Function Proposal

Hardware

- **Inputs**
  - Pushbuttons — To control the navigation of selection of different states
    - Up — Allows the user to navigate the menu
    - Down — Allows the user to navigate the menu
    - Left — Allows the user to navigate the menu
    - Right — Allows the user to navigate the menu
    - Center — Allows the user to select a state

Source: https://www.amazon.com/CO-RODE-Tact-Button-Switch-6x6x5mm/dp/B00W0YUV1W/ref=sr_1_4?ie=UTF8&qid=1517433649&sr=8-4&keywords=push+button

  - Humidity and Temperature Sensor — This detects the humidity in the air and the temperature of your environment and can show them on screen.

Source: https://www.sparkfun.com/products/13763

  - Slide Switch — To control the power state of the device

Source: https://www.sparkfun.com/products/14330

  - Mini Photocell — This sensor detects the amount of light being received and can cause the device to change states based on the readings.

Source: https://www.sparkfun.com/products/9088

- **Processing**
  - Arduino Pro Mini – This device provides a good amount of inputs and outputs needed for my project.

Source: https://www.amazon.com/Arducam-Atmega328-Development-Compatible-Arduino/dp/B01981EBBA/ref=sr_1_3?s=electronics&ie=UTF8&qid=1517433788&sr=1-3&keywords=arduino+pro+mini

- **Outputs**
  - LCD Screen — This allows the user to see all actions that are chosen and to see the different states of the device. The product supports a full rainbow of color and is made by Adafruit with libraries to assist you in using it.

Source: https://www.amazon.com/gp/product/B00SK6932C/ref=oh_aui_detailpage_o04_s01?ie=UTF8&psc=1

  - Small Speaker — This will allow the device to give some audio feedback to the user.

Source: https://www.sparkfun.com/products/10722

- **Power**
  - LiPo Battery — Providing power to the device

Source: https://www.amazon.com/oneself-Lithium-Polymer-rechargeable-battery/dp/B00M6LKAQA/ref=sr_1_5?s=electronics&ie=UTF8&qid=1517434515&sr=1-5&keywords=lithium+polymer+battery

  - Adafruit PowerBoost 1000 - This add on circuit will provide constant power and charging capabilities to the device.

Source: https://learn.adafruit.com/adafruit-powerboost-1000c-load-share-usb-charge-boost/downloads

Software

Arduino IDE - This software will control communication between external sensors and the game.

Source: https://www.arduino.cc/reference/en/

● Adafruit GFX Library - The GFX Library allows for quick interfacing for drawing text, simple graphics, and bitmaps to screens.

Source: https://learn.adafruit.com/adafruit-gfx-graphics-library/overview

(More research necessary to complete this)