Name: Saurabh Yadav   **Role: Game Developer Intern(Keywords Studios)**

Class Roll No.:49   **University Roll No.: 21234757048**

TILL NOW

- **3 C's of Game Development:** Learned about Character, Camera, Controls and their importance in overall gameplay.
- **Matrix Transformation and Vectors:** Understood the application of Linear Algebra in games and implemented matrix transformation and vectors in both 2D and 3D spaces to manipulate game objects(position, rotation, scaling, skewing)
- **Physics in Games :** Learned use of Newtonian physics and collision detection using rigid body dynamics in both 2D and 3D environments for realistic interactions between game objects.
- **Game Development with SFML library:** Based on above learning developed an Archery game using SFML, implementing projectile motion physics simulating the arc of an arrow with collision with targets.
- **Collaborative Game Projects:**
  - **Snake Game:** Developed classic Snake game and later added a multiplayer option to the Snake game, learning the multiplayer architecture using Node.js server and socket.io real time communication.
  - **Chess Multiplayer Game:** Created a complex multiplayer chess game with a three-layer architecture, Frontend(HTML, CSS, JS) , Nodejs Server(Node.js server with Socket.io for real-time communication and Axios for HTTP requests to c++ backend server), C++ Server (using Boost.Asio, handling the complex chess logic).
- **OpenGL:** Learned basic overview of OpenGL for rendering graphics, providing a foundation for creating visually rich game environments.
- **DirectX Game:** Studied the flow and data logic of a game developed in Microsoft Visual Studio using DirectX, and made additions to the existing game.

FUTURE

Currently being taught **Unreal Engine** (A powerful 3D game engine for creating high-quality games and real-time experiences across various platforms)

Would be assigned to a Unreal project by end of June first week or start of June second week.