**National University of Computer and Emerging Sciences**



Fundamentals Of Software Engineering Project Proposal

**DoccPlus**

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# Abstract

This document elaborates the basic functionalities and technical requirements of the project DoccPlus. This is a mobile-based application that provides a platform for interaction between patients and qualified doctors. This application allows users to appoint a doctor in exchange for the desired fee for medical consultations. The services provided by doctors will mainly constitute disease diagnosis and medical prescriptions, where serious cases may be forwarded to expert doctors or referred to medical centers or hospitals.

The patients can sign up as normal users by verifying national ID or related documents, the criteria for doctors are a bit rigorous consisting of verification of professional documentation from accredited institutions. This process ensures that only qualified doctors are providing services on the platform. Users can log in through their usernames and passwords and will have the basic functionality of updating passwords. The advanced functionalities of updating personal information will be subject to approval from the application support. All of the application uses industry-standard encryption to ensure user data is stored securely. All the interactions are carried out through app messaging services and encrypted channels without revealing any personal contact information.

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# Introduction and Background

A medical clinic is a place where patients go to seek medical advice for various medical issues they have. A clinic provides facilities like:

* Consultation by doctors on diseases
* Diagnosis for diseases
* Prescribing a treatment
* Providing basic medications
* Immunization for Patients/Children

Various operational tasks that are performed in clinics for internal use are:

* Maintaining a record of all arriving patients
* Generating patient invoices
* Recording patient’s diagnosis information
* Keeping a record of all medications and immunizations provided
* Keeping information about various diseases and medications to cure them

These are some of the various tasks performed by medical staff in a clinic. Usually, these records are maintained on paper or self-organized databases. DoccPlus aims to revolutionize this traditional activity.

This is a mobile application that will help you find and connect to nearby qualified doctors and physicians. This will allow both parties to connect and discuss matters where doctors will be able to provide prescriptions to patients based on their symptoms. There may be a feature of calling a mobile clinic on request (This feature may or may not be implemented depending on time and complexity requirements).

DoccPlus is a medical application designed to streamline the task of medical attention in daily routine. This application will be developed from the ground up to provide core functionalities of any medical clinic and will allow patients to get proper medical advice from the comfort of their homes. This application will allow any user with internet access to seek medical attention in minimum time, thus minimizing health risks.

# Problem Statement

Medical care is one of the most essential and in-demand services for all. It requires a lot of attention and high-quality service that also causes health care workers to do a lot of effort. E.g. - To find out about the patient’s history, the user has to go through various registers. This results in inconvenience and wastage of time. So, this application will allow the effective use of technology instead of manually doing each task. The main goal of the application is to streamline medical workflow and bridge the gap between home and quality medical service provided in clinics.

# Objective(s)/Target(s)

* Securing data of patients and doctors.
* Improve productivity by accommodating more patients.
* Scheduling the appointments of patients with doctors to make it convenient for both.
* Scheduling the services of specialized doctors and emergency services properly so that facilities provided by this application are fully utilized effectively.
* The information of patients is kept up-to-date and their records should also be kept for historical purposes.

# Completeness Criteria

* Allow patients and doctors to register successfully
* Follow proper verification procedures for both doctors and patients
* Allow patients to find nearby or top-rated doctors
* Recommend doctors to patients based on their symptoms and medical expenditures
* Establish secure contact links between both parties

# Challenges

A list of a few challenges that this application might face are:

* The high cost of software development and deployment.
* Complex design in terms of User Interface and User Experience (UI/UX Design)
* Fear of data security breach.
* Unauthorized Access.
* Technical issues may occur even after the implementation of software which may disrupt the normal functioning.

# Knowledge Areas Required

The areas which are expected to be used during this project are Software Engineering, Web Application Development, Data Science (for handling data of patients and doctors), Programming Fundamentals (for Coding) and Statistics, and Database Systems for managing all the databases at the backend of the application.

# Learning Outcomes

Following are the learning outcomes of this project:

* Understanding of the development of web applications.
* Becoming familiar with database concepts and SQL programming language.
* Understanding basic Security concepts.
* Experience with and understanding of a set of modern software development tools and techniques. One such example is working with the bubble.io development platform.

# Nature of End Product

The end product of this project will be a mobile application that will provide all the functionalities provided above.

# Initial Literature Survey

After carrying out a comprehensive internet and market research no existing application or framework could be found that supports mentioned functionalities and additional features of the application.

# Miscellaneous

A functionality of finding and requesting nearby doctors like ride-sharing services may be implemented, subject to time constraints and complexity of the feature.

# References

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