GP system

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# Project Objective:

*The GP online appointment system strives to redefine the healthcare experience by introducing a seamless and user-friendly platform for patients, doctors, and front desk staff. This innovative online application aims to streamline scheduling, simplify access to medical history, and enhance overall healthcare management.*

# Product Type:

*As a cutting-edge web-based application, the GP online appointment system establishes connections between patients, doctors, and front desk staff. It offers a comprehensive solution to seamlessly manage medical appointments, records, and interactions, all within a unified and intuitive platform.*

# Project Requirements

## Patients & Doctors & Front Desk:

Schedule and Manage Doctor Appointments:

*Empower users with a streamlined process to schedule and manage appointments with healthcare providers.*

Access Past Medical History Through the App/Web:

*Provide a user-friendly interface that effortlessly allows access and management of past medical history.*

Receive Payment Estimation for Services:

*Implement a feature for estimating and communicating the cost of medical services to enhance financial transparency.*

Access Notes and Test Reports:

*Facilitate easy access and review of notes and test reports, contributing to a well-informed healthcare journey.*

View Statistics on Payments Made:

*Deliver a comprehensive overview of payment statistics for both patients and healthcare providers.*

Receive and Manage Prescription Details:

*Ensure a secure and efficient system for receiving and managing prescription details within the application.*

Find Nearest Pharmacies:

*Incorporate a feature for easy patient access to nearby pharmacies, improving accessibility.*

## Doctors:

Generate Daily Schedule Reports:

*Empower healthcare providers with insightful daily schedule reports, optimizing time management.*

Create and Manage Notes:

*Offer a robust system that enables doctors to create, store, and efficiently manage patient notes.*

Access Prescription Details:

*Facilitate doctors' seamless access to prescription details for streamlined patient care.*

## Patients:

Access Clinic Prices and Details:

*Provide transparent access to clinic prices and relevant details, ensuring informed decision-making.*

Receive Appointment Reminders:

*Implement a proactive reminder system to keep patients informed about upcoming appointments.*

## Front desk:

Create Accounts with PPS Number and Email:

*Simplify the onboarding process for external users by allowing them to create accounts seamlessly using their PPS number and email.*

# Benefits to the Business:

###### Efficient Appointment Management:

*Improved scheduling and management processes have led to a more efficient workflow for doctors and patients.*

###### Improved Accessibility to Past Medical History:

*Improved access to historical medical records, leading to more informed healthcare choices.*

###### Streamlined Payment Processes Leading to Increased Revenue:

*Optimization of payment processes contributing to increased revenue and financial efficiency.*

###### Enhanced Patient-Doctor Communication:

*Improved communication channels foster better interactions and relationships between patients and healthcare providers.*

###### Comprehensive Data Statistics for Informed Decision-Making:

*Access to comprehensive data statistics helps businesses to make well-informed decisions and strategies.*

###### Improved Prescription Management:

*A refined prescription management system contributes to better healthcare outcomes and patient satisfaction.*

# Skills and knowledge acquired by team members

The team hopes to learn a new language while also extending our knowledge of existing languages already learned. The team would also like to acquire knowledge and skills in implementing security measures which includes encryption and a secure authentication process.

On a team level we hope to improve our communications skills within the team to help make it into a collaborative and productive environment while also practicing effective communication methods such as regular team calls, status updates on the project and feedback sessions.

Doing this will help create a problem-solving mindset within to the team to address and challenges encountered.

# Reasons this project idea was chosen over others

The team had two ideas in mind, The first idea was to create a hospital system that would check patient appointments, doctor schedules and so on, and the second idea was to create a hotel system that checked users in, book rooms and the scheduling for rooms.

But in the end we chose to do a GP system which is a system that is smaller than a hospital system and is line like a dental system, this system will be challenging but also not overly complicated like the hospital system that we originally had in mind.

# Use Case Diagram

A diagram of a company

Description automatically generated

# Class Diagram

A diagram of a company

Description automatically generated

# Software Environment

We will be using docker to both code, test and deploy the code. Using docker images allows scaling of infrastructure by using the container images and load balancers, all orchestrated by kubernetes.

As for the database, due to the nature of our program we require relationships. So after careful consideration, we settled on PostgreSQL. Some of its main features are ACID compliance, vast built-in security options, ability to create custom data types, many functions to look through text and JSON (built-in), as well as support for procedural programming languages like python or PERL.

The programming languages to use will be Java and Typescript, using java to code a RESTful API and typescript for next.js, a full-stack web framework powered by React.js and Node.js.

# External resources/inspirations

Our inspirations came from the systems that are available in the UK and Spain that are not present in Ireland. These systems are very easy to use and useful, as front desks in GPs will not be as busy getting calls and the user can do everything from the comfort of their house without having to call.