Project Presentation

MOUSE TRAP- MAKERLAB

Our Team

Sparlay

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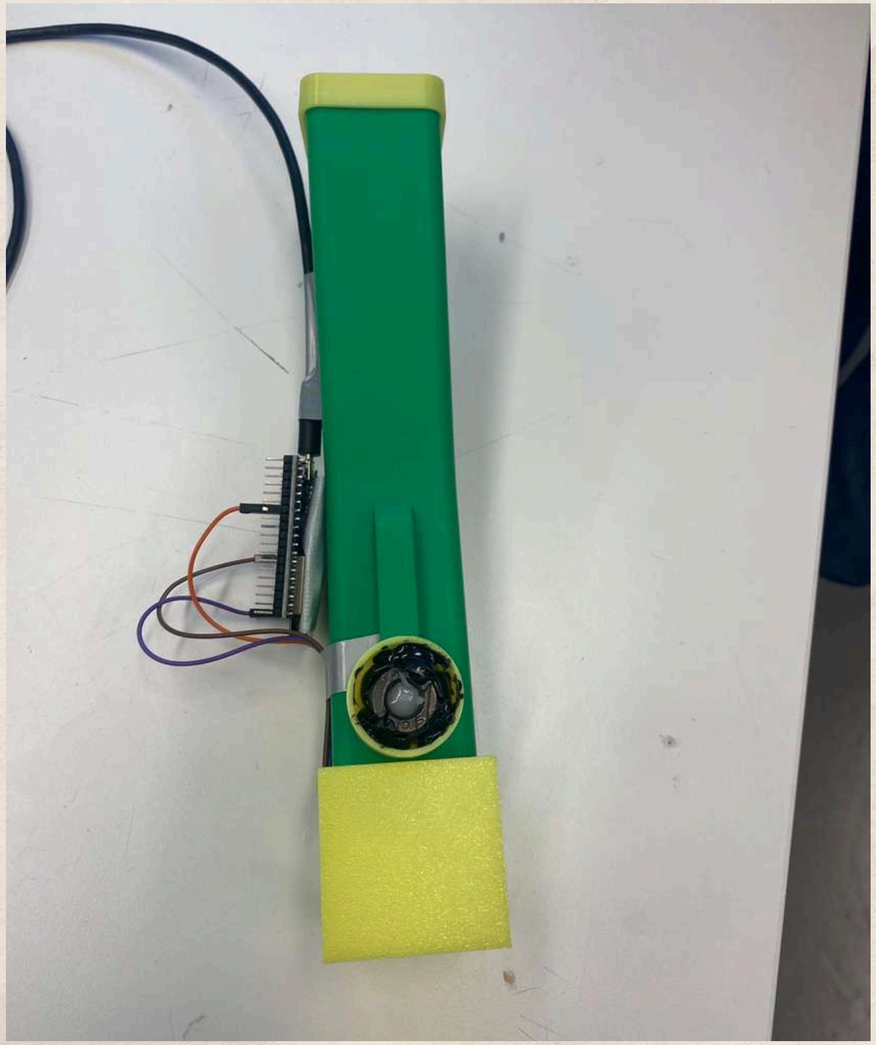
Project Goals

