Mini Project Report (KCS-554)

on

Healthcare Android Application

Submitted in partial fulfillment for award of

BACHELOR OF TECHNOLOGY

Degree

In

COMPUTER SCIENCE & ENGINEERING

2023-24

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SYNOPSIS

Basics

The Healthcare Android App is a feature-rich mobile application focused on providing users with a seamless healthcare experience. With a user-friendly interface and a suite of integrated features, the app aims to simplify the process of accessing healthcare services, including lab test bookings, medicine purchases, and doctor appointments.

Functionality

The app incorporates a secure and efficient user authentication system, ensuring the protection of user data through encryption measures. A sophisticated database integration enables the storage and retrieval of user information, appointments, and transaction records, enhancing the overall user experience. Lab test bookings, medicine purchases, and doctor appointment scheduling are seamlessly integrated into the application, offering users a convenient and centralized platform to address their healthcare needs.

User Experience

Emphasizing an intuitive design, the Healthcare Android App prioritizes user experience by providing a user-friendly interface and visual cues for easy navigation. Users can personalize their profiles, managing health records, prescriptions, and appointments within the app, creating a tailored and user-centric experience.

Security and Privacy

The application prioritizes the security and privacy of user data through advanced measures. Data encryption protocols and two-factor authentication are implemented to safeguard sensitive information. Regular security audits are conducted to identify and address potential vulnerabilities, ensuring compliance with healthcare data protection standards.

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ABBREVAITIONS

CHAPTER - 1

INTRODUCTION

1.1 Abstract:

Our technology is getting more advance day by day and mobile is the one of the most important parts of this technology. Where we're talking about mobile, nowadays android take up the largest part of the market which means android operating system based mobiles are the most used these days. We are now doing a course on wireless programming, in particular learning android software development and hence we are interested to develop an android app on counselling hour. Through our app, Patients can direct connect and communicate with doctors online, book appointments and buy medicines.

1.2 Motivation:

India is a big country and many people suffer from healthcare issues and diseases every day. Going to doctor is easy but waiting for hours to book appointment and get your number is hard. So, with using our app patients can directly book appointments to the doctor from the comfort of their house and reached at the location at the time of their number. This saves time and efforts for patients, give comfort to the patients and provide patients easily to the doctor.

1.3 Objectives:

The main goal of our project is making an app which through the teachers and the students can communicate easily. To develop a reliable system, we have some specific goals such as-

- Develop a system such that teachers can set and update their profile, counselling time and get notifications on previous booked time.
- Develop a database so that all the information and data can be saved properly.
- A user friendly and attractive UI.
- Different types of UI for Users.

Chapter – 2
Background

2.1 Introduction

Healthcare is a project that will help the patients and the doctors to making their appointment easily. If a patient wants to booked appointment time prior, he/she can be booked by this app. A doctor who can also confirmed the booked time and these all are will be stored in the database. A doctor can also update his/her own counselling time or profile individually.

Patients can also directly buy their medicines from the app and get delivered directly to their house.

All these modules will be able to help the patients and the doctors with more convenience and in a more efficient way as compared to an available way.

2.2 Background:

- UI design in android platform
- Android application development
- Entity modeling relationship
- Database connection

2.3 Studies:

- Design user friendly environment
- Connection the database with the system
- Design ER model
- Adding pictures in the application
- Create assets and implements

- Moving one page to another page

2.4 Challenges:

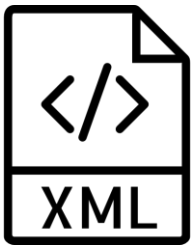
- Working with database
- Button interconnections
- Friendly UI design
- Gradle view settings
- ER diagram design
- Working with android studio

Chapter – 3
Hardware and Software Requirements

3.1 Requirements Collections and Analysis:

3.1.1 Software Configuration:

Frontend: This software package is developed using Java as front end code and XML to define layout of the activity which is supported by android system.



Backend: SQLite the back end to store the database.

