

# Smart Vending Machine



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# Agenda

**1** Main idea

**3** Hardware Modules

**5** Future work

**2** Features

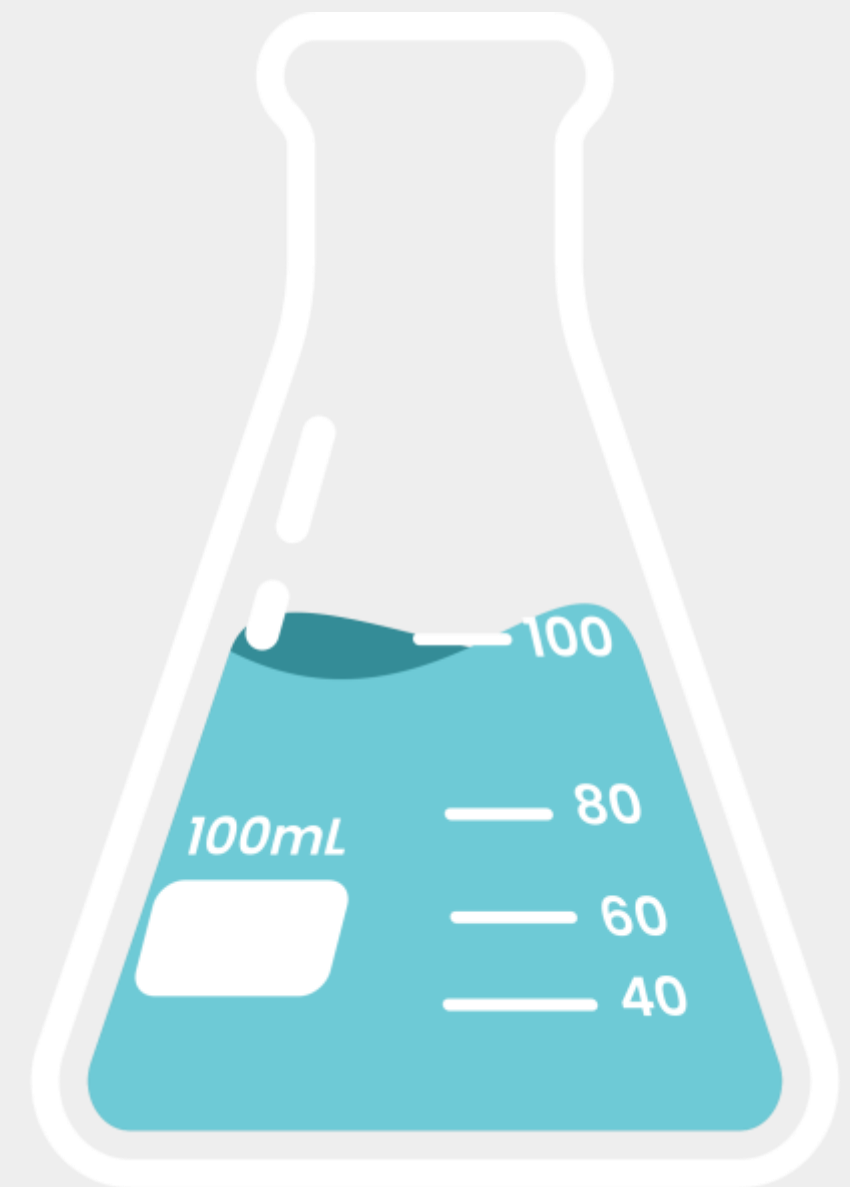
**4** Constraints



# Main Idea

Smart vending machine is a machine that serves pharmacists in dispensing medications effortlessly.

Our aim from this machine is to save effort and time for the user .



