



UNIVERSITI
TEKNOLOGI
PETRONAS

STUDENT INDUSTRIAL INTERNSHIP PROGRAMME LOGBOOK WEEK 5 & 6

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Programme: Bachelor of Technology in Information Technology

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

Period of Training: 6th May 2019 – 6th December 2019

Project Title: Project Neuromender (A Home Computer-Based Stroke Rehabilitation System).

LOG BOOK**WEEK NO: 5-6**

WEEK NO	DATE	BRIEF DESCRIPTION OF DAILY ACTIVITIES
5	30.09.2019	<ul style="list-style-type: none">• Adding movable hands into Module 3• Continue discussion in teleport issue on Photon Forum
	01.10.2019	<ul style="list-style-type: none">• Weekly presentation• Observed Murdoch student presentation• Use version control in unity• Setup Photon Server
	02.10.2019	<ul style="list-style-type: none">• Adding all team member into unity team• Find solution for teleport• Add Module 1 into GitHub• Sent an email to Photon Teams
	03.10.2019	<ul style="list-style-type: none">• Fix hand animation• Study about snapping• Fix photon connection
	04.10.2019	<ul style="list-style-type: none">• Search hand animation• Fix scene in VR environment
6	07.10.2019	<ul style="list-style-type: none">• Upload all current working module in GitHub desktop• Detecting error in creating room
	08.10.2019	<ul style="list-style-type: none">• Solving the “Interface Module” problem• Tracking the problem and connection
	09.10.2019	<ul style="list-style-type: none">• Activate join room for player
	10.10.2019	<ul style="list-style-type: none">• Finalize the interface scene• Study teleport problem
	11.10.2019	<ul style="list-style-type: none">• Adding function in keyboard• Weekly presentation

Logbook Weekly Evaluation by HOST COMPANY SUPERVISOR

Instruction 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:					

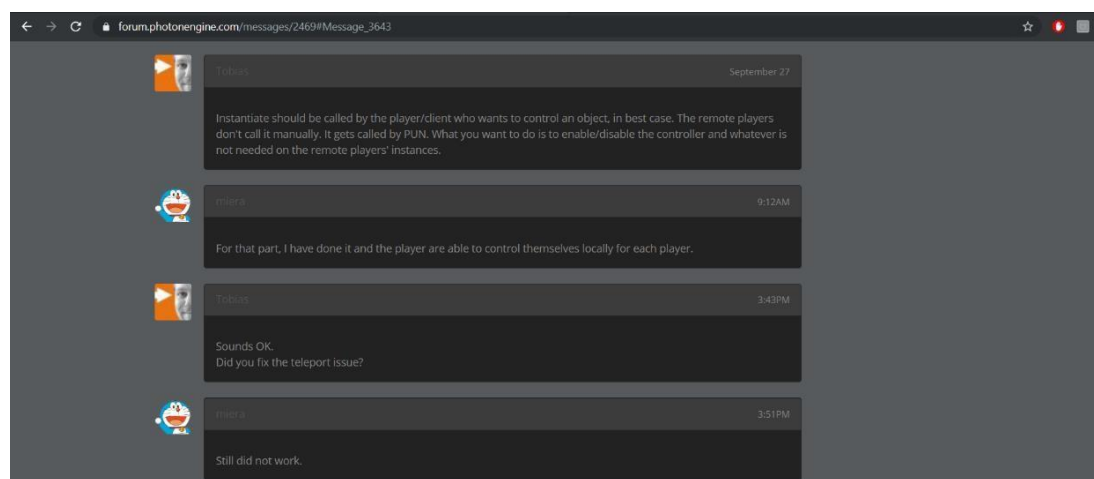
(make copies if necessary)

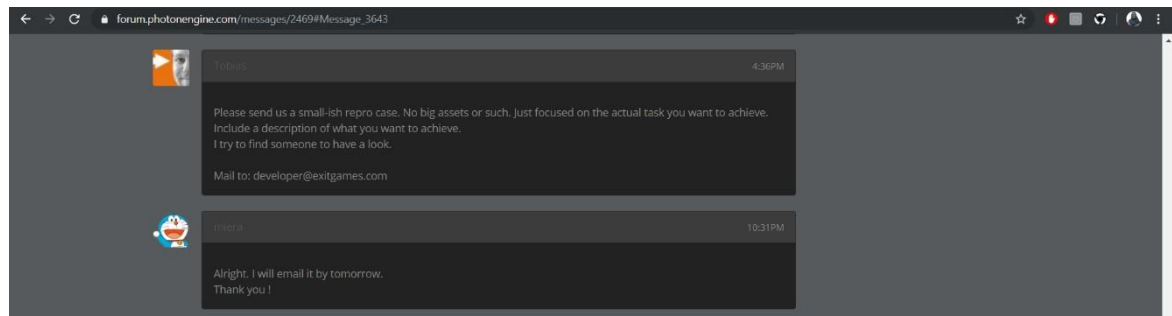
Objective(s) of the activities :

