK NO: 11**

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| **Objective(s) of the activities :**   * **To continue connect the multiplayer to running on two headsets going through the server.** * **To connect the multiplayer authentication to Photon server.**   **To update the progress to our supervisors.** |
| **Contents :**  **Friday [19th July 2019]**   * **We have tried to connect the multiplayer in Virtual Reality games to running on two headsets going through the server.** * **However, it was failed to connect the multiplayer using different PCs.** * **Other than that, we connect the multiplayer authentication to Photon server.** * **After running the code, it said that we have connected to the true server, but, when we checked on the server, there is no data updated.** * **Challenges:** * **To configure whether the connection of Photon server has established or not. The connection is determined by trying to get connected form other PC in the lab using the same IP address. Result: the other computer cannot get connected to the Photon server and remain in the “trying to connect” state.** * **Connection to database. It is still in confusion on how to link Unity to database.** * **Today, I learned how to identify if the connection between PC is blocked by firewall or not. Using Command prompt and ping the IP address of the other PC that we would like to connect to will show the result.** |
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**DETAIL REPORT WEEK NO: 12**

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| **Objective(s) of the activities :**   * **To figure out how to connect the server with the other PC.** |
| **Contents :**  **Monday (22nd July 2019)**   * **We try to figure out on how to connect the server with the other PC.** * **For the first step, we read the Photon Server documentation.** * **Then, we tried the application in other PC to check the connection either established.** * **Problem:**  1. **The players cannot join a room when the scene is loaded although the IP address of the server is used.** |
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**DETAIL REPORT WEEK NO: 12**

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| **Objective(s) of the activities :**   * **To connect the server with the other PC.** |
| **Contents :**  **Tuesday (23rd July 2019)**   * **We try to use the same Unity application in different PCs to determine whether it can connect to server.** * **The same problem occurs where it still can connect to the server.** * **The error stated that it can be connected because of the exception.** * **We tried to exclude the IP address both for server and client on firewall to ensure it can allow the connection.** * **We try to transfer the application from the hosted server’s PC to other PC.** * **We confirm the connection between multiplayers by observing the result displayed in the Unity’s console.** * **Other than that, we are also trying to create room by using Photon Cloud instead of Photon Server.** * **Problem:** * **We are using load scene function, however the result is not consistent.** * **Sometimes the scene can be loaded and there is a time where it can’t.** |
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**DETAIL REPORT WEEK NO: 12**

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| **Objective(s) of the activities :**   * **To recreate the scene for multiplayer.** |
| **Contents :**   * **We recreated the scene for multiplayer to make sure it can work well with the multiplayer scene.** * **We just referred the tutorial from YouTube for making the scene.** * **Result:**  1. **It can connect to server.** 2. **Be able to create the new room.** 3. **Be able to join room.** |
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**DETAIL REPORT WEEK NO: 12**

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| **Objective(s) of the activities :**   * **Student Industrial Training Presentation with UTP supervisor.** * **To connect the multiplayer in different PCs but in the same room.** |
| **Contents :**  **Thursday (25th July 2019)**   * **We were having Student Industrial Training (SIT) presentation with UTP supervisor, Dr. Dayang Rohaya in the morning.** * **During the presentation, we were presented the objectives of the presentation, Murdoch University’s background, Work Culture, Work Ethics, skills that we were gained throughout the internship and the discussion on Student Industrial Project (SIP).** * **After that, we were tried to connect the multiplayer in different PCs and the players will enter the same room by using the scene that we were created.** * **Challenge:**  1. **The multiplayer cannot see each other in the room but we can see the connection already connected.** 2. **The console also stated the total of the players in the room.**   **Result:** |
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**DETAIL REPORT WEEK NO: 12**

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| **Objective(s) of the activities :**   * **To update the progress of project to supervisors.** * **To continue make the multiplayer see each other in the Virtual Environment.** |
| **Contents :**  **Friday (26th July 2019)**   1. **Server**  * **The connection to the Photon Server is already established.** * **The connection to the database is not connected in built mood however it is connected during the editor mood.** * **The scene cannot log into the database in built mood because a certain files are missing in the standalone player.**  1. **Multiplayer Scene**  * **The multiplayer still cannot see each other in the same room because it is peer to peer connection.** * **It should connect to Photon Server to synchronize to other player.** * **We still try to fix the multiplayer problem. We already search Google but we still can’t find the way.** * **The scene already can log in to the database by including the I18N.dll and I18N.West.dll file to the asset in Unity** |
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**LOG BOOK WEEK NO: 13–14**