To Make use of any kind of sensor

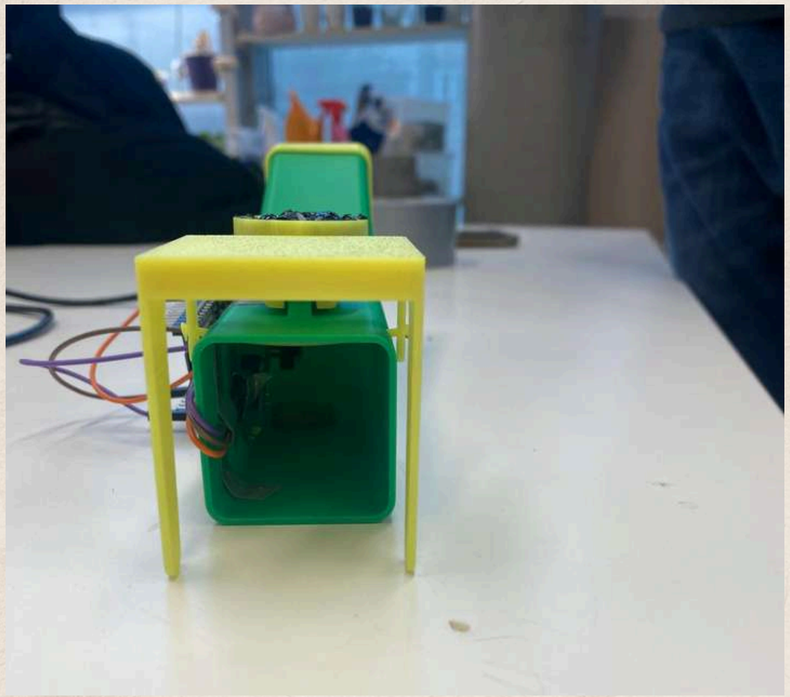
Integrate the Arduino and sensor to simple Mouse Trap

Innovation

TRAP MODEL



- WE USED 3D model for the trap.
-

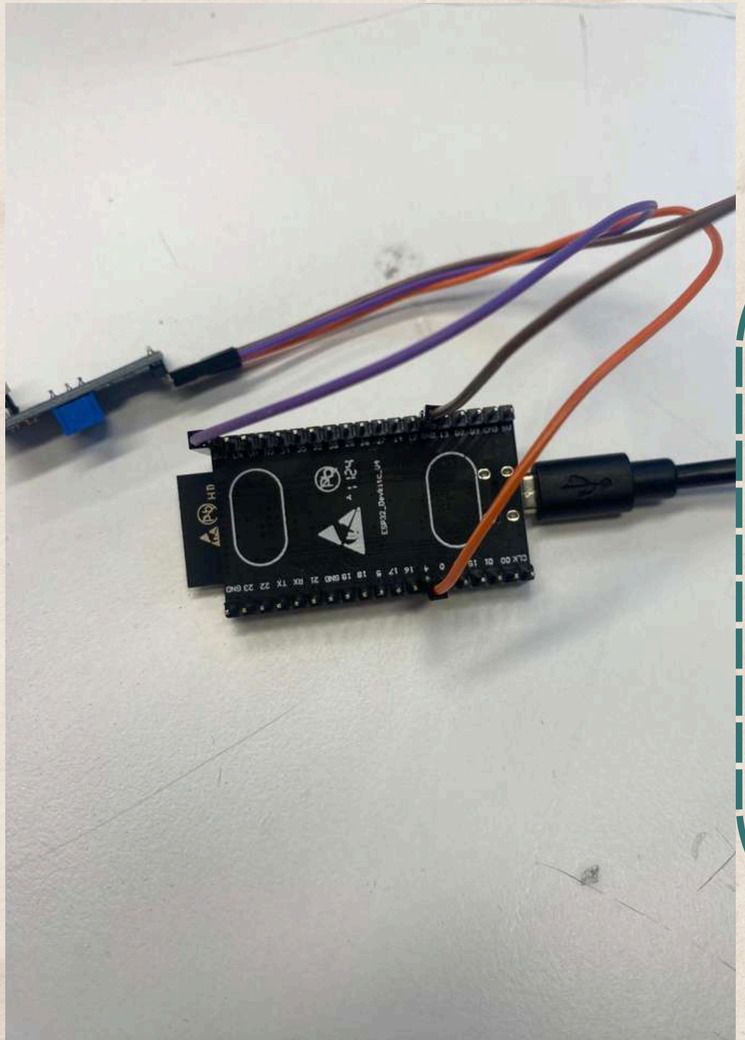


System Overview

Workflow:

1. Trap door moves (open → closed)
2. Sensor detects the position change
3. Microcontroller processes the signal
4. Wireless message is sent
5. Phone receives a notification

