MEDICAL CITY

A Project Report

Submitted in partial fulfillment of the
Requirements for the Semester VI

BACHELOR OF SCIENCE (INFORMATION TECHNOLOGY)

By

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K. M. E. Society's

G. M. Momin Women's College

(Affiliated to the University of Mumbai, Re- Accredited by NAAC with 'A' Grade, Recipient of Best College Award, ISO 9001:2015 Certified from Bureau of Indian Standards(BIS), Selected for Star College Scheme of DBT, Ministry of Science & Technology, Supported under RUSA 2.0, Recipient of FIST 'O' Level Grant from DST, Govt. of India, Winner of BEQET Award of NCQM)

CERTIFICATE

This is to certify that the project entitled, " **CITY MEDICAL** " is bonafide. work of **Ansari Zeba Bakhtiyar Mushtaque Ahmed** bearing Seat. No. (IT195450) submitted in partial fulfillment of the requirements for the award of degree of BACHELOR OF SCIENCE in INFORMATION TECHNOLOGY semester VI from University of Mumbai.

Internal Guide **In charge**

External Examiner

Date: **College Seat**

CITY MEDICAL

& GENERAL STORES

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CERTIFICATE

This is to certify the project entitled “ **CITY MEDICAL APPLICATION ”** Undertaken at the **MEDICAL STORE SYSTEM** By Ms. **Ansari Zeba Bakhtiyar Mushtaque Ahmed** & Ms. **Ansari Nashra Fatima Mohammad Farooque.** Seat No. **IT195450** & **IT195443** in partial Fulfillment of B.Sc. IT degree (Semester – VI) Examination has been completed under External Supervision.

Signature of External Guide

ABSTRACT

The purpose of online Medical store is to automate the existing manualsystem by the help of computerized equipment s and full-fledged computer Software, fulfilling their requirement, so that their valuable data/ information can be stored for a longer period with easy accessing and manipulation of the same. The required software and hardware are easily available and easy to work with.

The organization can maintains computerized records without redundant entries. That means that one need not be distract ed by information that is not relevant, while being able to reach the information.

The aim is to automate its manual system by the help of computerized equipment and full-fledgedge computer software.

ACKNOWLEGDEMENT

Primarily I would like thank good for being able to complete this project with success. Then I would like to thank my project teacher Ms. Misbah Momin Maam whose valuable guidance has been the once that helped me patch this project and make it full proof success her suggestion and her instructions has served as the major contributor towards the completion of the project. After that I would like to thank my HOD Ms. Ansari Nusrat Maam who helped us to choose better modules for our project .

Then I would like to thank my parents and friends who have helped me with their valuable suggestions and guidance has been helpful in various phases of the completion of the project.

Last but not the least I would like to thank my classmates who have helped me a lot.

DECLARATION

I hereby declare that the project entitled, "**MEDICAL CITY"** done at **G.M. Momin Women's College,** has not been in any case duplicated to submit to any other university for the award of any degree.

To the best of my knowledge other than me, no one has submitted to any other university. The project is done in partial fulfillment of the requirements for the award of degree of **BACHELOR OF SCIENCE (INFORMATION TECHNOLOGY)** to be submitted as final semester project as part of our curriculum.

Name and Signature of the Student.

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CHAPTER 01

INTRODUCTION

Introduction

The main objective of this project is ,to order the medicine through this app"**CITY MEDICAL**". This application is reduced as much as possible to avoid any kind of error while entering the product name .If you enter some wrong data it gives some drop-down option .

This software is supported to eliminate and in some cases reduce the hardships faced by this existing system. Moreover this system is designed for the particular need of the company to carry out operations in a smooth and effective manner.

This is also inform you about the product as you required like how much amount medicine you need to make and when. You can easily buy your required material via this app . It will overcome the managing the information of medicine, company, customer medicine stock, payment, order etc.

Our systems come with remote access features, which will allow you to manage your workforce any time, at all times. These systems will ultimately allow you to better manage resources. Here, some extra stationary are also available for your better convenient. It will ultimately allow you to better manage resource. And you can easily order your product for your better health.

1.1 : Background

We are developing Software for Medical purpose, including Home Medical Monitoring System, Medical database for healthcare profession, patient, and the public with growing number of specialized tools and resource. Thus it will help organization in better utilization of resource.

Medical application (app) for smart phone and tablet computer are growing in number and are commonly used in healthcare. The required software and hardware are easily available and easy to work with.

1.2 : Objectives

The main objective of the Project on Online Medical Store is to manage the details of Customer, Medicine Company, Medicine Stock, Order. It manages all the information about Customer, Payment, Order, Customer. The project is totally built at administrative end thus only the administrator is guaranteed the access. The purpose of the project is to built an application program to reduce the manual work for managing the Customer, Medicine Company, Payment, Medicine. It tracks all the details about the Medicine, Medicine Stocks, Order.

1.3 : Purpose and Scope

1. Purpose :

The purpose of Online Medicine Store is to automate the existing manual system by the help of computerized equipment and full-fledged computer software, fulfilling their requirements, so that their valuable data/information can be stored for a longer period with easily available and easy accessing and manipulation of the same. The required software and hardware are easily available and easy to work with.

2. Scope :

It may help collecting perfect management in details. In a very short time, the collection will be obvious, simple and sensible. It will help a person to know the management of passed year perfectly and vividly. It also helps in current all works relative to Online Medical Store. It will be also reduced the cost of collecting the management and collection procedure will go on smoothly.

Our project aims at Business process automation, i.e. we have tried to computerize various processes of Online Medical Store.

- Be easy to understand by user and operator.
- Have a good user interface.
- Be easy to operate.
- The system generates types of information that can be used for various purposes.
- It satisfy the user requirement.
- To assist the staff in capturing the effort spend on their respective working areas.
- In computer system the persons has to fill the various forms and number of copies of the forms can be easily generated at a time.
- Be expandable.
- Delivered on schedule within the budget.

CHAPTER 02

SURVEY OF TECHNOLOGY

Frontend and backend languages :

Frontend languages :

In our Medical Application Project we use as a frontend language Firebase d as a back-end language SQL (Structured Query Language). All these programming languages are useful to develop a websites or hybrid applications.

2.1.1 Java :

Java is a high-level, class-based, object-oriented programming language that is designed to have as few implementation dependencies as possible. It is a general-purpose programming language intended to let programmers write once, run anywhere (WORA),meaning that compiled Java code can run on all platforms that support Java without the need for recompilation. Java applications are typically compiled to bytecode that can run on any Java virtual machine (JVM) regardless of the underlying computer architecture. The programs written in Java typically run faster than corresponding Python programs and slower than C++.Java syntax is similar to C/C++. But Java does not provide low level programming functionalities like pointers. Also, Java codes are always written in the form of classes and objects.

- **History :**

Java is an Object-Oriented programming language developed by James Gosling in the early 1990s. The team initiated this project to develop a language for digital devices such as set-top boxes, television, etc. Originally C++ was considered to be used in the project but the idea was rejected for several reasons (For instance C++ required more memory). Gosling endeavoured to alter and expand C++ however before long surrendered that for making another stage called Green.

James Gosling and his team called their project “Green talk” and its file extension was .gt and later became to known as “OAK” . The name Oak was used by Gosling after an oak tree that remained outside his office. Also, Oak is an image of solidarity and picked as a national tree of numerous nations like the U.S.A., France, Germany, Romania, etc. But they had to later rename it as “JAVA” as it was already a trademark by Oak Technologies. "Java" Gosling and his team did a brainstorm session and after the session, they came up with several names such as JAVA, DNA, SILK, RUBY, etc.

Java name was decided after much discussion since it was so unique. The name Java originates from a sort of espresso bean, Java. Gosling came up with this name while having a coffee near his office .Java was created on the principles like Robust, Portable, Platform Independent, High Performance, Multithread, etc. and was called one of the Ten Best Products of 1995 by the TIME MAGAZINE.

Currently, Java is used in internet programming, mobile devices, games, e-business solutions, etc. The Java language has experienced a few changes since JDK 1.0 just as various augmentations of classes and packages to the standard library. In Addition to the language changes, considerably more sensational changes have been made to the Java Class Library throughout the years, which has developed from a couple of hundred classes in JDK 1.0 to more than three thousand in J2SE5.

❖ Features :

- **Java is an Object Oriented :**

In Java, everything is an Object. Java can be easily extended since it is based on the Object model.

- **Java is an Platform Independent :**

Unlike many other programming languages including C and C++, when Java is compiled, it is not compiled into platform specific machine, rather into platform-independent byte code. This byte code is distributed over the web and interpreted by the Virtual Machine (JVM) on whichever platform it is being run on.

- **Java is Simple :**

Java is designed to be easy to learn. If you understand the basic concept of OOP Java, it would be easy to master.

- **Java is Secure :**

With Java's secure feature it enables to develop virus-free, tamper-free systems. Authentication techniques are based on public-key encryption.

- **Java is Portable :**

Being architecture-neutral and having no implementation dependent aspects of the specification makes Java portable. The compiler in Java is written in ANSI C with a clean portability boundary, which is a POSIX subset.

- **Java is Robust :**

Java makes an effort to eliminate error-prone situations by emphasizing mainly on compile time error checking and runtime checking.

- **Java a support Multithreaded :**

With Java's multithreaded feature it is possible to write programs that can perform many tasks simultaneously. This design feature allows the developers to construct interactive applications that can run smoothly.

- **Java is Interpreted :**

Java byte code is translated on the fly to native machine instructions and is not stored anywhere. The development process is more rapid and analytical since the linking is an incremental and light-weight process**.**

- **Java is High Performance :**

With the use of Just-In-Time compilers, Java enables high performance.

- **Java is Distributed :**

Java is designed for the distributed environment of the internet.

- **Java is Dynamic :**

Java is considered to be more dynamic than C or C++ since it is designed to adapt to an evolving environment. Java programs can carry an extensive amount of run-time information that can be used to verify and resolve accesses to objects at run-time.

❖ Advantages :

1. Java is Stable :

- Java programs are more stable as compared to programs of other languages.
- Moreover, a new version of Java is released in no time with more advanced features which makes it more stable.

2. Java is Simple :

- Any language can be considered as simple if it is easy to learn and understand.
- The syntax of Java is straightforward, easy to write, learn, maintain, and understand, the code is easily debuggable.

3. Object-Oriented Programming :

- Java is an object-oriented language that helps us to enhance the flexibility and reusability of the code.
- It also helps us to increase security by binding the data and functions into a single unit and not letting it be accessed by the outside world.

- It also helps to organize the bigger modules into smaller ones so they are easy to understand.

4. Multithreading :

- Java is a multithreaded language that is in Java more than one thread can run at the same time.
- A thread is the smallest unit of a process. Multithreading helps us to gain the maximum utilization of CPU**.**

5. Distributed Language :

- Java is a distributed language as it provides a mechanism for sharing data and programs among multiple computers that improve the performance and efficiency of the system
- The RMI (Remote Method Invocation) is something that supports the distributed processing in Java.

