IOT PROJECT REPORT

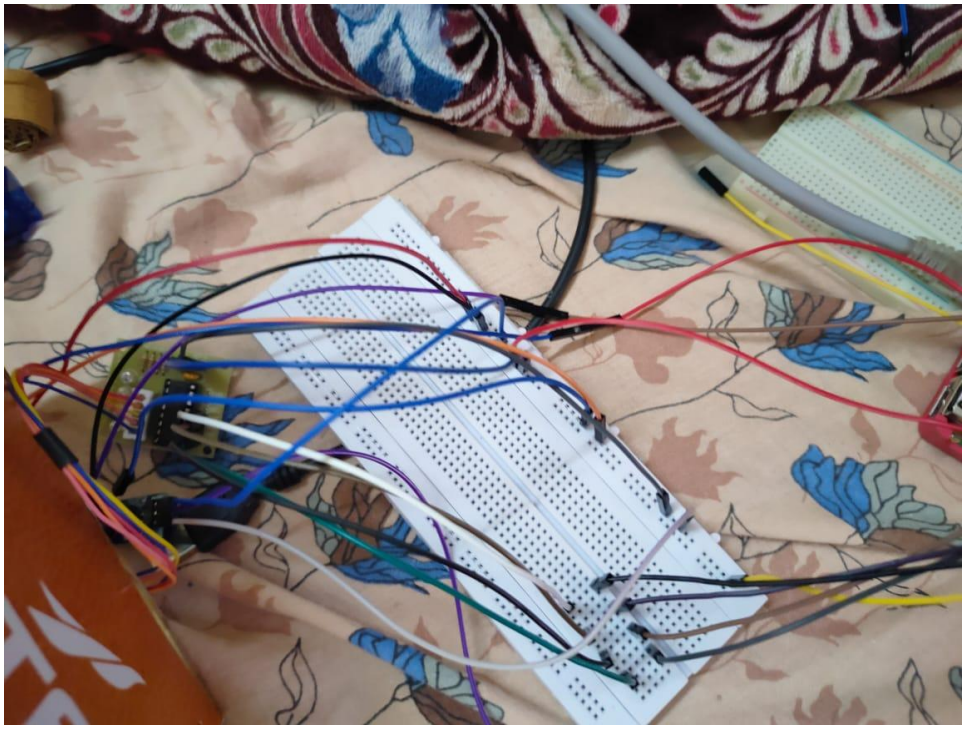
The project is divide into 2 major parts: the physical hardware and the software code:

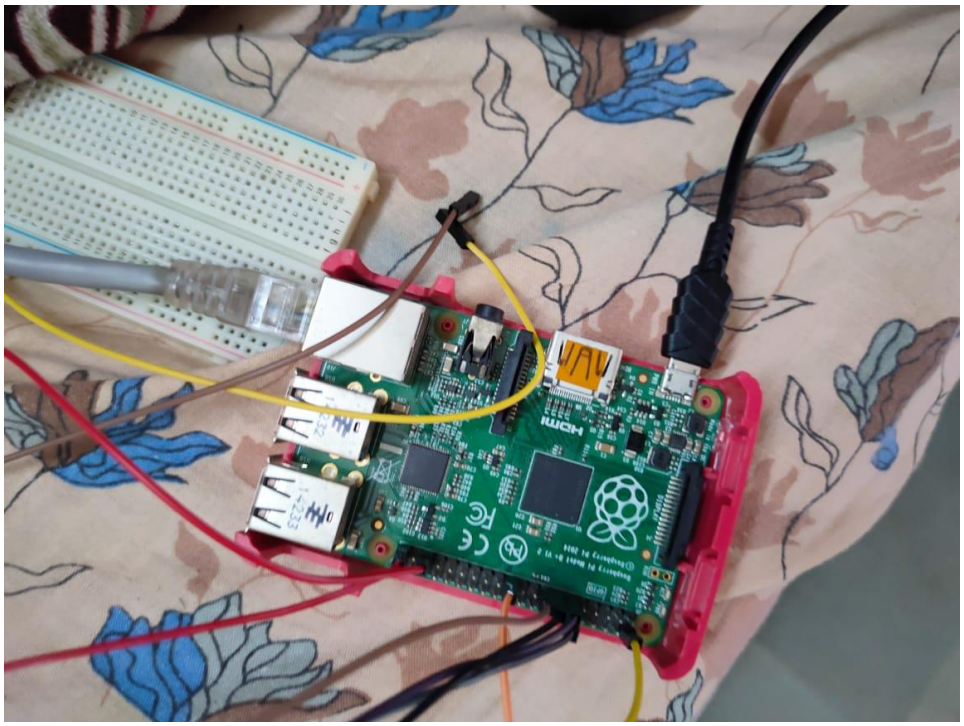
- Hardware: The prototype is built using a stepper motor that acts as a base that supports the 7 segment medicine container. It allows it to rotate through an angle of 360 degrees, thus allowing the segment to access any particular day as wished.

