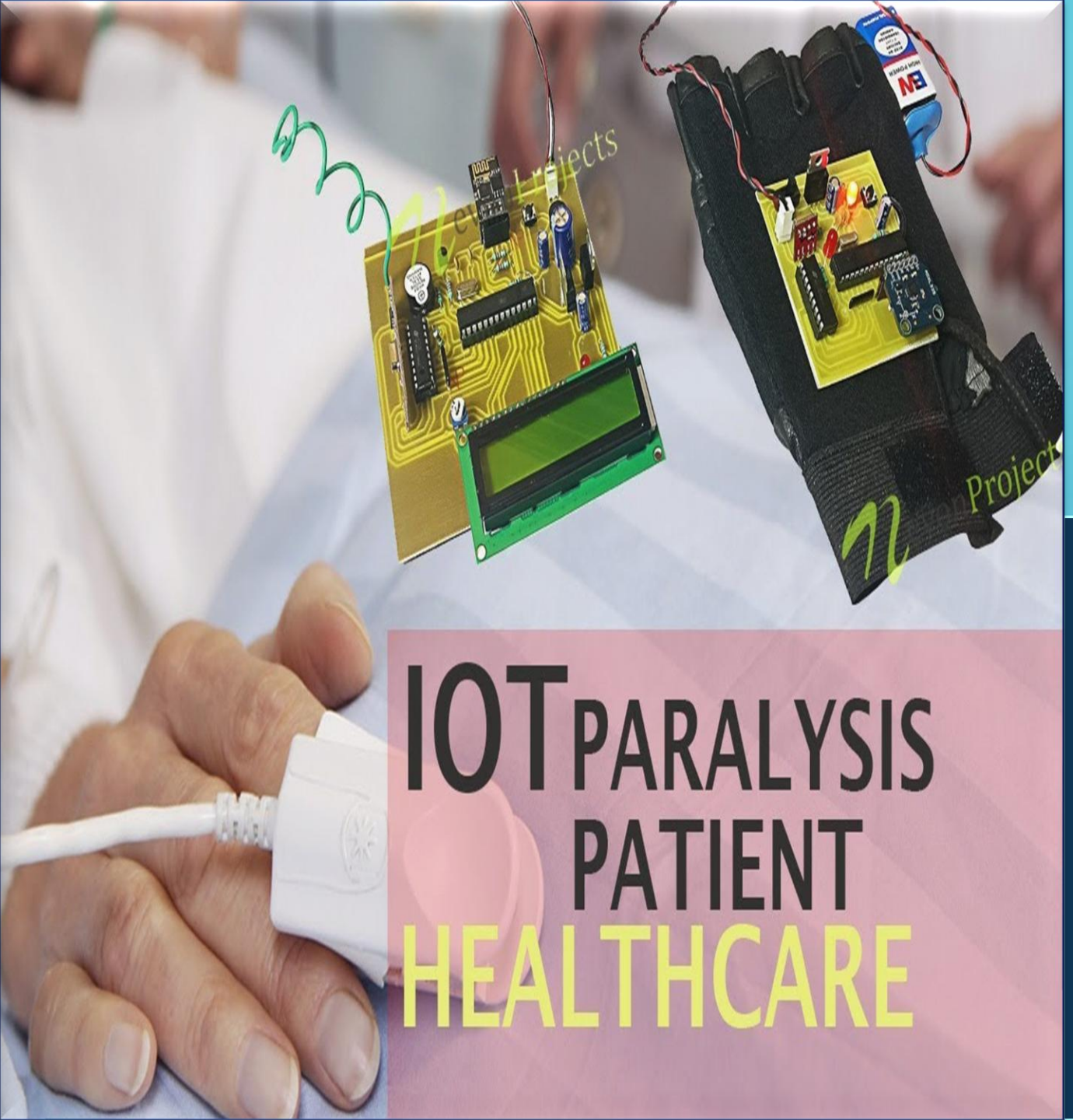

GSM-BASED PARALYSIS PATIENT HEALTH MONITORING SYSTEM

Submitted by –

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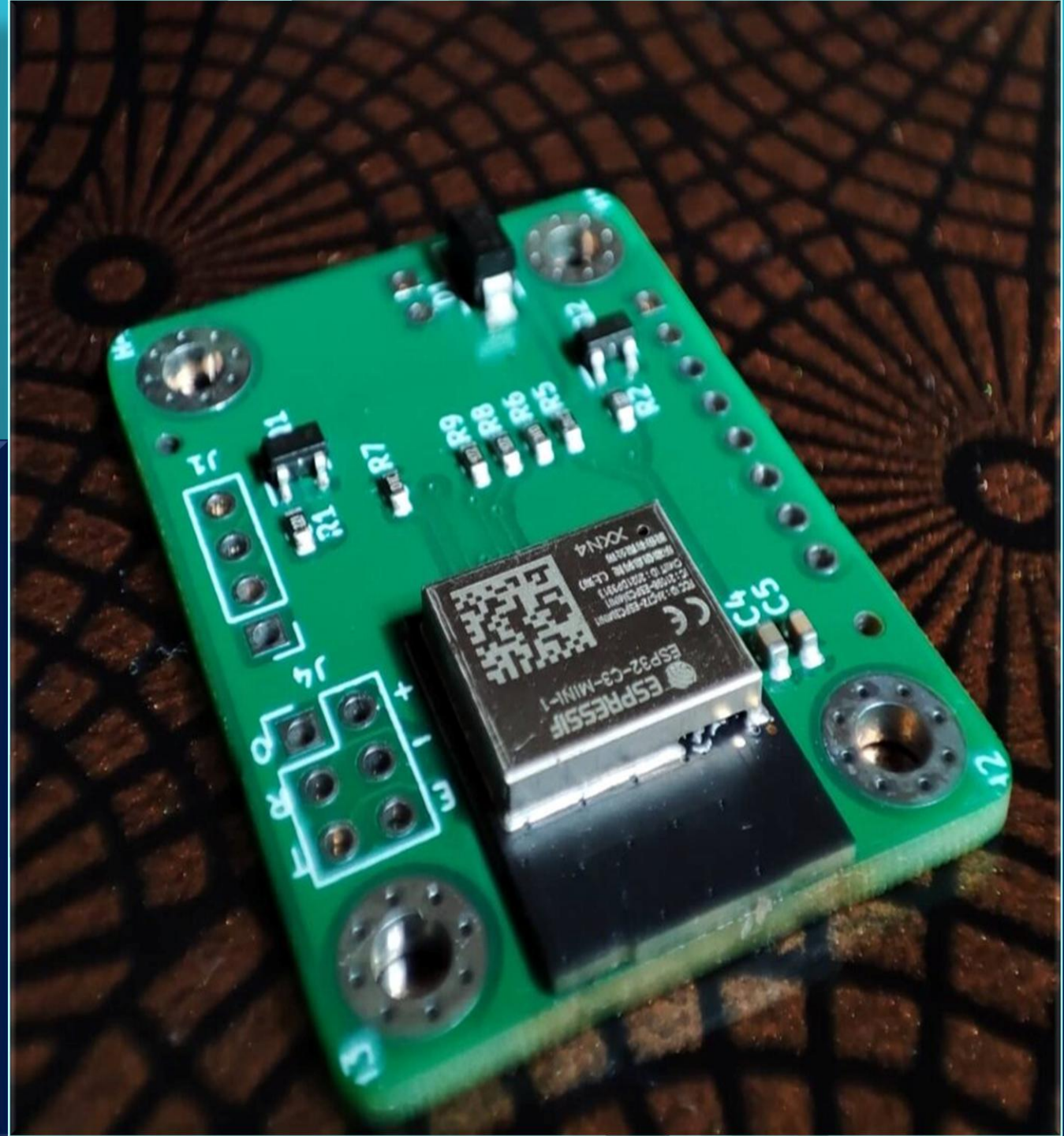
CONTENT



Abstract

The GSM-Based Paralysis Patient Health Monitoring System is designed to help monitor the health of patients with paralysis in real time. This system uses different sensors to track important health signs like temperature, heart rate, and movement. An Arduino microcontroller processes this information and displays it on a simple 16x2 LCD screen for easy viewing. For remote communication, the system uses a GSM module to send health updates and alerts to caregivers via SMS. In case of an emergency, it can also share the patient's location. Additionally, a voice module allows patients with speech difficulties to send pre-recorded messages for help. Overall, this project aims to improve patient care and provide timely support, enhancing the quality of life for those with paralysis.