Development IDE: Android Studio

Operating System: Android System

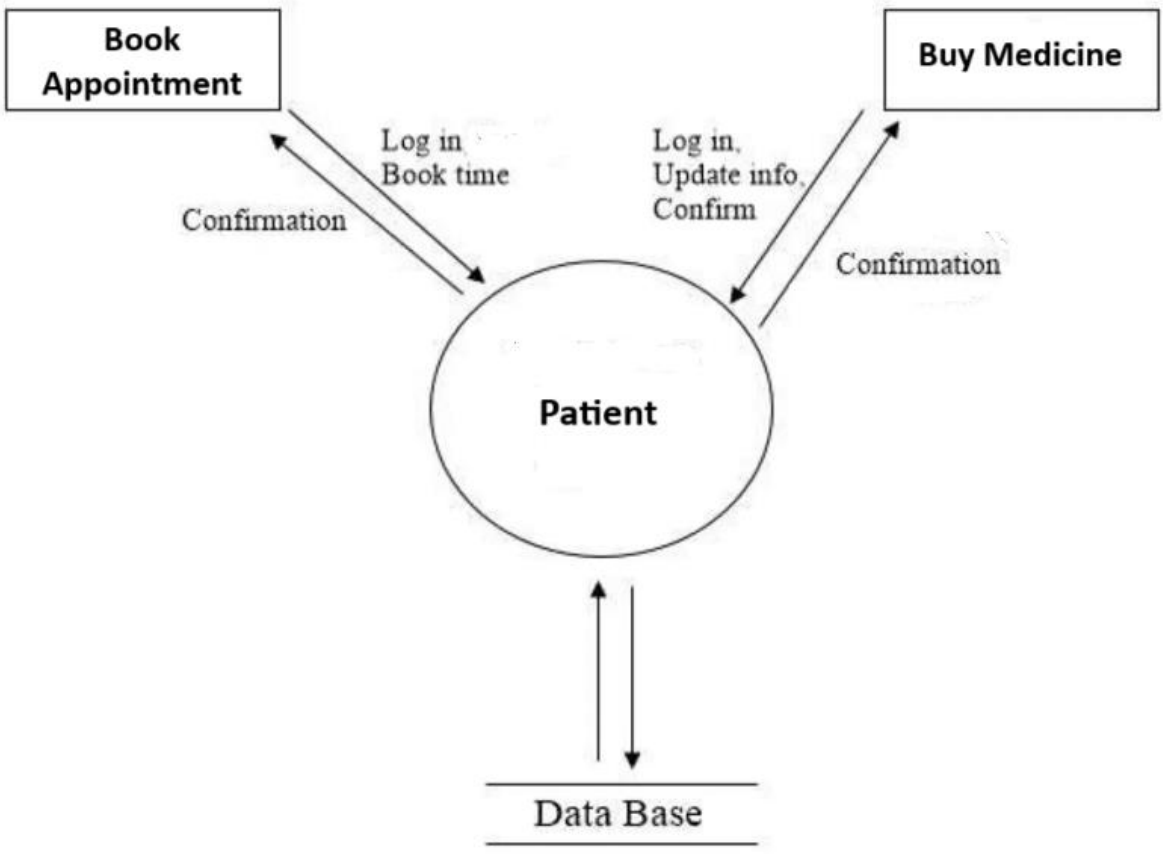
3.1.2 Hardware Configuration:

Minimum Android API: 28 (Android 9)
Android version: PIE (9.0.1)
RAM: 2GB
ROM: 8GB

Chapter – 4
Chart & Diagram

4.1 DFD:

A data-flow diagram is a way of representing a flow of data through a process or a system. The DFD also provides information about the outputs and inputs of each entity and the process itself. A data-flow diagram has no control flow — there are no decision rules and no loops.
This is the DFD of the Healthcare app android project:



Chapter – 5
Expected Implementation Design

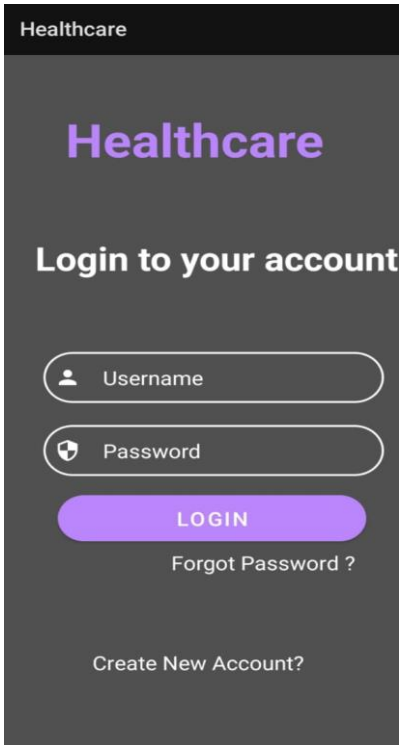
5.1 Splash Screen:

This is the first screen that appears on starting of the application. It appears only once. It shows the logo and name of the application.