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| **WEEK NO** | **DATE** | **BRIEF DESCRIPTION OF DAILY ACTIVITIES** |
| **13** | **29.07.2019** | * **To connect the database from other PC.** |
| **30.07.2019** | * **To make the multiplayer see each other in the Virtual Environment.** |
| **31.07.2019** | * **To make clients from different PC connect and see each other in the Virtual Environment.** |
| **01.08.2019** | * **To make clients on other PC see other player in one room.** |
| **02.08..2019** | * **To fixed the position of avatar when clients enter a room.** |
| **14** | **06.08.2019** | * **To add controller to the environment** |
| **07.08.2019** | * **To download and install the Android Studio in the PC.** |
| **08.08.2019** | * **To pair the Oculus Quest with the phone to turn on the developer mode.** |
| **09.08.2019** | * **To continue turn on the developer mode.** * **To download and install the SideQuest.** * **To connect the Oculus Quest to the SideQuest.** |
| **10.08.2019** | * **To enable two controller in oculus quest.** |

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| Total Score | | | | | /20 |
| **Comments:** | | | | | |
| **Host Company Supervisor’s Signature & stamp:** | | | | | |
| **Name & Designation:** | | | | | |
| **Date:** | | | | | |

*(make copies if necessary)*

**DETAIL REPORT WEEK NO: 13**

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| **Objective(s) of the activities :**   * **To connect the database from other PC.** |
| **Contents :**  **Monday (27th July 2019)**   * **The application is not connected to the database when connecting to other PC through deployed application.** * **The error is stated that, *“user is not connected to the database”* and the connection is stated that it is not established yet.** * **However, the application is running when it is connected to host computer.** * **A privilege is a right to execute a particular type of SQL statement or to access another user's object. Some examples of privileges include the right to:**  1. **Connect to the database (create a session)** 2. **Create a table** 3. **Select rows from another user's table** 4. **Execute another user's stored procedure**  * **Grant privileges to users so these users can accomplish tasks required for their jobs**. * **In the project, privileged has been given to the user to connect to database. However, it does not work due to the database used in the hosted PC is open to the local server to access.** |
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**DETAIL REPORT WEEK NO: 13**

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| **Objective(s) of the activities :**   * **To make the multiplayer see each other in the Virtual Environment.** |
| **Contents :**  **Tuesday (30th July 2019)**   * **We tried to make the players can see each other in the Virtual Environment using two HMD devices and different PCs.** * **Result:**  1. **User can get connected through network from other PC. However the player cannot see each other in the same room. It is stated that the connection between PC and the server is checked and established.**  * **Reason:**  1. **It could be the camera is not attached to the game object. The camera can be seen in a room when other player entered. However, it cannot be seen in the Virtual Environment.** 2. **It could be the object attached with the object is not instantiated when other user entered a room.** |
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**DETAIL REPORT WEEK NO: 13**

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| **Objective(s) of the activities :**   * **To make clients from different PCs connect and make the multiplayer can see each other in Virtual Environment.** |
| **Contents :**  **Wednesday (31st July 2019)**   * **We referred to PUN tutorial to make the scene working in order to connect the server and entering a room.** * **The scene was successfully developed and we tried to run in other PC.** * **Avatar in the scene can be spawned when other player joined the same room and it is working well.** * **Challenge:**  1. **Player could connect and see each other but not yet in Virtual Environment setting.** 2. **This is due to the setting in the environment is set into getting input from user and not Virtual Reality device.** 3. **Then, we have changed the camera view into VR camera.** |
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**DETAIL REPORT WEEK NO: 13**

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| **Objective(s) of the activities :**   * **To make clients on other PC see other player in one room.** |
| **Contents :**  **Thursday (1st August 2019)**   * **We tried to make the clients on other PC can see each other which means, when a player can transfer its position and rotation to other player through photon server and the avatar will be spawned when other player enter the room while retrieving data from other player about their position in the scene.** * **We tried to change the camera from camera view to camera rig which it can support Virtual Reality (VR). However, when the camera attached to the avatar and we tried to testing the scene, the avatar seems to fall down.** * **Challenge:**  1. **Player already can connect with other PC in the same room but not yet in Virtual Reality (VR) setting so we changed the camera view to VR camera.** |
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**DETAIL REPORT WEEK NO: 13**

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| **Objective(s) of the activities :**   * **To fixed the position of avatar when clients enter a room.** |
| **Contents :**  **Friday (2nd August 2019)**   * **When the first player enter the room, the avatar will be spawned twice that may cause the avatar becomes three when two players enter the room.** * **The spawned avatar in the room also detach from camera that caused the character to fall down from the camera.** * **The character is fixed and finally attached to the camera.** * **The application also has deployed and run successfully.** * **Result:**  1. **Users can enter the same room and see each other.** |
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**DETAIL REPORT WEEK NO: 14**