Hardware Components



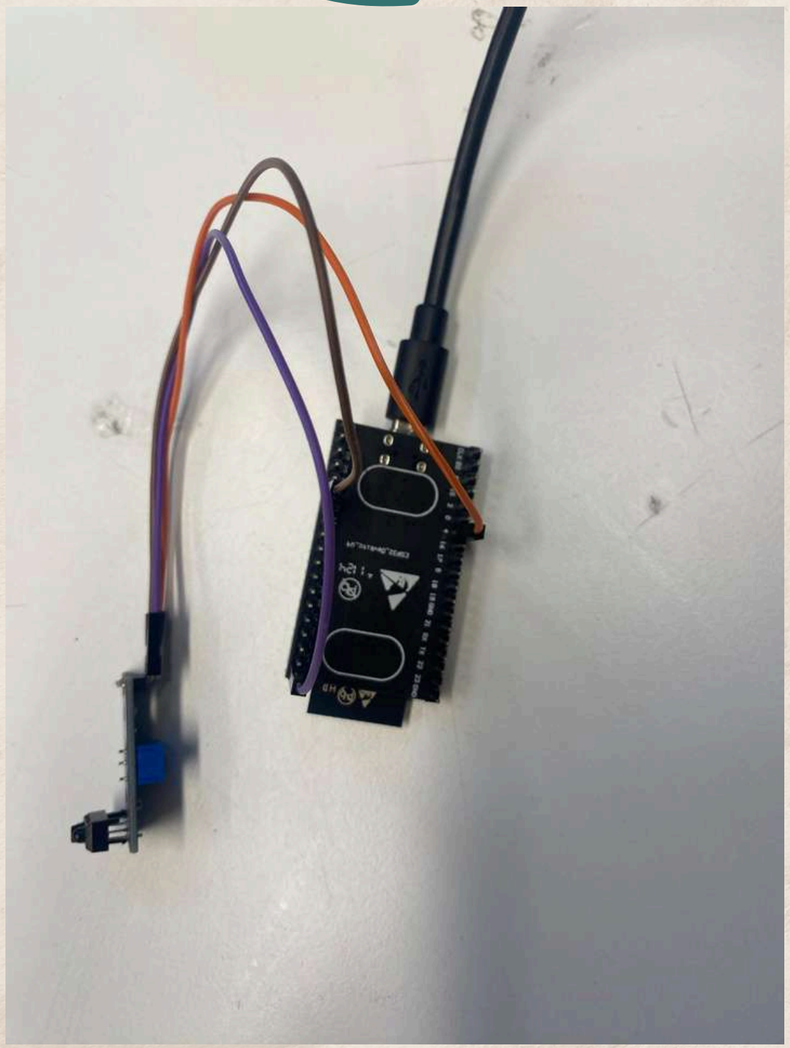
Mechanical

- 3D-printed trap body + door mechanism
- Mount for sensor + wire channels

Electronics

- Sensor (examples: reed switch + magnet, limit switch, IR sensor, Hall sensor)
- Microcontroller (ESP32 / Arduino + Wi-Fi module)
- Power supply (battery pack)
- Optional: LED/buzzer for local confirmation

Software & Notification Method



- Read sensor state continuously (or interrupt)
- If door changes to CLOSED → trigger event
- Add debounce/filter to avoid false triggers
- Send notification once (avoid spamming)

Notification options

- Wi-Fi: push notification via Telegram bot

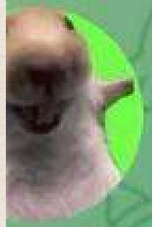
January 27

Gunter the mouse hunter

ESP32 online. Mouse trap is armed.

12:58

🐭 Mouse detected in the trap! 12:59



🐭 Mouse detected in the trap! 13:00

Gunter the mouse hunter

Future improvements

- Battery optimization (deep sleep)
- Bigger Trap for Healthy Mouse
- Stronger/safer door design
- Weight Adjustment to increase sensitivity
- Light
- Add camera snapshot

Thank You