Internship - Summer 2024 - Project Overview:

Purpose:

My internship aims to learn how to use Unity and explore its potential when applied effectively. After learning Unity, I aim to apply it to VR. Additionally, I intend to utilize my knowledge to enhance robotics by improving the efficiency of teams' robot programming and practice. My goal is to create a simulation that allows teams to test and refine their robots without being physically present on a field.

Main Objectives:

* Learn the very basics of Unity.
* Create a project in VR with a provided framework.
* Design features to help with future Robotics projects.

Expected Outcomes:

* A completed VR project that is functional and playable.

Project’s Background:

* This is done as an internship to a VR company MOE( <https://www.themoe.com/>) & XRMonk(<https://www.xrmonk.com/>) that uses Unity to create their projects.
* This project was selected from 4 projects as it was simple and expandable in the future in Robotics.
* This project focused on the key components of Unity, so I was able to master them better.

Project Scope and Objectives:

Scope:

* This project is limited due to the time available, and the framework provided.

Inclusions:

* + The main components of the project
    - Teleportation.
    - A boundary to teleport within.
    - A hanger to explore.

Exclusions:

* + Other supporting components
    - An intro scene
    - UI elements describing the different parts of the hanger for a more immersive experience.

Objectives:

* Learn the foundations of Unity well.
  + The Scripting system
  + Usage of various Objects to their full potential
  + Usage of Components on Objects
  + Etc.

Timeline:

* 6-week project

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| **Project Plan** |
| |  |  |  | | --- | --- | --- | | Weeks | Deliverables | Details | | Week 1  (6/24 - 6/29) | * Learn Basics | * Work on the Learning Unity Project * Begin working on the Monster Chase Project | | Week 2  (7/1- 7/5) | * Learn the Basics * Work on side projects to further gain an understanding of Unity. | * Finish up the Monster Chase Project * Work on the Obstacle Course Project to get familiar with 3d objects | | Break | Break – On vacation | Break | | Week 3  (7/16 - 7/21) | * Receive Instructions for the main project. * Start working on the main project. * Work on side projects to further gain an understanding of Unity. | * Learn how to develop apps and access them on a VR. * Work on the Flight Project * Work on Project Boost for further understanding of Unity | | Week 4  (7/22 - 7/28) | * Finish up the project. * Start work on documentation. * Work on side projects to further gain an understanding of Unity. | * Finish up the Flight Project * Work on Argon Assault to work on aspects of Unity not covered in the main project. * Start reflecting on the projects covered and write down what was learned | | Week 5  (7/29 - 8/4) | * Continue working on documentation. | * Finish up Argon Assault * Continue documenting learnings from all the projects. | | Week 6  (8/5 - 8/11) | * Wrap up documentation. * Move all project files to a single GitHub project. * Create a Presentation for the whole learning experience. | * Finish documenting learnings. * Work on a plan for further steps to apply my learnings to robotics. * Start moving everything to a singular project in GitHub to make it all accessible. | | Week 7  (8/12 - 8/18) | * Demonstrate the feature. * Create a plan for applying what I have learned to robotics. | * Present about my overall experience, new knowledge learnt, my various projects and share feedback. | |
| **Main Learning Resources** |
| <https://www.youtube.com/watch?v=gB1F9G0JXOo>  <https://www.udemy.com/course/unitycourse2/?couponCode=ST4MT73124> |