6. Allocation :

- Java has the feature of Stack allocation system.
- It follows LIFO (Last in First Out) which helps the data to be stored and retrieved easily**.**

7. Automatic Garbage Collection :

- There is automatic memory management in Java that is managed by the Java Virtual Machine(JVM).
- Java automatically removes the unused objects with the help of the automatic Garbage Collection process.

8. Portability Feature :

- Java is a portable language due to its platform independence feature.

- As the Java code can be run on any platform, it is portable and can be taken to any platform and can be executed on them. Therefore Java also provides the advantage of portability.

9. Robust :

- Java is one of the most robust programming languages, that is Java is more reliable.
- Java compilers can detect any errors in the coding.
- There are also other features like exception handling and garbage collection which makes Java more robust.

10. Rich APIs :

- Java offers various APIs for application development.
- Java APIs (Application Programming Interface) is the set of commands or methods of communication among various activities like Database connection, networking, I/O, XML parsing, utilities, and much more.

11. High-Level Programming Language :

- Java is a high-level programming language as it is a human-readable language. It is similar to human language and has a very simple and easy to maintain syntax that is similar to the syntax of C++ language but in a simpler manner.

12. Platform-Independent :

- Java offers a very effective boon to its users by providing the feature of platform independence that is Write Once Run Anywhere (WORA) feature.
- The compiled code, i.e the byte code of java is platform-independent and can run on any machine irrespective of the operating system. We can run this code on any machine that supports the Java Virtual Machine (JVM).

❖ Principles of Java :

There were five primary goals in the creation of the Java language:

1. It must be simple, object-oriented, and familiar.
2. It must be robust and secure.
3. It must be architecture-neutral and portable.
4. It must execute with high performance.
5. It must be interpreted, threaded, and dynamics

❖ Limitations :

- Java can't have control to hardware resources like ram, processor directly as it doesn't contains pointers. So you can't create kernel of OS, drivers etc.
- The java code running time is slower than C, that's why frameworks core is still written in C or other low level languages.
- It doesn't have multiple inheritance which was useful in some of the cases (not a powerful disadvantage).

Backend languages :

2.1.1 Firebase :

Firebase is a platform developed by Google for creating mobile and web applications. It was originally an independent company founded in 2011. In 2014, Google acquired the platform and it is now their flagship offering for app development.

❖ History :

Firebase history is quite fascinating, and as many start ups has a lot of ups and downs. It originated from Envolve, a start up company established in 2011 by Andrew Lee and James Tamplin. The company offered an API for developers to facilitate online chat integration for websites. The founders of Envolve discovered that their chat service was being utilized for relaying non-chat messages.

Developers were relying on the platform for real-time application data syncing. Lee and Tamplin decided to differentiate the real-time architecture from the chat system, a move which led to Firebase being founded in 2011. The Firebase backend as a service platform was publicly launched in April 2012.

The first Firebase product launched was the Realtime Database. It is an API for application data synchronization across Android, web, and iOS devices. Application developers can rely on the platform for creating collaborative real-time applications.

The company accumulated seed funding of more than $1 million in 2012 from contributors including Greylock Partners, New Enterprise Associates, Flybridge Capital Partners, and Founder Collective. The company also raised series A funding of $5.6 million in June 2013 from Flybridge Capital Partners and Union Square Venture

Firebase Authentication and Firebase Hosting were launched in 2014 by Firebase, establishing the company as a leading mobile backend as a service (MbaaS). Firebase became a part of Google in October 2014, and it is now the Google BaaS platform. The technology giant then acquired Divshot, a web hosting platform that was then merged with Firebase.

❖ What is Database :

In very simple terms, a database is a collection of data. Some like to think of a database as an organized mechanism that has the capability of storing information, through which a user can retrieve stored information in an effective and efficient manner.People use databases every day without realizing it. A phone book is a database. The data contained consists of individuals' names, addresses, and telephone numbers. The listings are alphabetized or indexed, which allows the user to reference a particular local resident with ease.

Ultimately, this data is stored in a database somewhere on a computer. After all, each page of a phone book is not manually typed each year a new edition is released. The database has to be maintained. As people move to different cities or states, entries may have to be added or removed from the phone book.

An Introduction to the Relational Database :

A relational database is a database divided into logical units called tables, where tables are related to one another within the database. A relational database allows data to be broken down into logical, smaller, manageable units, allowing for easier maintenance and providing more optimal database performance according to the level of organization.

An Introduction to Client/Server Technology :

In the client/server system, the main computer, called the server, is accessible from a network typically a local area network (LAN) or a wide area network (WAN). The server is normally accessed by personal computers (PCs) or by other servers, instead of dumb terminals. Each PC, called a client, is provided access to the network, allowing communication between the client and the server, thus explaining the name client/server. The main difference between client/server and mainframe environments is that the user's PC in a client/server environment is capable of thinking on its own, capable of running its own processes using its own CPU and memory, but readily accessible to a server computer through a network. In most cases, a client/server system is much more flexible for today's overall business needs and is much preferred.

An Introduction to Web-Based Database Systems :

The basic structure of a Web-based database system is similar to that of a client server system from a user's standpoint.

- Each user has a client machine, which has a connection to the Internet and contains a Web browser (in the case of a Web-based database) just happens to be the Internet, as opposed to a local network. For the most part, a client is still accessing a server for information.

- It doesn't matter that the server may exist in another state, or even another country.

The main point of Web-based database systems is to expand the potential customer base of a database system that knows no physical location bounds, thus increasing data availability and an organization's customer base.

❖ Feature :

Build is an expansive feature set of Firebase with various components that enable developers to stay on top of their application development requirements.

These include two different databases and several other features for data storage, handling, authentication, and machine learning.

- **Databases :**

The Firebase platform’s two databases are Cloud Firestore and Realtime Database, which are both useful tools for modern application development requirements. **Cloud Firestore**, also known as Google Firestore, is a component of the Firebase mobile application development platform. It is fundamentally a cloud-based NoSQL database for data storage and synchronization. Firebase users can access Firestore from the mobile or web applications via native SDKs.

Cloud Firestore can be utilized with various programming languages like Unity, C++, Java, Node.js SDKs, and support for REST APIs and RPC. The Firestore database from Firebase is geared towards offering optimal performance, reliability, automatic scaling, and benchmark usability. **Firebase Realtime Database** is a cloud-hosted database. It facilitates JSON-based data storage and performs real-time data synchronization with connected clients.

Single instances of the Realtime Database function as clients during cross-platform application development processes using iOS, JavaScript, and Android SDKs.It lets applications receive the latest updates and data. Offline applications are able to remain responsive because the Database SDK carries out on-disk data persistence. It helps to sync devices to present server states following the restoration of connectivity.

- **Machine Learning :**

Firebase ML refers to a mobile SDK that harnesses the power of Google machine learning and implements the same to the iOS and Android applications through a convenient package. Utilizing machine learning functionality with Firebase ML is quite suitable for anyone regardless of their experience level. You do not need to possess in-depth knowledge of aspects like model optimization

or neural networks. Seasoned developers can use the Firebase ML Kit APIs for utilizing mobile application TensorFlow Lite models.

- **Cloud Functions :**

Firebase Cloud Functions refer to a serverless framework that enables developers to execute backend code for responding to HTTPS and Firebase feature-triggered events. Google cloud is used for storing TypeScript or JavaScript code and can be executed within a managed environment. This reduces the requirement for scaling and managing servers.

- **Authentication :**

Authentication is a Firebase feature offering ready-to-use UI libraries, backends, and convenient SDKs for user application authentication. Authentication is supported through phone numbers,

passwords, and providers such as Google, Twitter, Facebook, and others. Authentication enjoys integration with different Firebase services, and it makes use of OpenID Connect and OAuth 2.0 and allows custom backend integration.

- **Cloud Messaging :**

Firebase Cloud Messaging or FCM refers to a cross-platform message service for free-of-cost messaging. This feature enables app owners to notify client apps if and when data or emails are to be synced. FCM lets app owners send notifications to boost retention and engage users. Cloud Messaging facilitates payload transfers of up to 4kb for instant messaging cases.

- **Hosting :**

Firebase has various scalable and agile hosting features for Microservices, web apps, and several other content types. Content can be hosted across different categories, and users have the ability to avail SSL protection and single-click rollbacks.

- **Emulator Suite :**

To facilitate the integration and testing of all the mentioned features, Firebase provides the Local Emulator Suite. This allows developers to test their code without inducing additional costs. The

Emulator Suite currently provides emulators for Authentication, Cloud Functions, Firestore, RTDB, hosting, and Google Cloud Pub/Sub, with more coming. There’s also a built-in UI similar to the one you’d find in the actual Firebase Console.

❖ Advantage:

1. Free to start

Firebase is free to start with and lets users log in with their Google account. The Spark plan is free and offers many features to help developers get started. Based on growing requirements, they can then opt for the Blaze Plan. Getting started without any cost is definitely a good option offered by Firebase and one reason it is so popular. The Spark plan does have generous database read and write number limits. The other advantage is that the Blaze Plan takes into consideration the original free limits. For instance, let’s consider you will host 20GB storage on the Blaze Plan. The free limit covers 10GB, and that means Firebase will only charge you 10GB for the extra usage.

2. Development Speed

Firebase is a suitable application development option that can help developers drastically reduce the time to market for developing apps. Usually, every developer needs access to the server and host for database and backend service creation and maintenance. Hence having a backend developer and a frontend developer is necessary to build applications. It is true even for smaller applications where backend and frontend have to cooperate at different stages. Having frontend and backend developers can often result in errors and issues that can cause application problems increasing development cost and complexity. However, using Firebase lets frontend developers manage all work and reduce the time needed to reach completion. That's all thanks to ready-to-use services for data storage, authentication, notifications, analytics, and more.

3. All in one platform (wide number of services)

Firebase also gives developers a comprehensive list of products to aid them in the development process. Firstly, two database options are Firestore and Firebase's Realtime Database. Likewise, Firebase lets you perform effortless cloud media storage and enables serverless application development through integrated Cloud Functions. Firebase covers the entire application development cycle, and the platform contains features to build, release and monitor applications. Also, as the last step of the application development cycle, it provides tools to engage users and keep them using it.

4. Powered by Google

Firebase is powered by Google, one of the most prominent and trusted names in the world of technology. Since its acquisition, Firebase has gone through a series of changes and developments and become the reliable platform it is today. It harnesses the power of the Google Cloud and many of Google's services. Firebase is now part of the Google Cloud Platform, works in perfect harmony with other Google Cloud services, and integrates with plenty of third party services. Since Firebase's acquisition, Google is heavily investing in the platform and delivering a more robust product.

5. Focus on frontend development

Developers worldwide prefer Firebase as it lets them focus on creating frontend code for mobile applications. Firebase reduces the need to develop boilerplate backend code, pushing back the development completion date for applications. Firebase makes application development convenient and helps to keep costs low. Using Firebase also allows developers and companies to standardize the backend environment under a single and easy to learn technology. A backend pattern decreases the amount of training required to support it and lets frontend-focused developers perform most activities.

