SNAKE GAME

PROJECT OUTLINE

- The Snake Game built using Arduino, P5, and Tone.js! In this project, we have combined hardware and software elements to create a classic snake game that you can play on your computer screen while controlling the snake using an Arduino board and interacting with the game's audio using Tone.js.
- This documentation will provide you with a description of the project, along with images, a video example, and relevant diagrams to help you understand the work. We will also share our thoughts about future development possibilities for this project.

DESCRIPTION

- The Snake Game is a popular arcade game where the player controls a snake that moves around the screen, eating food and growing longer with each successful eat and avoiding obstacles and/or passing through with in 5 free pass. The game ends if the snake collides with the walls, its own body and obstacles. You control snake using 4 button Arduino(left, right, up and down) and use shift key on your keyboard to use free pass to avoid hitting obstacles and Tone.js to provide background music.

Hardware and Software Components

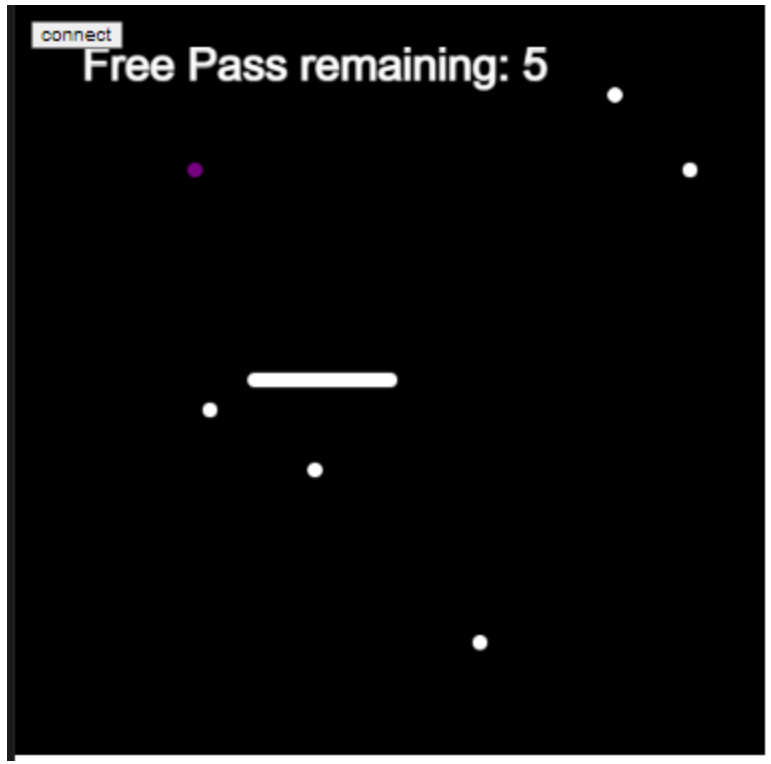
- **Hardware Components**

1. Arduino board (e.g., Arduino Uno)
2. Breadboard
3. Jumper wires
4. USB cable for Arduino
5. Potentiometer (optional, for controlling game difficulty)
6. Speaker or headphones (for audio output)

