graduation project
medimate
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MediMate: A Comprehensive Solution for Medication Management and Health Monitoring

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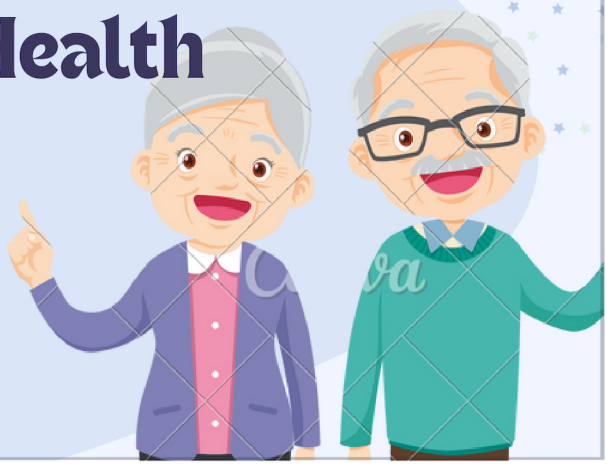


Introduction

Welcome to our presentation on MediMate, a project designed to aid elderly individuals in managing their medication and monitoring vital signs.

Problem Statement

"Older adults often face challenges in taking medications on time, especially those with cognitive impairments such as Alzheimer's

Objectives

Our goal is to provide a reliable system that schedules medication doses and monitors vital signs to enhance the quality of life for elderly patients.

System Overview

MediMate integrates various hardware components to create an efficient medication management and health monitoring system.