6. It’s serverless

Scaling up and down servers it’s not an easy task! In particular, scaling up a database cluster is challenging and optimizing the performance for huge workloads requires experienced engineers. Firebase solves this problem and provides an entirely serverless environment. Firebase comes with a serverless architecture that requires users to pay based on requests, and there is no requirement to manage or worry about server infrastructure. It is different from a conventional server, which has to stay functional at all times. Firebase users are charged only when the server is being utilized due to its serverless nature. As a result, there are fewer concerns related to scaling due to better efficiency. Developers get freedom from taking a hands-on approach to handling DevOps, setup, infrastructure, and capacity planning.

7. Machine Learning

Machine learning is on the edge of remodeling the information technology sector. In countless ways, it’s already started. According to Gartner, 30% of businesses will use ML in one part of their processes. Firebase is also advantageous as it offers developers the option to rely on machine learning. ML can be utilized by both iOS and Android developers regardless of their level of experience. Firebase comes with an ML kit with readily-available APIs for different mobile platforms features like text identification, face detection, image labelling, barcode scanning, and more. Developers can opt for Cloud or on-device APIs based on their application development requirements.

8. Generate traffic

Firebase facilitates app indexing to let users reengage Google Search users by providing app links on Search. Application ranking can also be enhanced on Search once by indexing an application, which helps your app gain exposure to new users who can install it. Developers can rely on the Android Instant App that can be utilized for accessing application content.

9. Monitor Errors

Firebase's Crashlytics feature is a fantastic tool to find and fix issues in a fast way. Firebase can monitor both non-fatal and fatal errors, and reports are generated based on how errors affect users' experience.

10. Backups

Firebase ensures optimal security and availability of data with the help of regular backups. The apps are protected from any possibility of data loss by relying on the automatic backup feature of this platform. Users of the Blaze plan can easily configure the Realtime Database for taking automatic backups. Clicking the Backups tab of Firebase Database gives one access to the auto-backup settings.

❖ Limitations :

1. It's not open-source - Firebase is not an open-source option for mobile application development, making it a suboptimal option for many developers. Users are unable to modify Firebase source code due to it being closed-source. Many developers who like Firebase features end up using other platforms due to this limitation.

2. Vendor Lock-In

Another major deterrent to using Firebase is the fact that it has vendor lock-in. It is a significant issue that stops some developers from opting for the platform. Not having access to source code can be quite difficult for some developers. In particular, for large apps, moving out to other vendors is not an easy task, and to make this move, the entire backend would need to be rebuilt from scratch.

3. Firebase does not work in many countries

Firebase is a subdomain from Google, and the official website is https://firebase.google.com and blocked in many countries. Google is blocked and can't be reached in countries like China, along with other Google services, because China has obstructed the URIs.

4. Works only with NoSQL Databases

Both Firebase database options, Firestore and Firebase Realtime Database, offer a NoSQL structure, and there is no option to use a relational database. Even though there is a solution for this situation and a user can craft complex with Firebase, the implementation may not simple for a beginner using the platform.

5. Not all Firebase services are free to start

Although most of the services are available under the Spark Plan, there are some exceptions to this rule. Examples are Cloud Functions and Machine Learning. Cloud Functions are only available on the Blaze Plan, and a user cannot try the service under the Spark Plan. It's important to emphasize a free quota for Cloud Functions, but charges will happen under the Blaze Plan as soon as the user exceeds the free limit.

6. It's expensive and pricing is hard to predict

Firebase is a feature-rich mobile application development platform but also an expensive one for some. It does offer a free plan, but that comes with some restrictions. It is a reason why many developers end up settling for self-hosting applications with options like Digital Ocean, AWS, or Google Cloud. The other aspect that makes Firebase expensive is that it is a proprietary technology, requiring a return on the engineering investment. On the other hand, open-source technologies can use the power of community-based development and deliver more affordable solutions.

7. Does not provide GraphQL APIs

Firebase does not provide GraphQL APIs as part of the standard setup. Although there are workarounds for GraphQL implementation with Firebase, REST is still the platform's default option.

8. Runs only on Google Cloud

Firebase is now a part of Google, and its infrastructure runs entirely on the Google Cloud. There is no option to run Firebase on other cloud providers like AWS, Azure, or Digital Ocean. Firebase limits the level of flexibility in terms of hosting options. Firebase does not provide server-level access, and problems may arise if customizing server settings is necessary.

2.2 SOFTWARE USES :

❖ Definition :

Android Studio is the official Integrated Development Environment (IDE) for Android app development, based on IntelliJ IDEA . On top of IntelliJ's powerful code editor and developer tools, Android Studio offers even more features that enhance your productivity when building Android apps, such as:

- A flexible Gradle-based build systemA fast and feature-rich emulator
- A unified environment where you can develop for all Android devices
- Apply Changes to push code and resource changes to your running app without restarting your app
- Code templates and GitHub integration to help you build common app features and import sample code
- Extensive testing tools and frameworks
- Lint tools to catch performance, usability, version compatibility, and other problems C++ and NDK support.

- Built-in support for Google Cloud Platform, making it easy to integrate Google Cloud Messaging and App Engine.

❖ History :

Android Studio is the official integrated development environment (IDE) for Google's Android operating system, built on JetBrains' IntelliJ IDEA software and designed specifically for Androiddevelopment.[8] It is available for download on Windows, macOS and Linux based operating systems or as a subscription-based service in 2020. It is a replacement for the Eclipse Android Development Tools (E-ADT) as the primary IDE for native Android application development.

Android Studio was announced on May 16, 2013 at the Google I/O conference. It was in early access preview stage starting from version 0.1 in May 2013, then entered beta stage starting from version 0.8 which was released in June 2014. The first stable build was released in December 2014, starting from version 1.0 On May 7, 2019, Kotlin replaced Java as Google's preferred language for Android appdevelopment. Java is still supported, as is C++.

❖ Features:

- **Visual layout editor :**

Create complex layouts with Constraint Layout by adding constraints from each view to other views and guidelines. Then preview your layout on any screen size by selecting one of various device configurations or by simply resizing the preview window.

- **APK Analyzer :**

Find opportunities to reduce your Android app size by inspecting the contents of your app APK file, even if it wasn't built with Android Studio. Inspect the manifest file, resources, and DEX files.Compare two APKs to see how your app size changed between app versions.

- **Fast emulator :**

Install and run your apps faster than with a physical device and simulate different configurations and features, including ARCore, Google's platform for building augmented reality experiences.

- **Intelligent code editor :**

Write better code, work faster, and be more productive with an intelligent code editor that provides code completion for Kotlin, Java, and C/C++ languages.

- **Flexible build system :**

Powered by Gradle, Android Studio's build system allows you to customize your build to generate multiple build variants for different devices from a single project.

- **Realtime profilers :**

The built-in profiling tools provide realtime statistics for your app's CPU, memory, and networkactivity. Identify performance bottlenecks by recording method traces, inspecting the heap and allocations, and see incoming and outgoing network payloads.

2.3 SYSTEM REQUIREMENTS :

- 64-bit Microsoft® Windows® 8/10.
- x86_64 CPU architecture; 2nd generation Intel Core or newer, or AMD CPU with support for aWindows Hypervisor.
- GB RAM or more.
- GB of available disk space minimum (IDE + Android SDK + Android Emulator)
  1280 x 800 minimum screen resolution.

❖ Pros and Cons :

Pros :

- Support for developing in either the emulator or a device means I can quickly diagnose platform specific issues
- The support for Kotlin and Java is stellar, with projects easily containing both types of code with ease
- Hot reload support means that I can quickly test changes without waiting for a length build and optimization process
- Excellent cross platform support means I can develop on macOS, Windows, or Linux without losing functionality between platforms.

Cons :

- Slow performance on older PCs means that you should develop only on the latest hardware
- Project opening involves a long indexing and warm up process, meaning that a quick peek at an old project can result in a wait of a few minutes
- Initial build times can be very long, although these have been slowly improving in recent versions of Android Studio

CHAPTER 3

REQUIREMENTS AND ANALYSIS

3.1 PROBLEM DEFINITION :

The definition of the problem can be defined as a detailed and operational description of the difference between the existing situation and the desired situation. This description should be made as concrete and detailed as possible ,as to allow for a good referencing. When a quantitative description is not (fully) possible ,the difference should be expressed quantitatively. A problem statement is a concise description of an issue to be addressed or a condition to be improved upon. A simple and well-defined problem statement will be used by the project team to understand the problem and work toward developing a solution.

There would always be unnecessary consumption of time while entering records and retrieving records. One more problem was that it was very difficult to find errors while entering the data. Once the records were entered it was difficult to update these records.

3.2 POURPOSE SYSTRM :

The purpose of Online Medicine Store is to automate the existing manual system by the help of computerized equipment and full-fledged computer software, fulfilling their requirements, so that their valuable data/information can be stored for a longer period with easily available and easy accessing and manipulation of the same. The required software and hardware are easily available and easy to work with.

The Online Medicine Store serves many purposes, including the safe and effective dispensing of pharmaceutical drugs. During the dispensing process, the system will prompt the pharmacist to verify the medication they have filled is for the correct patient, contains the right quantity and dosage, and displays accurate information on the prescription label. Advanced Online Medicine Store offer clinical decision support and may be configured to alert the pharmacist to perform clinical interventions, such as an opportunity to offer verbal counseling if the patient's prescription requires additional education in the pharmacy.

The main objective of the Project on Online Medical Store is to manage the details of Customer, Medicine Company, Medicine Stock, Order. It manages all the information about Customer, Payment, Order, Customer. The project is totally built at administrative end thus

only the administrator is guaranteed the access. The purpose of the project is to built an application program to reduce the manual work for managing the Customer, Medicine Company, Payment, Medicine. It tracks all the details about the Medicine, Medicine Stocks, Order.