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| **Objective(s) of the activities :**   * **To add controller to the environment.** |
| **Contents :**   * **Challenges I was facing along the way were:**   + **The controller at first cannot be attached to the character. The controller can be added in the scene, but it is not visible to other player. Therefore an avatar must be added to allow the controller to be visible**   + **The controller cannot be spawned in when other player enter the room, however the problem fixed by adding the game object to instantiate during playing** |
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**DETAIL REPORT WEEK NO: 14**

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| **Objective(s) of the activities :**   * **To download and install the Android Studio in the PC.** |
| **Contents :**   * **There are several steps need to be followed after installing Android Studio in the desktop.**  1. **Under the SDK Platforms tab, API Levels 21 through 27 need to be checked.** 2. **On the SDK Tools Tab, check box next to Show Package Details.** 3. **Make sure the highest numbered item that is checked does not end with “-rc1” or**   **“-rc2”.**   1. **Make sure that LLDB, Android SDK Platform-Tools, Android SDK Tools and NDK have been ticked.** 2. **Then, click apply to install everything.** 3. **After that, click on the Configure > Project Defaults > Project Structure to set the file paths for the SDK, JDK and NDK.** 4. **In order to set the file paths, search Environment Variables and Select Edit environment variables for my account.** 5. **Next step was setting up Unity to Build for Android. The steps was quite simple:** 6. **Open Unity and create a new 3D project.** 7. **We need to set it to build for Android by select Android and then Switch Platform.** 8. **Then, go to Edit > Preferences, click on the External Tools tab.** 9. **Scroll down to the Android Section to set the SDK and JDK paths.** 10. **After that, go to Edit tab again, click Project Settings > Player and scrolling down to XR Settings to check the box next to Virtual Reality Supported.** 11. **Verify that Oculus appears in the SDK’s list.** 12. **Then set up the name of Company and Product.** |
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**DETAIL REPORT WEEK NO: 14**

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| **Objective(s) of the activities :**   * **To pair the Oculus Quest with the phone to turn on the developer mode.** |
| **Contents :**   * **To start the development for the Oculus Quest, we installed Developer Mode on our mobile device but first we signed into the Oculus Dashboard.** * **On the SDK Tools tab, check the box next to Show Package Details**   **Problems:**   1. **It is stated that the headset already linked to an Oculus Account. However, the headset still not connected to the phone.** 2. **We need to insert a 5-digit code for pairing the device but we didn’t find the digit inside the headset, on the screen.**   **Solutions:**   1. **Turn on and off the Oculus Quest.** 2. **Install and uninstall the Oculus Mobile Apps.** 3. **Log in and log out the Oculus Mobile Apps.** 4. **Factory reset the Oculus Quest.**  * **However, we still cannot find the 5-digit code on the screen.** |
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**DETAIL REPORT WEEK NO: 14**

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| **Objective(s) of the activities :**   * **To continue turn on the developer mode.** * **To download and install the SideQuest.** * **To connect the Oculus Quest to the SideQuest.** |
| **Contents :**   * **Problems:** * **We still can’t see the 5-digit code in the environment even though we already turn on and turn off the Oculus Quest.** * **The oculus apps and the Oculus Quest already connected to the same internet connection.** * **Solution:** * **We did factory reset to the Oculus Quest.** * **We transferred the APK from desktop to the Oculus Quest. This means we can install anything from the Android version of Netflix to cough other video streaming apps cough thanks to SideQuest, which is designed to streamline sideloading** * **We downloaded SideQuest from GitHub and install it and click extract.** * **After extracting the file, we opened the SideQuest.exe. and trying to connect the Oculus Quest and SideQuest.** * **In order to connect it, there are several steps need to be done:**  1. **Connect your Oculus Quest to your PC using a USB-C cable.** 2. **Select Connect Device in SideQuest** 3. **Put on your headset and select Allow USB debugging.** 4. **Make sure to check Always allow from this computer.** 5. **Install the App Launcher by selecting Install App Launcher on SideQuest on your PC.**  * **Then, we installed APKs by selecting repos, drag and drop the APK over the SideQuest Window** |
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**DETAIL REPORT WEEK NO: 14**

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| **Objective(s) of the activities :**   * **To enable two controller in oculus quest.** |
| **Contents :**   * **Ways tried to enable the controller:**    + **We tried to change the setting in OVRInputManager, but the changes still does not allow having two controllers setting in the APK file.**   + **Some coding in the APK files was changed**   + **Some tutorials provided through given link were tried, but still the apps work on one controller**   + **Problem still unsolved. When running the application, the controller was still using input as one controller** |
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