PLANNING

Odd Semester

Timeline	Activity			
September 2024	Extensive study on IoT Arduino ATmega 2560, SIM 900 GSM GPRS, flux sensor, etc.			
October 2024		Establishing the work flow (flow chart) & Making of the design of the project		
November 2024			Model making (Hardware part)	
December 2024				Prepare project report

PLANNING

Even Semester

TimeLine	Activity					
January 2025	Developing the Software part (writing code, uploading code, etc.)					
February 2025		Fixing the run time issues of the Project				
March 2025			Finalize the Project			
20-31 March				Add some Additional functionalities		
April 2025					Launch of the final project	
May 2025						Prepare final

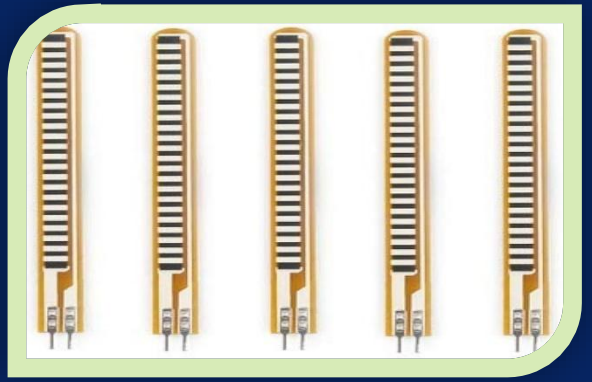
INTRODUCTION

In this presentation, we explore the innovative integration GSM based paralysis patient's health monitoring system. Our project aims to provide a solution by using modern technology to track vital health signs like heart rate, temperature, and movement in real time. By integrating sensors with a microcontroller, we can display this information locally and send alerts to caregivers through SMS using a GSM module. This system not only ensures timely medical assistance but also enhances the overall quality of life for patients by allowing them to stay at home. Through this presentation, we will explore the features, components, and benefits of our health monitoring system.

