VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"JNANA SANGAMA", BELAGAVI - 590 018

A MINI PROJECT REPORT

on

"E - PHARMACY APPLICATION"

Submitted by

Jeevan J L	4SF20CD020
Mahesh	4SF20CD022

In partial fulfillment of the requirements for the VI semester

MOBILE APPLICATION DEVELOPMENT LABORATORY

of

BACHELOR OF ENGINEERING

in

COMPUTER SCIENCE & ENGINEERING(DATA SCIENCE)

Under the Guidance of

Mr. Ganaraj K

Assistant Professor, Department of ISE & CSE(DS) SCEM

at

SAHYADRI

College of Engineering & Management

An Autonomous Institution

MANGALURU

2022 - 23

SAHYADRI

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An Autonomous Institution

MANGALURU

Department of Computer Science & Engineering(Data Science)

CERTIFICATE

This is to certify that the **Mini Project** entitled **"e-Pharmacy application"** has been carried out by **Jeevan J L (4SF20CD020)** and **Mahesh (4SF20CD022)**, the bonafide students of Sahyadri College of Engineering & Management in partial fulfillment of the requirements for the VI semester **Mobile Application Development Laboratory (18ADMP68)** of **Bachelor of Engineering in Computer Science & Engineering(Data Science)** of Visvesvaraya Technological University, Belagavi during the year 2022 - 23. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The mini project report has been approved as it satisfies the academic requirements in respect of mini project work.

Mr. Ganaraj K	**Dr. Mustafa Basthikodi**
Assistant Professor	Professor & Head
Dept. of ISE, SCEM	Dept. of ISE & CSE(DS), SCEM

External Practical Examination:

Examiner's Name	Signature with Date
1.	.....
2.	.....

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Department of Computer Science & Engineering(Data Science)

DECLARATION

We hereby declare that the entire work embodied in this Mini Project Report titled **"e-Pharmacy application"** has been carried out by us at Sahyadri College of Engineering and Management, Mangaluru under the supervision of **Mr. Ganaraj K** as the part of the VI semester **Mobile Application Development Laboratory(18ADMP68)** of **Bachelor of Engineering** in **Computer Science & Engineering(Data Science)**. This report has not been submitted to this or any other University.

Jeevan J L (4SF20CD020)

Mahesh (4SF20CD022)

SCEM, Mangaluru

Abstract

In the rapidly evolving landscape of healthcare technology, the integration of smart solutions has revolutionized the way individuals manage their health and access medical services. The convergence of e-Pharmacy ordering platforms has given rise to a new paradigm in healthcare delivery. This introduction provides an overview of e-Pharmacy, an innovative online pharmacy ordering application that combines the power of smart medical assistance with seamless medication procurement, offering users a comprehensive and convenient healthcare experience. E-Pharmacy is an advanced mobile application designed to simplify the process of ordering medications online. By harnessing the potential of smart technologies and leveraging the convenience of digital platforms, e-Pharmacy aims to empower individuals to take control of their health by providing easy access to a wide range of medications and pharmaceutical services. The application focuses on addressing the challenges often associated with traditional pharmacy services, such as long waiting times, limited availability, and the need for physical visits.

Acknowledgement

It is with great satisfaction and euphoria that we are submitting the Mini Project Report on **"e-Pharmacy Application"**. We have completed it as a part of the VI semester **Mobile Application Development Laboratory(18ADMP68)** of **Bachelor of Engineering** in **Computer Science & Engineering(Data Science)** of Visvesvaraya Technological University, Belagavi.

We are profoundly indebted to our guide, **Mr. Ganaraj K**, Assistant Professor, Department of Information Science & Engineering for innumerable acts of timely advice, encouragement and We sincerely express our gratitude.

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Jeevan J L
4SF20CD020
VI Sem, B.E., CSE(DS)
SCEM, Mangaluru

Mahesh
4SF20CD022
VI Sem, B.E., CSE(DS)
SCEM, Mangaluru

Table of Contents

List of Figures

Chapter 1

Introduction

The e-Pharmacy application is used to order prescribed medicines. The advent of e-pharmacy platforms has brought about significant changes in the way people access medication and healthcare products. An e-pharmacy is an online platform that enables users to purchase prescribed medications, over-the-counter drugs, and other healthcare products conveniently from the comfort of their homes.

The e-Pharmacy application project aims to develop a user-friendly and robust mobile application that allows individuals to easily browse, order, and receive medications and healthcare products through their smartphones. This application will provide a seamless and efficient experience, bridging the gap between consumers and pharmacies..

The e-Pharmacy application project aims to revolutionize the way individuals access and purchase medications, promoting convenience, efficiency, and accessibility in the healthcare sector. By developing a user-centric and technologically advanced application, the project endeavors to bridge the gap between consumers and pharmacies, ultimately improving the overall healthcare experience.

1.1 Overview

The e-Pharmacy application is a user-friendly mobile solution that enables individuals to conveniently access and purchase medications and healthcare products through their smartphones. With features like prescription upload, medicine search, secure payment options, order tracking, and personalized offers, the application simplifies the medication procurement process. It aims to bridge the gap between consumers and pharmacies by providing a seamless and efficient platform for users to browse, order, and receive medications at their doorstep. The application revolutionizes the healthcare experience

by leveraging technology to enhance convenience, accessibility, and transparency in the medication purchasing process.

