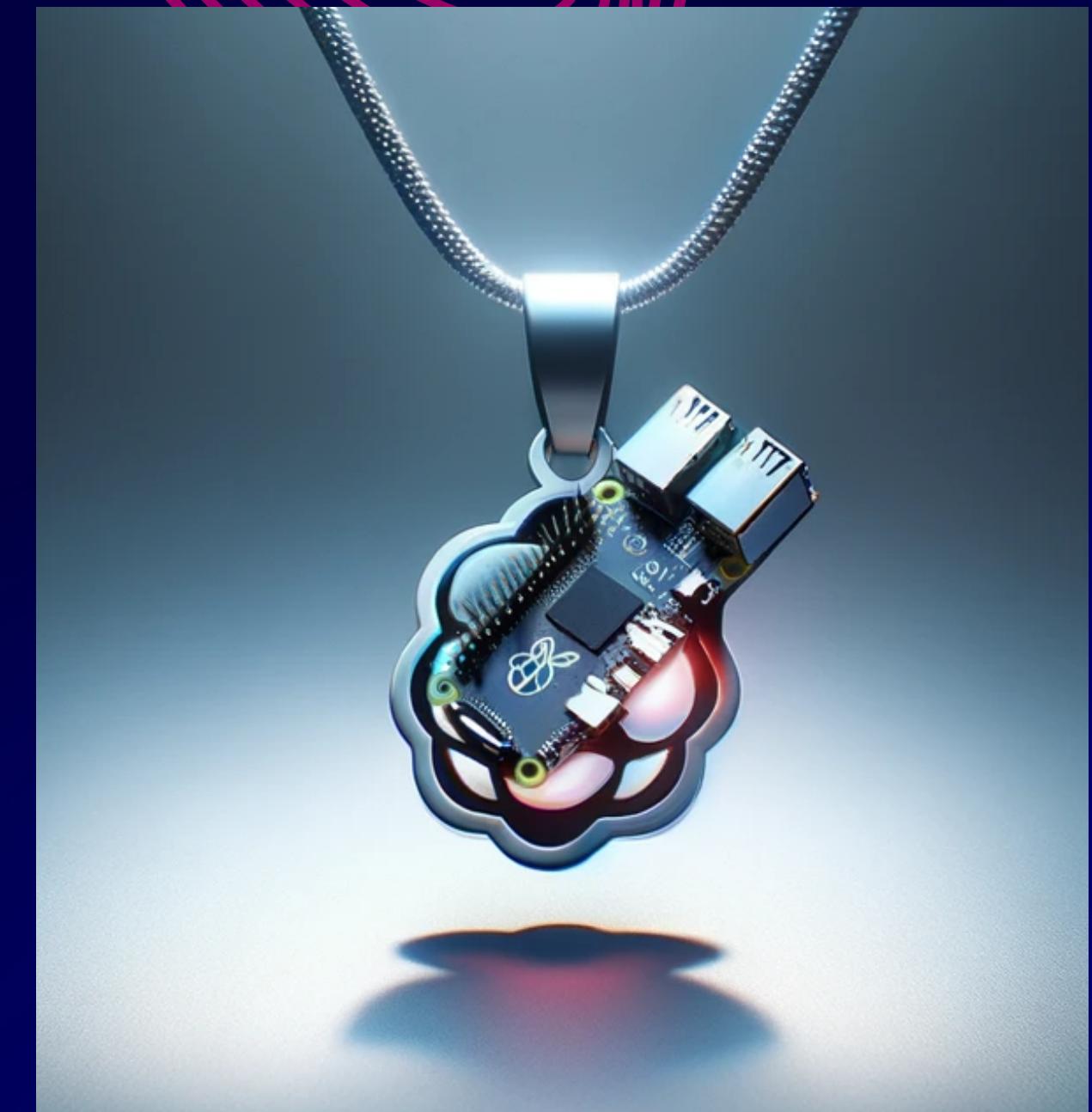


INTERACTIVE WEARABLE PENDANT

SWOSTIK PATI





INTERACTIVE WEARABLE PENDANT



Inspiration and Resources

At the heart of this project is the desire to offer a voice to feelings that are often hard to put into words. While the pendant is especially supportive for individuals like those with Autism Spectrum Disorder, who might find verbal communication particularly challenging, its purpose resonates universally. We all have days when emotions become overwhelming, or words feel inadequate. This wearable is a nod to those moments, providing a color-coded bridge to express our innermost feelings. It's a reminder that communication isn't just about words, but about connection and understanding.



INTERACTIVE WEARABLE PENDANT

Conceptualization

I will embark on creating a pendant that mirrors the wearer's emotions, transitioning from an initial exploration of temperature sensors to utilizing Neopixel rings for their vivid color displays.

Strategy for Development

My approach includes integrating Adafruit temperature sensors to capture subtle changes in body temperature, indicative of emotional states. A tailored mobile web app will allow users to personalize their color displays, aligning with their emotions.

