VIII Sem BE E& CE - Project Open Day Presentation On Final Year Project Work

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Development of Health Monitoring System with Automated Bed Control using Hand Gesture & Voice Recognition

Project Group: S-07

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Introduction

This project focuses on developing a healthcare monitoring system using gesture and voice control, along with sensor integration, to enhance patient comfort and enable real-time vital parameter monitoring.

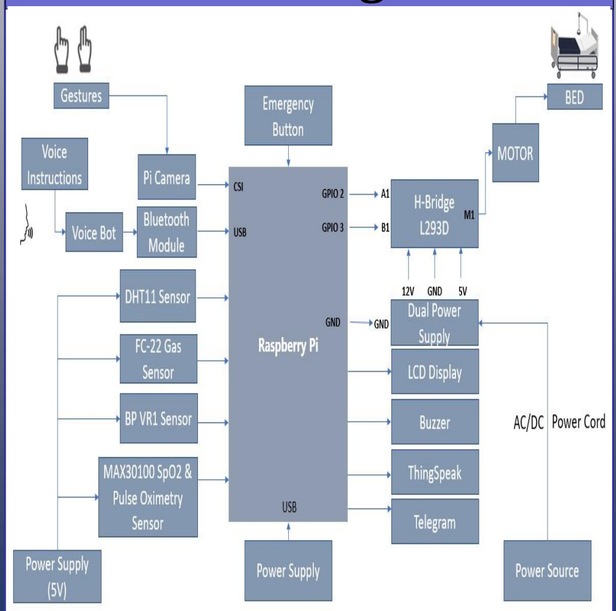
Salient Features-Highlights

- Gesture and voice control for bed movement.
- Real-time monitoring of vital parameters: heart rate, SpO2, temperature, humidity, and air quality.
- Enhanced patient independence and comfort.
- User-friendly interface with voice recognition technology.

Methodology

The methodology employed for this project involved a series of steps, including hardware selection, software development using Python and relevant libraries, sensor calibration and testing, integration of gesture and voice recognition algorithms, and rigorous performance validation. These processes ensured the successful implementation and functionality of the project.

Block-diagram

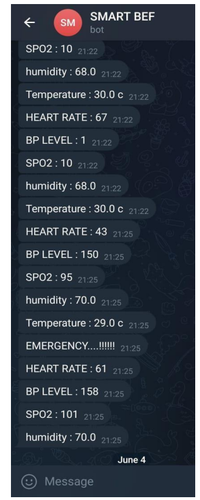


Overall working principle

The working principle of the project involves utilizing gesture and voice recognition technology to control the movement of the bed, enabling individuals with physical disabilities to adjust the bed position according to their needs. Additionally, the system continuously monitors vital parameters and environmental conditions, providing real-time data for healthcare professionals to ensure timely interventions and personalized care.

Results & Discussions

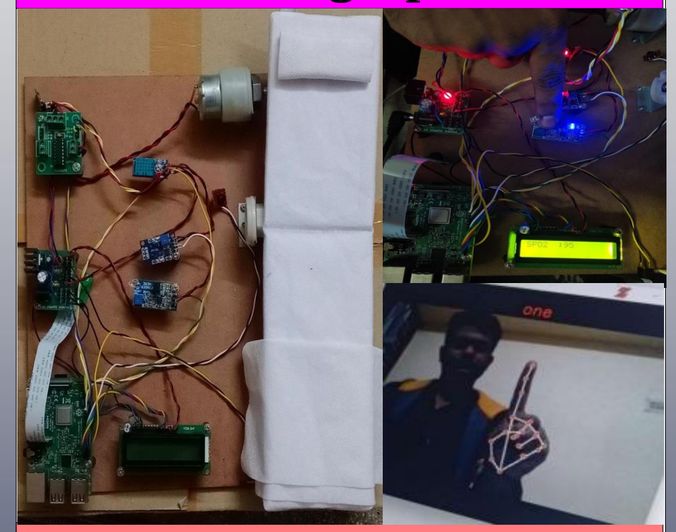
- Bed control achieved through gestures and voice commands.
- Successful measurement of vital parameters (HB, Temp, SpO2).
- Health records created via Telegram and ThinkSpeak integration.



Conclusions

The project successfully implemented a gesture-controlled and voice-controlled bed system, offering enhanced comfort and independence for individuals with disabilities or paralysis.

Photographs



Applications

- Hospitals with huge amount of patients
- Clinics with less staff.
- For elderly people in households.
- Old age homes
- Health check-up mini vans..