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MIT-WPU
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FoET

# DEPARTMENT OF COMPUTER ENGINEERING AND TECHNOLOGY

BTech Capstone Project Academic Year 2024-25


- **Title of the Project : Medbuddy: Optimal Real-time medication system for the elderly**
- **Name of the Students : Manvi Singh (1032211990)**
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- **Group ID : P23**
- **Name of the Internal Guide: Prof. Laxmi Bhagwat**


***Summary of Work:***


**Abstract:** MedBuddy is a smart healthcare companion app designed to help elderly patients with visual or cognitive impairments manage their medications safely. It addresses challenges like missed doses, pill confusion, and dependency on internet-based tools. The app integrates Optical Character Recognition (OCR), QR code scanning, and Text-to-Speech (TTS) to identify medicines, read out prescription details, and store data offline using SQLite. With a simple, high-contrast user interface tailored for seniors, MedBuddy allows users to scan labels, hear dosage instructions, and track intake history with ease. MedBuddy provides an accessible, offline-first solution to improve medication adherence for elderly users.


## Objectives:

- To research and identify the key challenges faced by elderly patients in medication management.
- To conceptualize a unified mobile solution that combines scanning, voice output, and offline tracking.
- To create a user experience specifically tailored to elderly users with visual or cognitive limitations.
- To evaluate the effectiveness of multimodal interaction (visual + auditory) in improving accessibility.

## Result and Analysis:

- Core features like medicine tracking, QR scanning, TTS, and emergency contact access were successfully implemented.
- The elderly-friendly design and offline functionality ensured ease of use and accessibility.
- User feedback confirmed improved medication adherence and high overall satisfaction.

## Conclusion:

- MedBuddy offers a user-friendly, offline solution for elderly medication management.
- The app empowers users to track medications independently, with positive feedback highlighting its impact on medication adherence and ease of use.

## System Architecture