1.2 Purpose

The e-Pharmacy application is to provide individuals with a convenient and accessible platform for purchasing medications and healthcare products. By leveraging technology and mobile devices, the application aims to streamline the medication procurement process, eliminating the need for physical visits to pharmacies. It enables users to browse a wide range of medicines, obtain detailed information about each product, and securely place orders from the comfort of their homes. The application's purpose is to bridge the gap between consumers and pharmacies, ensuring that individuals can easily access the medications they need, promoting convenience, efficiency, and enhancing the overall healthcare experience.

1.3 Scope

The e-Pharmacy application encompasses a wide range of functionalities aimed at enhancing the medication purchasing experience. It includes features such as user registration and login, prescription upload, medicine search, secure payment options, order tracking, and personalized offers. The application also has the potential to offer pharmacist consultation services, enabling users to seek professional guidance and advice. Additionally, the application can be expanded to include features like medication reminders, health records management, and integration with wearable devices for health tracking. The scope of the e-Pharmacy application is to provide a comprehensive and user-friendly platform that caters to the diverse needs of individuals seeking medications and healthcare products.

Chapter 2

Requirements Specification

2.1 Hardware Specification

- Processor : AMD Ryzen 5 3500U with Radeon Vega Mobile Gfx
- RAM : 8GB
- Hard Disk : 1TB, 256GB SSD
- Input Device : Standard keyboard and Mouse
- Output Device : Monitor

2.2 Software Specification

- Programming Language : Java 17.0.1
- Markup Language : XML 1.0
- IDE : Android Studio Flamingo 2022.2.1
- Database: SQLITE

Chapter 3

System Design

3.1 Architecture Diagram

The architecture diagram of the application is as shown in the below figure:

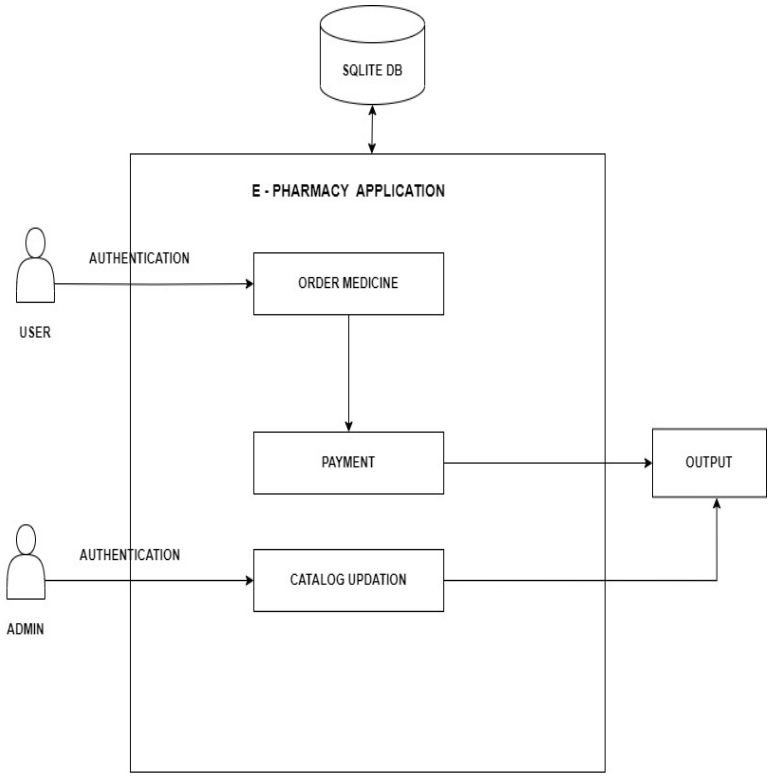

Figure 3.1: Architecture Diagram of e-Pharmacy Application

The architecture diagram of the e-Pharmacy application illustrates the overall structure and flow of the system. At the core of the architecture is the application server, serving as the primary interface for users. Customers interact with the server to browse an extensive medication database, place orders, and specify preferences. The server handles order processing, including secure payment transactions and inventory manage-

ment. To ensure safety, a prescription uploading feature enables customers to securely submit their prescriptions for verification. The server coordinates with logistics and delivery services for timely shipment. The architecture also includes an admin panel for system management, order monitoring, medication database maintenance, customer support, and reporting. The e-pharmacy application architecture prioritizes user convenience, security, and efficient order fulfillment, with potential future enhancements such as personalized medication recommendations, teleconsultation services, health tracking integration, and enhanced security measures.

3.2 Application Modules

3.2.1 User Module

On the user side, there would be a user interface (UI) component that allows users to browse the available medications, search for specific products, and place orders .The server would also handle user authentication and authorization, ensuring that only registered and authenticated users can access the application's functionalities. User data, such as personal information and order history, would be stored in a database for retrieval and processing

3.2.2 Admin Module

The admin module would provide additional functionalities for administrators to manage the application. It would include features such as managing product inventory, updating prices, reviewing and processing user orders, and generating reports. The admin module would have its own UI, separate from the user interface, and would communicate with the server through dedicated APIs.

3.3 End Users

Online pharmacies cater to a diverse range of end users. Individuals with chronic conditions, such as diabetes or hypertension, benefit from the convenience of ordering their medications online and having them delivered to their doorstep. Elderly individuals, who may face mobility challenges, find online pharmacies particularly helpful as they can easily order their prescriptions from home. Busy professionals appreciate the time-

saving aspect of online pharmacies, as they can conveniently order medications amidst their demanding schedules. Individuals in remote areas or with limited access to physical pharmacies can rely on online platforms to access a wide range of medications. Privacy-conscious individuals value the discreet nature of online pharmacies, where they can order their healthcare products without face-to-face interactions. Caregivers also find online pharmacies useful in managing their loved ones' medications. Overall, online pharmacies provide a convenient and accessible option for various end users seeking pharmaceutical products and healthcare supplies.