# Features

## 1 Efficient Medication Retrieval

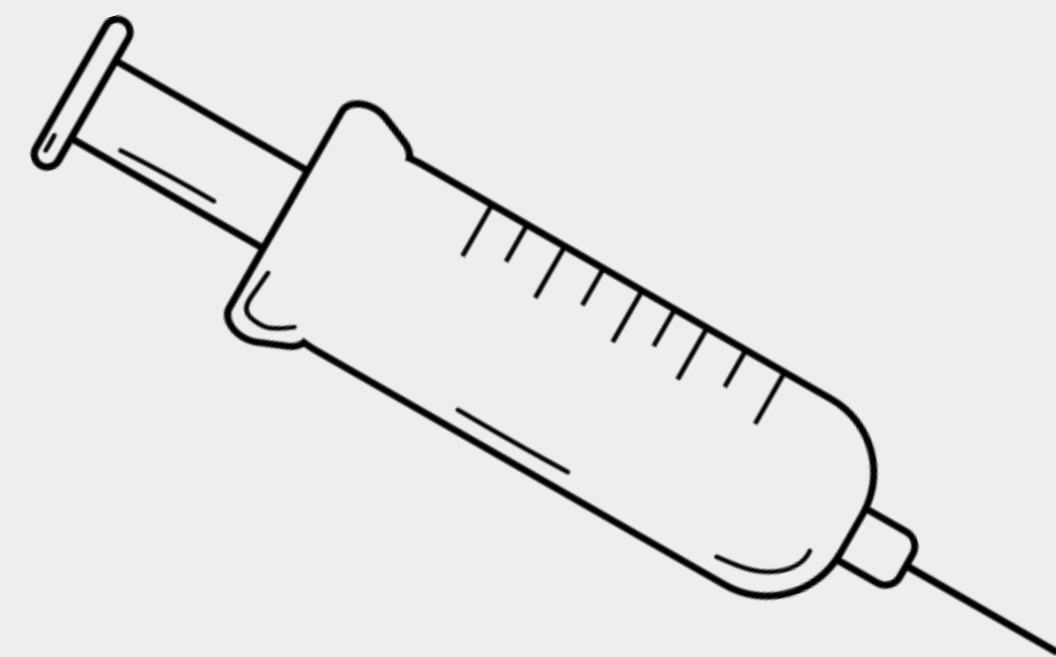
No need to search through different locations for medicines.

## 2 User-Friendly Interface

The interface is intuitive and designed to be easily understood and operated by pharmacy staff.

## 3 Cell-Based Storage

Each medicine type is placed in a specific cell.



# Features

4

## Secure Cabinet

Access is restricted through a fingerprint recognition or a passcode.

5

## Enhanced Pharmacy Operations

Optimize pharmacy operations by offering a solution that minimizes disruptions and streamlines medication management, leading to improved overall workflow.

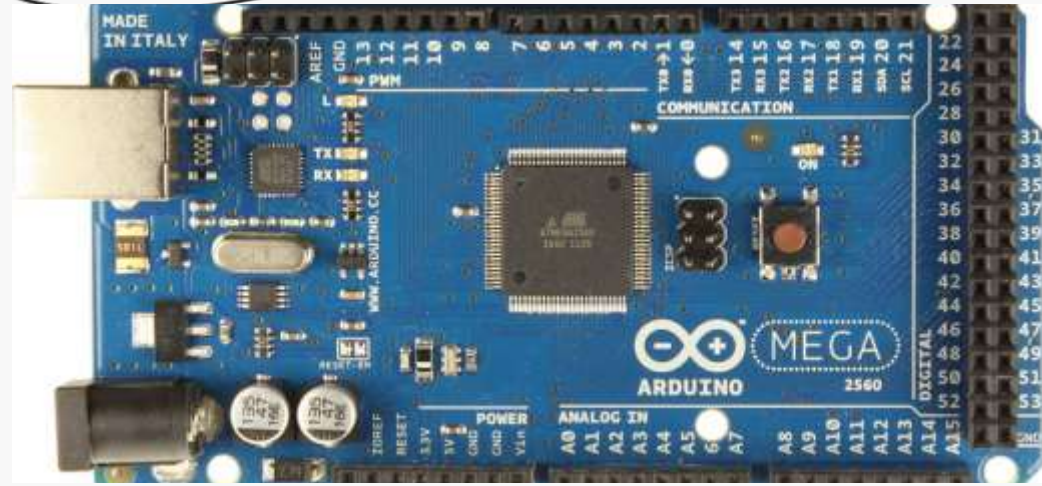
6

## Temperature Control

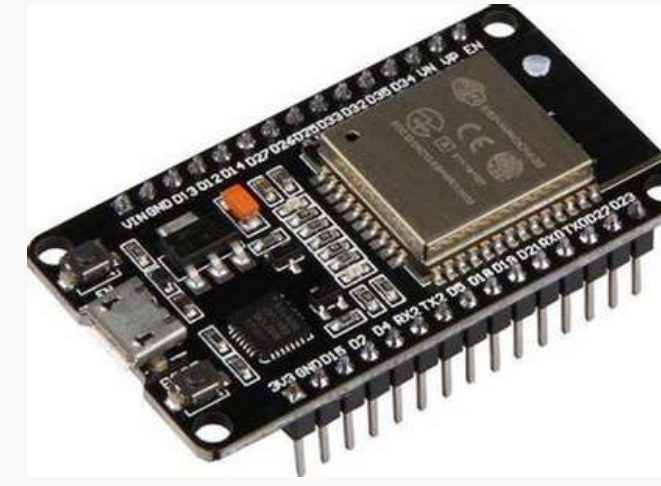
The machine maintains a constant temperature by using a temperature sensor and a fan.