3.3 REQUIREMENTS SPECIFICATIONS :

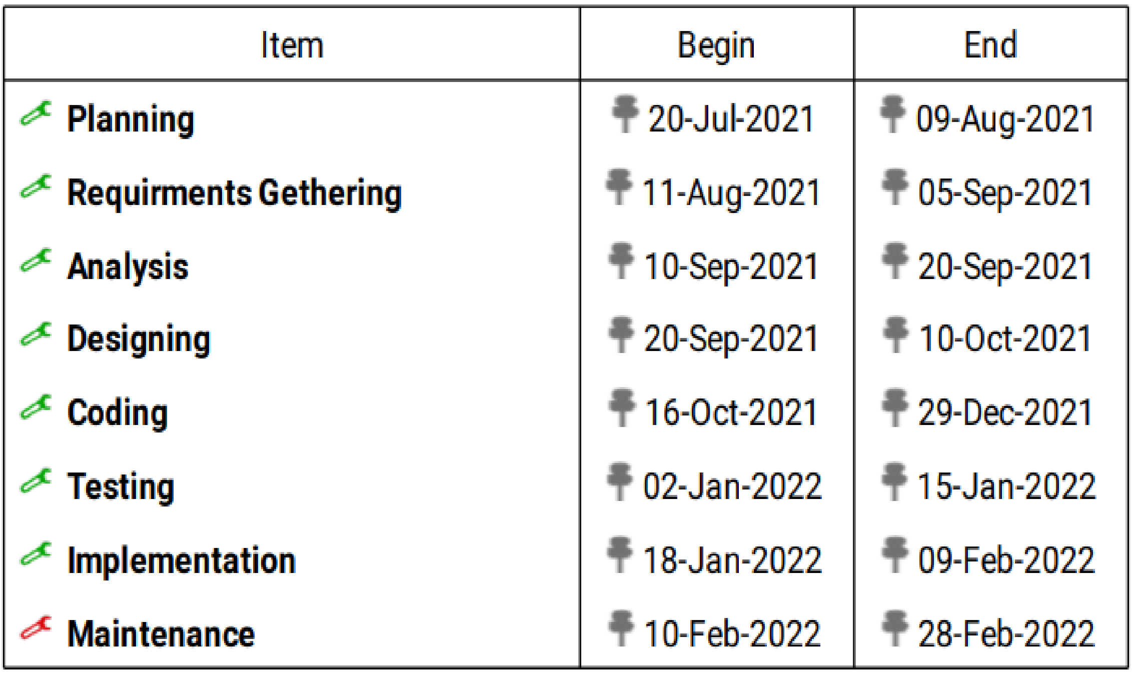
Before proceeding further ,it becomes very necessary to accumulate the valid and convincing requirements of the project and communicate the very same to various stakeholders of the project . This step is initiation of System Analysis . An overview of the client's requirements has been done. The basic need of the client to opt for such kind of project is analyzed.

The Software Requirements Specification is produced at the culmination of the analysis task. The function and performance allocated to software as part of system engineering are refined by establishing a complete information description, a detailed functional and behaviour description, an indication of performance requirements and design constraints, appropriate validation criteria, and other data pertinent to requirements.

The proposed system has the following requirements :

- System needs to store information about a new entry of a Customer.
- System needs to help the internal staff to keep information about the Medicine Company and find them as per various queries.
- System needs to maintain a quantity record.
- System needs to keep the record of Medicine.
- System needs to update and delete the record.
- System also needs a search area.
- It also needs a security system to prevent data

3.4 PLANNING AND SCHEDULING:



Item	Begin	End
Planning	20-Jul-2021	09-Aug-2021
Requirments Gethering	11-Aug-2021	05-Sep-2021
Analysis	10-Sep-2021	20-Sep-2021
Designing	20-Sep-2021	10-Oct-2021
Coding	16-Oct-2021	29-Dec-2021
Testing	02-Jan-2022	15-Jan-2022
Implementation	18-Jan-2022	09-Feb-2022
Maintenance	10-Feb-2022	28-Feb-2022

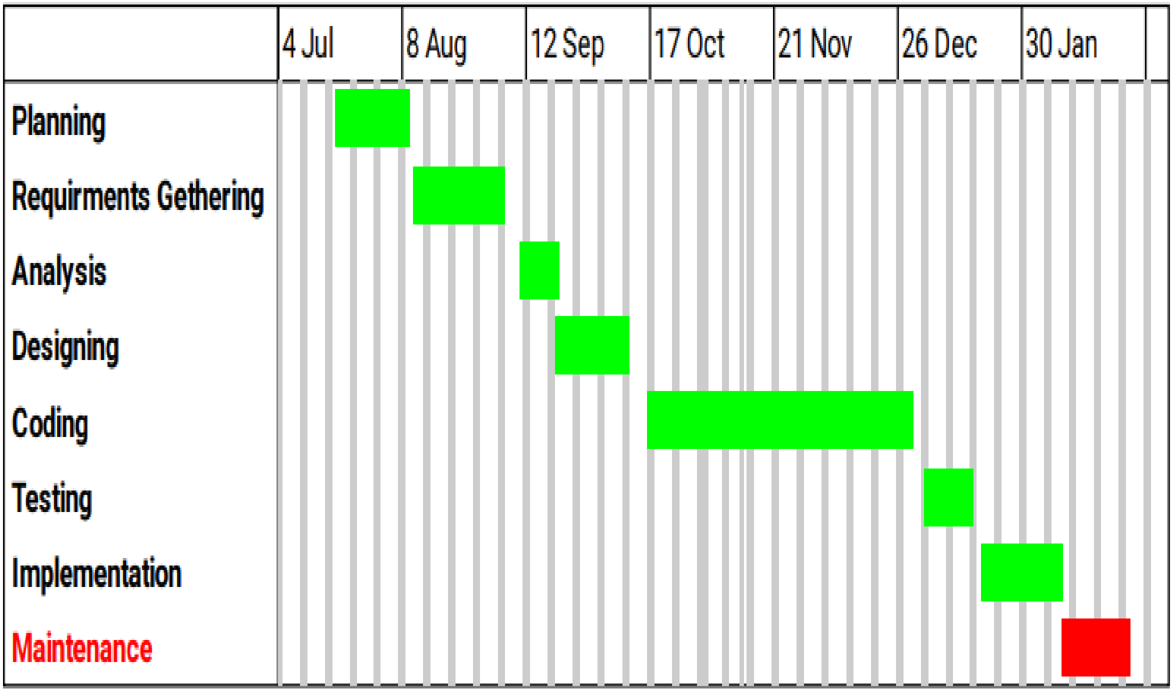


Fig : Gantt Chart

3.5 HARDWARE AND SOFTWARE REQUIREMENTS:

Software Requirements :

NAME OF THE COMPONENTS	SPECIFICATION
Operating System	Windows 10, Android.
Language	Java 2 Runtime Environment
Database	MySQL Server
Browser	Any of Mozilla, Google Chrome
Scripting Development Kit	Java JDK 1.7
Database JDBC Driver	MySQL

❖ Java:

Java is a high-level, class-based, object-oriented programming language that is designed to have as few implementation dependencies as possible. It is a general-purpose programming language intended to let programmers write once, Java is a high-level, class-based, object-oriented programming language that is designed to have as few implementation dependencies as possible. It is a general-purpose programming language intended to let programmers write once, run anywhere (WORA),meaning that compiled Java code can run on all platforms that support Java without the need for recompilation. Java applications are typically compiled to bytecode that can run on any Java virtual machine (JVM) regardless of the underlying computer architecture anywhere (WORA),meaning that compiled Java code can run on all platforms that support Java without the need for recompilation .Java applications are typically compiled to bytecode that can run on any Java virtual machine (JVM) regardless of the underlying computer architecture.

Java is an Object-Oriented Programming language developed by James Gosling in the early 1990s. The team initiated this project to develop a language for digital devices such as set-top boxes, television, etc. Originally C++ was considered to be used in the project but the idea was rejected for several reasons(For instance C++ required more memory). Gosling endeavoured to alter and expand C++ however before long surrendered that for making another stage called Green. James Gosling and his team called their project “Greentalk” and its file extension was .gt and later became to known as “OAK".

❖ SQL :

SQL is the standard language used to communicate with relational database management systems, including Oracle, Microsoft SQL Server, Sybase, Informix, and even Microsoft Access. With SQL, you can build databases, enter data into the database, manipulate data, and query the database data that is often used to make intelligent personal or business decisions. SQL is a simple, English-like language thatis relatively easy to learn and use by any level of database user: The modern wave ofinformation management is primarily carried out through the use of a relational database management system (RDBMS), derived from the traditional DBMS .Moderndatabases combined with client/server and Web technologies are typical combinations used by current businesses to successfully manage their data and staycompetitive in their appropriate markets.

❖ Android Studio :

Android Studio is the official Integrated Development Environment (IDE) for Android app development, based on IntelliJ IDEA . On top of IntelliJ's powerful code editor and developer tools, Android Studio offers even more features that enhance your productivity when building Android apps, such as: A flexible Gradle-based build system A fast and feature-rich emulator A unified environment where you can develop for all Android devices Apply Changes to push code and resource changes to your running app without restarting your app Code templates and GitHub integration to help you build common app features and import sample code Extensive testing tools and frameworks. Lint tools to catch performance, usability, version compatibility, and other problems C++ and NDK support Built-in support for G.

Hardware Requirements :

NAME OF THE COMPONENTS	SPECIFICATION
Processor	Intel Core i5
RAM	8GB
Hard Disk	20GB
Keyboard	122 Key

3.6 CONCEPTUAL MODEL :

Conceptual models are abstract, psychological representations of how tasks should be carried out. People use conceptual models subconsciously and intuitively as a way of systematizing processes.

❖ RAD (Rapid Application development) :

The Rapid Application Development (or RAD) model is based on prototyping and iterative model with no (or less) specific planning. In general, RAD approach to software development means putting lesser emphasis on planning tasks and more emphasis on development and coming up with a prototype. In disparity to the waterfall model, which emphasizes meticulous specification and planning, the RAD approach means building on continuously evolving requirements, as more and more learnings are drawn as the development progresses.

