Team Orbit

MedMate

Smart Prescription & Medicine Tracker

PROJECT CHARTER

Course: CS-458 | Class: II-A | Department: UBIT

Project Sponsor

Miss Maryam Feroze
Department of Computer Science, UBIT
Course Instructor, CS-458

Project Manager

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Development Team Members

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Project Purpose and Justification

The purpose of the MedMate project is to revolutionize prescription and medicine management through a comprehensive digital solution that addresses critical healthcare challenges. Currently, patients and families struggle with lost paper prescriptions, missed medication doses, and fragmented healthcare records.

Key Problem Areas:

- Paper prescriptions are easily lost or misplaced
- Elderly patients and families lack centralized medication tracking
- Chronic condition patients need reliable medicine reminders
- Healthcare data privacy and accessibility concerns

MedMate will provide a secure, user-friendly platform that centralizes prescription management, automates medication reminders, and supports family-based healthcare coordination, ultimately reducing health risks and improving medication adherence.

Project Objectives

- **Deliver a functional web application** using MERN stack technology within 4 months
- **Implement secure digital prescription management** with upload, storage, and organization capabilities
- **Develop automated medication reminder system** for improved adherence
- **Create family profile support** allowing centralized management of multiple users
- **Ensure data security and privacy** with JWT authentication and encryption
- **Design accessible interface** optimized for elderly users and caregivers
- **Achieve MVP completion** with core features ready for testing and feedback

High-Level Requirements

Frontend:
React.js, Redux/Zustand, TailwindCSS/MUI

Backend:
Node.js, Express.js, RESTful APIs

Database:
MongoDB (MongoDB Atlas)

Authentication:
JWT-based login, bcrypt, RBAC

Hosting:
Vercel (frontend), Render/Heroku (backend)

Storage:
Cloudinary/Firebase for prescriptions

Functional Requirements:

- Digital prescription upload (manual entry or scanned images)
- Secure prescription storage and organization by user and date
- Automated medication reminder system
- Family profile management for multiple users
- User-friendly interface with accessibility support
- Data encryption and privacy protection
- Responsive design for various devices

Assumptions

- Users have access to smartphones or computers with internet connectivity
- Target users (families, elderly) are willing to adopt digital health solutions
- Free deployment resources and open-source tools will remain available
- Team members will maintain consistent availability throughout the 4-month timeline
- University infrastructure will support development and testing phases
- Third-party services (MongoDB Atlas, Cloudinary) will maintain stable service

Constraints

- **Timeline:** Project must be completed within 4 months (academic semester)
- **Budget:** Limited to free/open-source tools and minimal deployment costs
- **Team Size:** Development team limited to 5 student developers
- **Technology Stack:** Must use MERN stack as per course requirements
- **Compliance:** Must include appropriate medical disclaimers and data privacy measures
- **Scope:** Focus on MVP features for initial release

Major Milestones

Month 1: Requirements Analysis & System Design Completed

Month 2: Backend Development & Database Setup Completed

Month 3: Frontend Development & Integration Completed

Month 3.5: MVP Testing & User Feedback Collection

Month 4: Final Deployment & Project Documentation

High-Level Risks

Low User Adoption Risk

Impact: Without marketing or institutional adoption, organic user growth could be slow
Mitigation: Offer free access to university clinics, conduct pilot tests, collect user feedback

Medical Accuracy Misuse Risk

Impact: Users might treat system as medical advice tool rather than tracking system
Mitigation: Add clear disclaimer messages, avoid AI-based medical recommendations

Technical Integration Challenges

Impact: Delays in MERN stack integration or third-party service issues
Mitigation: Use modular architecture, implement comprehensive testing, maintain backup plans

Data Security Concerns

Impact: Sensitive health information requires robust security measures
Mitigation: Implement JWT authentication, HTTPS, data encryption, and privacy compliance

Key Stakeholders

Project Sponsor

Course Instructor, UBIT Faculty

End Users

Families, Elderly Patients, Caregivers

Development Team

Team Orbit - 5 Student Developers

Testing Users

University Community, Beta Testers

Healthcare Partners

Local Pharmacies, University Clinics

Technical Support

UBIT IT Department, Course TAs

Project Authorization

By signing below, the project sponsor authorizes the MedMate project to proceed as outlined in this charter.

Project Sponsor Signature
Miss Maryam Feroze
Date: _____

Project Manager Signature
Husain Ahmad Khan
Date: _____