COMPONENTS

Arduino mega 2560 microcontroller

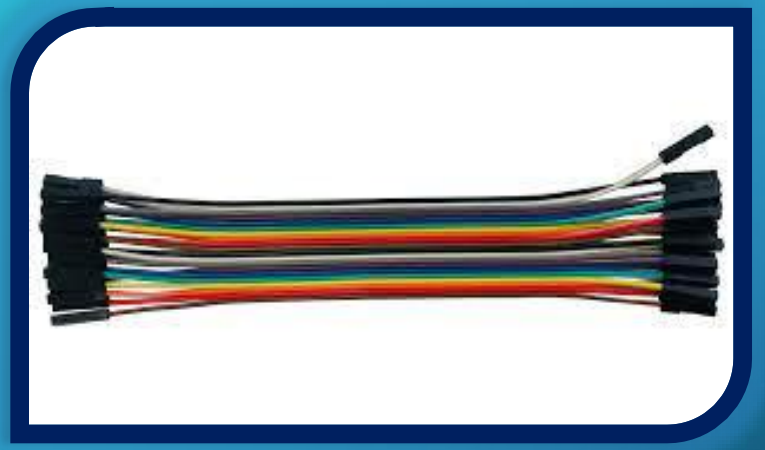
GSM-GPRS SIM900 module



Flex Senor

LM35 Temperature sensor

16 x 2 ICD Display

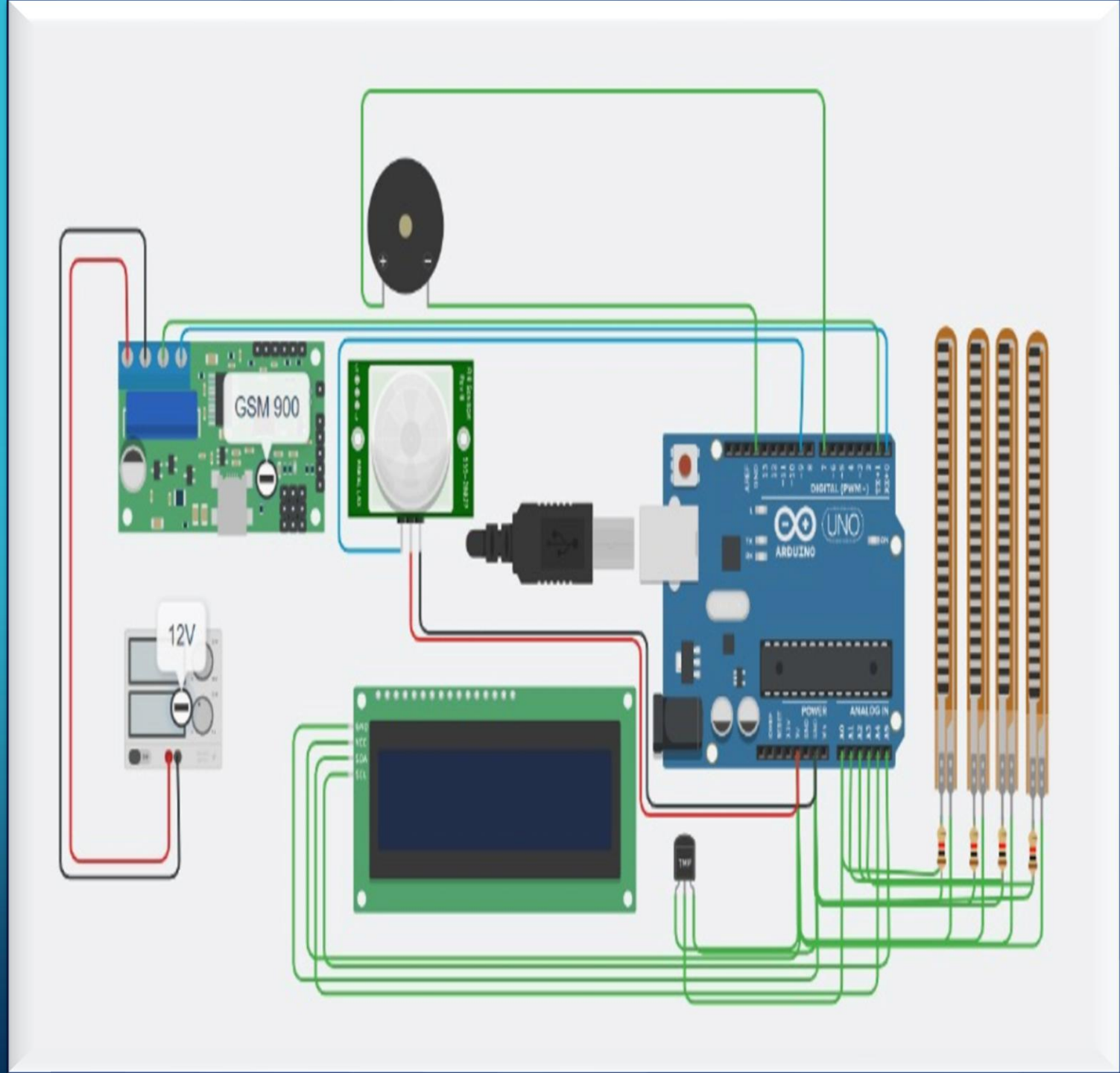


Jumpers Wires

ECG Sensor

APR33A3 voice module

CIRCUIT DIAGRAM



WORKING PRINCIPLE

The GSM-Based Paralysis Patient Health Monitoring System works by using various sensors to continuously monitor the patient's vital signs. Here’s how it functions:

1.Data Collection: Sensors measure important health parameters like body temperature, heart rate, and limb movement.

