MedPro-Comprehensive Health & Wellness Hub A Go to Solution for Online Medicare and All Health Need.

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Abstract— The purpose of the project is to introduce the android application MedPro which seeks to simplify your journey to better health with an array of medicative choices and solutions available. MedPro is an application which can be trusted to attend to all the health and wellness needs of a user in one hand. The platform integrates a wide array of medicinal options and health products to cater to both human and animal needs thus enabling a seamless experience for managing one's health. This android application is developed using Android studio with java as the primary programming language. With the use of native Android components, it attains optimum performance and provides ease of use to the user interface. The app incorporates key features such as real-time data processing, local storage and integration with other APIs. Efficient use of android lifecycle management and UI design principles has been demonstrated. Overall, the application showcases the robust capabilities of Android Studio and Java for building scalable mobile solutions.

Keywords: Advanced Health Care Tools/ machines, Medicine Application, Medicine Delivery Service, Empowerment, Diverse Medical Choices, Wellness, Healthcare.

I. INTRODUCTION

Health care is highly necessities for human beings. Nowadays all are having a busy hectic life. Nowadays life is too full of responsibilities, stress etc. So, no time for themselves. It is our responsibility to keep ourselves fit and active. Even old aged people who usually remain at home or with their servants find it hard to buy medicine. In our daily life, it is not possible for a person to go and buy medicines. But we have a remedy for this Introducing MedPro, the perfect app that will make your way to improved health easier with a varied range of medicinal techniques and health care. Our app unites various therapeutic methods and wellness products to cater to all your health requirements, human and animal [1]. MedPro is your one-stop app for an integrated method of health and wellness. Our system brings together all types of medicinal solutions and health products to serve both human and animal demands with a hassle-free experience for taking care of your health. The varied medical options, Animal health category, Easy upload of prescription, Exclusive deals, Health care equipment like diabetes With MedPro, taking care of your health has never been simpler. From tailored medicine solutions to special promotions and innovative health care resources, we're here for you and your well-being every step of the way [2].

II. LITRATURE REVIEW

The digital health ecosystem has undergone quick evolution in recent years, with mobile applications proving to be instrumental in increasing access to health care services. E-pharmacy platforms have become essential platforms for online orders for medication, particularly during health crises like the COVID-19 pandemic that proved the importance of remote access to necessary health supplies [2]. Platforms such as Medlife, 1mg, and Netmeds have broken ground by introducing medicine delivery, lab booking, and teleconsultation features to simplify healthcare accessibility for millions.

Medical upload capabilities, underpinned by OCR (Optical Character Recognition), have played a growingly significant role in facilitating safe and legal dispensation of medicine . Automation enhances accuracy and minimizes human error to align with medical compliance standards. Additionally, recommendation systems in such platforms employ collaborative filtering and machine learning to make personalized medication suggestions and test booking based on user behavior and interest.

Inventory management and logistics optimization are also main challenges in the delivery of medicine. Stock management and route optimization algorithms aid in keeping things efficient and delivering timely. The addition of veterinary drugs to the services offered by such platforms, as on PharmEasy and pet medicine apps, reflects the increased demand for all-encompassing healthcare platforms covering both human and animal healthcare.

Moreover, integrated booking of lab tests enables users to book diagnostics at home, with the help of calendar systems that provide real-time access and secure data transfer protocols. [3] highlights the significance of secure authentication processes in healthcare apps for safeguarding sensitive patient information without compromising ease of access.

The MedPro app, thus, represents a confluence of multiple emerging healthcare technologies and algorithmic solutions, with the aim of providing an end-to-end, scalable solution to current digital health demands [4][5].

III. ALGORITHM

Multiple algorithms are implemented in the MedPro application to support functionality and usability. A recommendation and search algorithm assists users in finding medicines and lab tests instantly based on historical purchases and top trends. Inventory management algorithms provide real-time inventory updates and low-stock alert mechanisms. Routing and scheduling algorithms maximize delivery routes and lab appointment time slots [3]. Secure authentication algorithms such as OAuth and hashed password storage safeguard user data [4]. Price comparison logic assists users in finding reasonable alternatives. OCR and barcode scanning algorithms aid in uploading prescriptions. Furthermore, data validation and input sanitization guarantee that user input is correct and safe [5].