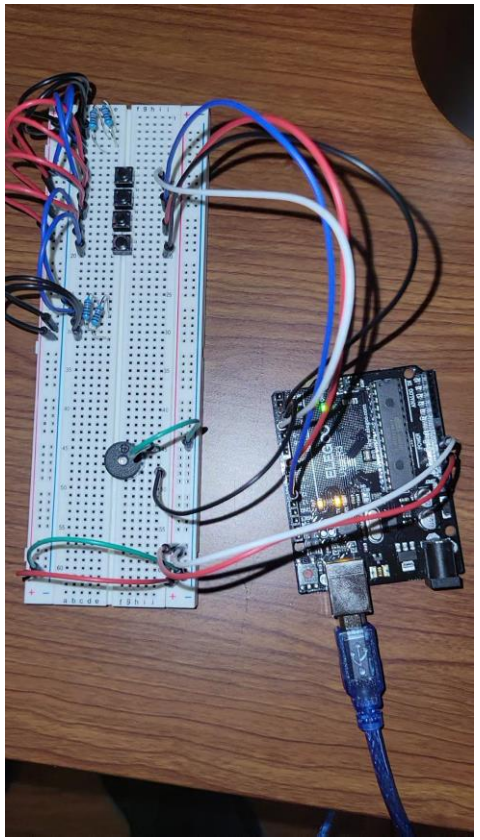
- **Software Components**

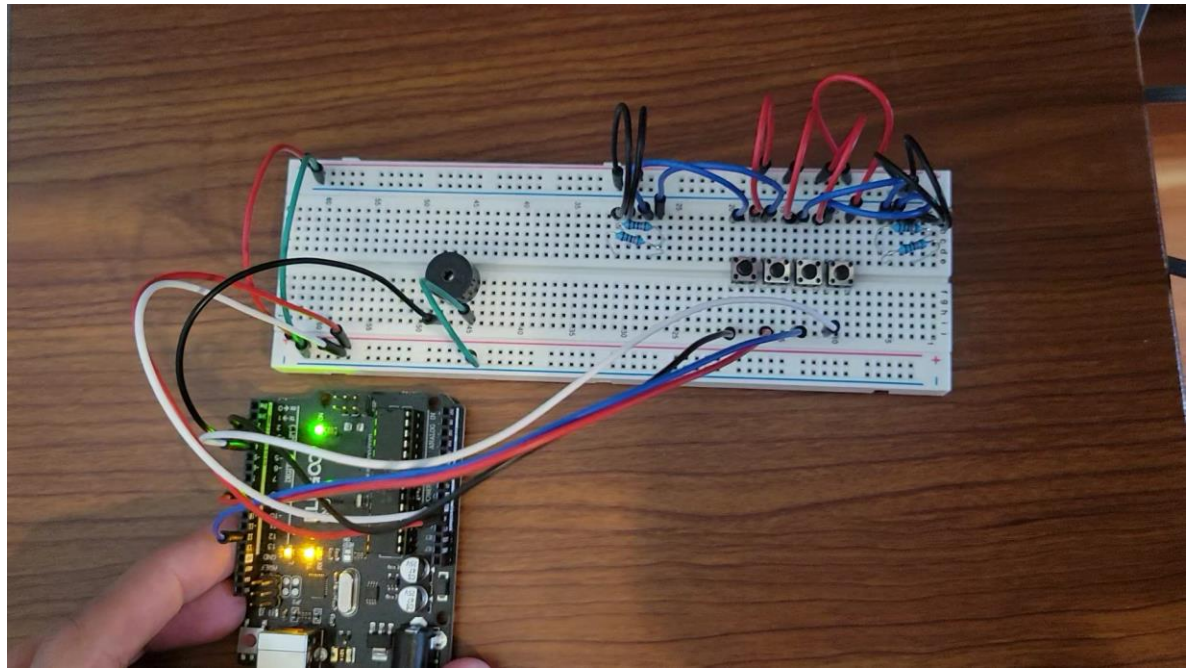
1. Arduino IDE: Used for programming the Arduino board.
2. P5.js: A JavaScript library for creating interactive graphics in the browser.
3. Tone.js: A Web Audio framework for creating interactive music and sound.

Game play Images



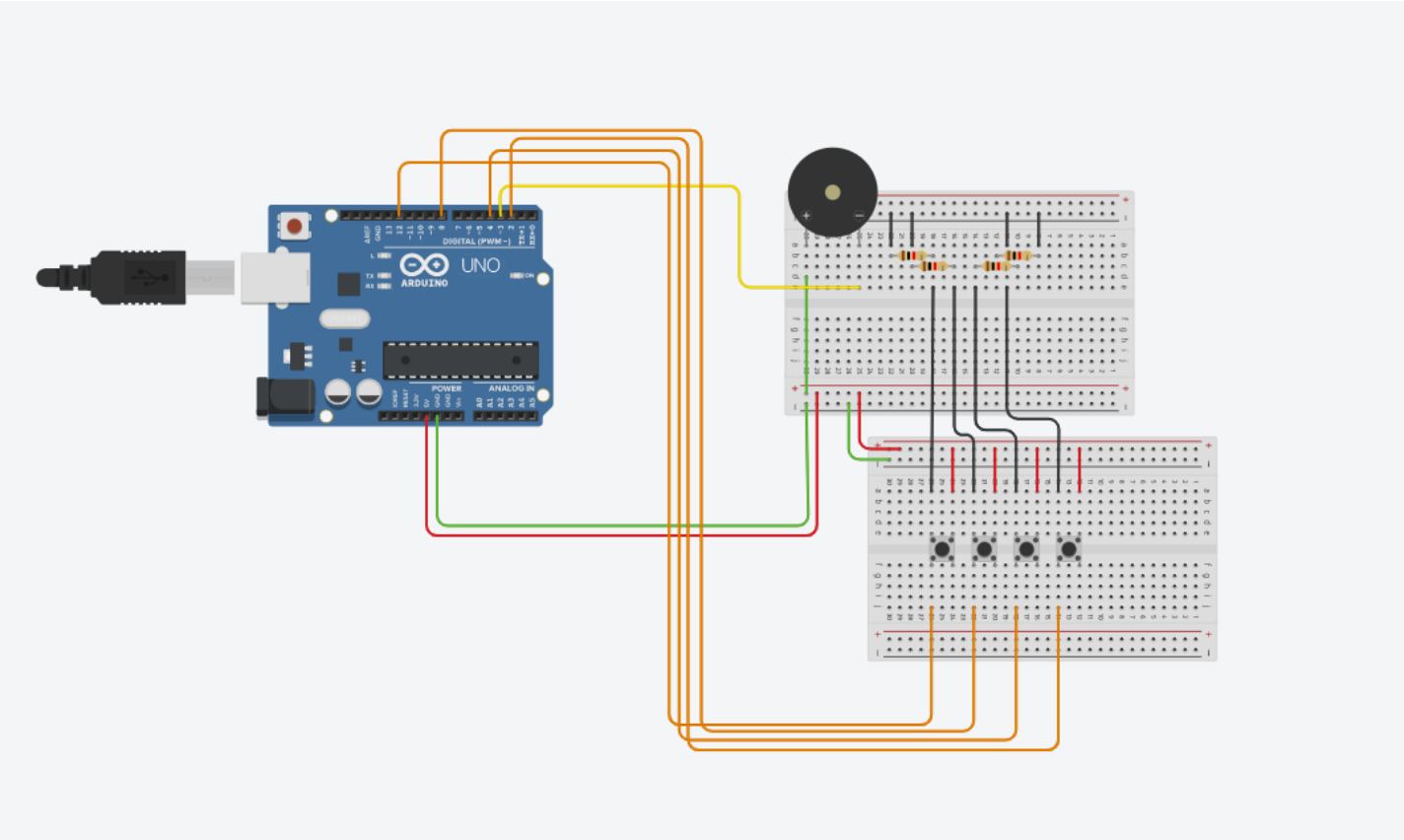
Arduino setup images





Video

Circuit For Arduino



Future Development

- Add levels which will has obstacle wall inside the canvas
- Improve music quality
- Improve snake graphics and add motion graphic in background