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# Health Assistant

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**Abstract** - The Health Assistant project represents an innovative endeavor that harnesses the power of IoT and artificial intelligence to revolutionize healthcare services in a hospital environment. Central to this project is an ESP8266-based rover that seamlessly integrates with Blynk and is controlled by an ESP32 Cam. This robot's primary mission is to semi-autonomously deliver medication to hospital rooms. Moreover, it incorporates advanced AIcapabilities that enable it to interact with nearby individuals, addressing their health-related inquiries.

***Key Words***: IoT, Artificial intelligence, health care services

## 1. INTRODUCTION

The healthcare industry is experiencing a transformation with the integration of cutting-edge technologies, notably the Internet of the Things (IoT) and Artificial Intelligence (AI). In this context, the "Health Assistant" projectemerges as a pioneering solution designed to address critical challenges within the healthcare sector. This project introduces an ESP8266-based robot controlled via Blynk, operated through an ESP32 Cam, with a primary objective of optimizing medication delivery within hospital settings. Additionally, it incorporates advanced AI capabilities to facilitate interactions with nearby customers, providing invaluableinformation on health-related queries.

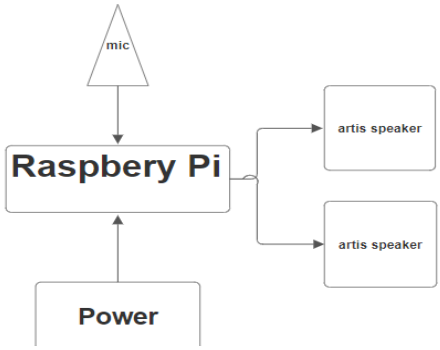


Fig. Raspberry pi block diagram

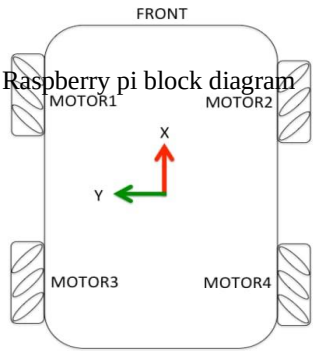


Fig Rover Block diagram

## 2. Working:

1. The user connects the esp8266 module with the wifi for the rover controlling mechanism.
2. User the connects the esp32 CAM with the designated wifi for the live streaming
3. Raspberry Pi is connected to wifi and a interaction starts with the user and the rover
4. It works as a helper or a semi-autonomous robot

## 3. Hardware used:

- ESP32 Cam
- 12V Power Supply
- Raspberry Pi
- Artis Speaker
- Mic
- Esp8266 wifi module

## 4. Software:

**Blynk Platform:**

Blynk is an essential software component that enables remote control and communication with the ESP8266-based robot. It provides a user-friendly mobile orweb application that allows operators to send commands to the robot and receive real-time data, including video streaming


**Artificial Intelligence (AI) Algorithms:**

AssemblyAI is a company that specializes in automatic speech recognition (ASR) technology, which is a key component in voice interactions and applications. ASR technology is made to convert natural language into written words, enabling voice-controlled applications, transcription services, and more


## 5. Features of Health Assistant:

- Smart Rover Control
- Live Streaming
- Voice Interaction

## Advantages:

- Enhanced access to health-related information and wellness tips.
- Accessibility through a mobile app for convenient control.
- Promotes health awareness and wellness education.
- Customizable for various health-related scenarios.
- Potential for continuous improvement through software updates

## Conclusion:

The "Health Assistant" project represents a remarkable fusion of IoT, artificial intelligence, and robotics in the healthcare sector, aiming to enhance patient care and streamline healthcare operations within hospital settings. This innovative system addresses critical challenges in medication delivery, patient engagement, and healthcareservice quality, ushering in a new era of healthcare support and automation.

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