# Hardware Modules

Arduino  
mega



ESP32-  
WROOM



Power  
supply



Servo  
motors



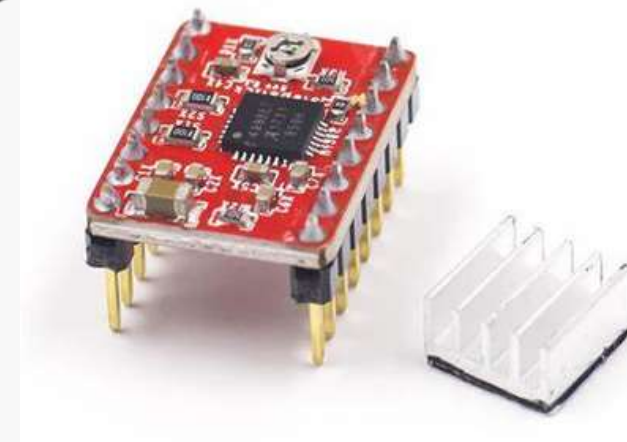


# Hardware Modules

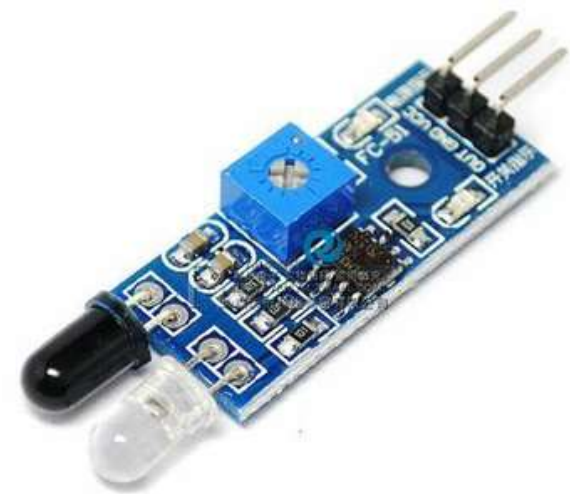
Stepper motors



Stepper driver



IR Sensors



Fingerprint Sensor

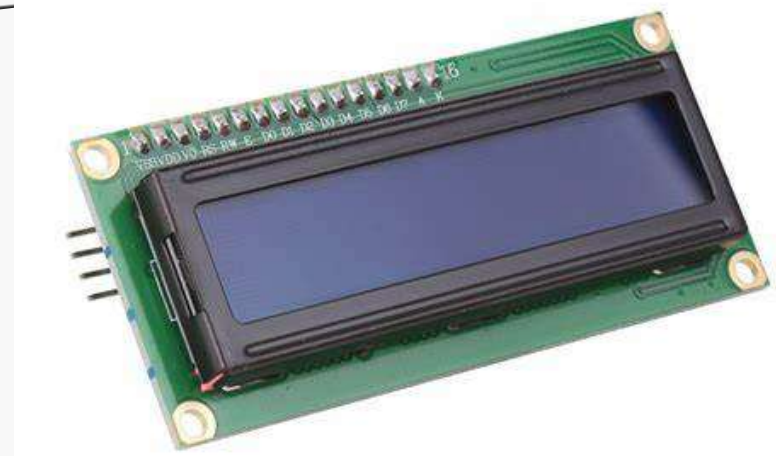


# Hardware Modules

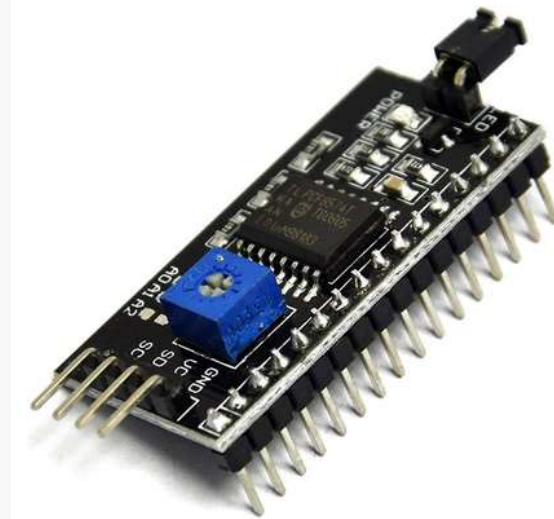
Keypad  