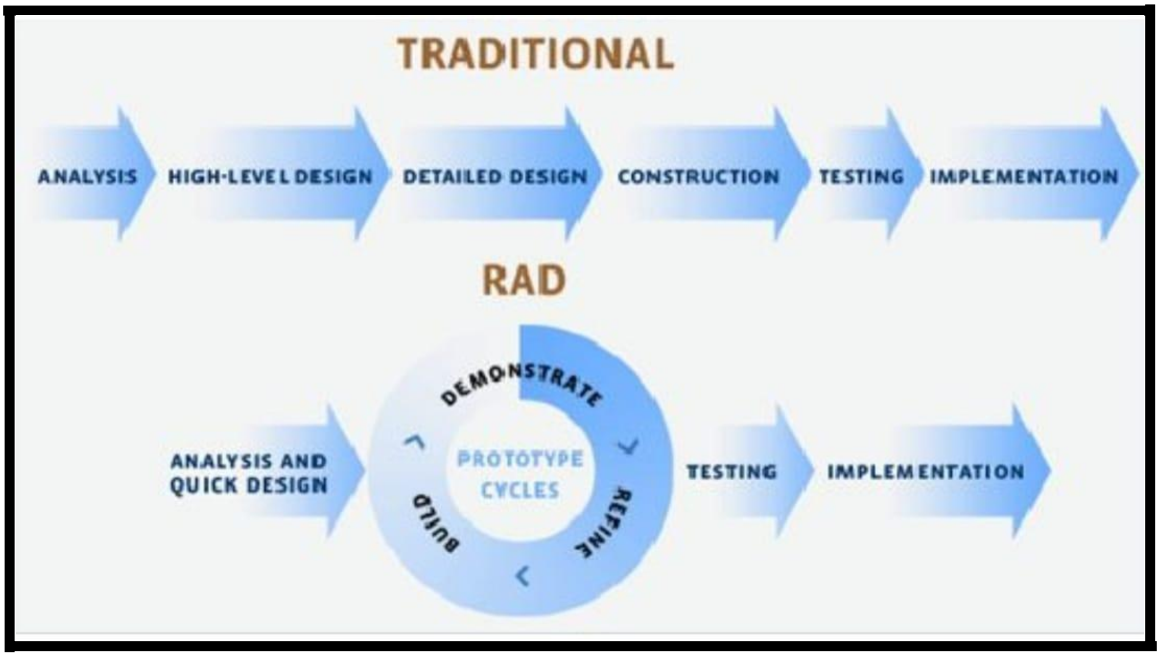
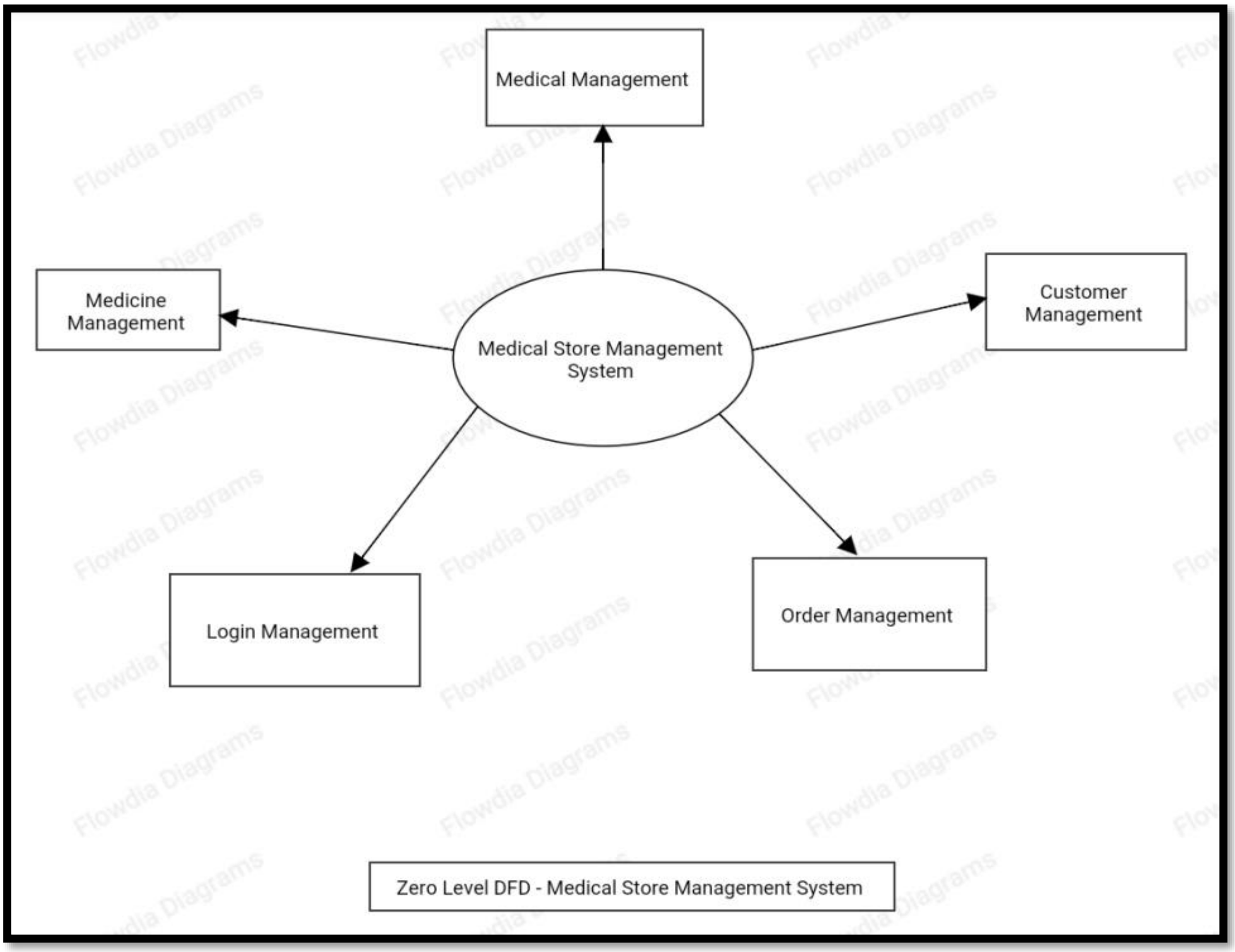


Fig: Rapid application development (RAD) model.

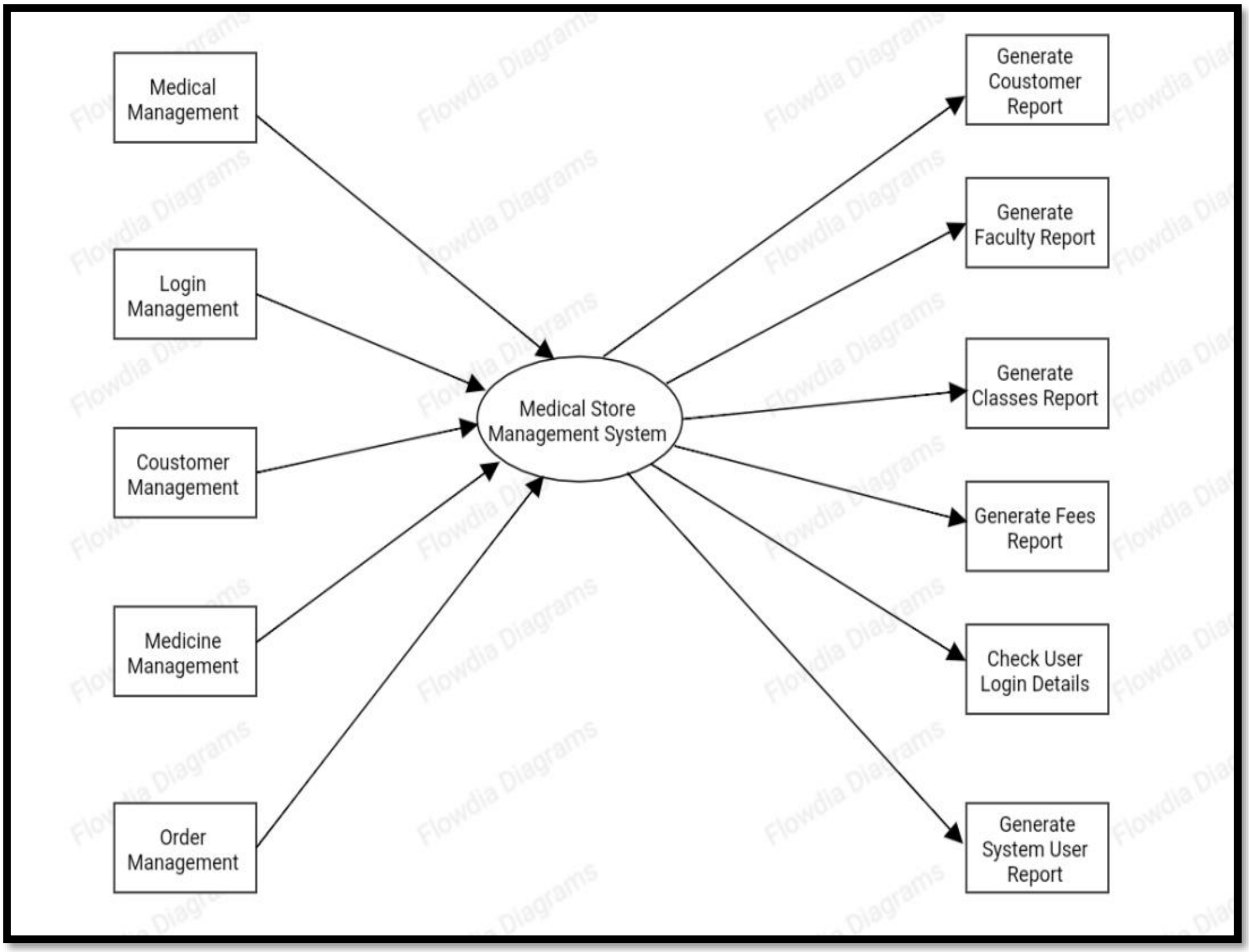
❖ Data Flow diagram :

A data flow diagram (DFD) maps out the flow of information for any process or system. It uses defined symbols like rectangles, circles and arrows, plus short text labels, to show data inputs, outputs, storage points and the routes between each destination. Data flowcharts can range from simple, even hand-drawn process overviews, to in-depth, multi-level DFDs that dig progressively deeper into how the data is handled. They can be used to analyze an existing system

Zero-Level DFD :

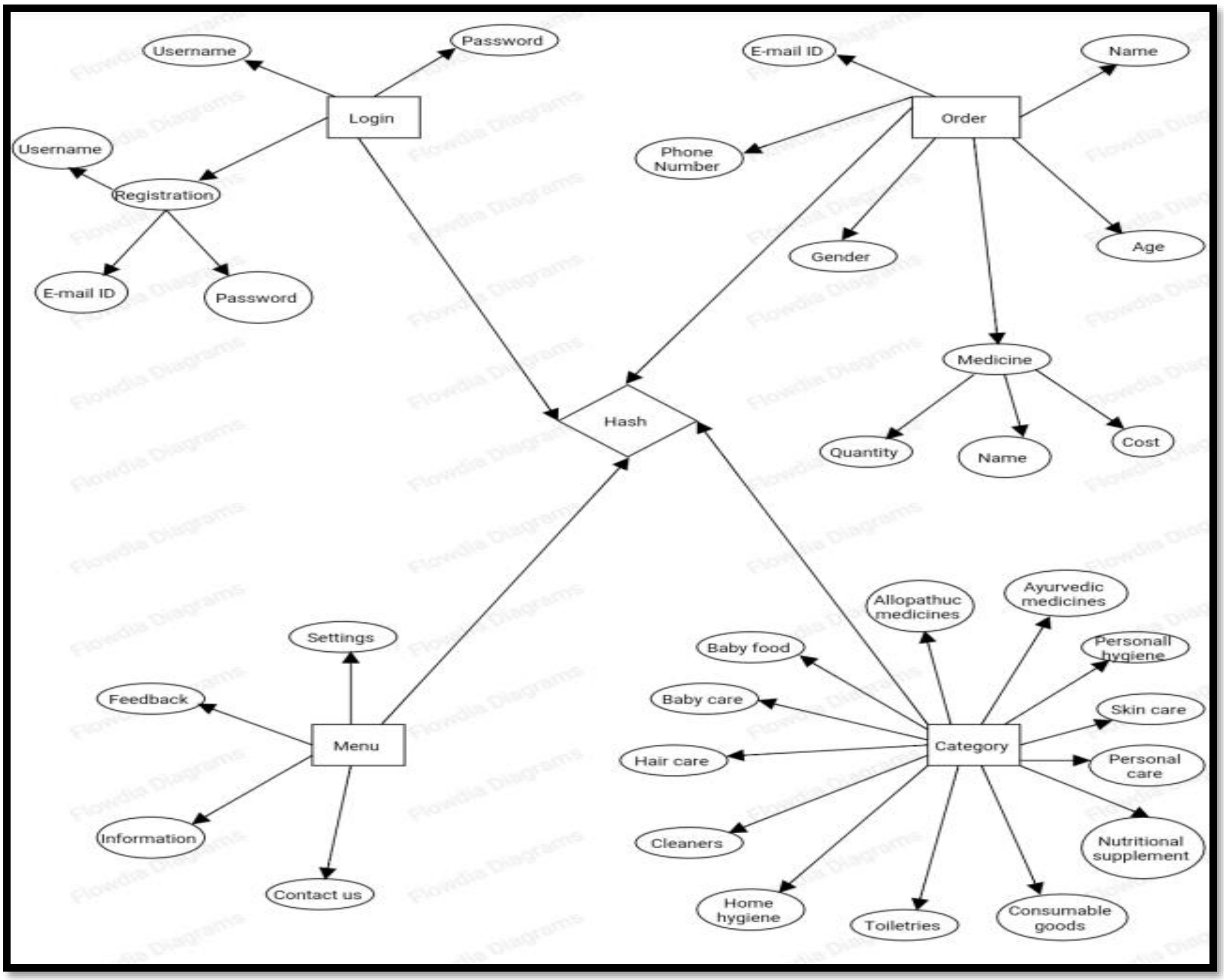


First-Level DFD :



❖ ER Diagram :

An Entity Relationship (ER) Diagram is a type of flowchart that illustrates how “entities” such as people, objects or concepts relate to each other within a system. ER Diagrams are most often used to design or debug relational databases in the fields of software engineering, business information systems, education and research. Also known as ERDs or ER Models, they use a defined set of symbols such as rectangles, diamonds, ovals and connecting lines to depict the interconnectedness of entities, relationships and their attributes.



