

SMART MEDICINE INTAKE SYSTEM

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ABSTRACT - IoT contributes to the transformation of the current industry into an elegant industry distinguished by data-driven decision making and the promotion of a new generation filled with innovative and valuable services. A smart healthcare system that ensures rapid and safe health services for patients. Healthcare practices that take place in private homes and are not overseen by a healthcare professional can be challenging, especially for the sick person. As a result, it is critical to check their medicine consumption, especially when guardians are absent. The objectives for this project are to develop a smart medicine intake system that will remind a sick person to take medication on time and will automatically be refilling the pillbox and the outcome of the developed system can be evaluated by using an IR temperature sensor, an IR sensor supports the Blynk app for continuous monitoring of results. This smart pillbox is prepared by using Node MCU and also implemented IOT through Blynk app receive notifications. The major responsibility of making people consume medicine is resolved by using this smart pillbox setup. Future researchers are recommended adding more sensors and establishing ways to collect medicine input, therefore optimizing the system's performance, and fixing any possible vulnerabilities.

Keywords: IOT, Blynk, MLX90614, IR sensor, Node MCU, IR temperature sensor

1. INTRODUCTION

Healthcare practices that take place in private homes and are not overseen by a healthcare professional can be challenging, especially for the sick person. As a result, it is critical to check their medicine consumption, especially when guardians are absent (Nuqman Ahmad Fuad et al., 2022). It is critical to ensure that patients take the correct medication at the correct time. They should require more attention from their family members to be properly cared for. However, the reality is that it is common for sick persons who did not to be admitted to the ward to cause the intake of medicine to be insufficient because it is not monitored by the doctor. Usually, a sick person always takes carelessness about the timeliness of taking medicine, which causes severe pain and can lead to death because he does not follow what the doctor recommends (Xu et al., 2021).

2. METHODOLOGY

The Smart Medicine Intake System is divided into six stages which are planning, development, evaluation, analysis, and documentation. The IR sensor and IR temperature sensor results were tested using experimental data. Then, in various settings, many factors were used to evaluate the capabilities of the ESP8266 Wireless module connections. These performance and functionality tests were repeated several times to confirm that the prototype worked properly. This technique ensures a methodical approach to the development and documentation of the project.

3. RESULTS AND DISCUSSION

The testing process has revealed that the Smart Medicine Intake System functions effectively, with all components operating as intended. The research results focused on evaluating the functionality test, prototype system test, usability test and network performance test. The functionality and network testing techniques confirmed that the IoT components were used to their maximum potential.

4. NOVELTY OF RESEARCH / PRODUCT

This project presents a novel research/product that combines the Blynk app with a Smart Medicine Intake System. By integrating IoT technologies such as IR sensors, IR temperature modules, and wireless connection, the system provides real-time monitoring, remote access, and smart pillbox system. This allows for timely notifications to be sent to users by Blynk app, ensure that patients take the correct medication at the correct time and auto refilling medicine in the

pillbox when medicine runs out.

5. CONCLUSION

As the conclusion, the project has successfully completed, and the objectives of the project are also achieved. The system reduces carelessness and eases the burden of refilling pillboxes. The system helps sick people take their medicine on time and reduces the burden on caretakers. Future researchers should enhance monitoring and enhance security and privacy measures for better system.

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