3.4 Limitations

Online pharmacies have certain limitations to consider. One limitation is the lack of in-person interaction with healthcare professionals, which means users may not receive personalized advice or consultations. There is also a risk of counterfeit or substandard products from illegitimate online pharmacies. Prescription requirements and verification procedures can cause delays and inconvenience for users. Delivery delays and limited availability of certain medications may also be a concern. Privacy and data security should be carefully considered when sharing personal information online. Additionally, online pharmacies cannot provide physical examinations, so users may still need to consult healthcare professionals for proper diagnosis and treatment. By being aware of these limitations and using reputable platforms, individuals can navigate online pharmacies effectively and prioritize their health and safety.

Chapter 4

Implementation

4.1 Overview

Android is a versatile and widely used operating system that powers a multitude of mo bile devices, including smartphones and tablets. Developed by Google, Android offers a user-friendly interface and a vast ecosystem of applications, making it a favorite among users and developers alike. With its open-source nature, Android allows for customiza tion and innovation, enabling manufacturers to create diverse and unique devices to cater to different user preferences. Its robust features, seamless integration with Google ser vices, and constant updates contribute to its widespread popularity, making Android a dominant force in the mobile industry.

4.2 Languages Used

4.2.1 Java

Java is a programming language widely used in Android development, providing a solid foundation for building robust and versatile mobile applications. As the primary language for android development, Java offers a rich set of libraries and frame works that enable developers to create engaging user interfaces, handle complex data processing, and implement efficient algorithms. Its object-oriented nature facilitates code reusability and modularity, enhancing productivity and maintainability. With Java's ex tensive community support and continuous updates, it remains a key language choice for crafting innovative and feature-rich Android applications.

4.2.2 XML (EXtensible Markup Language)

XML(Extensible Markup Language) plays a crucial role in android development, serving as a powerful tool for defining and organizing the user interface (UI) components of an application. With its hierarchical structure and human-readable syntax, XML enables developers to describe the visual elements and their properties, such as layouts, widgets, and styles, in a clear and concise manner. By separating the presentation layer from the application logic, XML empowers developers to create flexible and customizable in terfaces, supporting efficient design iteration and localization efforts. Additionally, XML facilitates the binding of UI elements to code through data binding techniques, promoting a more modular and maintainable approach to Android app development.

4.3 Android Studio

Android Studio is an integrated development environment (IDE) designed specifically for creating android applications. It provides a comprehensive set of tools and features that enable developers to efficiently build, test, and debug Android apps. With a user-friendly interface and a wide range of built-in tools, Android Studio streamlines the development process by offering code editing, project management, and emulator support all in one place. Its robust features, such as real-time code analysis, intelligent code completion, and powerful debugging capabilities, make it an indispensable tool for developers looking to create high-quality Android applications.

4.4 SQLITE Database

SQLite is a lightweight, self-contained, and serverless relational database management system (RDBMS) widely used for local data storage. It operates on a single file, simplifying deployment and management. SQLite supports standard SQL queries and transactions, enabling efficient data storage, retrieval, and manipulation. It is known for its high performance, low memory usage, and small footprint, making it suitable for embedded systems and mobile platforms. SQLite databases are widely used in various applications, including mobile apps, desktop software, and embedded devices, where a local database solution is required. Its simplicity, reliability, and cross-platform compatibility have contributed to its popularity in the software development community.

4.5 Pseudocodes used

Pseudo code for login:

The below code snippet of the login page retrieves the username and password from the user and compares it with the list of username and passwords in the database. The login page utilize an SQLite database to store and retrieve user credentials securely.

```
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_login);
    username=findViewById(R.id.Username);
    password=findViewById(R.id.password);
    DB=new DBHelper( context: this);
    signin=findViewById(R.id.login);

    signin.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {

            String user=username.getText().toString();
            String pass=password.getText().toString();

            if(TextUtils.isEmpty(user)||TextUtils.isEmpty(pass))
                Toast.makeText( context: LoginActivity.this, text: "All fields are required", Toast.LENGTH_SHORT).show();
            else{
                Boolean checkuserpass=DB.checkusernamepassword(user,pass);
                if(checkuserpass==true){
                    Toast.makeText( context: LoginActivity.this, text: "Login Successful", Toast.LENGTH_SHORT).show();
                    Intent intent=new Intent(getApplicationContext(),pharmacy.class);
                    startActivity(intent);
                }else {
                    Toast.makeText( context: LoginActivity.this, text: "Login Failed", Toast.LENGTH_SHORT).show();
                }
            }
```

Figure 4.1: Psuedo code for login

Psuedo code for main page:

The below code snippet of the main page creates an Android app's activity for a pharmacy. It dynamically loads and displays items for both the shop and the products, with click events to show toast messages and start the "Shop" activity.

```
public class pharmacy extends AppCompatActivity {
    3 usages
    LinearLayout linearLayoutShop,linearLayoutProduct;
    3 usages
    ImageView imageItemShop;
    2 usages
    TextView tvItemNameShop;


    2 usages
    int[] imagesShop={R.drawable.farmaco,R.drawable.docter,R.drawable.farmaco2,R.drawable.jeringuilla,R.drawable.medicina3,R.d
     2 usages
     String[] namesItemsShop={"Medicines","Docter","Consultation","Lab Tests","Health","Omega","Vitamins"};
    //Product
    2 usages
    int[] imagesProduct={R.drawable.medicina3,R.drawable.medicina_4 ,R.drawable.pastillas,R.drawable.pastillas_2};
    1 usage
    String[] namesItemProduct={"Multi Vitamins","Thayrosafe","Omega 3","Sore capsule"};
    1 usage
    String[] pillsItemsProduct={"90 pills","180 pills","132 pills","60 capsules"};
    1 usage
    String[] finalPriceProduct ={"$217","$342","$165","$135"};
    1 usage
    String[] priceProduct={"$287","$392","$185","165"};

    @Override
    protected void onCreate(Bundle savedInstanceState) {
```

Figure 4.2: Psuedo code for main page

Psuedo code for order page:

The below code snippet creates an Android activity for displaying product details in a pharmacy app. It allows users to insert new orders or update existing ones. The details are retrieved from intent extras, and the UI elements are populated accordingly. Inserting an order adds it to the database, while updating an order modifies the existing entry. Toast messages are shown to indicate success or failure.

```
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    binding=ActivityDetailBinding.inflate(getLayoutInflater());
    setContentView(binding.getRoot());

    final DBHelper helper = new DBHelper( context: this);
    if(getIntent().getIntExtra( name: "type", defaultValue: 0)==1) {
        final int image = getIntent().getIntExtra( name: "image",  defaultValue: 0);
        final int price = Integer.parseInt(getIntent().getStringExtra( name: "price"));
        final String name = getIntent().getStringExtra( name: "name");
        final String description = getIntent().getStringExtra( name: "desc");

        binding.detailImage.setImageResource(image);
        binding.priceLbl.setText(String.format("%d", price));
        binding.groName.setText(name);
        binding.detailDescription.setText(description);


        binding.insertBtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                boolean isInserted = helper.insertOrder(
                        binding.nameBox.getText().toString(),
                        binding.phoneBox.getText().toString(),
                        price,
                        image,
                        name,
```

Figure 4.3: Psuedo code for order page

Psuedo code for payment page:

The code creates an Android activity for payment processing in a pharmacy app. It allows users to select either Cash on Delivery or Credit Card payment methods. If Credit Card is selected, the entered card details are validated before confirming the payment. Toast messages are displayed to indicate the payment status.

```
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);

    radioCOD = findViewById(R.id.radioCOD);
    radioCreditCard = findViewById(R.id.radioCreditCard);
    etCardNumber = findViewById(R.id.etCardNumber);
    etExpiryDate = findViewById(R.id.etExpiryDate);
    etCVV = findViewById(R.id.etCVV);
    btnPay = findViewById(R.id.btnPay);

    btnPay.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            if (radioCOD.isChecked()) {
                // Perform cash on delivery payment processing logic here
                Toast.makeText( context: paymentActivity.this, text: "Cash on Delivery Payment Confirmed", Toast.LENGTH_SHORT).show();
            } else if (radioCreditCard.isChecked()) {
                String cardNumber = etCardNumber.getText().toString().trim();
                String expiryDate = etExpiryDate.getText().toString().trim();
                String cvv = etCVV.getText().toString().trim();

                if (cardNumber.isEmpty() || expiryDate.isEmpty() || cvv.isEmpty()) {
                    Toast.makeText( context: paymentActivity.this, text: "Please fill in all credit card details", Toast.LENGTH_SHORT).show()
                } else {
                    // Perform credit card payment processing logic here
                    Toast.makeText( context: paymentActivity.this, text: "Credit Card Payment Confirmed", Toast.LENGTH_SHORT).show();
```

Figure 4.4: Psuedo code for payment page

Chapter 5

Results and Disscussion

Lauching page

The User can register through the username and password in signup page if the user is using for the first time. If there already exists an account directly the user can login. and the admin can login through the existing credential.