Hardware Components

ESP 8266

Max30100 spo2 and heart rate sensor

Oled display

Relay 2-channel

IR sensor

LCD 20*4

Hardware Components

Stepper motor

Finger print sensor

Solinoid lock

RTC

keypad

wires

Hardware Components

DS18B20 Temperature Sensor

Eating pump

Arduino Mega

push button

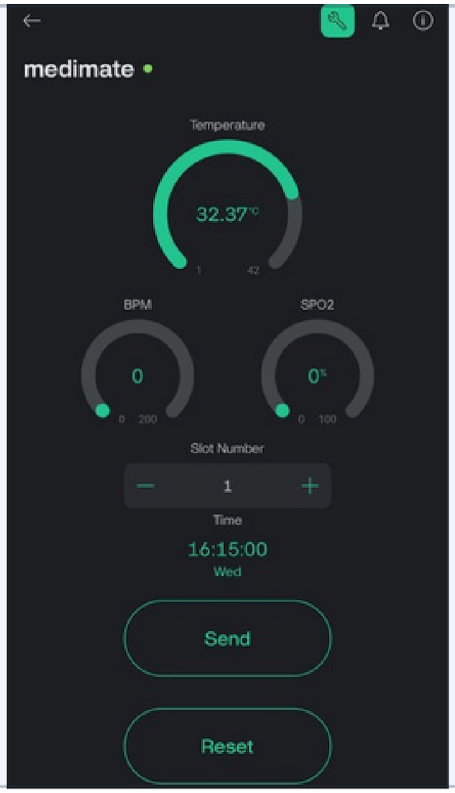
Water level sensor

buzzer

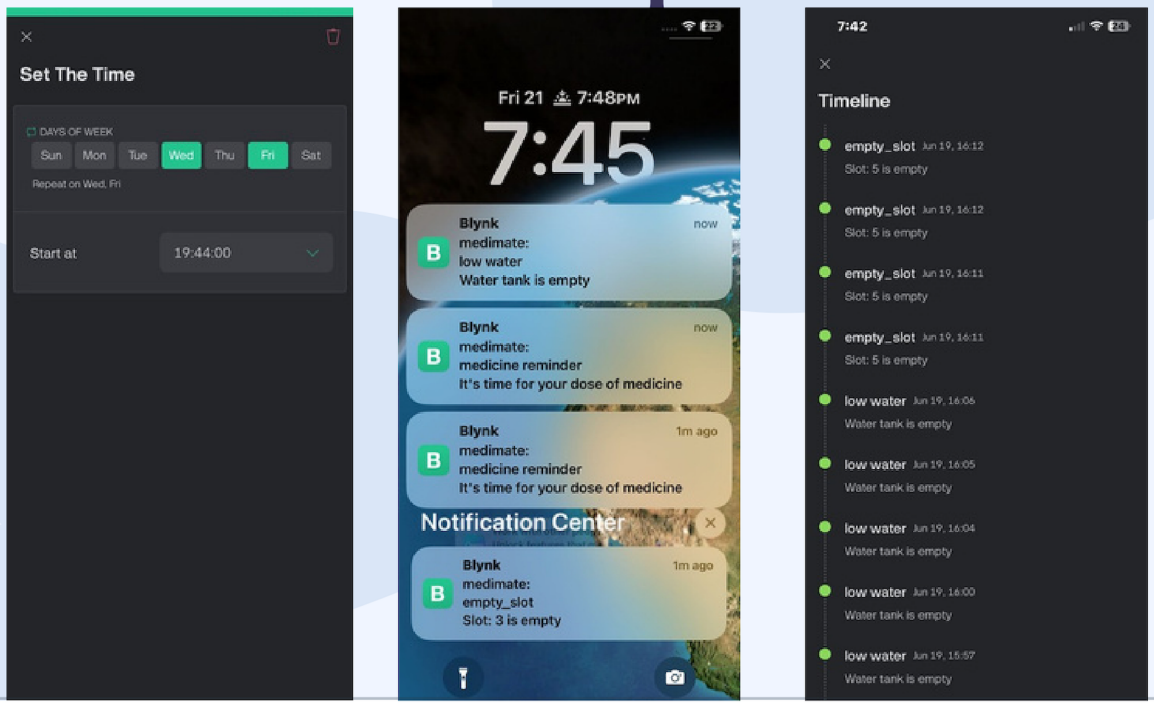
Software Components

Mobile app

Our software includes a user-friendly interface, real-time monitoring, and alert notifications for missed doses and abnormal vital signs. We have integrated a mobile application into our MediMate project, utilizing
Blynk for seamless control and monitoring.



Software Components

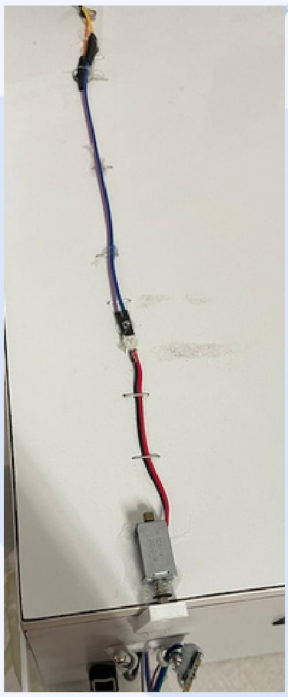


System Implementation

MediMate is implemented with Arduino for hardware control, and a mobile application for user interaction and data management.

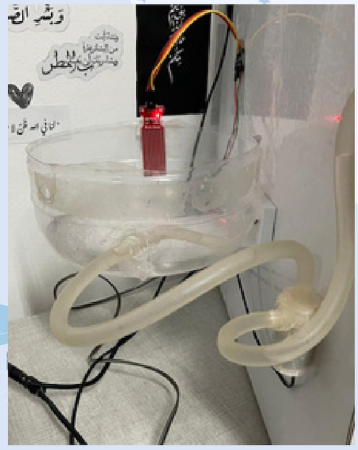
Fingerprint and Solenoid Lock

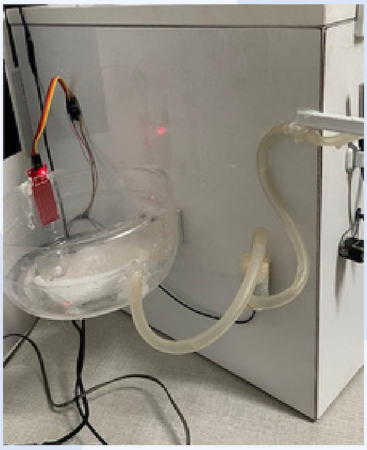
The fingerprint sensor and solenoid lock ensure secure access to the medication slots.

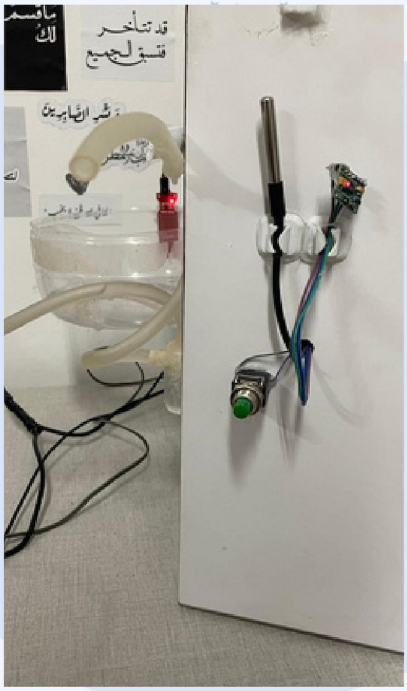


Water tank system

The water tank provides water for patients to take their medication.

