If the AI player is playing, Track the color of the ball and paddle using computer vision algorithms to get the real-time location of the ball and the paddle.

**Raspberry pi 4 model B**

Real-time video capture

Camera

Control the paddle

**Arduino Uno**

Get signals from raspberry pi according to locations of the ball and the paddle and control AI player’s paddle.

Belt driven linear paddle system with Nema 17 stepper motor and a solenoid lock

User press push

buttons

Control the user's paddle based on input received from the push buttons on the remotes.

Push Buttons

(Wired Remote)

Control the paddle

Game setup LCD Screen

number of rounds

Display game modes, difficulty levels and

**Arduino Mega**

User input

Select the game mode and enter the number of rounds according to the user input.

Keypad

Belt driven linear paddle system with Nema 17 stepper motor and a solenoid lock

User press push buttons

Push Buttons

(Wired Remote)

Control the user's paddle based on input received from the push buttons on the remotes.

Control the paddle

IR Module

When the ball enters a hole, update the scores on the LCD screens accordingly and activate the buzzer and activate Redeploy mechanism.

Game score updating system with lcd screens and buzzer, and ball redeploy system with servo motors

Whether the ball enters a hole or not

Update scores and redeploy the ball