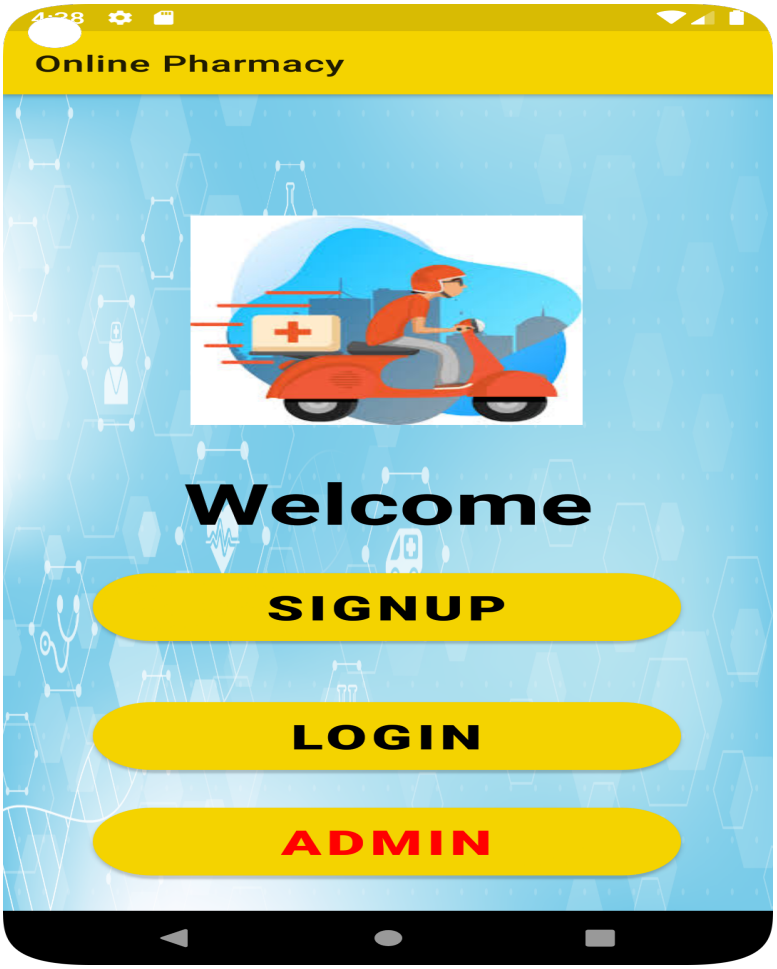

Figure 5.1: Welcome page

User Login Page

The user can login with the username and password which is already available.This page allows registered users to access their accounts securely, featuring fields for username and password entry.

Figure 5.2: User login page

Admin Login Page

The Admin can login with the username and password which is already available.This page provides authorized administrators with a secure entry point to access the backend of the online pharmacy platform. It includes fields for entering username and password. This page ensures that only authorized personnel can manage and administer the platform's settings and functionalities.

Figure 5.3: Admin Login page

User Signup Page

The user signup page enables new users to create an account on the online pharmacy platform. It typically includes fields to enter personal details, such as name and password. Users can provide the required information, agree to the terms and conditions, and submit the form to complete the signup process.

Figure 5.4: Main page

Main Page

The main page features a search bar, enables the user to quickly find the medicines user needs. the page consists of shopping categories. Easily navigate through the list to discover essential medicines, healthcare products, doctors and purchase the medicines.

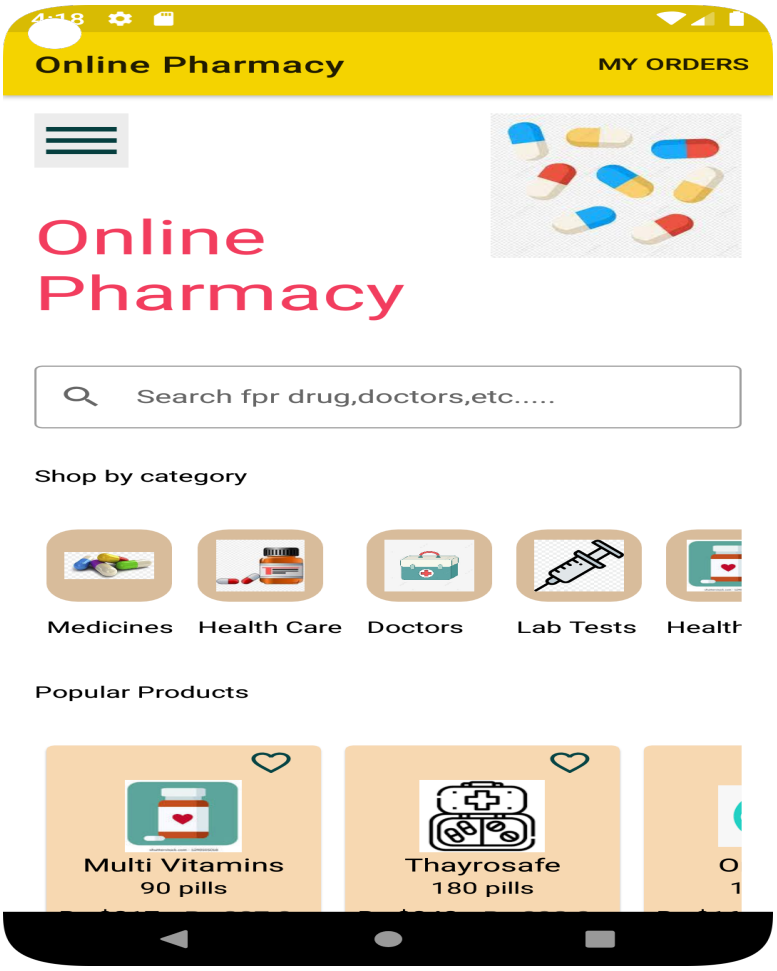

Figure 5.5: Main page

Search Page

The Search page contains all the products which can be selected to get purchased.This page allows users to explore and find specific medications or healthcare products on the online pharmacy platform. It features a search bar where users can enter keywords or product names. Upon submitting the search, the page displays relevant results with product descriptions, pricing.