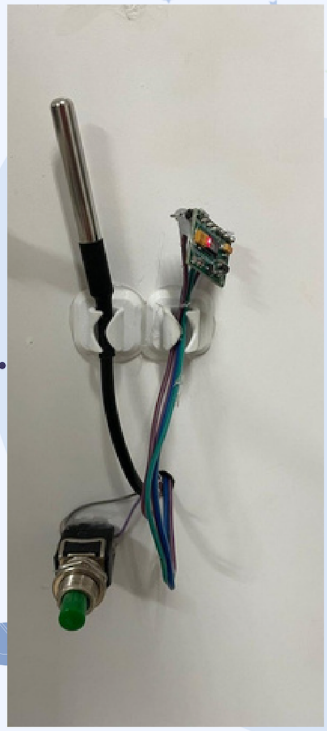






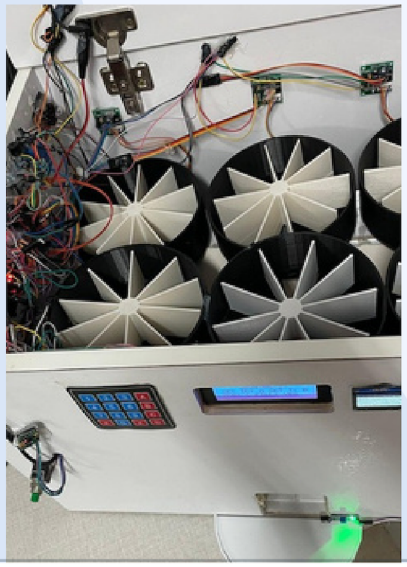
Vital Signs Monitoring

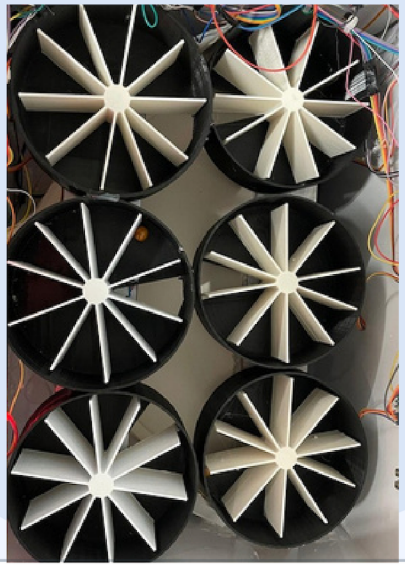
- The system monitors vital signs such as:
- heart rate
- SpO2 using the Max30100 sensor.



Slots

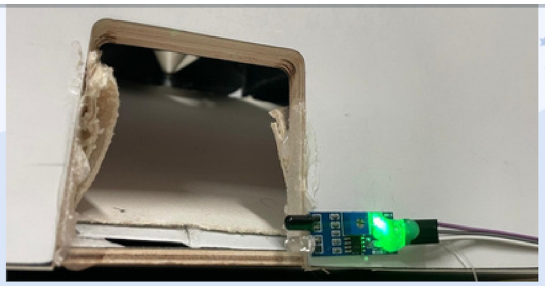
The system includes slots for organizing and dispensing medication doses.

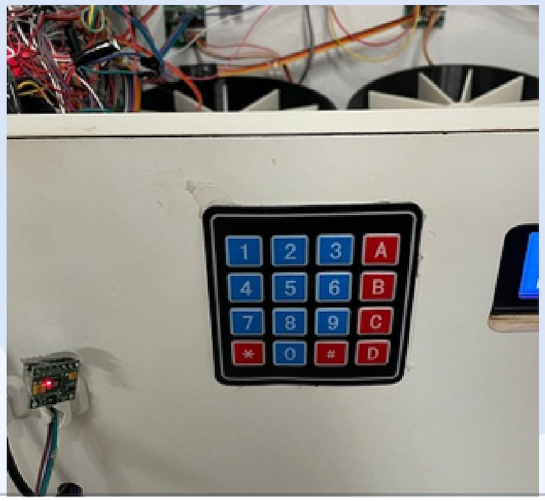




External Project Structure

The external structure of the project is designed for easy access and user interaction.





Conclusion

the MediMate project addresses a critical need in the healthcare ,In conclusion sector by providing an innovative solution for medication management and designed with the elderly and individuals ,Our system .vital signs monitoring ensures timely medication intake and ,with memory-related conditions in mind continuous health monitoring through a user-friendly interface and advanced technological features.

Thank you for
your attention