Garage Door opener

Group 3
Presentation by Malav Patel, Yegor Kozubenko, Tasnim Anowar

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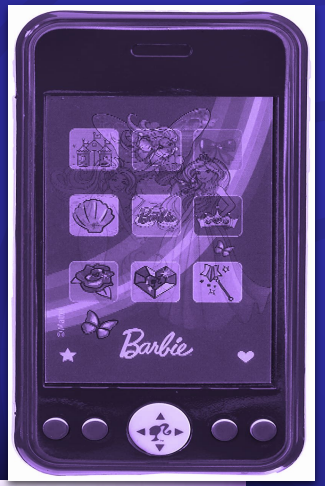
Intro

Project Back story

Need for a remote system to open doors safely without being present or moving



About the project

```
enum Event {
    SYNC_DOOR, SYNC_RE,
    DOOR_OPEN, DOOR_OPENED,
    DOOR_CLOSE, DOOR_CLOSED,
    DOOR_HALT, DOOR_OPEN_BY_20,
    DOOR_CLOSE_BY_20,
    LCD_SHOW_DOOR_STAT, LCD_SHOW_RE_STAT,
    RE_CHANGE, RE_SET,
    RE_INC, RE_DEC,
};

static int (*(Event_Handlers[15]))() = {
    door_sync_status,
    re_sync_status,
    door_will_open,
    door_has_opened,
    door_will_close,
    door_has_closed,
    door_is_halted,
    door_open_by_20,
    door_close_by_20,
    lcd_show_door_stat,
    lcd_show_re_stat,
    re_will_change,
    re_was_set,
    re_value_increased,
    re_value_decreased
};
```

- Efficiently and securely logs in using at_sign
- Alerts about the status of the door
- Also has features to pause or unpause the door

Now

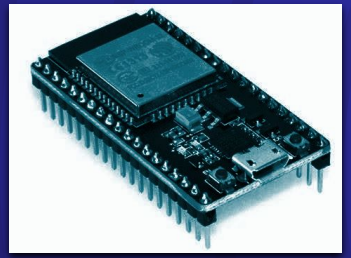
- Threat of getting hacked
- In need of login in encrypted

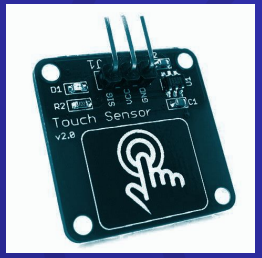
Solution

- Stored once (though it can be backed up)
- Protected by your keys
- Accessed by applications/companies with your permission, and that permission can be revoked by you at any point in time
- End-to-end encrypted at at all times

