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Interactive Featured Intelligence INFI

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ABSTRACT:

This paper presents an innovative and comprehensive system that integrates Internet of Things (IoT) technology into home automation and security systems, along with the development of an Artificial Intelligence (AI) robot with unique and versatile features and applications. The proposed system allows homeowners to control their home automation system through a variety of means, including the internet, smartphones, voice commands, and electrical switches, while also providing monitoring and security features to ensure safety for residents.

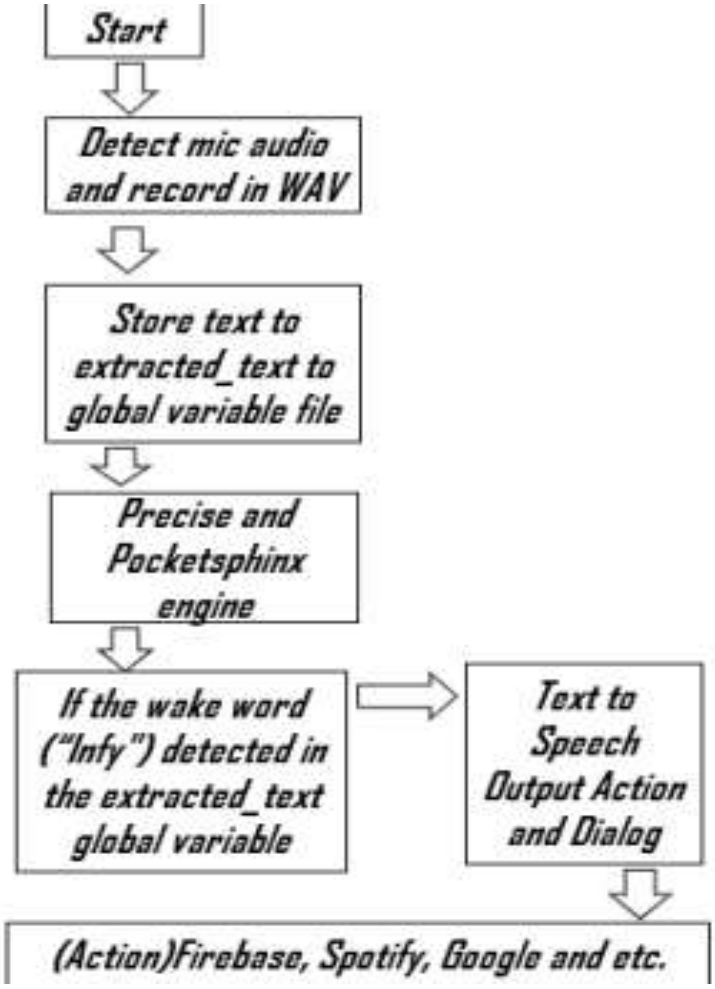
The AI robot, named INFI, is equipped with a wide range of capabilities, such as the ability to respond to voice commands, send emails, and follow a person. Additionally, INFI has self-recognition features like face recognition and auto-response that use IoT technology to enhance its efficiency and responsiveness. INFI can function as a surveillance and security bot, sending data to the user via Wi-Fi, and can be controlled through an IoT-based application.

The system is designed to be cost-effective, user-friendly, and easy to install, with an emphasis on key IoT-related technologies like sensors and microcontrollers. Overall, this paper proposes an innovative and practical solution that seamlessly integrates IoT technology into home automation and security systems, while also offering unique AI-based features to enhance the overall functionality and efficiency of the system.

Introduction:

The project aims to develop an IoT-based robot that can be controlled through mobile devices or laptops via Wi-Fi from anywhere at any time. The robot has various sensors, including ultrasonic and IR sensors, and a camera for obstacle detection and security purposes. The technology used in the project is Python, and the wireless technology is used to transmit data of the Raspberry Pi to the user's system. The core objectives of the project are to gather system requirements, evaluate the suitable platform, programming language, technologies, and tools, and evaluate methods of the interface, among others. Overall, the project aims to create a user-friendly robot that can perform various tasks and add value to the smart home concept. This system is designed to make day-to-day tasks easier and more user-friendly. The AI robot, named INFI, has a range of capabilities, including the ability to work on commands, send emails, and follow a person. It also has IoT self-recognition features such as face recognition and auto-response. INFI can serve as a surveillance and security bot, transmitting data to the user via wifi and being controlled via an IoT-based application. The home automation system can be controlled through various means, including the internet, smartphone, voice commands, and electrical switches, and offers monitoring and security features for the residents. The IoT-based home automation system is designed to automatically turn on and off home appliances without human intervention. This system is less costly and more secure and can be controlled via an Android application using an Arduino microcontroller. The system is equipped with various sensors that can convert analog data into digital data and upload it to the cloud server. This system provides the user with real-time data, such as temperature, gas leakage, water level, or motion in the home, ensuring the security and privacy of the home. Overall, this system offers a cost-effective, user-friendly, and easy-to-install solution for home automation and security needs.

Algorithm of the AI Robot:



Result:

Features:

- Our own AI
- Communicate with us
- Face recognition

● Charging station

● Bot has full IOT access

● Auto response

● Human follow obstacle avoidance ● Surveillance and security robot

● Emergency Alerts

● Can play music

● Play news

● Weather Forecast

● AIML interaction and learning ● Car control

Applications:

It is used in day-to-day life applications as it is a home automation robot that can make our task very easy to possible & also it is our side mate that communicates with us.

Conclusion and Future Scope:

INFI is a very smart and productive idea presented,

IoT and Robotics has a lot of scope for the future. Automation is on top of everyone's agenda to improve quality, productivity and predictability of outputs produced. Robotics and IoT play a very important part in automation. Future scope of this project is to make the robot compatible. In the future people would like to use an assistant to accompany and ease their task in their routine.More features can be summed up in the robot to make it useful. The robot can be made more enhanced by adding advanced features..Robotics has a lot of scope for the future in home automation and can work with their users.

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