2. Processing: An Arduino microcontroller collects data from these sensors, processes the information, and makes it ready for display and communication.

3. **Local Display**: The collected data is shown on a 16x2 LCD screen, allowing caregivers to check the patient’s health at a glance.

4. Remote Communication: The GSM module sends health updates and alerts via SMS to caregivers or family members, ensuring they are informed of any changes.

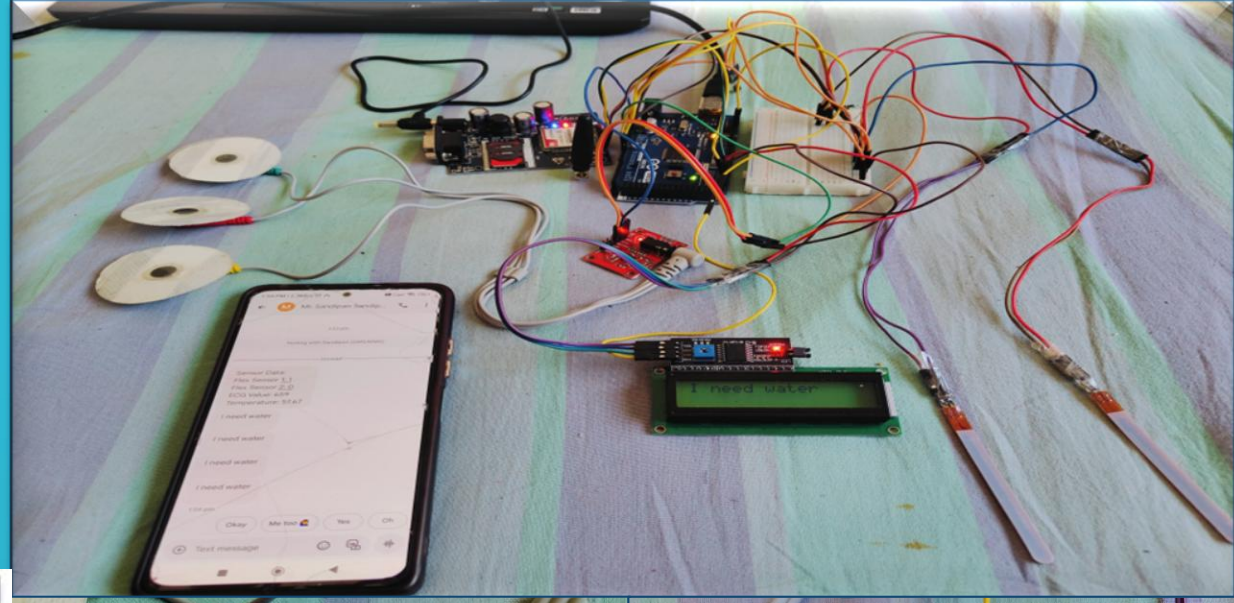
5. Emergency Alerts: If the system detects critical health changes, it sends an immediate alert for quick assistance.

