**CSC 2463 Project Proposal**

**Name:** Meredith Bevill

**Project Title:** Animal Sound Match

**Description:**

"Animal Sound Match" is a fast-paced game where players must match the sounds of cows and dogs to flashing images on the screen. With just 20 seconds on the clock, players must press the corresponding button (cow or dog) at the exact moment the image appears to score points. Hit the right button at the right time, and you'll earn a point and see the blue LED light up on the Arduino board. But be careful – pressing the wrong button or missing the timing will deduct a point, with the red LED signaling your mistake. As the game progresses, the images flash quicker, testing your reflexes.

|  |  |
| --- | --- |
|  | Project Elements |
| Graphics | **Cow Image**:   * Create a function to display the cow image on the canvas. * Use p5.js's **image()** function to draw the cow image at the specified location. * Ensure the cow image is displayed prominently and clearly on the screen.   **Dog Image**:   * Create a function to display the dog image on the canvas. * Use p5.js's **image()** function to draw the dog image at the specified location. * Ensure the dog image is displayed prominently and clearly on the screen. |
| Sound | **Cow Sound**:   * Load the sound file for the cow sound. * Create a Tone.js **Player** object to play the cow sound. * Ensure the cow sound is loaded and ready to play when needed. It will play when the cow button is pressed.   **Dog Sound**:   * Load the sound file for the dog sound. * Create a Tone.js **Player** object to play the dog sound. * Ensure the dog sound is loaded and ready to play when needed. It will play when the dog button is pressed. |
| Hardware Input | **Arduino Setup**:   * Connect Arduino to the computer and open the Arduino IDE. * Set up the Arduino board with a breadboard. * Connect two buttons to digital pins (one for cow, one for dog). * Connect two LEDs (blue and red) to digital pins as output.   **Button Input**:   * Write Arduino code to read the state of the buttons. * Use digitalRead() to check if each button is pressed. * Send a signal to the computer (serial communication) when a button is pressed. |
| Hardware Output | **LED Output**:   * Write Arduino code to control the LEDs based on game events (earning/losing points). * Turn on the blue LED when earning a point and turn on the red LED when losing a point. |