CHAPTER 4

SYSTEM DESIGN

System Design :

System design is one of the most critical factor that affects the quality of the software. The main purpose of the design phase is to plan solution of the problem specified by our requirement documents. It is the first step in moving from problem domain to the solution domain. The major impact of this design is on the latest phase mainly testing and maintenance.

In this phase , a logical system is built which fulfils the given requirement . Design phase of software development deals with transformation the client's requirements into a logically working system. Normally, design is performed in the following in the following two steps:

1. Primary Design Phase :

In this phase, the system is designed at block level . The blocks are created on the basis of analysis done in the problem identification phase. Different blocks are created for different functions emphasis is put on minimizing the information flow between blocks. Thus, all activities which require more interaction are kept in one block.

2. Second Design Phase:

In the secondary phase the detailed design of every block is performed.

Basic Modules :

1. Users Module :

Used for managing the users of the system.

2. Login :

Using this module user enters user name and password and the system Generics Drug Packaging - Prefilled Syringes.

3. Company Management Module :

Used for managing the Customer details.

4. Sale Module :

This module consists of customer sales information . When sale is made pepper fields in the sale form should be filled such as patient name, address, doctor's name,medicine details etc.

5. Stock Module :

This module manages the inventory. Stock is updated when purchase, sale or replace is made.

6. Medicine :

This module consists of information of medicines available in the Medical.

7. Report Generation :

Using this module user can generate different kinds of reports such as sales details, purchase details, etc.

Data Dictionary :

This is normally represented as the data about data . It is also termed as metadata some times which give the data about the data stored in the database. It defineseach data term encountered during the analysis and design of a new system . Data elements can describe files or the processes.

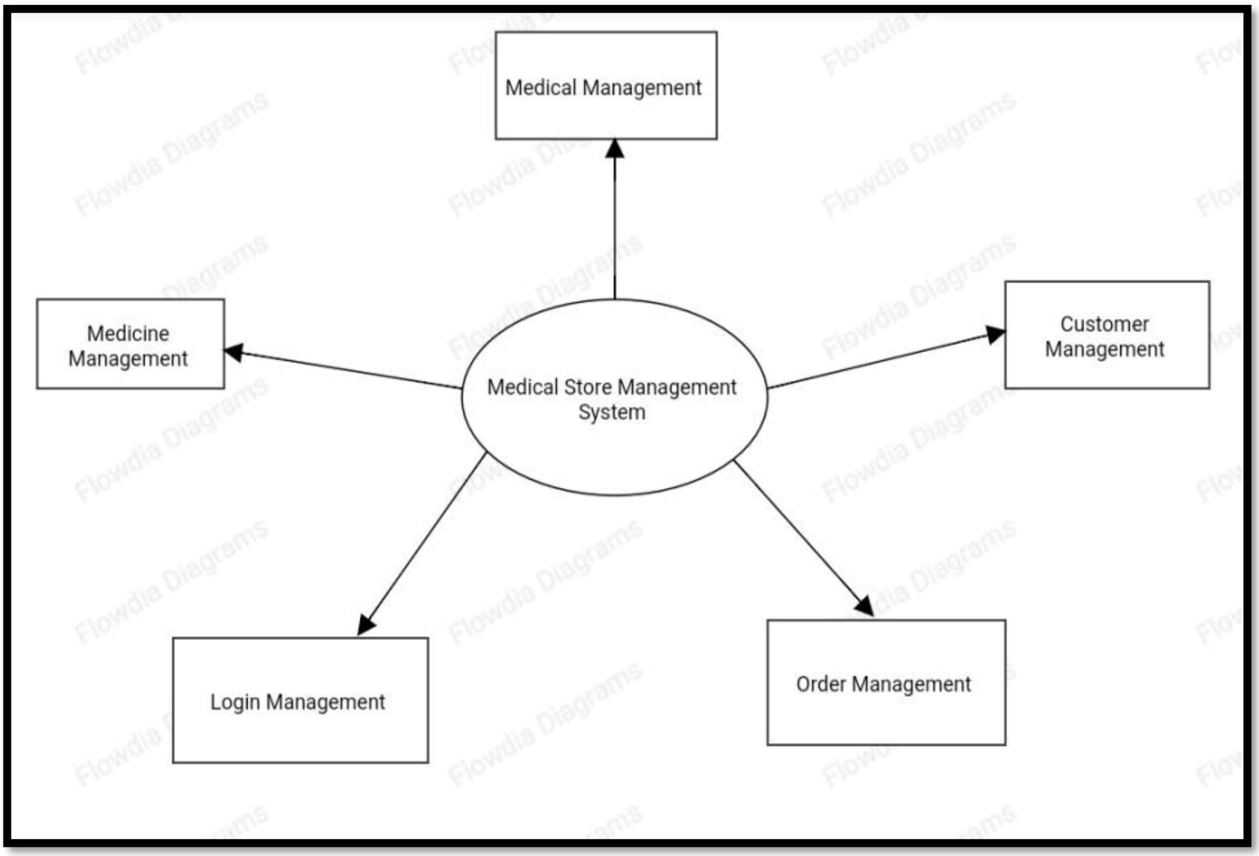
Following are some rules. which definite the construction of data dictionary entries :

1. Words should be defined to understand for what they need and not thevariable need by which they may be described in the program.
2. Each word must be unique. We cannot have two definition of the same client.
3. Aliases or synonyms are allowed when two or more enters shows the samemeaning.

Data dictionary includes information such as the number of records in file, the frequency a process will run, security factory like pass word which user must enter toget excess to the information.

Dataflow Diagram :

A data-flow diagram (DFD) is a graphical representation of the "flow" of data throughan information system. DFDs can also be used for the visualisation of data processing (structured system). A data flow diagram (DFD) is a significant modelling techniques for analyzing and constructing information processes. (DFD) literallymeans an illustration that explains the course or movement of information in aprocess. DFD illustrates this flow of information in a process based on the inputs andoutputs. A DFD can be referred to as a Process Model.



Dataflow Diagram

Schema Design:

The database schema of a database is its structure described in a formal language supported by the database management system (DBMS). The term "schema" refers to the organization of data as a blueprint of how the database is constructed (dividedinto database tables in the case of relational databases). The formal definition of a database schema is a set of formulas (sentences) called integrity constraints imposed on a database.

How data is structured :

It's a JSON tree All Firebase Real time Database data is stored as JSON objects. You can think of the database as a cloud-hosted JSON tree. Unlike a SQL database, there are no tables or records. When you add data to the JSON tree, it becomes a node in the existing JSON structure with an associated key. You can provide your own keys, such as user IDs or semantic names.

Avoid nesting data :

Because the Firebase Real time Database allows nesting data up to 32 levels deep, you might be tempted to think that this should be the default structure. However, when you fetch data at a location in your database, you also retrieve all of its child nodes. In addition, when you grant someone read or write access at a node in your database, you also grant them access to all data under that node. Therefore, in practice, it's best to keep your data structure as flat as possible.

Data Integrity and Constraints :

You can use Firebase Security Rules to conditionally write new data based on existing data in your database or storage bucket. You can also write rules that enforce data validations by restricting writes based on the new data being written. When evaluating rules, you may also want to evaluate the metadata of the file being uploaded, downloaded, modified, or deleted.

This allows you to create complex and powerful rules that do things like only allow files with certain content types to be uploaded, or only files greater than a certain size to be deleted.

Integrity constraints are a set of rules. ... Integrity constraints ensure that the data insertion, updating, and other processes have to be performed in such a way that data integrity is not affected. Thus, integrity constraint is used to guard against accidental damage to the database.

