Acropolis Institute of Technology and Research

"MediConnect – A Telemedicine Platform"

Aims to revolutionize the telemedicine technology

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ACROPOLIS Enlightening Wisdom

Abstract

MediConnect is a digital healthcare platform designed to bridge the gap between patients and healthcare providers, offering accessible, affordable, and quality healthcare services. Operating within the telemedicine domain, MediConnect leverages technology to enable remote consultations, diagnoses, and treatment recommendations. MediConnect aims to democratize healthcare by providing convenient and efficient solutions. By connecting patients with qualified medical professionals from the comfort of their homes, MediConnect reduces the burden of travel, waiting times, and associated expenses.

The traditional model of healthcare, reliant on in-person appointments and physical clinic visits, has often proven cumbersome and inefficient..

Objectives

- Streamline Appointment Scheduling:
- Facilitate an easy and efficient process for patients to book appointments with healthcare providers, minimizing wait times and scheduling conflicts.
- Enhance Patient Data Management:
- Enable secure storage, retrieval, and management of patient records, allowing authorized healthcare providers to access accurate medical histories.
- Ensure Data Privacy and Security:
- Promote Interoperability:
- Integrate with existing hospital and healthcare systems using standardized protocols (e.g., FHIR) to allow seamless data sharing across platforms.
- Support Real-Time Notifications:
- Send timely notifications to patients and providers for appointment reminders, updates, and alerts to improve patient engagement.

Meetthhoodd

To meet the objectives of MediConnect, several methodologies were explored and employed throughout the project. The development process involved multiple phases, each focusing on solving distinct challenges, including object recognition, environmental matching, and system scalability. The methodologies are described below:

- Identify Stakeholders: Determine the
- primary stakeholders, including patients, doctors, administrative staff, and IT professionals, and gather their
- requirements for the system.
- Define Functional and Non-Functional Requirements: Specify functionalities such as appointment booking, patient record management, and secure access control. Additionally, define non-functional requirements like security, scalability, and performance.

Technology Stack

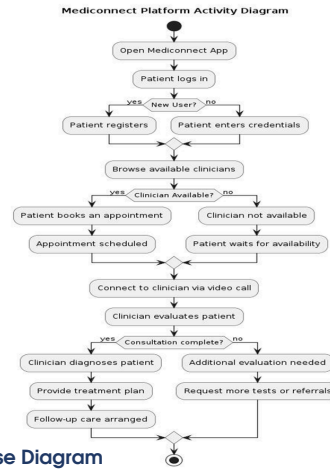
Technology stack is as follows:

- Backend:
- Java with Spring Boot for developing REST APIs and backend services
- Spring Security for authentication and authorization (OAuth 2.0, JWT)
- Hibernate (JPA) for ORM to interact with relational databases
- Frontend:
- React or Angular for building a responsive and interactive user interface
- Bootstrap or Material UI for consistent styling and layout
- Database:
- MySQL or PostgreSQL for structured data storage (patient records, appointments)

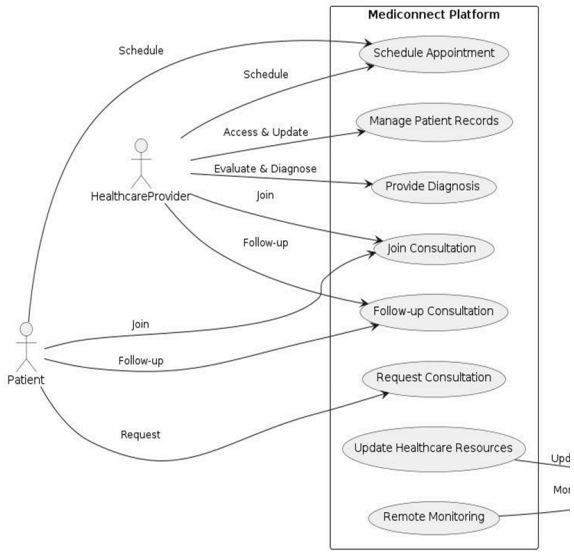
The java is used due to its robust nature and organization support and a big community.

Design Diagrams

1. Activity Diagram:



2. Use Case Diagram



Conclusion

The MediConnect platform aims to revolutionize healthcare delivery by providing a secure, efficient, and user-friendly system for managing patient information, doctor appointments, and medical records. By leveraging modern backend technologies such as Java, Spring Boot, and MySQL/PostgreSQL, the platform ensures reliable data management, secure authentication, and seamless interaction between users and healthcare services. The adoption of technologies like RESTful APIs guarantees a secure and scalable solution that can handle the growing needs of healthcare providers and patients.

References

This chapter provides a list of key references, documentation, and sources that were instrumental in the development of our MediConnect Platfrom:

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