Overview of the subject:

We are developing a single-player, top-down, two-dimensional golf course for our project. The only input method used in this game is the mouse. The player must drag and release the mouse click in order to shoot the ball, and the distance dragged determines how powerful the shot will be. When the golfer hits the ball into the golf hole, the game is over.

Reason for selecting the project:

It's strange that a system designed to solve our issues can be utilized interactively to provide us with outputs for amusement that are determined by our own constraints. Our goal in selecting this project was to observe how a system and a human interacted within our predetermined parameters and logic. There are countless ways in which controlled situations, like simulations, might inspire us to visualize ideas graphically on a pixelated computer screen. One such example of creativity and display of a simulated controlled environment from a system designed only to solve problems was our code.

Important Points to Note:

Our code consists of a 2D top-down golf course with a golf hole and obstacles. Clicking and dragging the mouse button allows the player to shoot. When the mouse cursor is dragged an arrow appears which points to the direction in which the ball will be shot. The length of the arrow represents the power with which the ball will be shot. The game is an SDL2-made graphics-based game. To increase the project's interactivity, the barriers and holes are created at random. The user would then have a new game to play as a result. We included principles of real-world physics in the game. The notions of motion, friction, and collision are used in the code.

Things the project taught us:

Our project was created with SDL2, which comes with several built-in capabilities. We had the ideal chance to learn new things and get out of our comfort zone with this. For us, this was a unique project since it allowed us to practice utilizing code to create graphics. Additionally, it facilitated communication and friendship-building among us and the other members.

Opportunities for improvement:

We can improve the code by including a program that determines the player's score and game time. To make the game more interactive, the graphics can also be improved. We can also add keyboard inputs to the game and smooth out the controls. Additionally, we may enhance the code to create a multiplayer game with many playable levels and modes. If the code was written in a different programming language, we could also make it more efficient and compact.

Future Potential:

With a few tweaks, this game could develop into a fantastic title in the future. Several people can play this. Many kids who are keen to learn how to create new games can be taught by using the reasoning and coding that underlie the game. We can assist the enthusiastic students in learning game creation even at this early stage.

Problems faced during the project:

The major problem faced during the project was in the graphic part of the project. The first issue we faced was that the ball which was spawned at the start of the game merged with the obstacles. The second issue we faced was that when we tried to add the arrow during dragging was initially opposite to the direction of the movement of the ball. Initially when we were defining different obstacles we used 10 different obstacles but then we went with the idea of using an obstacle array and used for loop inside it to make it shorter

Role of each team member:

1. Physics:

Vyshnavi and K. Hema Sri Lasya

The game we developed includes real-life physics incorporated in it. This includes concepts of friction, collision, and momentum. They developed the idea

2. Graphics:

Karan and Sunidhi

Our team used SDL2 to generate the graphic part of the game. The work was equally divided between the two members. We learned the various functions of SDL2 online via some YouTube videos and websites.

3. Logic:

 J **Adithya**

This included only one member and he did all the logic parts related to the game.

To conclude all the members of the group have contributed equally to the group and has been participating actively in the, making of the whole process