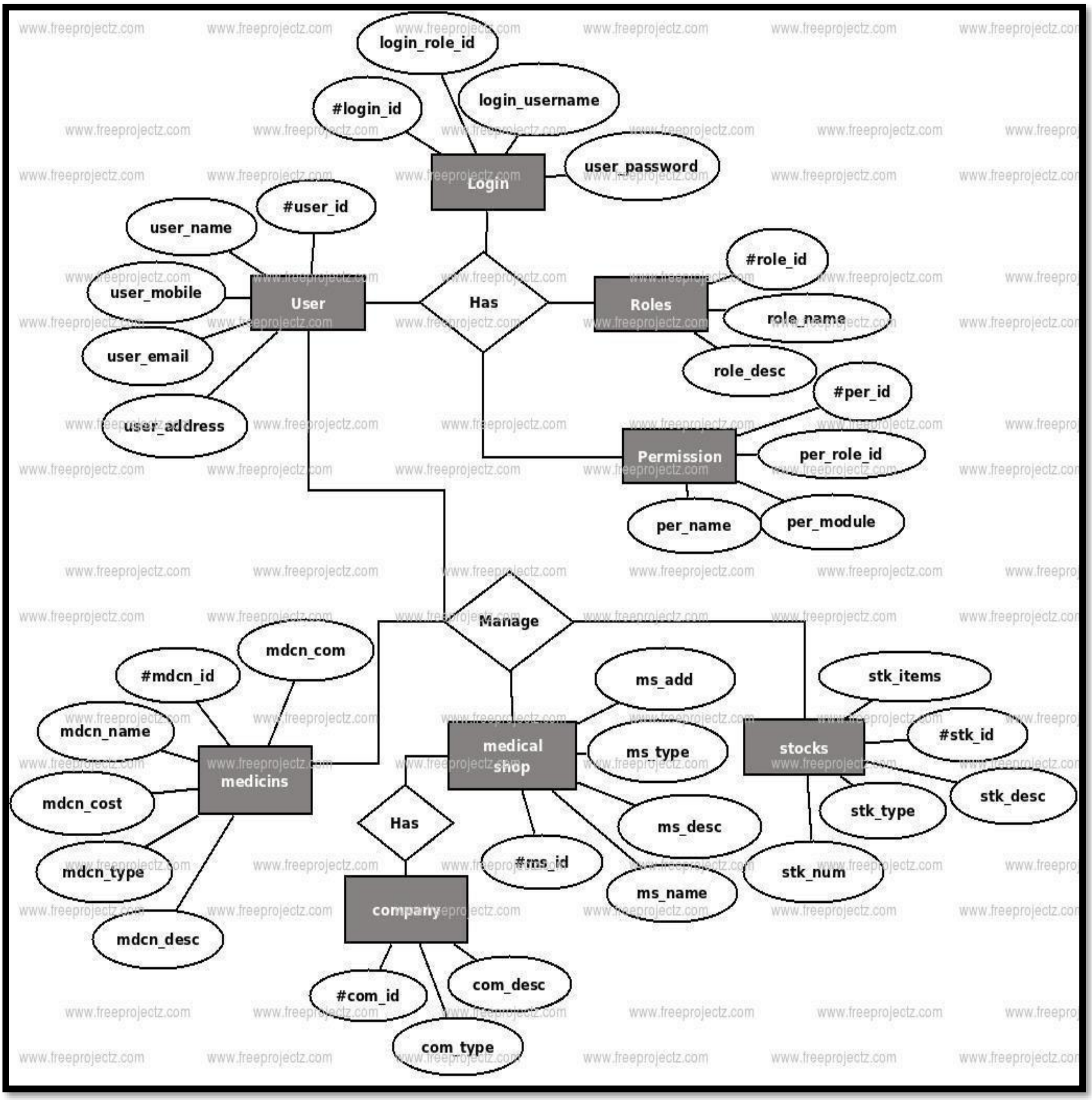
- MySQL CONSTRAINT is used to define rules to allow or restrict what values can be stored in columns. The purpose of inducing constraints is to enforce the integrity of a database.

- MySQL CONSTRAINTS are used to limit the type of data that can be insertedinto a table.

- MySQL CONSTRAINTS can be classified into two types - column level and table level.

- The column level constraints can apply only to one column where as table level constraints are applied to the entire table.

- MySQL CONSTRAINT is declared at the time of creating a table.



Data Integrity and Constraints

Algorithm Design :

- **Sampling:**

The medical industry generates large amounts of data, which must be mined andsorted. Some facts about the medical industry include:Every year almost a millionmedical studies are published.Additionally, 150,000 cancer-related studies are published annually.

- **Fourier Transform :**

The Fourier transform algorithm is often called one of the most important algorithms of our time. This algorithm applies to almost all aspects of our everyday life.In mathematical terms, Fourier transform is a function, which is derived from a given function and represented by a series of sinusoidal functions.

- **Probabilistic and Data-matching :**

Probabilistic data will be used to look for all the possible information with reference toall available medical data. It will sort the data by giving preference to that data which has a likelihood of matching with Don’s medical data.Probabilistic matching uses a

likelihood ratio theory to assign comparison outcomes to the correct or “more likely”decision

- ## Proportional Integral Derivative:

In the Cardiac Unit of Alabama Hospital, the Mean Arterial Pressure of a patient is managed by a computer. This computer controls the infusion of vasodilating agents and it has helped around 1100 hypertensive patients after heart surgery. This computer uses the digital version of a PID controller algorithm to perform the intensive task

- ## Predictive Algorithm :

Some predictive analytics medical algorithms claim that they can use real-time datafrom an ICU to predict events like cardiac arrests 24 hours before they happen. It isdifficult for the human mind to memorize all the information and data that it has

learned over a period of time. Comes in the predictive analytics algorithm which matches the data, information over a period of time. It also analyzes and judges thedata over the current information, and then predicts the outcome based on the analysis

Various predictive algorithms include :

Time Series algorithm

Regressions algorithm

Association algorithm

Clustering algorithm

Decision Tree algorithm

USER INTERFACE DESIGN :

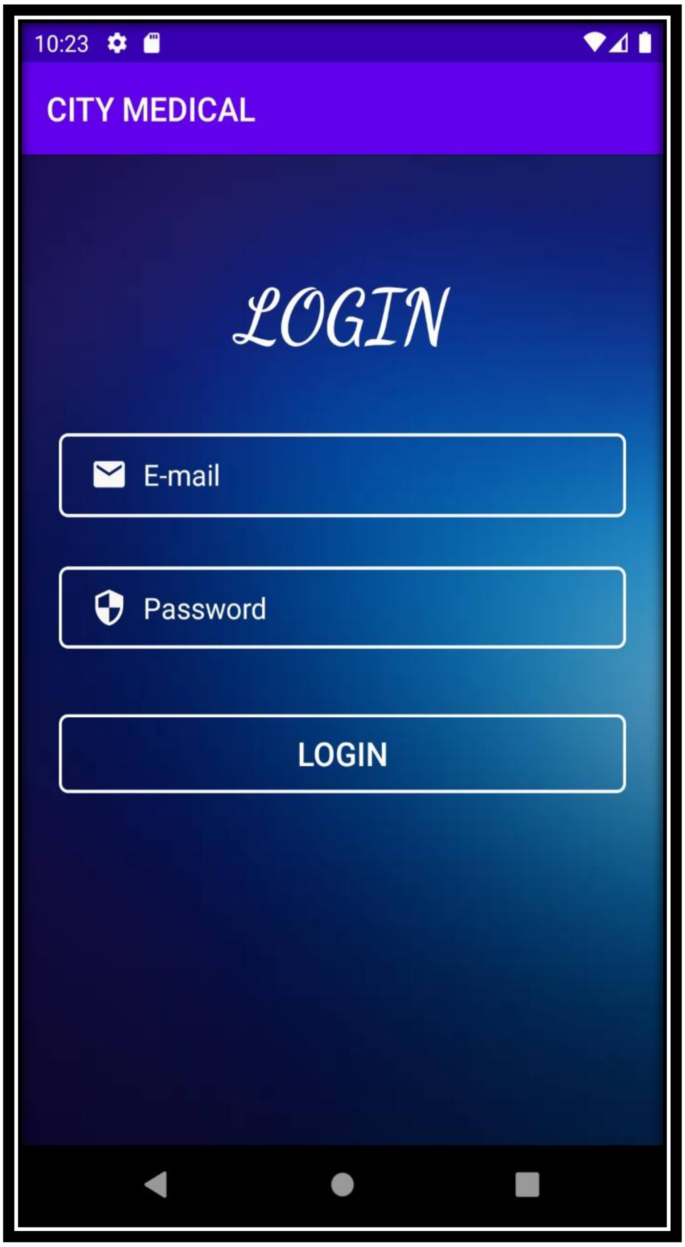
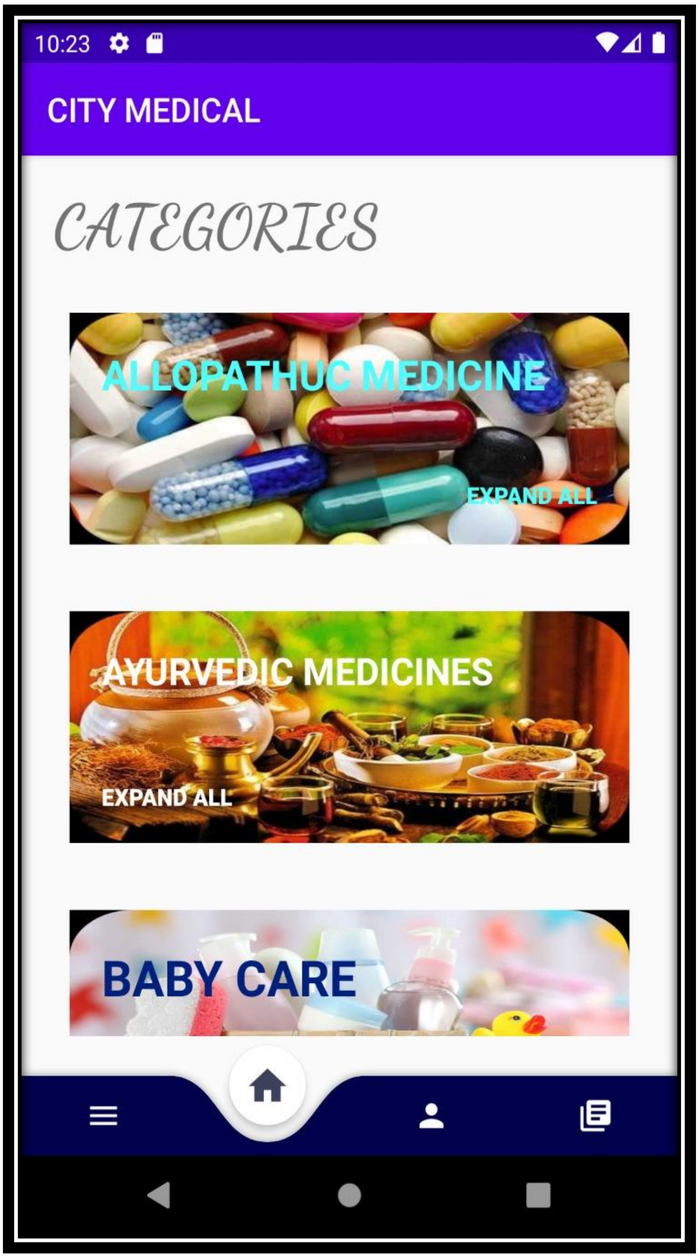