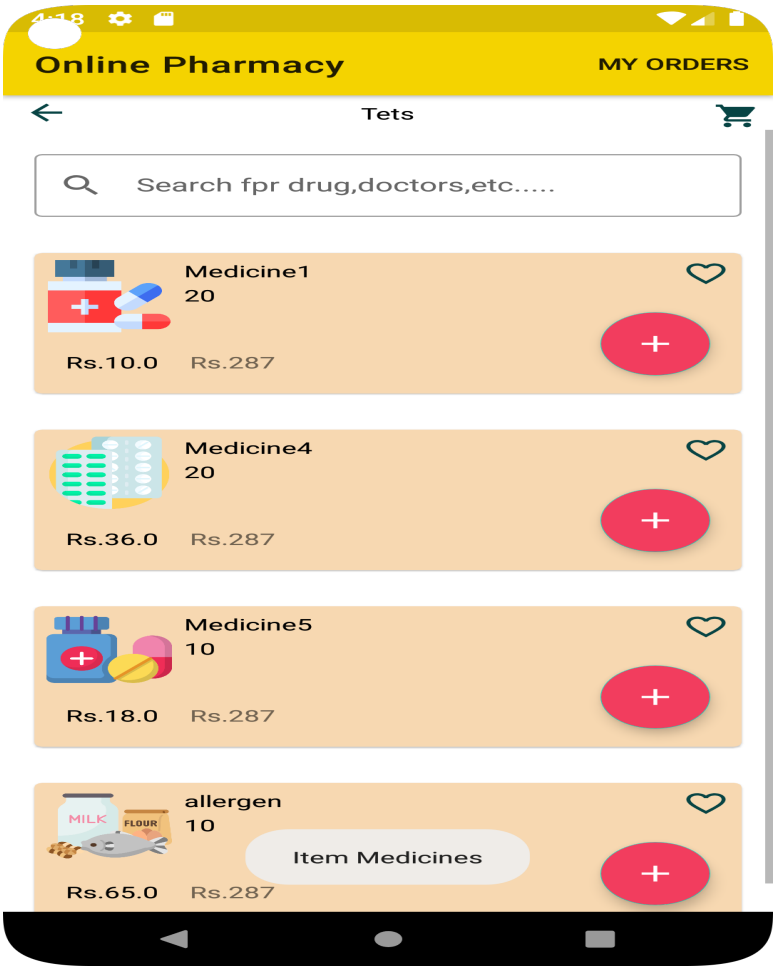

Figure 5.6: Search page

Retail Information Page

The Retail Information page contains the detailed product descriptions, price details, with option to add or reduce the quanity of the product. Easily add items to the cart and proceed to order the prescribed medicines.

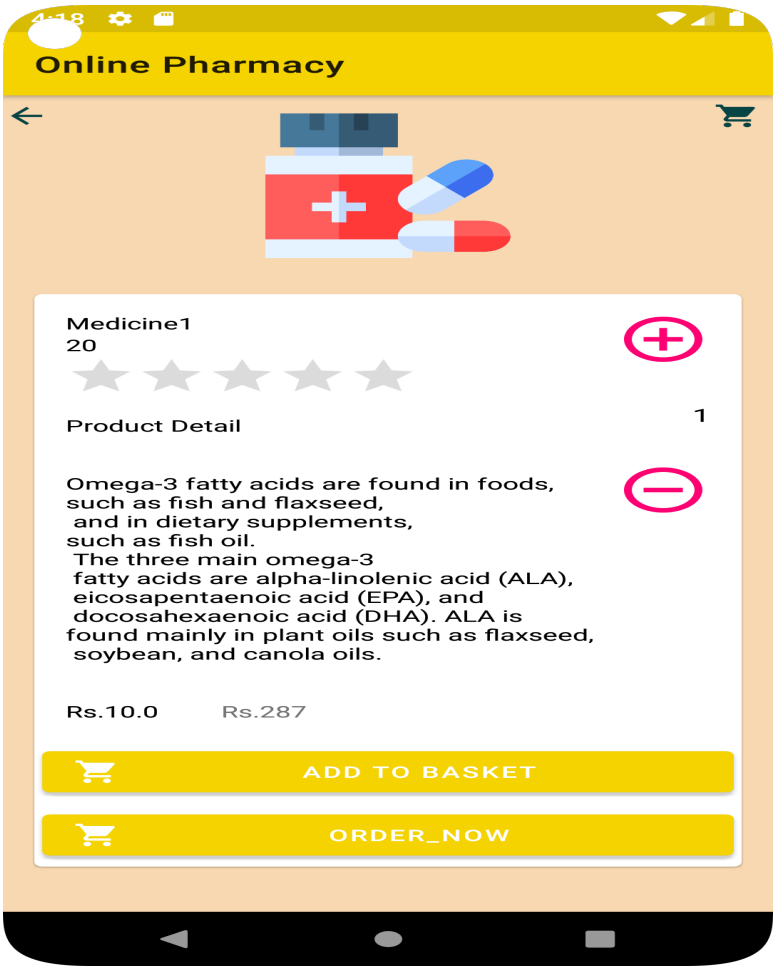

Figure 5.7: Retail information page

Order Page

The order page allows users to provide their place details for shipping the purchased products. It typically includes fields for users to enter their name, phone number including address and landmark. Users can fill in the required information accurately to ensure the correct and timely delivery of their orders.

