# **Final Year Project: Multiplayer Online Game with AI - Progress Report**

## **Progress Chart**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Agenda\Week** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** |
| Determine project direction |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Find out feasibility of Mahjong AI |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Explore Unity |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Study Machine Learning |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Research on TensorFlow & Pytorch |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Research and understand Machine Learning agents (ML-agents) in Unity |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Try out demo game using ML-agent in Unity |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Identify methods to train the AI (Tic Tac Toe) |  |  |  |  |  |  |  |  |  |  |  |  |  |

## **Tasks Completed**

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| **Date** | **Number of hours** | **Task Completed** |
| 31-AUG-20 | Ongoing | Identify the methods to train the AI: |

## **Problems Faced**

For training the AI, most videos up on Youtube usually have an agent (eg. A car jumping over cars). These examples use the object meant for the user, and allow the AI to interact with the game. They usually have methods to register action for the user, eg arrow keys to move, a button to jump for example.

For the Tic Tac Toe game that we found, it is based on registering clicks on the screen, and based on which player’s turn it is, display the player sign (O or X) on the button itself. We are currently wondering whether the AI can take in the camera information (The one that the user gets to see), and learn from there.

The ML agents toolkit contains many example codes, however more time is required to explore to figure out whether one of those suit our needs, and that we can learn from there.