- Adding movable hands into Module 3
- Continue discussion in teleport issue on Photon Forum

Contents :**Monday (30.09.2019)**

1. Adding movable hand into module 3. So that when it grabs an object, the hand will have some animation
 2. I used blend tree which it allows multiple animations to be blended smoothly by incorporating parts of them all to varying degrees
 3. The amount of motion will contribute to the final effect which controlled using blending parameter associate with animator blender
 4. To make it more natural, the motion will be blend with exact timing
 5. In blend tree, there are several types which are 1D, 2D, direct and etc.
 6. I have used 1D in this module which it allows user to used single parameter to control how much value each motion should be played. The value is between 0 to 1
 7. Problem
 - i. The animation implemented did not work. The hands cannot do grip animation when trigger is push
6. Continue discussion on teleport issue in Photon discussion forum





7. For teleport issue, I will sent Module 1 (grabbing scene) to photon developer as Module 1 has the same issue regarding teleportation in multiplayer

Objective(s) of the activities :

- **Weekly presentation**
- **Observed Murdoch student presentation**
- **Use version control in unity**
- **Setup Photon Server**

Contents :**Tuesday (01.10.2019)**

1. Weekly presentation to both supervisors. There are something that we need to fix
 - i. Make sure the player can see each other direction as the same as in the real world
 - ii. Make sure player can pass the object to each other
 - iii. Player need to have an instruction on their controller as they press the trigger so they do not need to go and read the instruction
2. Observed how Murdoch student has their project testing. The things I can see is,
 - i. The importance of client needs to have in the first meeting for the project
 - ii. How programmer need to understand what the user wants
 - iii. How programmer need to explain what the client needs to do inside the scene
 - iv. I can see how the Murdoch student project have been tested on different user to make sure al type of user can use the program
3. We have the problem in transferring our unity folder to test on others pc
4. Both of our SV suggested us to use version control which has provided by unity to make our work easier.
 - i. It makes user easier to manage the code
 - ii. Version control is a repository where files associated with unity has been monitor
 - iii. We can follow every change to the sources of our project, who made the changes, why and how they change it
 - iv. It make it easier for user to find out when the bug occur and what makes has cause it
5. As of my pc use Lan cable, our SV suggested us to change the server on the pc that has access to Lan.
6. This is because when we run the Module, there seem to have a slight lagging and we think it is because the previous server pc is connected to Wi-Fi

7. As my partner has saved the photon control on her hard drive, we transfer it in my pc and make sure it runs on the pc
8. Testing for server has been made by entering new IP address on scene in module to see either it can be connected
9. Result: Photon server has running successfully on my pc and the pc are connected with Lan cable.

Objective(s) of the activities :

- Adding all team member into unity team
- Find solution for teleport
- Add Module 1 into GitHub
- Sent an email to Photon Team

Contents :**Wednesday (02.10.2019)**

1. As suggested by our supervisor, I have created unity version control and unity collaboration in our project
2. However, we need to learn more about this as we did not familiar with this function yet
3. Other than that, as the teleport issue did not solve yet, I made some more research about it
4. The solution that I have found is maybe the problem occur because of the play area which make the position of the player cannot be tracked
5. I tried to look at the play area which provided by steamVR, added it to the project but there is no result
6. Other solution also said that we need to add some wall around the scene which will act as the play area for the player
7. Other than that, the new things that I have learn today is how to add the folder project to GitHub
8. I have added Module 1 in the GitHub as I need to sent it to photon team to ask them about the teleportation issue
9. An email has been to them as one of photon team ask me to sent it to them so that they can check and notify us back about what is wrong with our teleport issue

Objective(s) of the activities :

- **Fix hand animation**
- **Study about snapping**
- **Fix photon connection**

Contents :**Thursday (03.10.2019)**

1. I have tried implement hand animation before inside the Module 1. However, it has problem where I cant see the animation of the hands
2. Today, I have been able to solve the problem. Hands can change into fist animation when triggered are pressed
3. The problem is, the animation that I have made are not being added to my player
4. Once it has been added to the player, it now can grab the object with movable hands
5. Problem
 - i. The movement of the hands when it grabbing the object does not seem natural
6. Other than that, I also study about how to used object snapping and the concept behind it
7. There are new things that I have knew which are
 - i. Joined-fixed
 - ii. Matrices
8. Other than that, one of my friends are having a problem with connecting the player to the server
9. The problem was the player are inside the lobby however they are still not connected to the server
10. The reason is because in the code it used “OnCOnnected()” instead if “OnCOnnectedToServer” which made it cannot override the function

