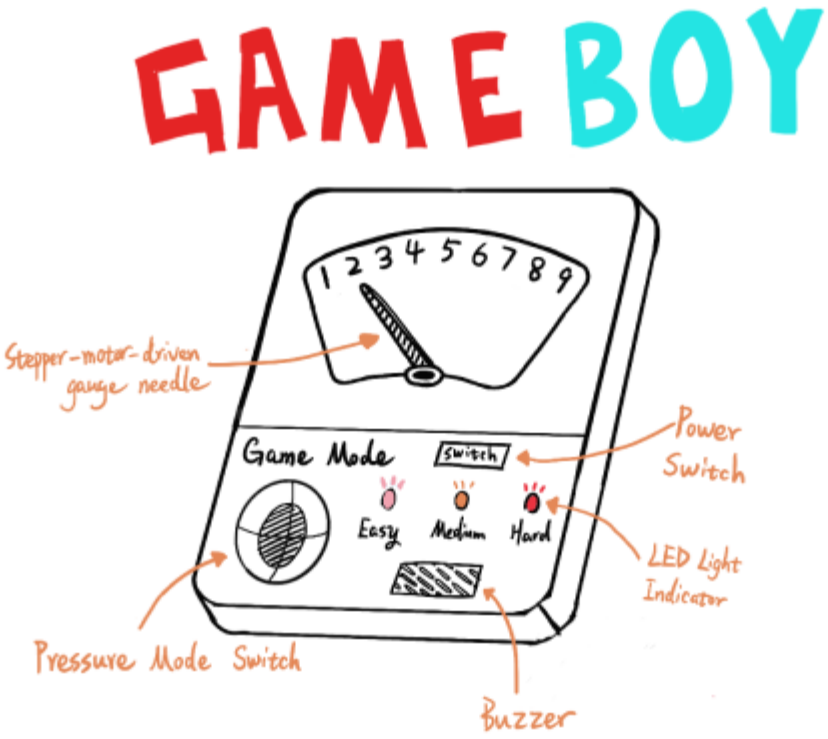
System Architecture with Diagram

Dial Lock Memory Gameboy

Brief

I want to make a memory training product which references the design of a combination carousel lock. The user needs to memorize a string of numbers randomly generated by the system, and judge whether they have memorized them by clicking on the numbers in sequence.

Sketches



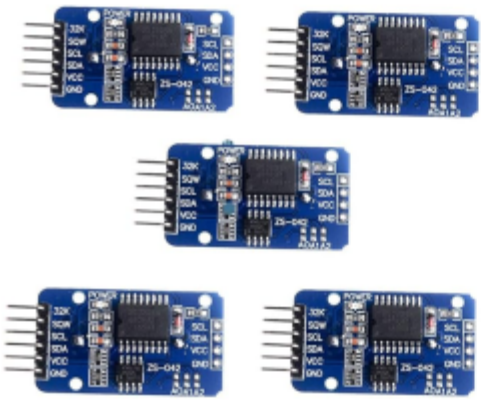
Sensor

Pressure Sensor

SPECIFICATION:
Model: DF9-16
Thickness: 0.4 mm
Trigger force: 20 g, triggered when resistance is less than 200 kΩ by default
Pressure sensing range: 20 g ~ 2 kg
Pressure action mode: Static or dynamic (frequency within 10 Hz)
Non-trigger resistance: More than 10 MΩ
Activation time: less than 0.01 S
Operating temperature: -40 □ ~ +85 □
Lag: +10%, (RF+ - RF-)/FR+, 1000g force
Response time: < 10 ms
Drifting: <5%, 1Kg force static load 24H
Weight: 1g / 0.04oz (approx.)
Package list:
2 * Pressure Sensors
Note: Please allow small size error due to manual measurement.
Thanks for your understanding.

Select the game mode as well as the difficulty of the game by using the pressure sensor

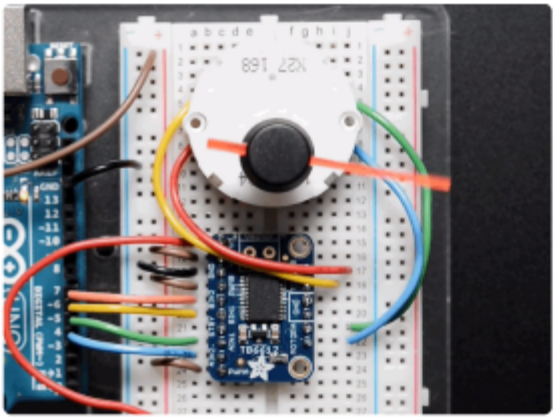
Timer alarm clock



Count and record the time, if spent to much time game will be over.