1. **Search and Filtering Algorithms** – Enable users to find medicines and lab tests efficiently by name, category, or symptoms using keyword matching and relevance scoring.

2. **Recommendation System** – Utilizes collaborative filtering and purchase history to suggest medicines, health products, and relevant lab tests to users

3. **Inventory Management Algorithm** – Tracks stock levels in real-time, updates availability, and triggers alerts for low stock or out-of-stock items.

4. **Order Management and Scheduling Algorithm** – Handles the scheduling of lab test appointments and medicine deliveries using time slot optimization and route efficiency [3].

5. **Prescription Image Processing (OCR)** – Applies Optical Character Recognition to extract text from uploaded prescription images for automated medicine identification and validation.

6. **Authentication and Security Algorithms** – Implements secure login using encrypted authentication methods like OAuth 2.0, and stores passwords using hashing [4].

7. **Input Validation and Error Handling** – Ensures user-provided data (e.g., names, addresses, prescription uploads) are properly formatted and free from harmful input [5].

8. **Notification System Logic** – Triggers alerts and reminders for medicine intake, test appointments, or order delivery status using time-based scheduling algorithms [1].

IV. SYSTEM ARCHITECTURE

System architecture depicts how the system actually behaves. The user is communicating via the GUI of the mobile phone. Users can choose specific options by utilizing the keys available on the mobile phone such as navigation (arrow) key, Soft key & Select (OK) key. Controller catches a specific event. Controller is none other than the MIDlet program. It passes that event to the respective handler to process the request. This request is routed over the network to server & handed over to the concerned handler at server side. Server processes the request and returns the result to the client [1]. MedPro Application, highlighting user interactions, data flows, and integration with external systems. Users interact with the application for different activities such as registration, product search, and order placement. The application interfaces with suppliers, payment processors, and delivery providers to complete user requests [2]. It fetches product data, makes payments, and handles deliveries. The system also gives feedback to users, confirming orders and delivery updates. This graphical illustration depicts the main functionalities and interactions in the MedPro Application system.