Objective(s) of the activities :

- **Search hand animation**
- **Fix scene in VR environment**

Contents :**Friday (04.10.2019)**

1. Since the hands animation did not look natural, I try to make some change in the animation setting. However, there is nothing change
2. Since there are 2 animation in the hands prefabs, which are idle and fist this is where I used unity blend tree to combined the animation
3. I tried oi add fixed joint on the hands. However, since fixed joint is connecting 2 rigid body it can be implemented to solve the solution
4. I want to make the hands look more natural when it grabs any object in the scene
5. Other than that, we also tried to make all the earlier scene such as enter name for player, create room and join room to appear in VR
6. We have successfully make enter name to appear and works in VR
7. However, when the scene load into create room scene, the button do not functioning. The concept is as same as enter to name for player
8. We tried to find the problem for this issue but still we cant detect what is the factor that did not allow the create function to execute

Objective(s) of the activities :

- **Upload all current working module in GitHub desktop**
- **Detecting error in creating room**

Contents :**Monday (07.10.2019)**

1. As I had sent an email to photon regarding the teleport problem, they had replied the email and telling that they cannot import the link of the GitHub which I has provided.
2. I had replied their email with the new link of the GitHub
3. To upload all the unity folder in GitHub, I has studied a video that he used a GitHub desktop to upload all the unity files
4. I had download GitHub for desktop and since I already has a repository in my GitHub, I just need to make the repository local to my pc
5. Next, I also transfer all the unity files into the new files which has been associate with GitHub
6. To test either it is working or not, I had forward the link to my friend and ask her to test it for me it is successful
7. Result : Project can be download and execute
8. Other than that, I also upload all the module and add the other friends to collaborate on the same project easily
9. Apart from that, I also work on Module 1 which we want to display on HMD
10. The problem we had faced is the button for creating room cannot be clicked
11. I did comment some of the code, however the same problem execute

Objective(s) of the activities :

- **Solving the "Interface Module" problem**
- **Tracking the problem and connection**

Contents :**Tuesday (08.10.2019)**

1. What I have done today to solve the problem is checking back all the script that have been made
2. This is because someone said the problem with creating room maybe because of there are redundant code to create it
3. Change code from "PhotonNetwork.JoinOrCreateRoom" to "PhotonNetwork.CreateRooom"
 - i. Result
 - Room can be created successfully
 - However sometimes, it cannot load the next scene, but console did show the room are created
4. Other problem occur today is canvas sometimes can be loaded but sometimes cannot
 - i. Problem
 - Console mention some game object are not set to the reference
 - ii. Solution
 - Check back all the object in the scene to ensure all the object are set to it reference
 - There are one object which are not set to it reference which this causing the problem
 - Attach all the game object mention in the script and the scene can be run successfully
5. To ensure that all the code is workable, we did some test using the clicked using mouse
 - i. Result
 - The scene are successfully work from lobby into entering the game room
 - ii. Problem
 - When we run this scene in VR environment, the scene cannot be loaded when we clicked the button
6. As the result form going through all the script, I have detect that there are the problem with tagging of the button
 - i. The input of the code should be the name of the button instead of the tagging for us to run this in VR
 - ii. Once we change all the button name, the scene running successfully

DETAIL REPORT

WEEK NO: 6

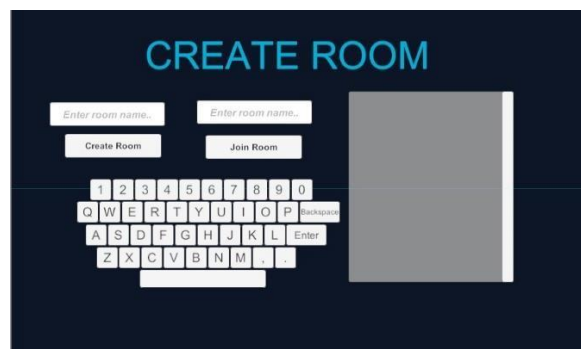
Objective(s) of the activities :

- **Activate join room for player**

Contents :

Wednesday (09.10.2019)

1. To make player join room, as we are discussing there are 2 way we can use to make this work
 - i. Use the scroll view
 - When the player created a room, room created will be display on the scroll view
 - Player can click on the scroll view and they will join that room
 - ii. Add another set of input field and button
 - This concept is still the same as (i), but player need to input the room name and click the join room button
 - After they clicked the button, they will join the room
2. I have added a set of input field and button in the scene
3. As there are 2 input field and we are now working in VR environment, we need to make sure that only 1input field are activate so that we can input the room name in that input field



4. What I have done is when player press the trigger and hover it at the certain input field either “Create Room” or “Join Room” it will change color which means it has been activate