The Front part of the Rotating module consists of a seven segment container with a servo motor acting as the flap for opening and allowing medicine to be dispensed.

TOWER PRO
Micro Servo
9g
SG90

The backend part of the project is designed on the breadboard with Raspberry pi being used as the interfacing microcontroller.





- Software: The codes consist of 3 main files namely prj.py, index.html and table.html

1. Prj.py: This is the main Python script that executes our program. After setting up the GPIO pins and pin modes, the home() function renders the index.html page that takes the input from the user.

```
@app.route("/",methods=["GET","POST"])
def home():
    if request.method=="POST":
        day=request.form.get('but')
        buzzer()
        motor(day)
        tableup(day)
        return redirect(url_for("home"))
    else:
        return render_template('index.html')
```

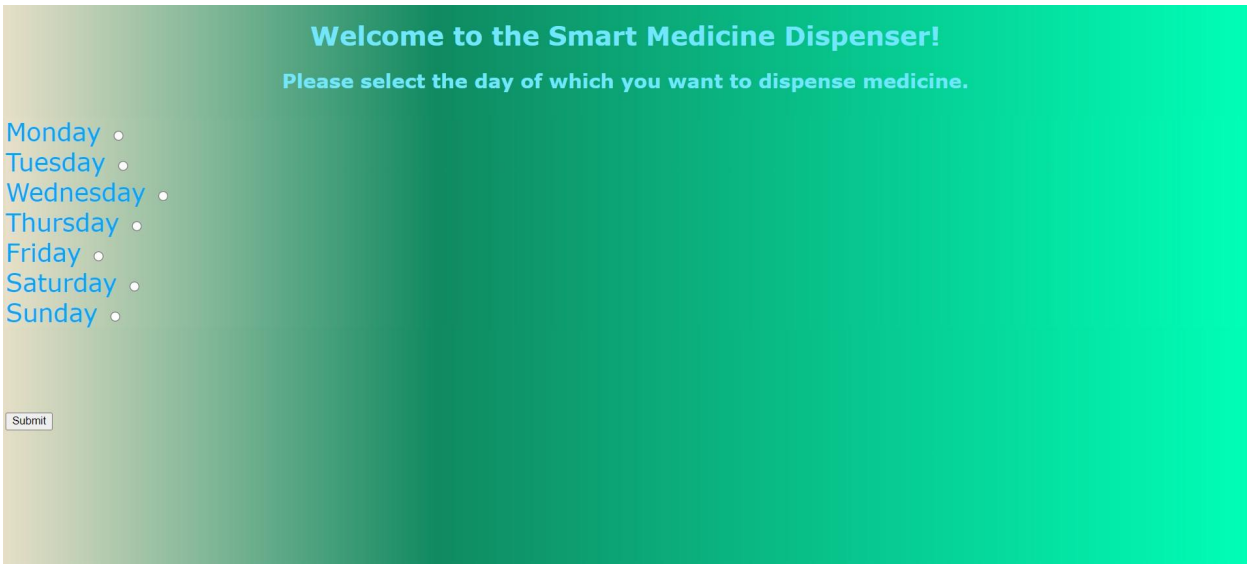
On receiving the input, the buzzer(),motor() and tableup() functions are called respectively. These functions beep the low level trigger buzzer module, rotate the motor and flip the servo to open the flap, and then update that week's table entries respectively.

The stepper motor rotating function is called twice, once to rotate the motor to the specified day, and then again to rotate it back to the original position.

```
def turn(iDeg):

    iSeqPos=0
    for step in range(0,iDeg):
        for iPin in range(0, 4):
            iRealPin = aMotorPins[iPin]
            if aSequence[iSeqPos][iPin] != 0:
                GPIO.output(iRealPin, True)
            else:
                GPIO.output(iRealPin, False)

        iSeqPos += iDirection
        if (iSeqPos >= iNumSteps):
            iSeqPos = 0
        if (iSeqPos < 0):
            iSeqPos = iNumSteps + iDirection

        time.sleep(fWaitTime)

    time.sleep(1)
    servo()
    rev(iDeg)
```

The tableup() function updates that week's medicine record so that the user can keep track of when they have taken the medicine.

2. The index.html file generates the home page of the project that the user accesses to specify the day to dispense medicine for.



3. The table.html file, when called, displays that week’s data in a tabular format.