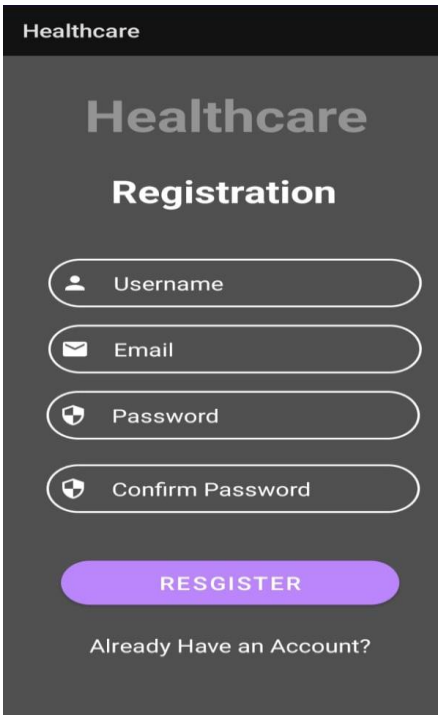
5.2 Login Page:

This is the login screen that appears after starting the application. It appears when user wants to login to their account.

It shows the logo and name of the application. It accepts the username and password of the user, and allow user to the app only if their login credentials match.



5.3 Registration Page:



This is the registration screen that appears after selecting the “Create New Account” button on the Login Page.

It appears when new user wants to create a new account. It shows the logo and name of the application. It accepts the username, email password and confirmation of password of the user, and allow user to create a new account on the app only if their details are valid.

5.2 Homepage:

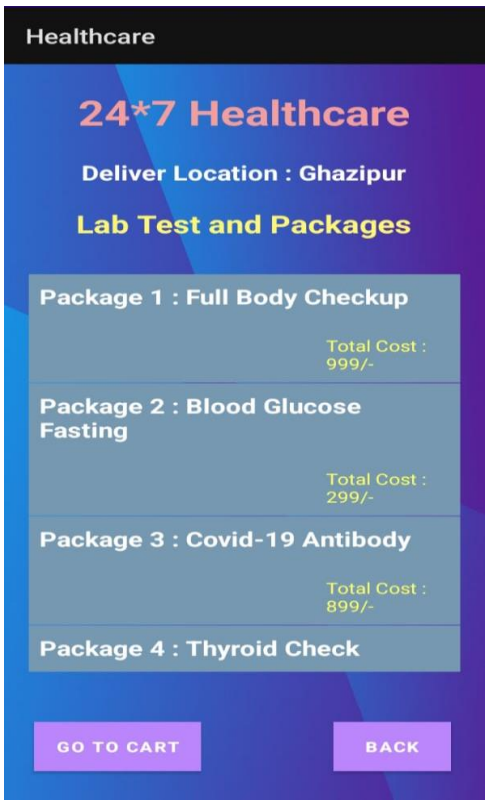
Homepage is the page which appears after logging in to the account. It is a tile based layout which showcase all the available features of the application. The features include:

i. Lab Test: to check and book lab test.
ii. Buy Medicine: to buy and home deliver medicines.
iii. Find Doctor: to check the available doctors and lookup for the best one.
iv. Health Article: are the blogs to study on health related topics.
v. Order Details: showcase all the successful orders the user has made.
vi. Logout: is used to end the account session of the user.

