DOCHELP

MINOR PROJECT REPORT

SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS
FOR

THE AWARD OF THE DEGREE OF

BACHELOR OF TECHNOLOGY

Information Technology

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Abstract

Our application is developed for the purpose of online consultancy between a patient and a doctor.this application will help to avoid public gathering near hospitals so, it is highly relevant in this situation where a pandemic has been outbreaked.it will provide a platform where you can directly consult your doctor to know about your regular health check up.

Acknowledgement

To decrease the gap between the two identities , this application has been generated.So that , we can utilise the benifits of internet for one of the most genuine purpose of our life.this application will play a vital role in the upcoming technology.ww hope we will make the desired changes with the time to make this platform a part of our society.

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Chapter 1

Introduction

1.1 Introduction to Project Page

1.1.1 Introduction to Project

DocHelp is a flutter app built for helping doctors, patients and Staff. It is made in a flutter framework which uses dart language. It is difficult to manage the patients by direct paper appointment. Over the last two decades, health care has become the most important healthcare service in many developed countries. It is difficult to get appointments by direct contact to the4 hospital and standing in a queue. The main concept of this project is to get easy appointments through onlinetion which resolves the problem to the patients.

1.1.2 Objectives of the Project

- A flutter app designed for helping doctor, patient and staff.
- Allows staff to manage patients by maintaining a FIFO queue based on the arrival of patient.
- Allow patients to consult a doctor either through an online consultation or direct appointment. Also, will let patients know their expected time of appointment.
- Allow doctor to attend patients either in a direct appointment or online consultation.
- Patients can know their expected time of appointment.

Chapter 2

System Requirements

2.1 Hardware Requirements

- Android version 9 or above
- Storage about 400 MB
- RAM- 4 GB or above
- Storage accessing permission for app should be enabled
- Android and IOS device
- IOS os version 13.3.1 or above

2.2 Software Requirements

- Flutter installed
- Dart SDK installed
- Android Studio or Visual Studio Code installed
- Installed packages
  - firebase auth
  - cloud firestore
  - url launcher
  - razorpay flutter
  - firebase storage

Chapter 3

SOFTWARE REQUIREMENT ANALYSIS

3.1 Defining the problem

In the hospitals patients can be managed by a paper appointment system.It is difficult to get appointments by direct contact to the hospital and standing in a queue.Various researches have been made on this domain whereby some researches allow a patient to book an appointment by sitting at home and then visiting the clinic.

Hence, this prompted us to make a software that could handle both online consultation and offline appointments. Also, a patient can know the expected time of his appointment and the number of patients waiting in the queue before him on a real-time basis.

3.2 Defining the modules and their functionalities

3.2.1 Flutter

- Mobile UI framework for creating native apps in Android and IOS
- Single code base (Dart) means we only have to write our app once for multiple devices.

Flutter is used because

- Only 1 code base

- Good layout methodology borrowed from responsive web
- Very smooth and quick experience when running apps
- Works well with firebase as backend
- Uses dart which is very easy language to pick up
- Uses material design out-of-box

3.2.2 DART

Dart is a client client-optimized programming language for multiple platforms.It is developed by Google and is used to build mobile, desktop, server, and web applications. Google has introduced Flutter for native mobile app development on both Android and iOS. Flutter is a mobile app SDK, complete with framework, widgets, and tools, that gives developers a way to build and deploy mobile apps, written in Dart.

3.2.3 MACHINE LEARNING

Machine learning is an application of artificial intelligence (AI) that provides systems the ability to automatically learn and improve from experience without being explicitly programmed. Machine learning focuses on the development of computer programs that can access data and use it learns for themselves.

Chapter 4

SOFTWARE DESIGN

Software design of the project can be explained in three parts:

- Database flow diagram
- E-R model
- Gantt chart

4.1 DATABASE FLOW DIAGRAM

In the Dochelp app,we use firebase firestore to store the database.Once the staff or non-staff user registered themselves,their details will automatically be fetched by the firebase firestore.We are giving two options to the patient for consultation

1. ONLINE CONSULTATION For online consultation,first the user goes through the payment gateway then he can online consult the doctor through video call,phone call and chat.For chat there's a message database.
2. DIRECT APPOINTMENT Here the patients want to directly meet the doctor in the hospital,get appointed by the staff.Those who get online appointments or without online appointment patients are managed by the staff.Staff can add or delete the patients from the list.

4.2 DATABASE DESIGN

4.2.1 To explain our database design we use E-R Model

In the given E-R diagram four entities (patient , messages , staff and doctor) their attributes and relationships between them are shown.