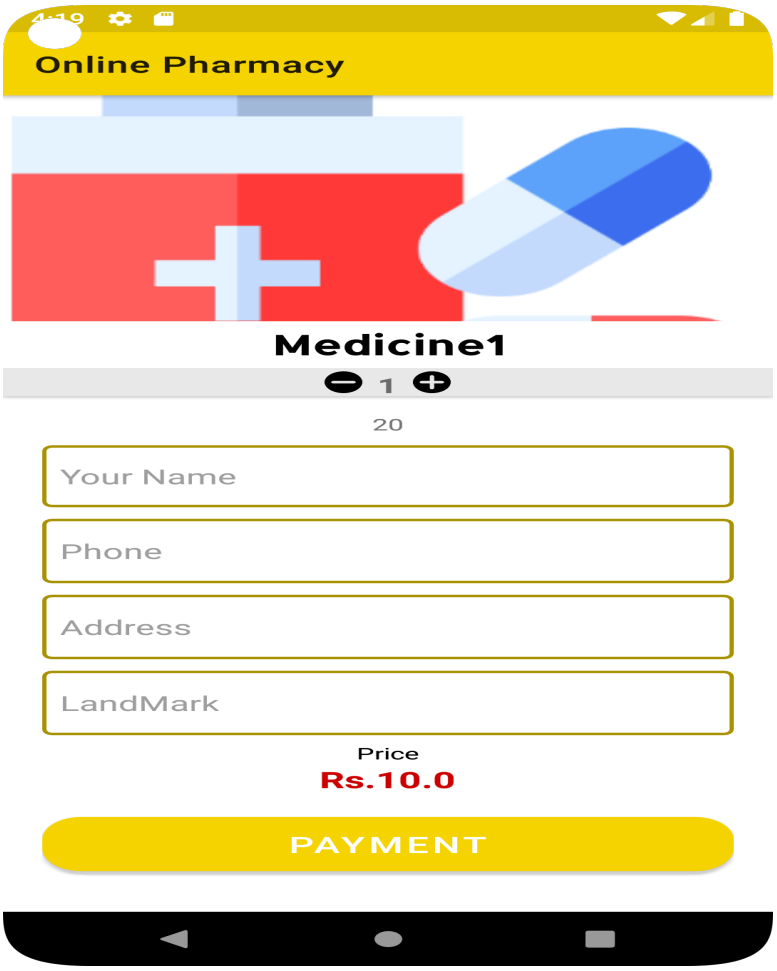

Figure 5.8: Order page

Payment Page

The secure Payment page of Epharmacy displays the Product payment details. along with the cash on delivery option. This displays the detailed breakdown of the purchase, including the product price, applicable Goods and Services Tax (GST), and the total amount to be paid. Users can review and confirm the listed prices, ensuring transparency in the transaction. The page provides a clear summary of the financial details before proceeding with the payment process, giving users a comprehensive understanding of the total amount they will be charged.

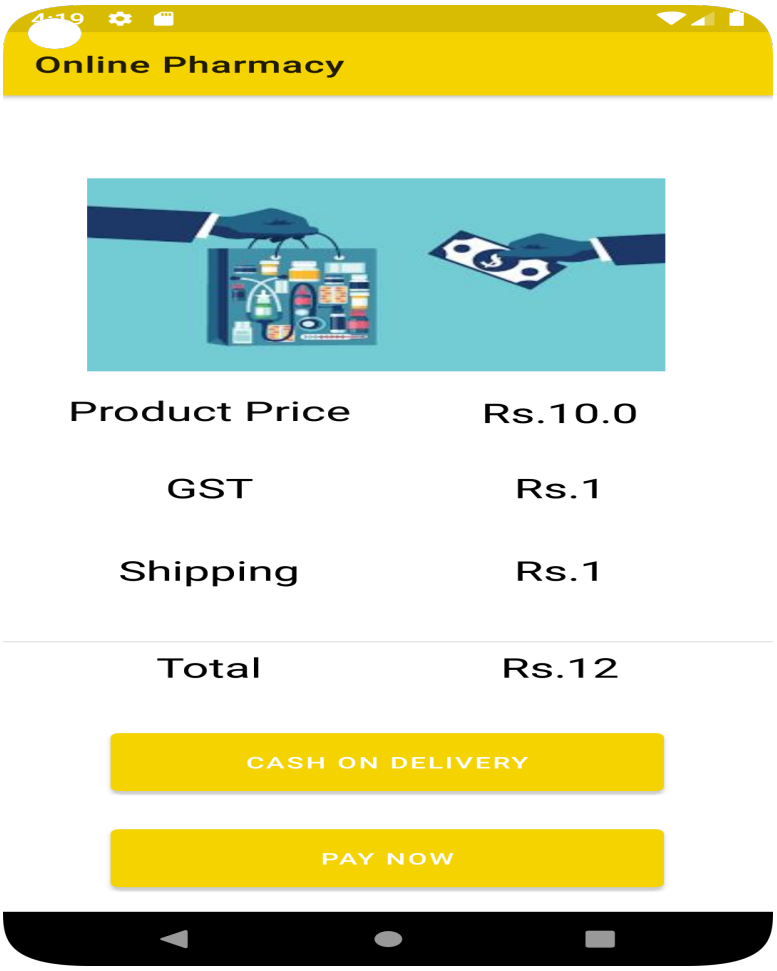

Figure 5.9: Payment page

Cart Page

you can review and manage the items you've added for purchase. Easily modify quantities, remove or add products, and update your order as needed. Enjoy the convenience of a consolidated shopping list before proceeding to checkout. Stay organized with a clear overview of your selected medicines and health supplies. Our user-friendly interface ensures a smooth and effortless shopping experience. Take control of your health and effortlessly manage your cart with Epharmacy. Get ready to proceed to payment and have your essentials delivered right to your doorstep