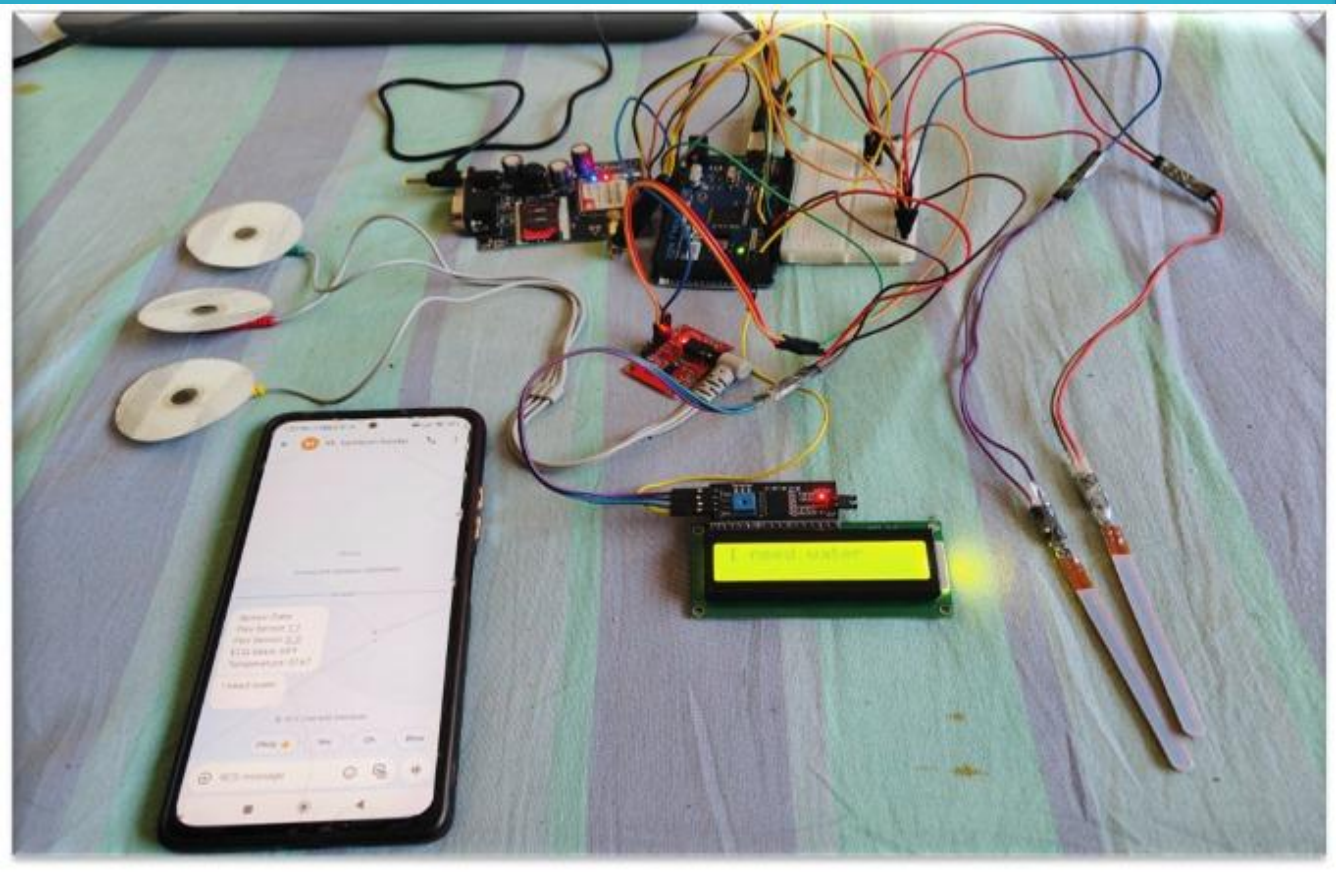
6. Voice Communication: A voice module allows patients with speech disabilities to send pre-recorded messages for help.