5. Problem

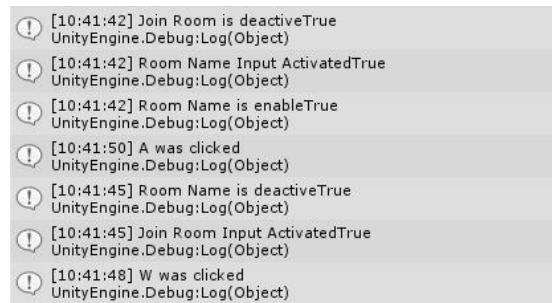
- i. Use the scroll view
 - When we test this using mouse, it work fine without error
 - However, when we are using VR controller, the scroll view cannot work
 - We have add box collider but the result are still the same
- ii. Add another set of input field and button
 - When we code to have only one input field activate at one time it works fine
 - However, when we want to input the value it cannot take the value
 - I change the code to “if create room is activate equal to true and join room is de-active equal to false” so it will active and take the input from the keyboard but both of the input field cannot take the input
 - What I have try,
 - .isActiveAndEnable
 - .enable
 - .interactable
 - .IsInteractable
 - All of the ways that I have tried still did not have a solution for the problem

Objective(s) of the activities :

- **Finalize the interface scene**
- **Study teleport problem**

Contents :**Thursday (10.10.2019)**

1. Regarding the interface problem, since I already make the input field to active every time the player presses the trigger on it, and it will change color when it is selected
2. Then I have made a Boolean check to ensure which input field are activate. When it is true, the alphabet will go into that input field.



3. For example,
If (room = true && join = false)
{
 roomTF.text = roomTF.text + "A";
}else if
{
 joinTF.text = joinTF.text + "A";
}
}
4. End result:
 - i. When the scene has been loaded, player need to press the triggered to the input filed that they want
 - ii. Once the input field has change color, then they can press the keyboard by using triggered
 - iii. Player can type their name, the room they want to create and room they want to join
 - iv. Once all the input field has been input, player can press the button and the game scene will be load

5. I have received reply from photon regarding the teleport problem
 - i. Teleport problem
 - Input not been handle properly
 - Hands the local player reflect to the remote player
 - What we need to do is make sure the received input only applied to proper Photon View
 - since we want to see the other people, we need to make sure to pass the input NOT received input (if !photonView.IsMine)
 - ii. Cube
 - We need to add “RigidbodyView” to the cube and drag it to observed component in Photon View to track it position over network
 - iii. MyPlayer.cs
 - The RPC is not a good implementation since it is at a root object
 - For the controller, both the children share the same “Hand.cs” script which basically handle all the action where we need to do add teleport changes
 - iv. Teleport.cs
 - All the teleport code used are from the generic which provided by SteamVR
 - Problem
 - Before we do the teleportation, we are doing the calculation which based on "Transform cameraRig = SteamVR_Render.Top().origin;"
 - Using this code in multiplayer, it is not a good implementation as there are no guarantee that transform from "SteamVR_Render.Top().origin"
 - So , we need to move the “cameraRig” reference assignment to the root object instead of SteamVR

Objective(s) of the activities :

- **Adding function in keyboard**
- **Weekly presentation**

Contents :**Friday (11.10.2019)**

1. Since the input field has work, I want to add another functionality to the keyboard which is to make it deleted the typo which the player has made
2. Problem
 - i. The caret(cursor) are at the front of the alphabet
 - ii. So, when we want to delete it, we are not able to that
 - iii. This is because there is no alphabet that it can remove
 - iv. Then, we make some research and find a solution which fix the position of the caret by added by 2, so when there is new alphabet enter by player it will be at the end of it
3. We also had our weekly presentation. We have presented all the workable scene to Dr. Fairuz. Comment that we had received are,
 - i. We need to make the size of the “Front Interface” look a bit smaller as it will be display it in HMD. When the display got big, it will make user feel dizzy and it will be a bit blurry
 - ii. The size of the keyboard is good as player can see the alphabet
 - iii. We need to add the teleport functionality
 - iv. When the player grabs an object, make sure to add an animation to the hands, so that player can see their finger are moving when they do something inside the scene
 - v. In the “Grabbing Scene”, when the user picks up the object by using trigger, make sure that player need to hold the trigger to make sure the cube will not fall instead of making it attach to hand
 - vi. Make sure to add “Leave Room” inside the game scene so that player can know where they need to press when they are going to leave the room
 - vii. The UI instruction inside the “IKEA” scene need to be a bit higher so that player can see it easily
 - viii. At the end of the meeting, Dr. Fairuz did share a advantage in using Git Hub when we are developing any project
4. Regarding our Student Industrial Project, Dr. Fairuz has update Dr. Dayang the project that we will be making
 - i. Our main focus is to make all the project able to play in multiplayer