

Project Proposal

CURALINK

Medical Management System

Section - 10

Group Number - 01

Group Members

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CURALINK

CURALINK is a comprehensive medical management platform designed to enhance the interaction between healthcare providers, patients, pharmacists, and medical students. It provides each user role with tailored tools to manage and access medical information efficiently. The name "CURALINK" represents a seamless link between care providers, patients, and other stakeholders in the healthcare ecosystem.

Project Rationale

Background

CURALINK addresses critical needs in healthcare management by providing a digital platform for interaction, management, and information sharing. Key issues it tackles include:

1. Streamlining patient record management for doctors.
2. Empowering patients with easy access to medical records and appointment scheduling.
3. Facilitating learning resources and case studies for medical students.
4. Enhancing prescription handling and inventory management for pharmacists.

The project presents an opportunity to create an integrated solution that brings together various aspects of medical care management, a need currently underserved by existing platforms.

Scope

Audience

The primary audience includes doctors, patients, medical students, pharmacists, and administrators in healthcare facilities.

Target Users and Uses

1. **Doctors:** Manage patient records and track treatment plans.
2. **Patients:** Book appointments and access personal health records.
3. **Medical Students:** Access anonymized cases and educational materials.
4. **Pharmacists:** Handle prescriptions and update inventory.

Audience Size

This platform could potentially serve medium to large healthcare facilities, clinics, and educational institutions, benefiting hundreds of users daily.

Project Objectives

1. To provide doctors with efficient tools for patient management.
2. To facilitate patient engagement through accessible health records and appointments.
3. To support medical students with access to learning materials and case studies.
4. To enable pharmacists to manage prescriptions and inventory.

Cost and Benefit

Project Cost

1. **Requirement Analysis and Design:** ~80 hours
2. **Frontend and Backend Development:** ~240 hours
3. **Testing and Quality Assurance:** ~120 hours
4. **Deployment and Maintenance:** ~60 hours

Project Benefits

1. **For Doctors:** Streamlined access to patient information and treatment management.
2. **For Patients:** Improved healthcare engagement and easy access to personal health data.
3. **For Medical Students:** Accessible educational resources for practical learning.
4. **For Pharmacists:** Enhanced inventory tracking and prescription management.

Project Approach

Technology Stack

1. **Frontend:** React.js, HTML5, CSS3 for responsive UI.
2. **Backend:** Node.js, Express.js for API management.
3. **Database:** MongoDB for scalable data handling.

Potential Risks

1. Data breaches due to improper security protocols.
2. Delays in development due to technical complexities.
3. User adaptation challenges requiring training and support.

Requirements

1. Doctor Requirements

Requirement: As a Doctor, I want to access and update patient records to manage treatment plans.

- **Features:**

- i. Allow doctors to register and manage patient details.
- ii. Enable viewing of past appointments.
- iii. Provide access to medical report downloads.
- iv. Allow drug suggestions and prescription printing.

2. Patient Requirements

Requirement 1: Book Appointments

- **Features:**

- i. Allow appointment scheduling and cancellation.
- ii. Send reminders for upcoming appointments.
- iii. Provide a user-friendly interface for selecting available time slots.
- iv. Enable rescheduling of appointments.

Requirement 2: Access Health Records

- **Features:**

- i. Dashboard for viewing medical history and prescriptions.
- ii. Provide secure access to lab results and diagnostic reports.
- iii. Enable download or printing of health records for personal use.
- iv. Enable secure messaging with doctors for record-related queries.

3. Medical Student Requirements

Requirement: As a Medical Student, I want access to anonymized cases and learning resources.

- **Features:**
 - View anonymized case studies.
 - Track progress through quizzes.
 - Engage in case discussions with mentors.
 - Access a library of medical articles and videos.

4. Pharmacist Requirements

Requirement 1: View Prescriptions

- **Features:**
 - i. Verify patient prescriptions for accuracy.
 - ii. Display prescription details, including dosage and instructions.
 - iii. Track prescription history for repeat orders.
 - iv. Send notifications to doctors for clarifications or modifications.

Requirement 2: Manage Inventory

- **Features:**
 - i. Manage and track stock levels and expiration dates.
 - ii. Update inventory levels based on demand or stock arrivals.
 - iii. Notify doctors and patients of unavailable medications.
 - iv. Generate low-stock alerts for timely replenishment.

5. Admin Requirements

Requirement: As an Admin, I want to manage users and ensure data security.

- **Features:**
 - i. Delete user accounts.
 - ii. Generate usage logs and reports.
 - iii. Set role-based permissions and access levels.
 - iv. Monitor security and address breaches.

Conclusion

CURALINK aims to create an integrated healthcare management platform that brings together doctors, patients, pharmacists, medical students, and administrators. By addressing specific needs of each user role, CURALINK enhances healthcare service delivery and user experience, providing a robust, secure, and scalable solution for modern healthcare facilities.