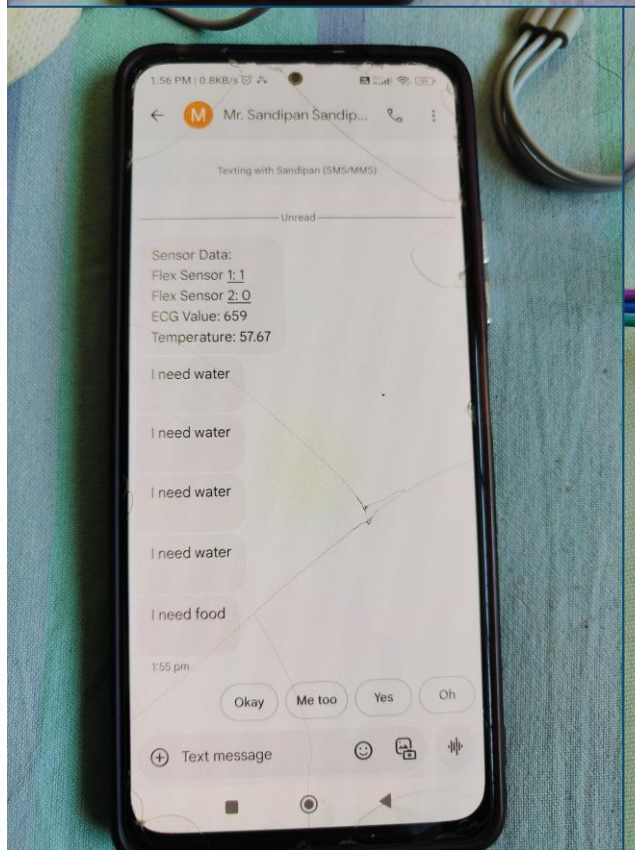
Work Progress till date

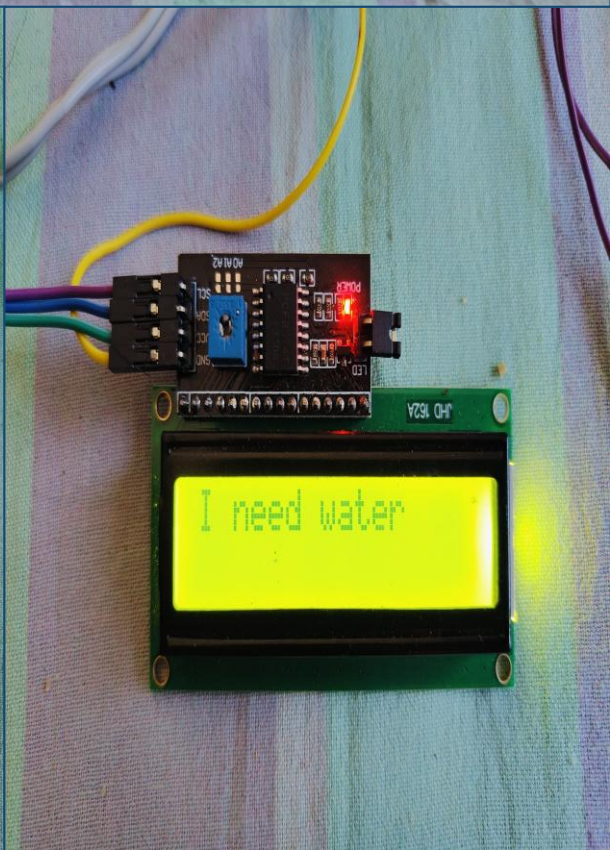
- Completed research, planning, and studied GSM-based health monitoring with speech functionality using Arduino.
- Set up Arduino IDE and finalized the circuit diagram.
- Implemented hardware and coding for GSM module, ECG sensor, temperature sensor, and two flex sensors.
- Successfully integrated all components with Arduino Mega 2560.
- Display coding completed for sensor results.
- Conducted calibration; flex sensors now provide accurate readings.