4x4



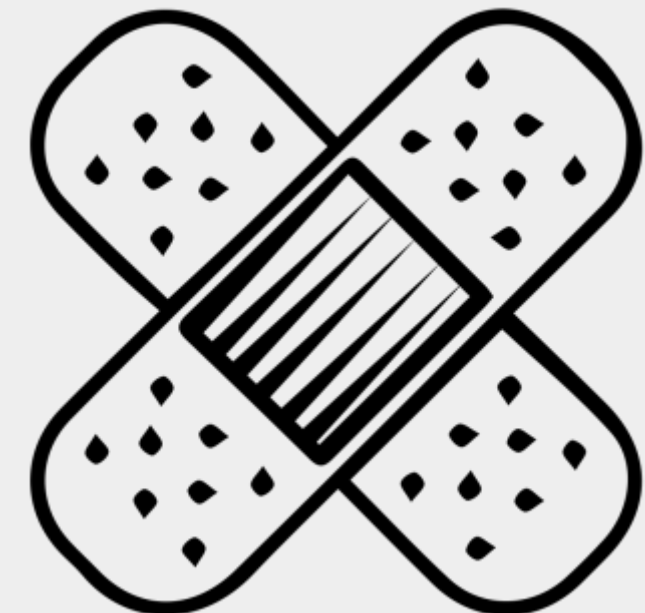
LCD 16X2



I2C module

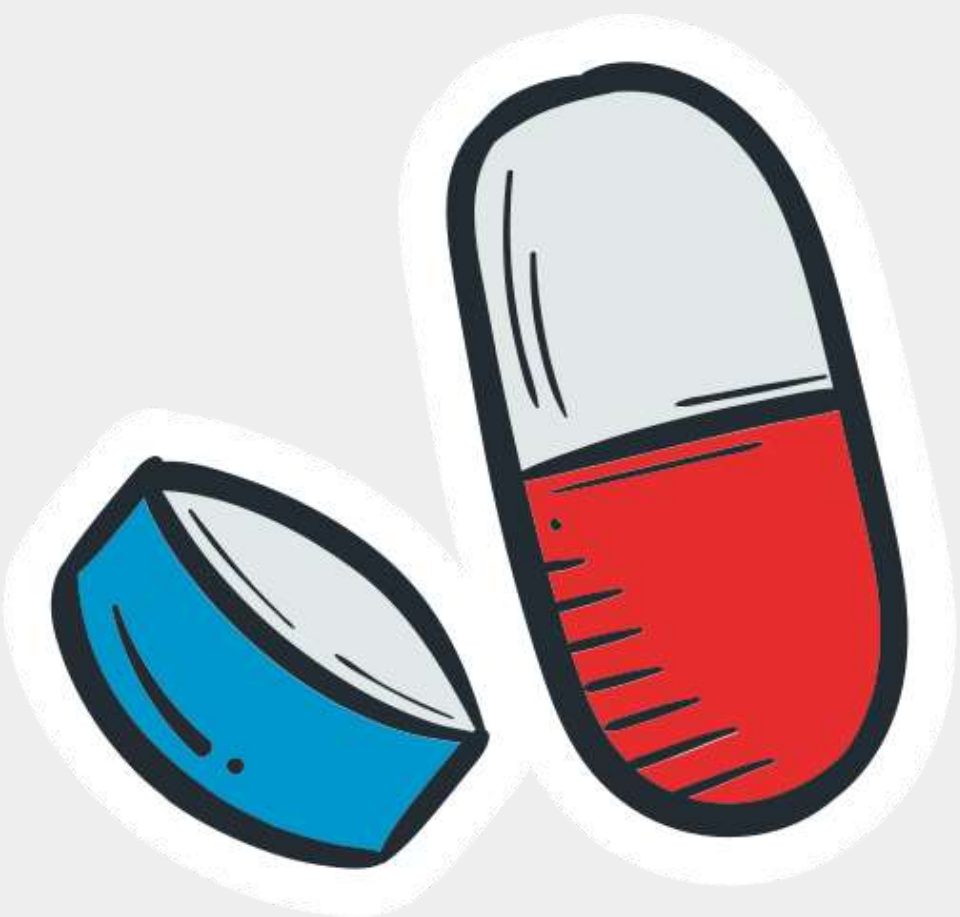


Temperature  
sensor





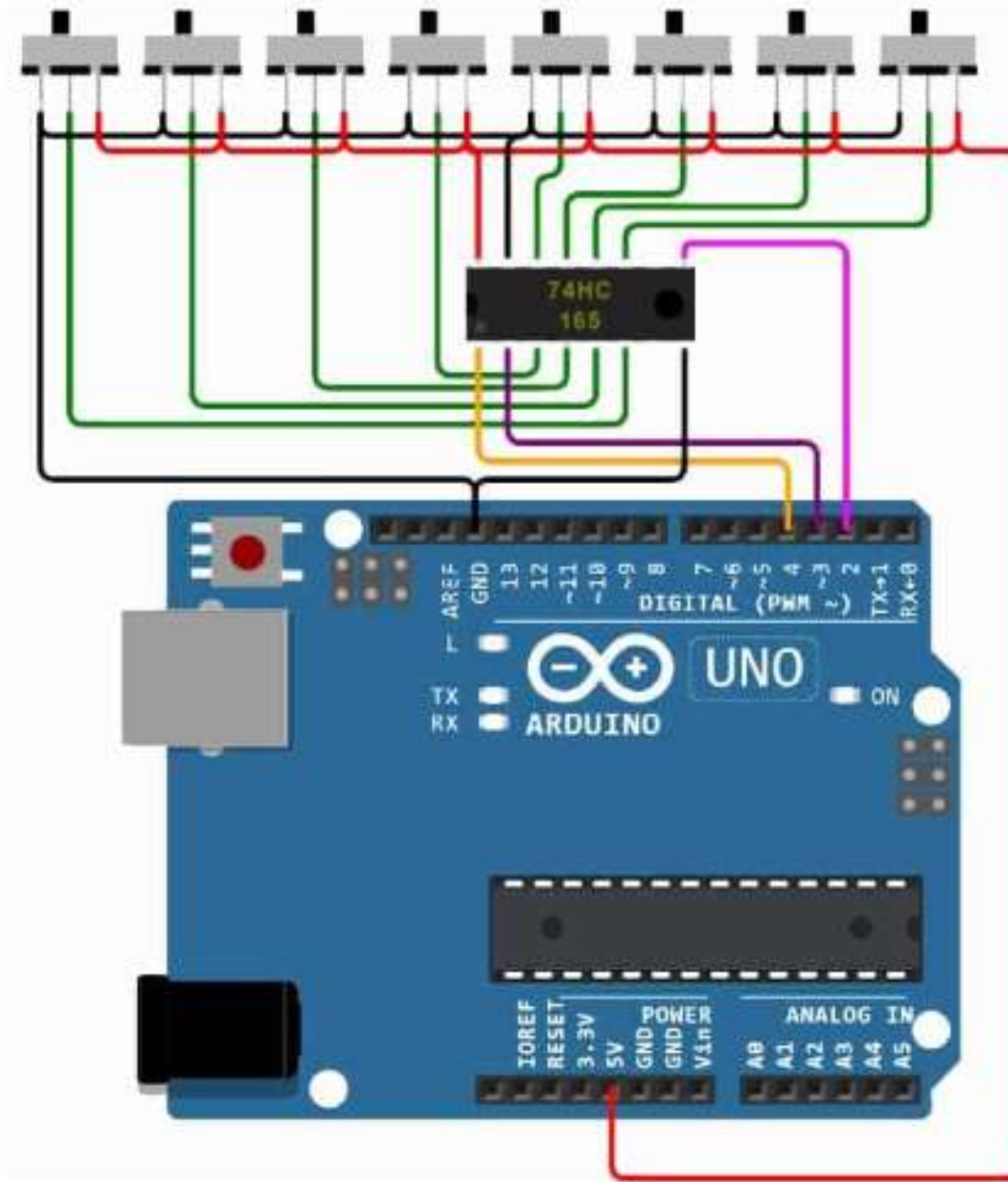
# Hardware Modules



# Expandability

y

- using a shift register



# User Interface

6:02 📶 📶 80

Acamol:

Trufen:

Panadol:

Morphine:

**Submit**

AA 🔍 192.168.137.31 🔄

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# Constraints

- **Servo motors**
- **Size of the basket**
- **Design of the outer shape of the machine**

## Future work

- *Adding a filling mechanism to the machine*
- *Replacing the basket with an arm*
- *Adding a payment method to the machine*
- *Adding a database so that we can add new medicines easily*



**Thank you for  
Listening!**