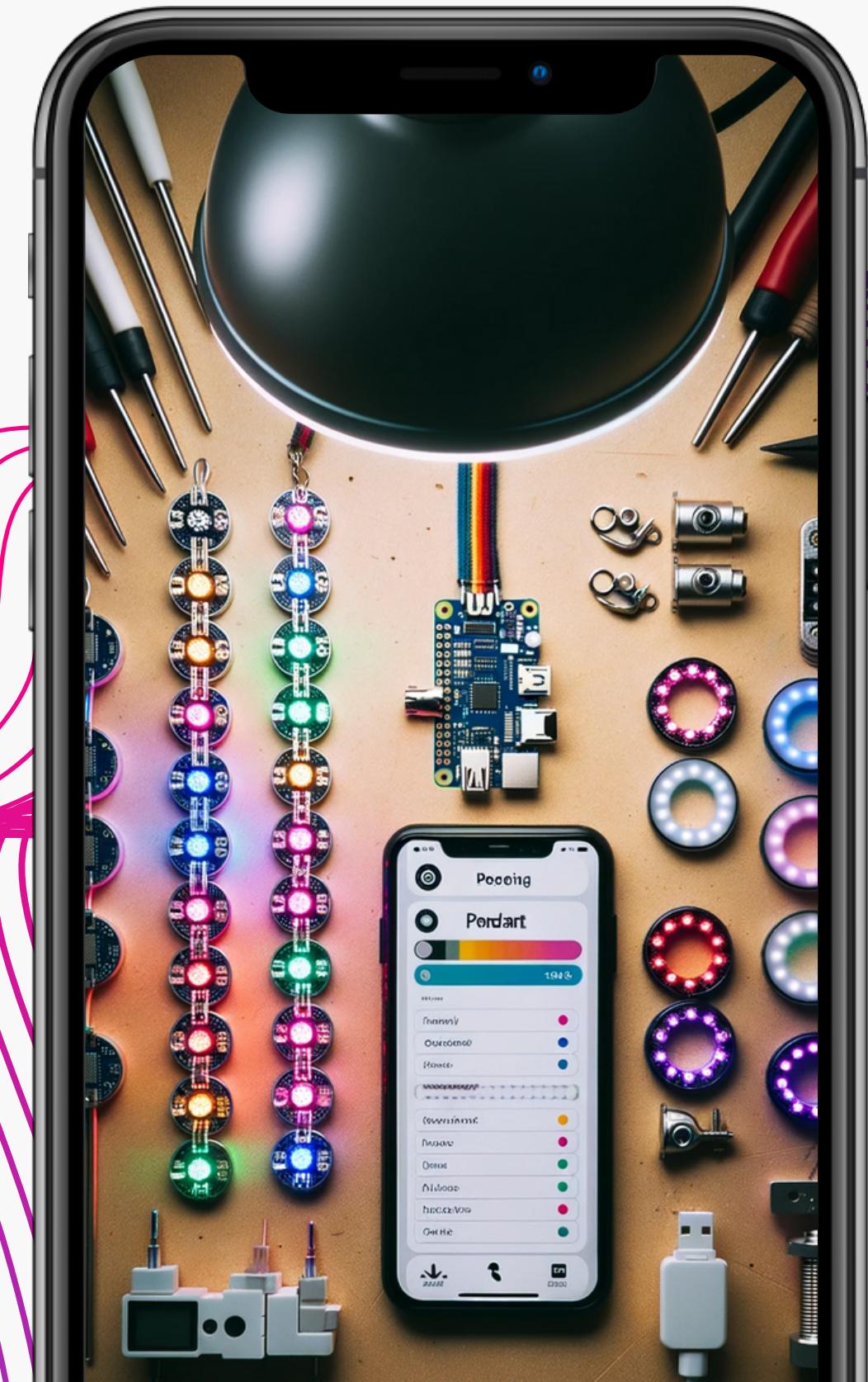
Technical Infrastructure

I've selected the Raspberry Pi Zero W for its compactness and utility, intending to run a node-express server. This system will enable real-time adjustments to the Neopixel displays based on user preferences.

Optional Integration

I'm considering the incorporation of augmented reality to provide a more immersive and interactive layer for users, enhancing non-verbal emotional expression.

Project Narrative





INTERACTIVE WEARABLE PENDANT

Images



FRONT SIDE



BACK SIDE



INTERACTIVE WEARABLE PENDANT

Input Processing Output

INPUT

Temperature Sensor
Detects body temperature fluctuations as indicators of mood

App Control
Receives manual user input through a dedicated web app, transmitted to server via Wi-Fi

PROCESSING

Raspberry Pi Zero W
Processing both the temperature data and app input and handles the hardware output

OUTPUT

Neopixel Lights
Dynamic color and fading patterns represent different moods.



Learning Objectives



Learning Raspberry Pi



**Working with sensors, neopixels, etc
on a wearable item**



Exploring Augmented Reality



Materials

ELECTRICAL COMPONENTS

1

Adafruit Temperature Sensor: For detecting body temperature fluctuations as potential mood indicators.

2

Raspberry Pi Zero W: The central processing unit for all inputs and hardware control.

3

Neopixel Ring: To visually express mood through dynamic color patterns and fades.

NON- ELECTRICAL COMPONENTS

1

Pendant Housing: A protective and aesthetic enclosure for the Neopixel ring and other electronic components.

2

Necklace Cord: To wear the pendant around the neck and also to encase the wires inside

3

Pendant Back Housing: To safely contain the Raspberry Pi Zero W and the battery.



Proposed Project Timeline

Week 8

Collect all the basic materials required

Week 9

Coding 1:
Finish up the primary web app and setting up the Node-Express server on Raspberry

Week 10

Develop, unit test, and integrate the basic circuitry and work on AR integration

Week 11

Work on the integrating the individual components into a pendant necklace form

Week 12

Create the schematics and narrative behind the project (storytelling) with initial documentation

Week 13

Playtest the final product

Thank You