A12 - User Manual

Year: 2025 **Semester:** Spring **Team: 1 Project:** Electronic Skee Ball
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1.0 Product Description

Electronic Skee Ball offers a modern twist on the classic arcade game with a focus on accessibility and engaging gameplay. Designed for users of all abilities, this miniature, electronically enhanced version of Skee ball replaces manual rolling with a motorized launching mechanism. Players control the direction of the ball using an analog joystick and determine launch power with a simple push-button press. Featuring a traditional three-try game mode, this game is perfect for family entertainment venues, recreational centers, and arcades seeking an innovative, inclusive twist on an arcade classic.

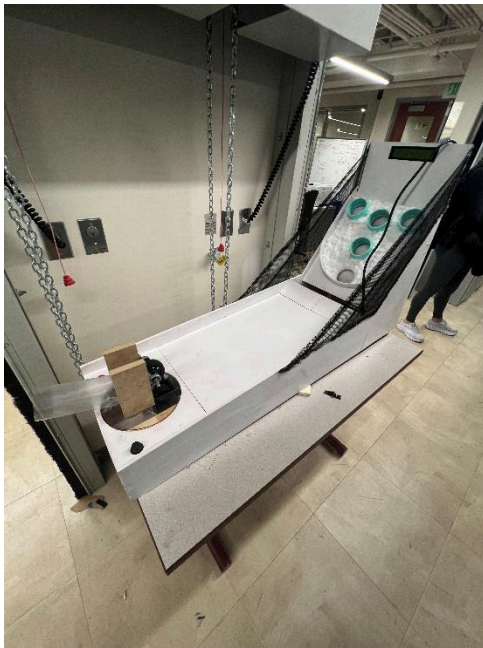## 2.0 Product Illustrations

Figure 1: Complete System   **Figure 2: Display/Scoring Holes**
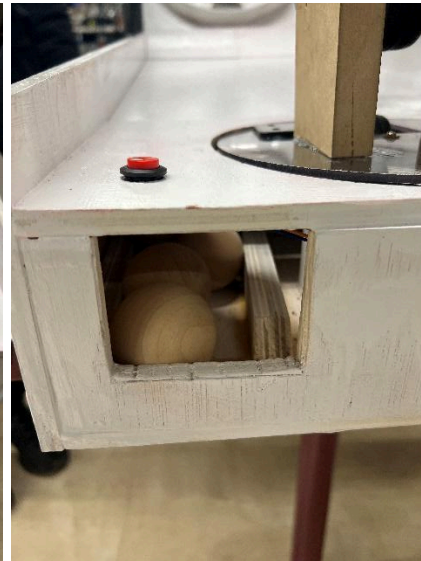

Figure 3: Joystick   **Figure 4: Press Button**

Figure 5: Load/Launch Mechanism   **Figure 6: Ball Retrieval System**

3.0 Setup Instructions

1. **Connect to Power:** Plug the power cable (as seen in Figure 2) from the back of the machine into a wall outlet.
2. **Turn On the Device:** Confirm that the unit is powered by checking that the OLED display (seen in Figure 2) is lit.
3. **Prepare the Game:** Ensure that there are at least three balls in the retrieval slot (seen in Figure 6) located at the bottom left beneath the machine's press button (seen in Figure 4-6), and that the display prompts the user for a new game session ("press to play").

4.0 Usage Instructions

1. **Start the Session:** Press the button (Figure 4) on the left side of the machine once to initiate a game session. This action sets the machine into its first operational state.
2. **Aim Your Shot**: Use the joystick (Figure 3) located on the right side of the launcher to adjust the direction of the launching mechanism. Move the joystick left or right until you are satisfied with your aim.
3. **Set Launch Power**: Once your aim is set, press and hold the button. An on-screen loading bar on the OLED display will indicate the duration of your button press in 10% increments, up to 100%. The longer you hold the button, the greater the launch power will be.
4. **Initiate Launch**: Release the button after achieving the desired power level. The launching mechanism will activate for approximately 1.5 seconds, during which you must drop the ball into the mechanism through the loading tube located at the back.
5. **Score Points:** When the ball passes through one of the scoring holes, a sound will play to indicate that points have been earned, and the corresponding score will be displayed. Each scoring hole is assigned a different point value.
6. **Missed Shots:** If the ball does not enter a scoring hole, the game will display a brief notification indicating that no points were scored before moving on to the next attempt.
7. **Repeat Attempts:** Retrieve the next ball from the retrieval system (Figure 6), and repeat the aiming, power setting, and launching process for each of the three available attempts.
8. **Final Score:** After the final attempt, your overall score will be displayed on the screen.
9. **New Game Session:** To start a new session, simply press the button again while the final score is displayed, and the game will reset for another round.

5.0 Troubleshooting Instructions

Problem	Potential Solutions
Display not functioning properly	- Power cycle the machine by unplugging it from the back and plugging it back in again - Press the push button to end/start a game session to see if this resets the display on its own
Balls stuck in retrieval system	- Lift device from the rear to get the balls to roll towards the front of the machine - Take the top ramp off and manually retrieve balls from within the machine if they are stuck further within the machine out of reach
Launching mechanism not aligned upon start	- Power cycle the machine by unplugging it from the back and plugging it back in again - If still not working, remove top ramp off and manually press the reset button on the PCB to ensure full software reset

If Issues persist and you are still experiencing technical difficulties, please contact our customer support line: (248)-434-5508