



IUT-MEDICAL MANAGEMENT SYSTEM
”ProjectNAME”

SWE 4404
Software Project Lab II

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February 23, 2024

Contents

1	Project Overview	1
2	Key Features	1
2.1	Appointment Scheduler	1
2.2	Due Medical Expense Management	1
2.3	Room Reservation	1
2.4	Prescription Generator for Doctors	1
2.5	Availability Calendar of Doctors	1
3	Tools and Technology	2
3.1	Frontend	2
3.2	Backend	2
3.3	Database	2
3.4	Integrated Development Environment:	2
3.5	Version Control	2
3.6	Documentation Tools	2
4	Proposed Timeline	2

1 Project Overview

IUT-Medical Management System is a comprehensive solution designed to streamline operations and enhance patient care within the Islamic University of Technology's medical center. It offers features such as appointment scheduling, medical expense management, room reservations, prescription generation for doctors, and availability tracking for doctors.

Patients can conveniently book appointments, manage medical expenses, and access digital prescriptions, while hospital staff can efficiently manage resources and schedules. With automated reminders, real-time availability updates, and secure communication channels, the platform aims to improve the patient experience, optimize resource utilization, and enable data-driven decision-making for enhanced operational efficiency and quality of care.

2 Key Features

2.1 Appointment Scheduler

Patients can conveniently book appointments with healthcare providers through an intuitive online scheduler. The system provides real-time availability of doctors, allowing patients to select preferred time slots based on their convenience.

2.2 Due Medical Expense Management

The platform facilitates seamless management of medical expenses for patients, allowing them to view and settle outstanding bills online. A medical assistant can clear and check the dues, and on confirmation from the doctor, he/she can update the dues of the students.

2.3 Room Reservation

Hospital staff can efficiently manage room reservations for patients, including inpatient rooms, consultation rooms, and procedure rooms. The system provides a visual overview of room availability, enabling staff to allocate resources effectively and minimize scheduling conflicts.

2.4 Prescription Generator for Doctors

Healthcare providers can generate digital prescriptions for patients directly within the platform.

2.5 Availability Calendar of Doctors

Hospital staff can efficiently manage room reservations for patients, including inpatient rooms, consultation rooms, and procedure rooms. The system provides a visual overview of room availability, enabling staff to allocate resources effectively and minimize scheduling conflicts.

3 Tools and Technology

3.1 Frontend

We will be using **ReactJS** as the primary Javascript framework for our frontend technology along with TailwindCSS for styling the client side.

3.2 Backend

We will be using **NodeJS** and **ExpressJS** as the primary server-side language to develop the routes and connecting the server with the database.

3.3 Database

We will be using **PostgreSQL** as the primary database to store all the necessary data for the project.

3.4 Integrated Development Environment:

Visual Studio Code is chosen as the suitable development environment to write, test, and debug our code efficiently.

3.5 Version Control

Using **Git** to track changes in our code, collaborate with team members, and maintain a version history.

3.6 Documentation Tools

Google Docs or **LaTeX** used for project documentation.

4 Proposed Timeline

- Week 1-2: Problem analysis and Requirements gathering
- Week 3-4: System Architecture and Proposal finalization
- Week 5-6: Organizing Data into database and Utility Methods
- Week 7-8: Development of Backend servers and routes
- Week 9-10: Implement the medical center features for routes
- Week 11-12: Development of Frontend client side UI
- Week 13: Integration and Testing
- Week 14: Bug fixes and Final Review