

Project Submission Report

Research Engineer Internship – Assignment

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GitHub Repo: <https://github.com/ruchira05/CoinGame.git>

Project Overview and Functionalities

It is fun to develop games that we can feel more our creation rather than other applications. I have never experienced before Unity however I know C# and OOP concepts well and it was a huge benefit to develop game logics. "Mixamo" platform is one of a great for game development beginners also I utilized some other 3D models as well. I created some simple animations myself for just try how it works. And the most important thing is understanding the game logic and apply those in practical manner. Therefore, I am excited for contribute to groundbreaking projects in Mix Reality at Expernetic Pvt Ltd.

- Character Movement: The character can move forward, backward, left, and right using the W, S, A, and D keys.
- Jump Mechanic: The character can jump using the `Space` key, with appropriate gravity applied to simulate realistic jumping behavior.
- Rotation: The character rotates smoothly based on the input direction.
- Animations: The character's animations are synced with the movement inputs, including running, and jumping animations.
- Sound Effects: Running sound effects are played when the character is moving, and they stop when the character stops moving or is in the air.

Challenges and how overcome those

*Character controlling is one of a critical task of game development. I used a blend three for forward motion because it look more realistic and used character controller and make an upside and forward motion when the player is running that sync with the character. And used Humanoid animation. Because one of the hardest parts is create natural jumping motion. One of a requirement is update the UI element according to the current coin count. There are several methods to do that and I Unity Events and invoke an even each coin collection. There is a challenge, create realistic 3rd person camera movement and I found the **Cinemachine** and it runs huge role in camera movements.*