5.4 Services and Features:

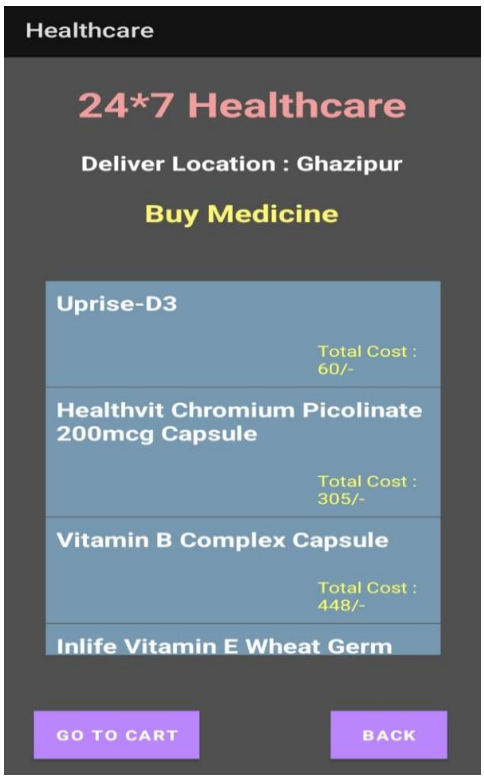
5.4.1 Lab Test and Packages:

This is the Lab Test and Packages screen that show all available lab tests and their packages. It shows the list of lab tests and packages user wants to book lab tests. User can select the lab test package and add to cart for further more payment. It later on asks for address of the user to finalize the delivery.



5.4.2 Buy Medicine:

This is the “Buy Medicine” screen that show all available medicines and their costs. It shows the list of medicines that user wants to buy. User can select the medicine name and add to cart for further more payment. It later on asks for address of the user to finalize the delivery.



5.4.3 Find Doctor:

This is the “Top Doctors” screen that show all available top doctor in the region. It shows the list of top doctors that user wants to book appointment. User can select the doctor’s name based on their ranking in top list name and add to cart for further more payment. It later on asks for patient name, age and address of the user to finalize the appointment.

5.4.4 Health Article:

This is the “Health Article” screen that show all health articles to the user. It shows the list of top, easy and free health article that user can read and follow to stay fit. User can select any given article name based on their ranking in top list name and directly read it in one click. This is a blog which is updated by verified doctors.

5.4.5 Order Details:

This is the “Order Details” screen that show all order details and successful payment details to the user. It shows the list of all lab test, medicines and appointments made by the user for himself/ herself or any other family member.

The user has full right to check the order details, change them or cancel the details.

Chapter – 7

Future Scope

7.1 Future Market Scope

The mHealth app development industry is growing quickly, with a projected CAGR of 25.6% between 2023 and 2026. The global healthcare app market is expected to reach $111.1 billion by 2026, driven by a 44.7% annual growth rate.

7.2 Future Scope of Developments:

There are some features we are thinking to add up in the very next version of the primary version. The features are –

- Doctors and Patients can communicate with each other.
- Separate login and account system for doctors to know and manage patients.
- Direct link to payment apps like Paytm or Phonepe
- GeoLocation Integrity

CONCLUSION

Healthcare is a project that will help the patients and the doctors to making their appointment easily. If a patient wants to booked appointment time prior, he/she can be booked by this app. A doctor who can also confirmed the booked time and these all are will be stored in the database. A doctor can also update his/her own counselling time or profile individually.

Patients can also directly buy their medicines from the app and get delivered directly to their house.

This is how our application works.

References

This is a complex android project, but it was made possible by the work collaboration of the team. Our mentor guided us through the whole process. The application and code in generated by ourselves, but some steps required references.

So, here are the sources of references:

i. Future Financial Scope Data:

The mHealth app development industry is growing quickly

https://rapidx.com

https://mindbrowser.com

ii. Layout of the application:

Android Studio is a free, integrated development environment (IDE) for Google's Android operating system. It's available for Windows, macOS, and Linux.

https://developer.android.com

iii. Java JDK

Java JDK is a distribution of Java Technology by Oracle Corporation. It implements the Java Language Specification and the Java Virtual Machine Specification and provides the Standard Edition of the Java Application Programming Interface.

https://jdk.java.net

iv. Development of Android application:

Android Studio is described as the standard IDE for Android application development. It is essential for developing native Android apps.

https://developer.android.com/codelabs/basic-android-kotlin-compose-first-app