VIDYA JYOTHI INSTITUTE OF TECHNOLOGY
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DepartmentofInformation Technology

Real-time Research Project ABSTRACT

1. Title:Automated pil dispenser using Iot

2. Class&Semester:IV semister II Year

3. AcademicYear: 2024-25

4. BatchNumber: 13

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5.Organization/ Place :VJIT

6.Domain: IOT

7.InternalGuide: K.Shireesha

Abstract:

IoT (Internet of Things) is playing a transformative role in healthcare by enabling smarter and more connected systems. This project leverages IoT to build an automated pill dispenser that addresses critical challenges in medication adherence, especially for elderly and chronically ill patients. The societal impact of this innovation includes enhanced patient independence, reduced caregiver workload, and improved health outcomes through timely medication delivery.

The dispenser system integrates a microcontroller (ESP32/Arduino) with a real-time clock (RTC), IR or ultrasonic proximity sensors, and an LCD display to manage and display medication schedules. Using IoT connectivity, users or caregivers can remotely configure and monitor the device via a mobile app or web platform. The system only dispenses medicine when the user is detected in front of the dispenser at the scheduled time, ensuring accurate and need-based delivery.

What sets this project apart is its intelligent integration of sensor data with time-based control, IoT-based monitoring, and alert systems like buzzers and notifications. Unlike traditional dispensers that operate on fixed timers, this solution ensures real-time interaction and presence-aware dispensing, significantly reducing missed or wasted doses.

This IoT-driven solution is designed to be cost-effective, easy to use, and ideal for both home and assisted care environments. It demonstrates how IoT can enhance traditional healthcare devices by adding real-time decision-making and remote accessibility, ultimately making daily medication safer and more efficient.

Internal Guide **R&DCoordinator** **HOD**