4.2.2 Gantt Chart

In the gantt chart,we divide the working process into modules.Then we mark the starting and ending date of the modules with duration(in days) as shown in the table

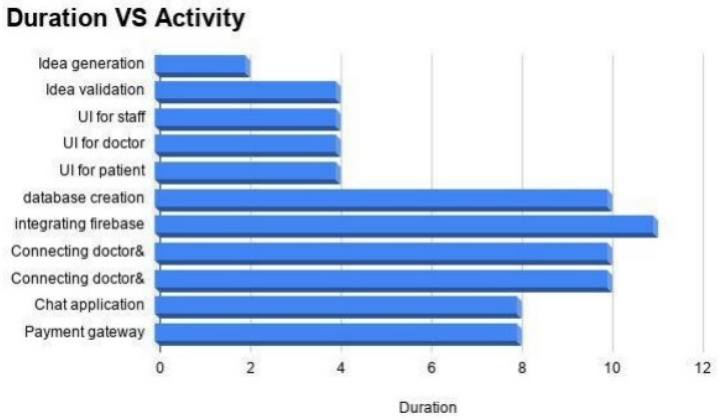


Fig3. Gantt chart

Chapter 5

CODING

5.1 StaffDetails

There are four attributes-"address,name,phone and udoctor" which are required to be filled by the staff members for login in the app.

5.2 PatientDetails

There are Six attributes-"Time Arrived,Time Departed ,gender,name,phone and problem".All these details must be filled by the patient for login." Time Departed" attribute of the patient can be calculated using ML.It is very helpful for the patient who are waiting for their turn in the hospital.

5.3 messageDetails

This table is used when the patient consults with the doctor through chat.It includes the following attributes"message,receiverUid ,senderUid ,timestamp and type".Here the user gets to know when the doctor is available for chat.Timestamp helps the doctor to attend the patients in order.

5.4 doctorDetails

In this table,all the details of the doctor which are required by the patient are filled.Also there is a photo of the doctor that is also shown to the patient who wants to book an appointment with the doctor.

Chapter 6

PERFORMANCE OF THE PROJECT DEVELOPED SO FAR

Till now, major portion of the app has been made. The Staff portion is fully done, and the doctor portion is also fully done. The leftover part is the part of patient which is the arrival time of the patient.Apart from that, the app is fully functional.

6.1 OUTPUT SCREENS

6.1.1 User will choose either of the option

6.1.2 After clicking on Non-Staff

6.1.3 After clicking on Staff

6.1.4 Doctor Login

6.1.5 All Patients Screen

6.1.6 Patient Login Screen

6.1.7 Doctor List

6.1.8 Sign Up for Staff

6.1.9 Staff Optionsf

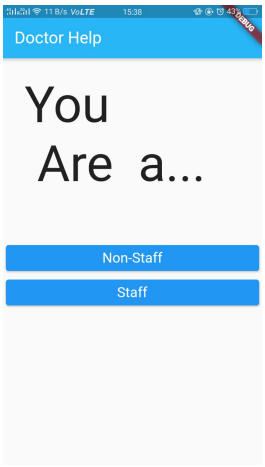
6.1.10 Waiting Patients List visible to Staff

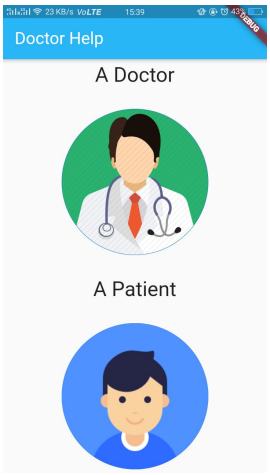
6.1.11 On clicking a patient name

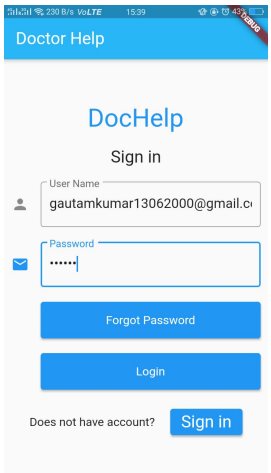
6.1.12 Adding a patient

6.1.13 Deleting a patient

6.1.14 On clicking a patient name







Chapter 7

Future Scope

With the proper utilisation of 5g, we can use this app for the treatment of severe diseases via online vedio conferencing.as well as , we are planning to add payment method too.
We will use the concept of machine learning in this application to differentiate between the situation of disease to fix the meeting to doctors ny itself.