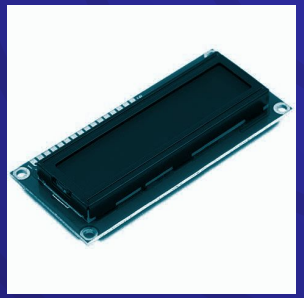
Components

- Esp32
- 9g motor
- RE sensor
- Capacitive touch sensor
- Lcd module

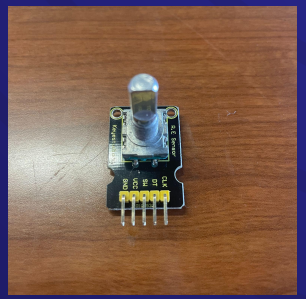




Esp32 & touch sensor

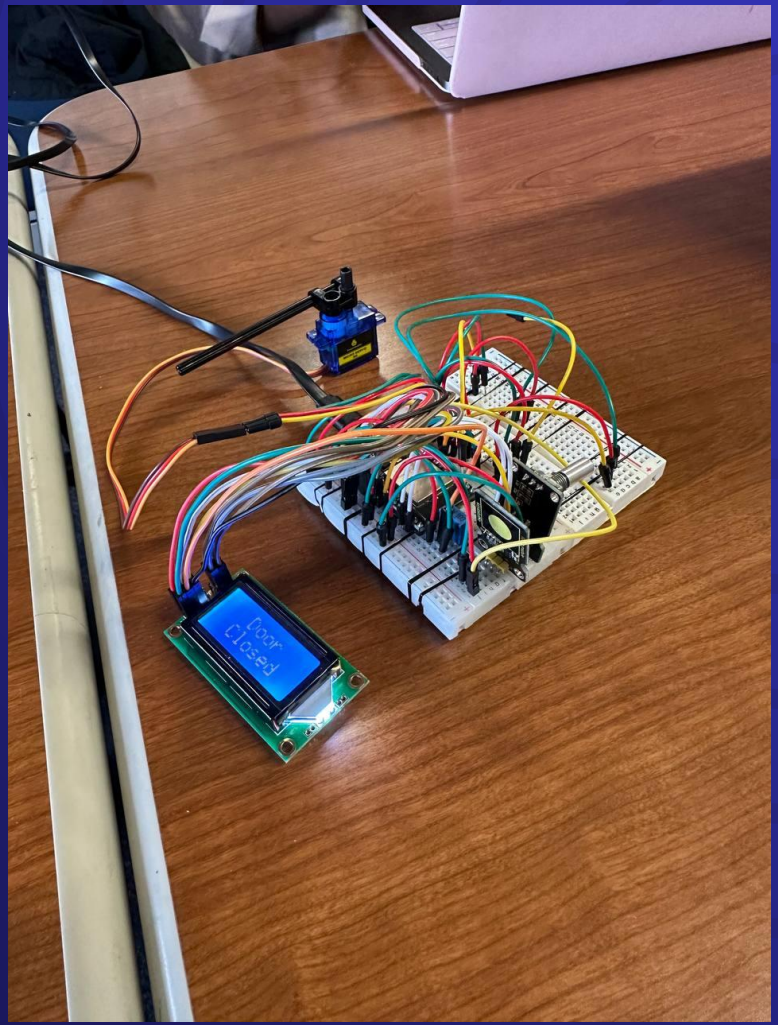


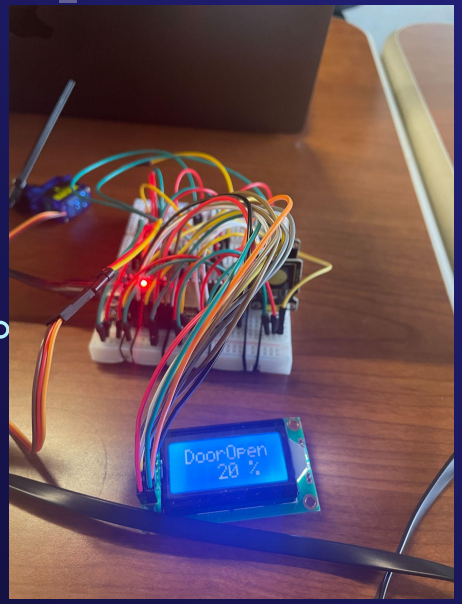
9g servo & lcd

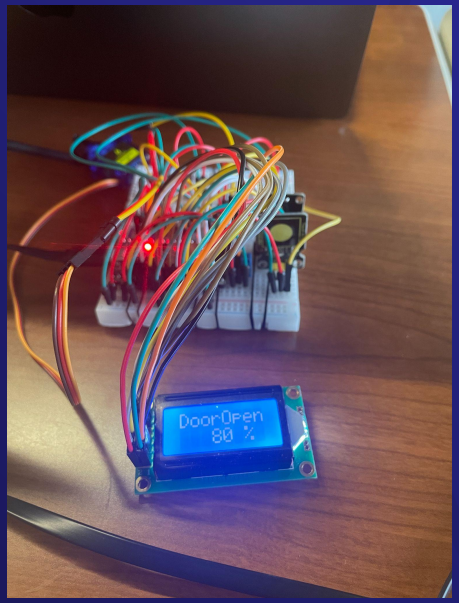


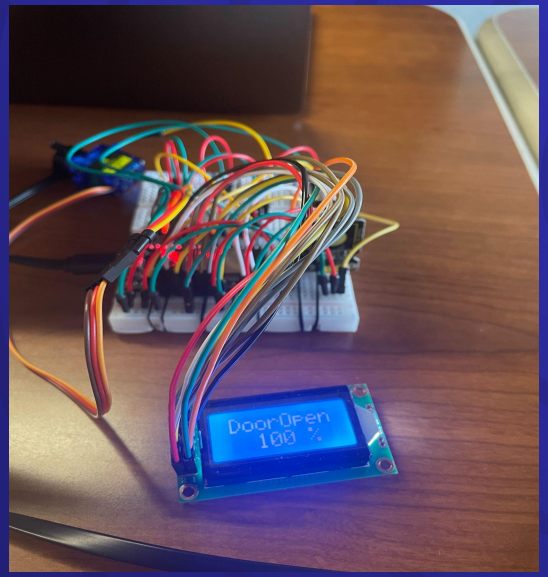
RE sensor

Board and components

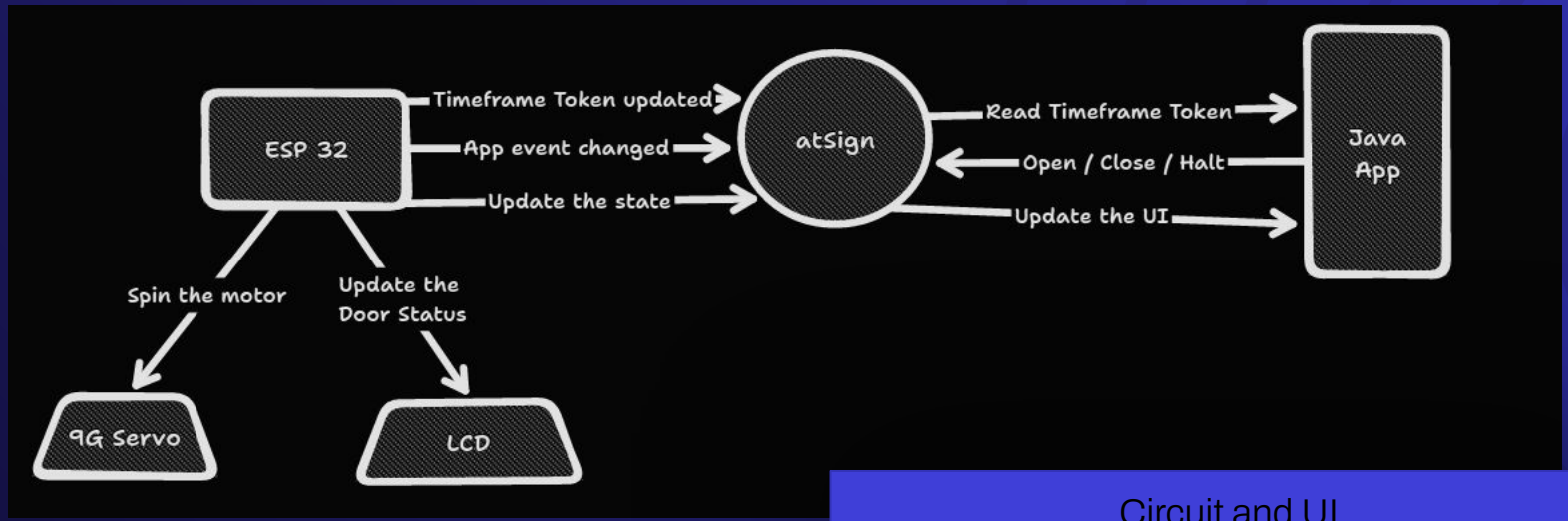




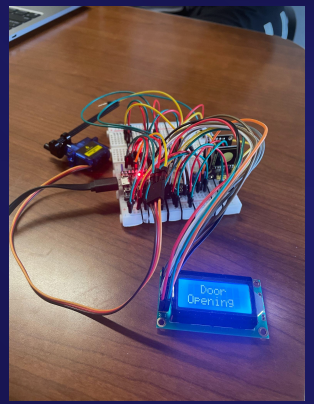




Using Rotary sensor and the LCD to indicate how much the door is open