Image of the Project

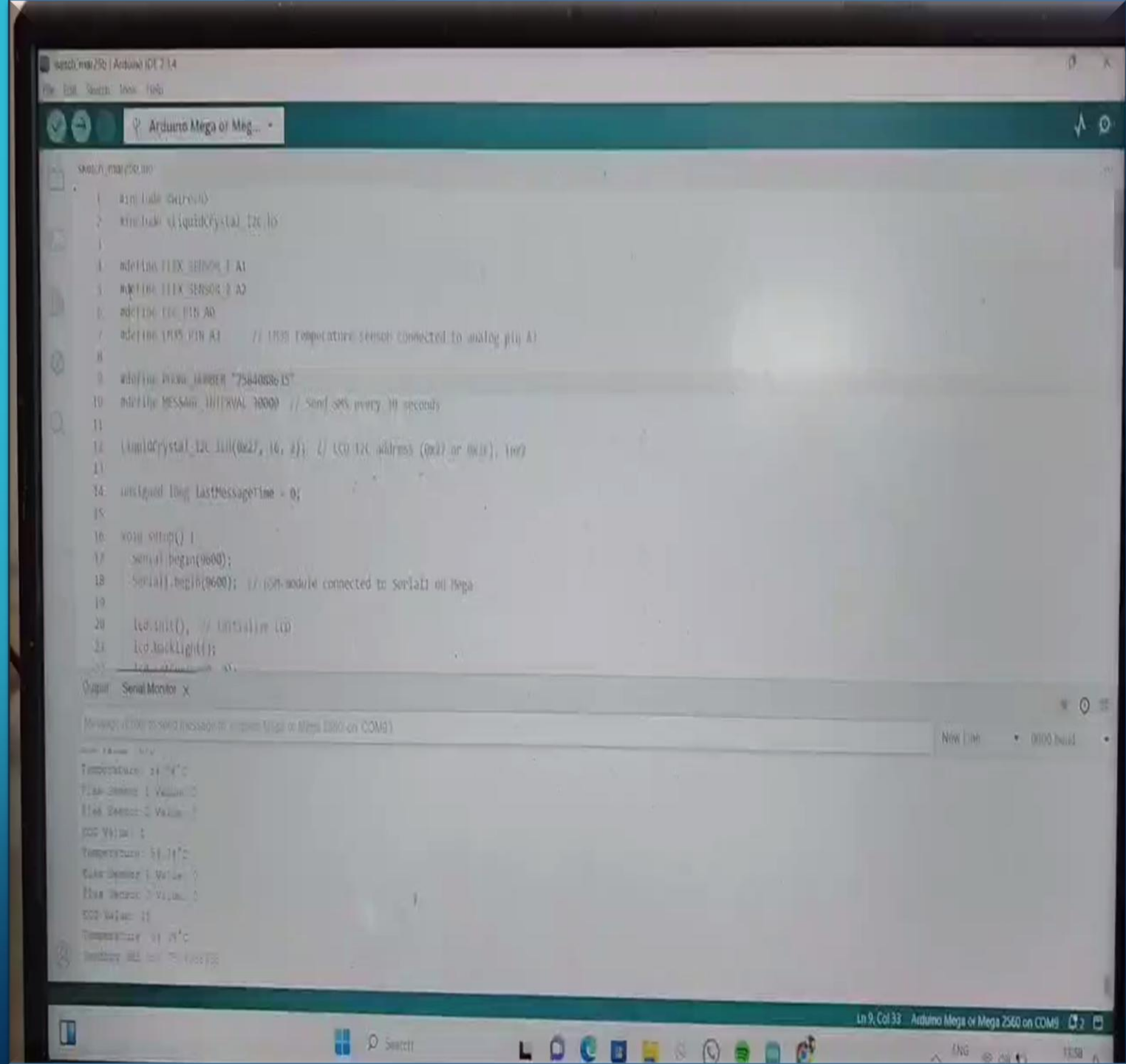








Project Video



Future Plan

Our future plans for the GSM-Based Paralysis Patient Health Monitoring System include:

1.More Sensors: Adding sensors to measure blood pressure and oxygen levels for a complete health check.

2. Mobile App: Developing an app to help caregivers view and analyze health data easily.

3. Smart Alerts: Using advanced technology to predict health emergencies before they happen.

4. User-Friendly Interface: Improving the LCD display and controls to make it easier for patients and caregivers to use.

5. Cloud Storage: Storing health data in the cloud for easy access by healthcare providers.

6. Wider Use: Adapting the system for other patients with chronic health conditions.

CONCLUSION

In conclusion, the GSM-Based Paralysis Patient Health Monitoring System is an innovative solution that enhances care for patients with paralysis. By using sensors and communication technology, it provides real-time monitoring of vital signs and immediate emergency alerts, improving the quality of care and allowing patients to maintain some independence.

Our future plans to expand the system with more features and a user-friendly interface will further increase its effectiveness. Overall, this project aims to empower patients and caregivers, leading to better health outcomes and a higher quality of life. Thank you for your attention!

REFERENCE

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Thank
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