Display

Stepper-motor-driven gauge needle

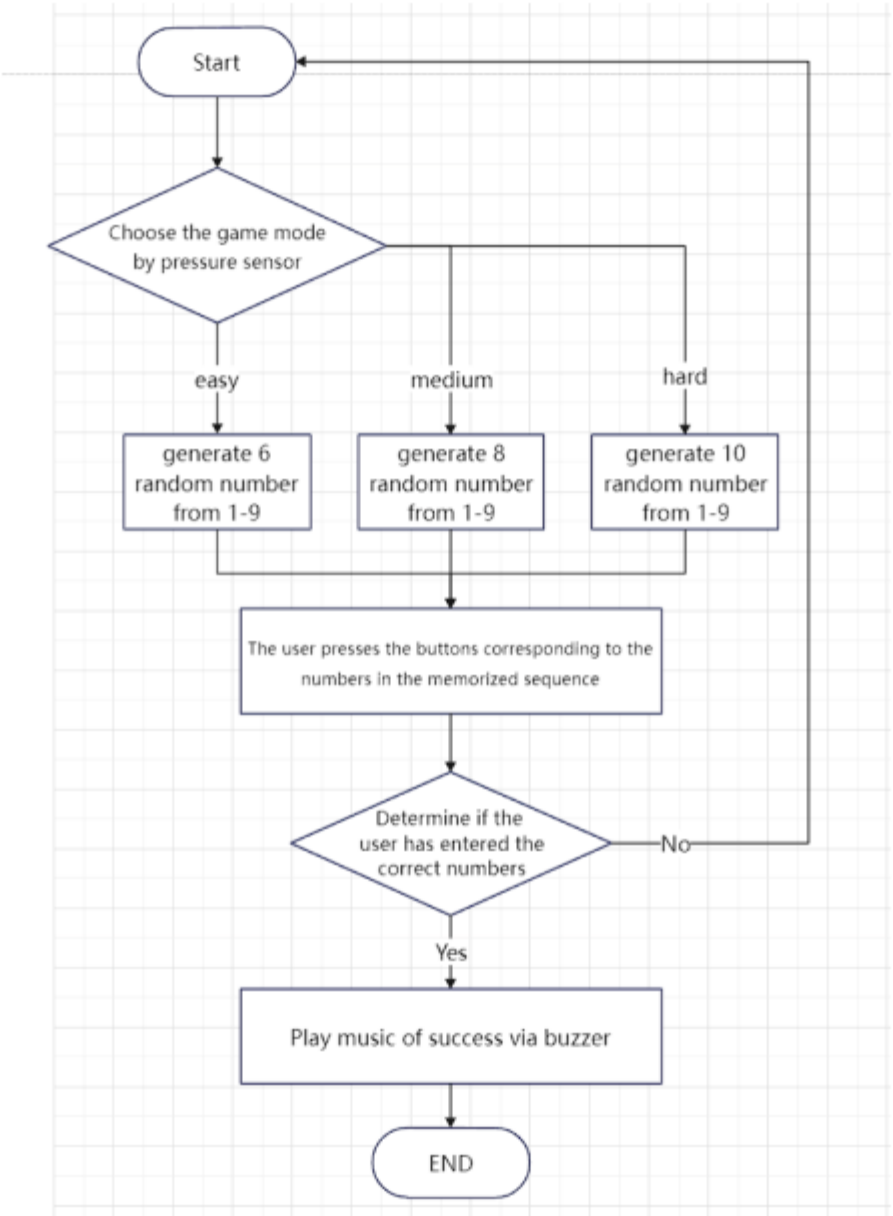


Use the rotation of the needle to indicate the number, and return directly to the origin in case of input errors

LED Light

Use the LEDs to indicate the game mode and whether or not you have answered correctly.

Diagram


Start
Choose the game mode by pressure sensor
easy
medium
hard
generate 6 random number from 1-9
generate 8 random number from 1-9
generate 10 random number from 1-9
The user presses the buttons corresponding to the numbers in the memorized sequence
Determine if the user has entered the correct numbers
No
Yes
Play music of success via buzzer
END