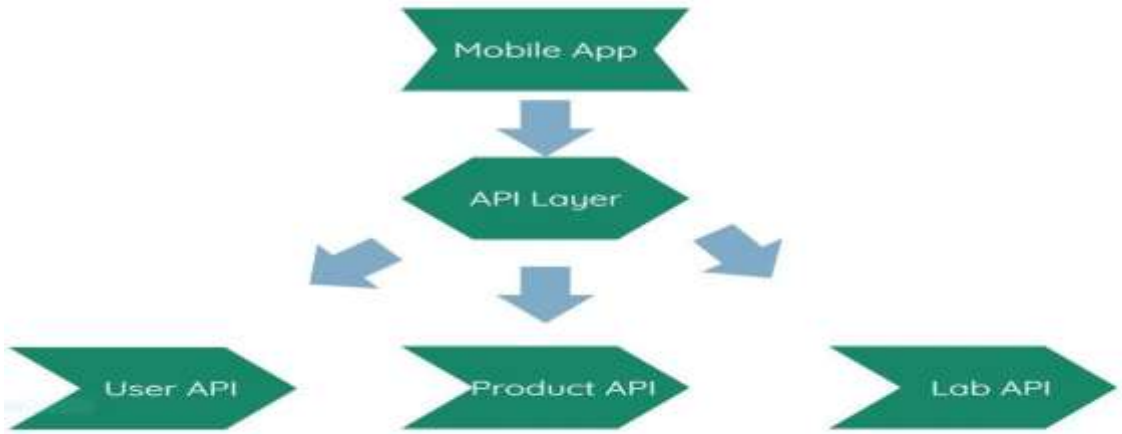

Figure 1.1 System Architeture1

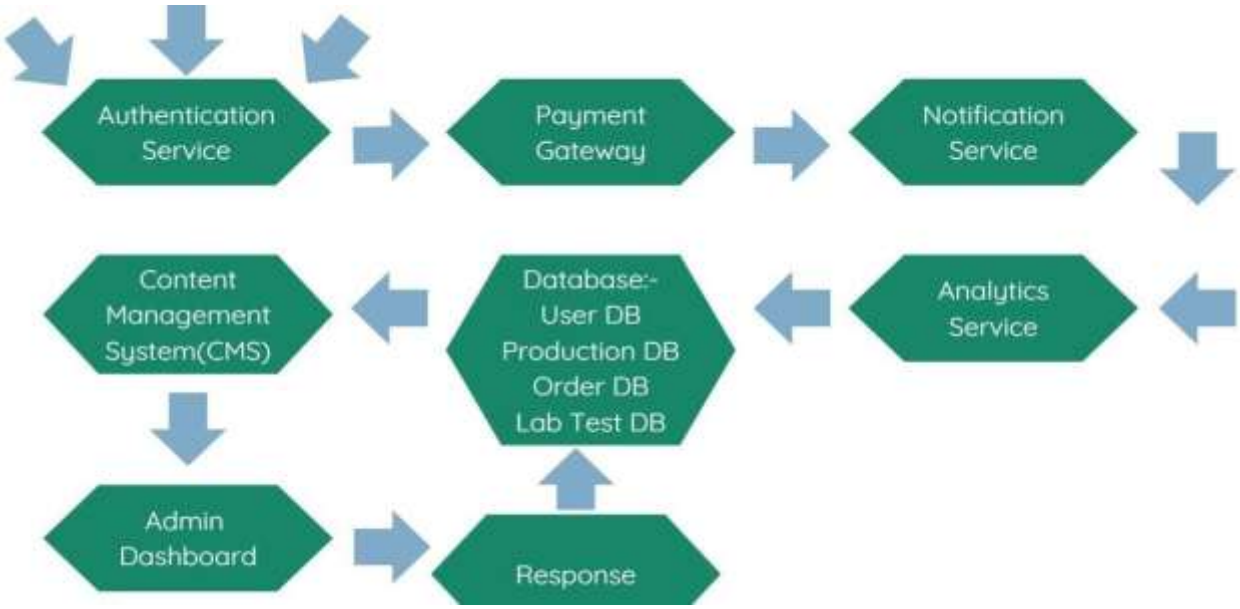

Figure 1.2 System Architeture2

V. RESULTS

Figure 1.3 Home Page1

Figure 1.4 Home Page2

Figure 1.5 Product

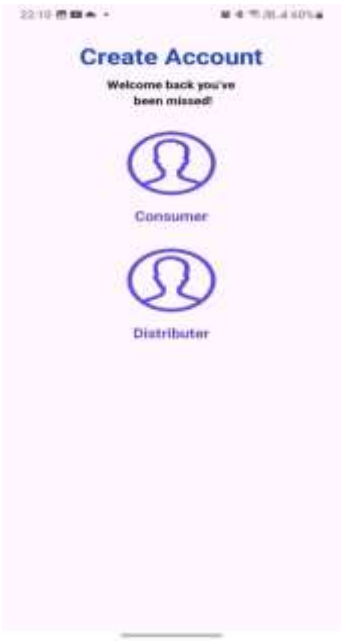

Figure 1.6 Create Account

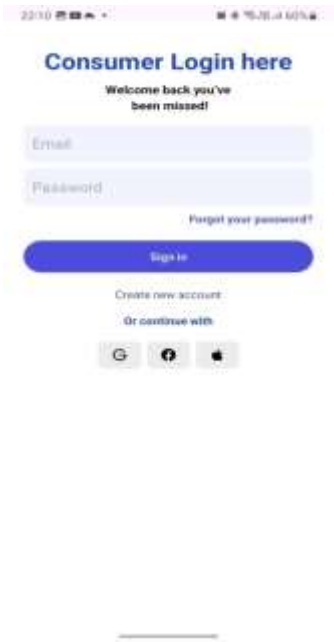

Figure 1.7 Login Page

Figure 1.8 Upload Prescription

1.Home page1:- It is the first page which interacts with the user.

2.Home page2:- It is the second most important page which contains different modules like,upload prescription , discounts, offers categories etc.

3.Product:- Here product details are shown such as price, quantity, ingredients, benefits etc.

4.Create accounts :-User create account ,both user consumer and distributor.

5.Login page :- This page opens right after clicking on create account. It consists of email and password.

6.Upload prescription:- This module basically used to search medicine using prescription where prescription can be uploaded using camera and gallery access.

VI . REFERENCES

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