Circuit and UI



Our obstacles

- Figuring out the pins
- Motor not being strong enough
- Issues with reading signal from sensor
- Finding good IDE for the UI part that support Java Swing

Our team

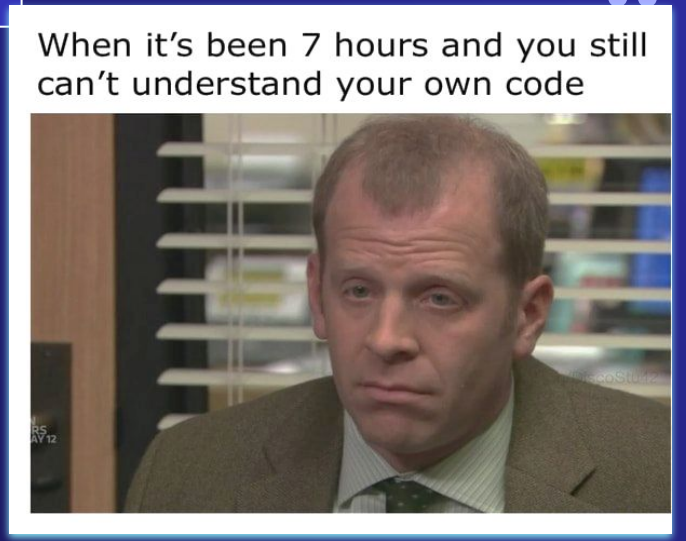
Project Repository - https://github.com/UMB-CS-410-TEAM-03

Malav Patel - https://github.com/patel-malav

Tasnim Anowar - https://github.com/tanowar

Yegor Kozubenko - https://github.com/AltiAtmos

Live demo


When it’s been 7 hours and you still can’t understand your own code

Thank you!

Do you have any questions?