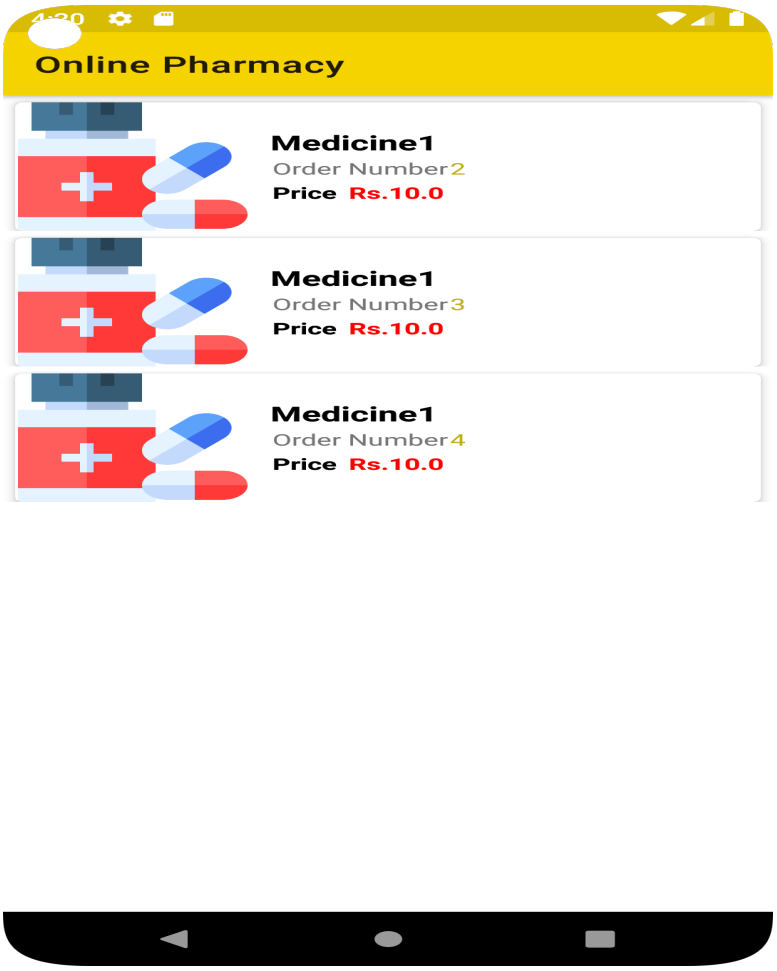

Figure 5.10: Cart

Admin Page

The Admin page consists of the Product details along with the authority to insert new products,update the existing product, Delete the existing product, and view the data.This for adding product data in the app allows authorized administrators to input and manage information related to new products. Administrators can enter details such as product name, description, price, and any additional attributes. This page provides a convenient interface for administrators to efficiently add and update product data within the app.

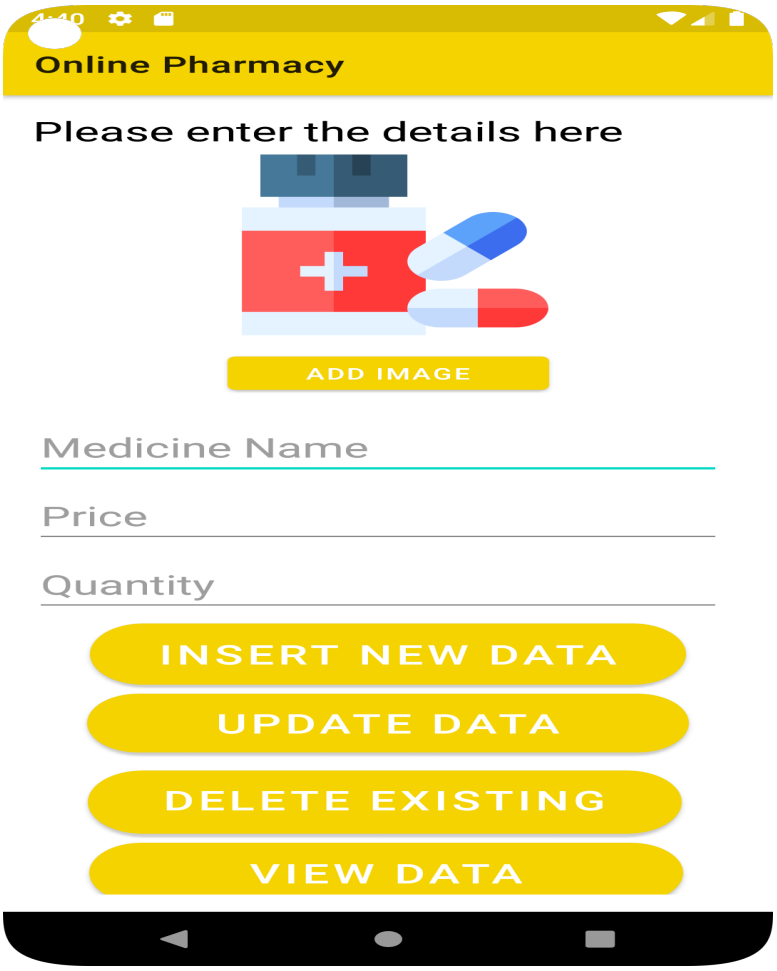

Figure 5.11: Admin page

Chapter 6

Conclusion and Future work

The E-pharmacy application I have created represents a significant breakthrough in the healthcare industry, offering a convenient and accessible platform for purchasing medications. With its user-friendly interface, extensive medication database, secure transactions, and prompt delivery services, the application has already demonstrated its value. In the future, the application can be further enhanced by expanding the medication range, implementing personalized recommendations, integrating teleconsultation services, incorporating health tracking features, establishing partnerships with local pharmacies for faster delivery, and strengthening security measures. These future developments will elevate the application's capabilities, improving user experience, accessibility, and overall efficiency in the medication procurement process

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