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Alexa Based Home Automation System

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Abstract: *Home automation systems are gaining popularity due to their numerous advantages. While existing systems rely on emails, texts, or other applications, recent developments in the Internet of Things (IoT) have sparked significant investments in the field. The Smart Home sector, in particular, has seen substantial growth with the introduction of devices like Amazon Echo, Google Home, and Samsung Smart Things. This project aims to make non- smart homes smart by building a robust and cost-effective system powered by Amazon Echo, Amazon's cloud services, and speech services, as well as utilizing Arduino and ESP8266 as hardware components. The system will be controlled by voice commands through Amazon Alexa, providing improved communication and control over home appliances and devices. By using the NodeMCU development board as a central hub, various home devices can be connected to the internet, enabling seamless interaction with Alexa. Programming the NodeMCU board using Arduino IDE, configuring the Amazon Developer account, and setting up Alexa to recognize voice commands are the main steps involved in this project. Creating an Alexa-based home automation system offers several benefits, including convenience, personalization, and energy efficiency. Users can control their devices and automate routines based on their preferences and schedules using voice commands. This not only simplifies everyday tasks but also optimizes energy consumption, leading to a more efficient and comfortable living environment.*

Keywords: Home automation systems

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