

# 3D-Graphics

## Report on Cosmic crush

-Dhruv Dagar(C00303423)

**1)** This project was made by me and my friend Jack Kane in the group. At the start, I set up the repository and added the base file that included the enemy and a few other basic components of the game. After that, I was assigned the task of making the enemies appear in different sizes and improving their motion. To achieve this, I created random movement patterns and programmed the enemies to move in different directions when the game started. Later, I also added a feature where the enemies change colour depending on their scale or size. This made the game visually clearer and more engaging. Apart from these contributions, I joined Jack in debugging and error checking during class. Working together on fixes taught me the value of collaboration and improved my coding skills.

**2)** During the development process, I learned many new things. Since it was my first time working with Unity, the whole project felt like a new and exciting experience. I learned how Unity can be used with version control systems such as GitHub, which made teamwork easier and more efficient. I also discovered useful Unity features, like locking an object's axis to stop it from moving in unintended ways. This solved the problem we faced in the beginning, when the balls would fly away unrealistically after collisions. Another valuable lesson was learning how to write and attach functions to objects, test them, and adjust them until they worked properly. These experiences gave me confidence in my ability to code in Unity and showed me how practical learning is often more effective than simply reading tutorials. Overall, the project gave me hands-on skills and helped me understand the basics of game development much better.

**3)** Like every project, ours was not perfect. One bug we noticed is that if the player changes direction too often, the ball size decreases rapidly and sometimes disappears entirely. Another issue occurs when the player collides with an enemy at a certain angle near the boundary, causing the player to jump out of the map and fall into the void. A missing feature we also identified was the lack of a proper HUD or restart option. Currently, the game can only be restarted by closing and reopening it, which is inconvenient. These were the most noticeable issues during playtesting. Still, despite these limitations, the project was very rewarding. It gave me the motivation to continue improving by fixing bugs, polishing mechanics, and adding missing features in future projects.