Fig: Login Page



10:23

CITY MEDICAL

CATEGORIES

Fig : Categories of Medicines

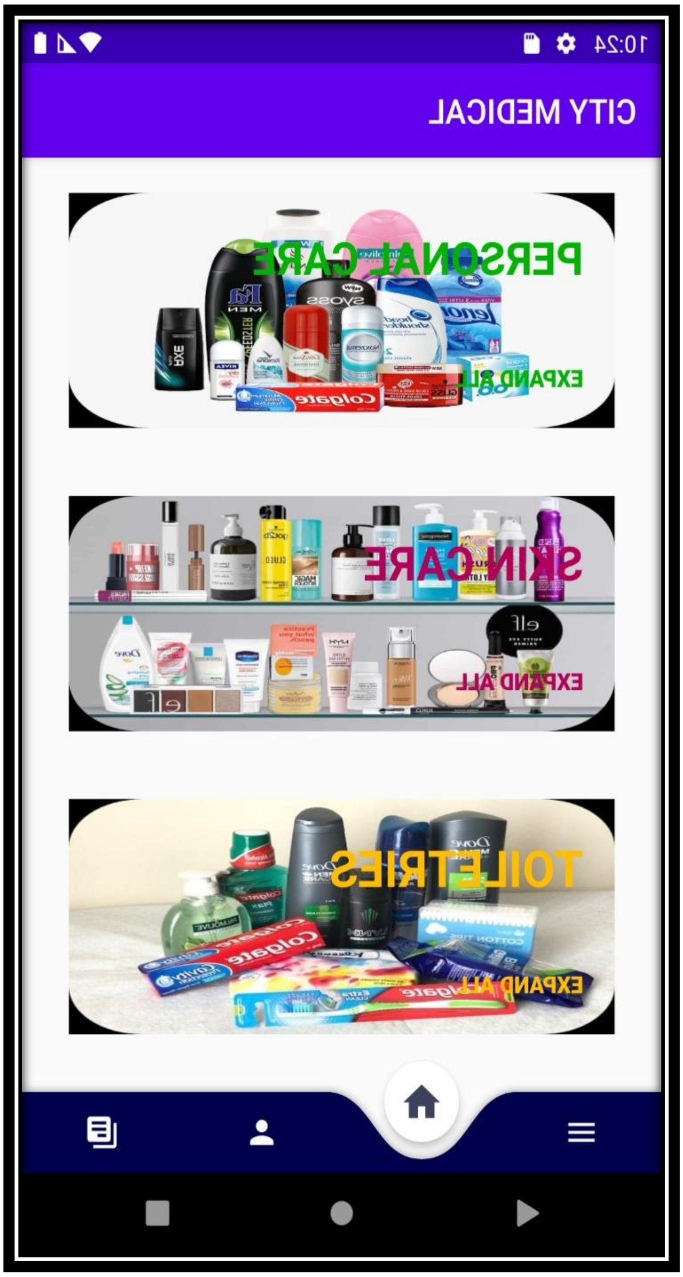
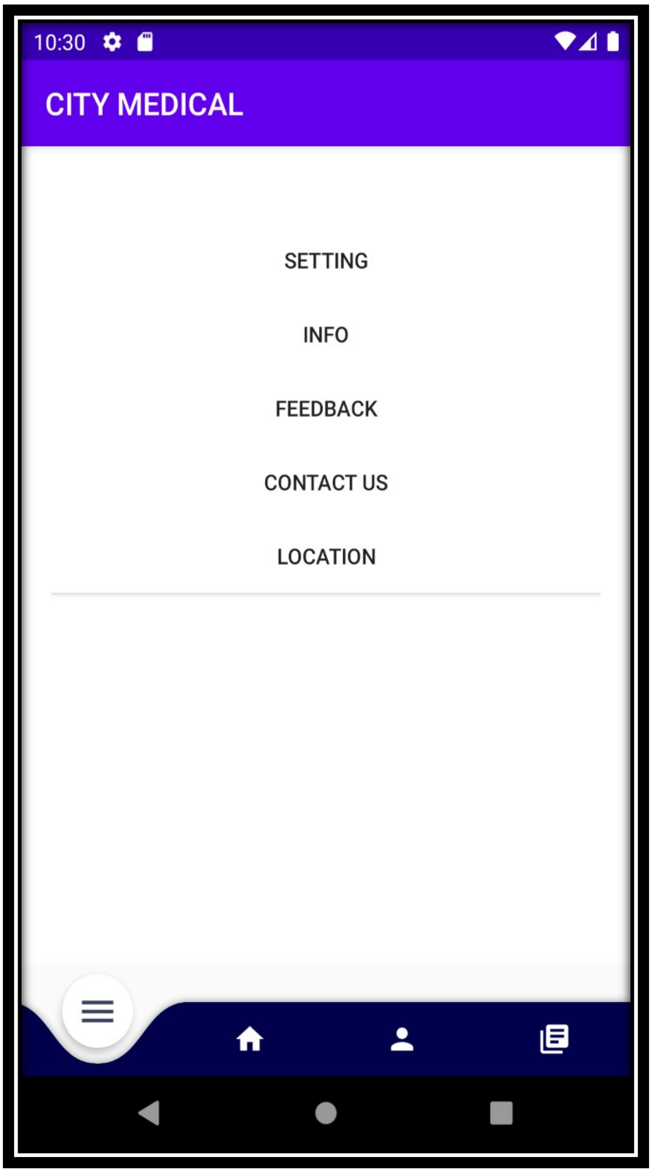


Fig : Categories of Medicines



10:30

CITY MEDICAL

SETTING

INFO

FEEDBACK

CONTACT US

LOCATION

Fig : Menu Page

CHAPTER 05

IMPLEMENTATION AND TESTING

5.1 IMPLEMENTATION APPROACHES

Plan for the implementation of a secure, web-based, university-wide platform of integrated data on faculty for generating actionable metrics for strategic planning, reporting, and establishing a hub for internal and external collaboration.

In implementation approach we use different phases to implement our project.

The system development lifecycle refines hardware and software specification, establishes program planning, train users and implements extensive testing procedure, to evaluate design and operating specification and provide the basis for further modification.

Technical design builds upon specification produced during , new system design, adding detailed technical specification and documentation.

Prepare detailed test specification for individual module and program, job stream, subsystem and a system as a whole. Programming and testing encompasses actual development, writing and testing of program units or modules.

In installation phase the new computerized system is installed, the conversion to new procedure is fully implemented, and the potential of the new system is explored. A review conducted after a new system has been in operation for some time, to evaluate actual system performance against original expectation and projections for cost-benefit improvements.

Also identifies maintenance projects to enhance or improve the system.

5.1.1 Algorithm for testing approach

Step 1 :

Initialization from Registration , fill username and Password.

Step 2 :

Check the username and Password. If Invalid username and Password then fill again .After then go to Step 2 that is login page..

Step 3 :

If create a new user Go To step 3 that is Order Page otherwise Go To Home Page.

Step 4 :

Written detail of following in the Order Page Name, Email ID, Contact no. , Medicine Name ,Price, etc

Step 5 :

End.

5.1.2 Coding Details and Code Efficiency

MainActivity.java

```
package com.example.citymedical;
import androidx.appcompat.app.AppCompatActivity;
import androidx.fragment.app.Fragment;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuItem;
import android.view.View;
import android.widget.SearchView;
import android.widget.Toast;
import com.etebarian.meowbottomnavigation.MeowBottomNavigation;
import com.google.firebase.database.FirebaseDatabase;


public class MainActivity<OnCreateOptionMenu> extends AppCompatActivity {
    //Initialize variable
    MeowBottomNavigation bottomNavigation;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        //Assign variable
        bottomNavigation = findViewById(R.id.bottom_navigation);
        //Add menu item
```

```
bottomNavigation.add(new MeowBottomNavigation.Model(  1,R.drawable.ic_menu));
bottomNavigation.add(new MeowBottomNavigation.Model(  2,R.drawable.ic_home));
bottomNavigation.add(new MeowBottomNavigation.Model(  3,R.drawable.ic_person));
bottomNavigation.add(new MeowBottomNavigation.Model(  4,R.drawable.ic_healthylife));

bottomNavigation.setOnShowListener(new MeowBottomNavigation.ShowListener() {
    @Override
    public void onShowItem(MeowBottomNavigation.Model item) {
        //Initialize fragment
        Fragment fragment = null;
       //Check Condition
        switch ( item.getId()){
            case 1:
                //When id is 1
                //Initialize menu fragment
                fragment = new MenuFragment();
                break;
            case 2:
                //When id is 1
                //Initialize home fragment
                fragment = new HomeFragment();
                break;
            case 3:
                //when id is 2
                //Initialize login fragment
            fragment = new RegistrationFragment();
            break;
          case 4:
            //When id is 3
            //Initialize HealthyLife fragment
            fragment = new HealthyLifeFragment();
            break;
        }
        //Load fragment
        loadFragment(fragment);
      }
    });
    //Set home fragment initially selected
    bottomNavigation.show(1,  true);
    bottomNavigation.setOnClickMenuListener(new MeowBottomNavigation.ClickListener() {
      @Override
      public void onClickItem(MeowBottomNavigation.Model item) {
        //display toast
        Toast.makeText(getApplicationContext()
              , "You Clicked" + item.getId()
              ,Toast.LENGTH_SHORT).show();
      }
    });
    bottomNavigation.setOnReselectListener(new    MeowBottomNavigation.ReselectListener()
{
```

```
            @Override
            public void onReselectItem(MeowBottomNavigation.Model item) {
                //Display toast
                Toast.makeText(getApplicationContext()
                        ,"You Reselected"+ item.getId()
                        ,Toast.LENGTH_SHORT).show();
            }
        });
    }
    private void loadFragment(Fragment fragment){
         //Replace fragment
        getSupportFragmentManager()
                .beginTransaction()
                .replace(R.id.frame_layout,fragment)
                .commit();
    }
}
```

Login.java

```
package com.example.citymedical;
import android.app.ProgressDialog;
import android.content.Intent;
import android.os.Bundle;
import android.util.Patterns;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;
import com.google.android.gms.tasks.OnCompleteListener;
import com.google.android.gms.tasks.Task;
import com.google.firebase.auth.AuthResult;
import com.google.firebase.auth.FirebaseAuth;
import com.google.firebase.auth.FirebaseUser;

public class Login extends AppCompatActivity {
  EditText Email, Password ;
  Button login ;
  String emailPattern = "[a-zA-z0-9._-]+@[a-z]+\\.+[a-z]+";
  ProgressDialog progressDialog;
   FirebaseAuth mAuth;
   FirebaseUser mUser;
   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_login);
      Email = findViewById(R.id.Email);
      Password = findViewById(R.id.Password);
```

```
        login=findViewById(R.id.login);
        progressDialog=new ProgressDialog(this);
        mAuth=FirebaseAuth.getInstance();
        mUser=mAuth.getCurrentUser();
        login.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                performLogin();
            }
        });
    }
    private void performLogin() {
        String email=Email.getText().toString();
        String password=Password.getText().toString();
        if(!email.matches(emailPattern))
        {
            Email.setError("Provide Valid Email");
        }
        else if(password.isEmpty() || password.length()<6)
        {
            Password.setError("Provide Correct Password");
        }
       else {
            progressDialog.setMessage("Please Wait While Login...");
            progressDialog.setTitle("Login");
            progressDialog.setCanceledOnTouchOutside(false);

            progressDialog.show();

            mAuth.signInWithEmailAndPassword(email,password).addOnCompleteListener(new
OnCompleteListener<AuthResult>() {

                @Override

                public void onComplete(@NonNull Task<AuthResult> task) {

                    if (task.isSuccessful())

                    {

                        progressDialog.dismiss();

                        sendUserToNextActivity();

                       Toast.makeText(Login.this, "Login
Successful",Toast.LENGTH_SHORT).show();

                    } else{

                        progressDialog.dismiss();

                        Toast.makeText(Login.this, ""+task.getException()
,Toast.LENGTH_SHORT).show();

                    }

                }

            });

        }

    }

    private void sendUserToNextActivity() {

        Intent intent=new Intent(Login.this,HomeFragment.class);


intent.setFlags(Intent.FLAG_ACTIVITY_CLEAR_TASK|Intent.FLAG_ACTIVITY_NEW_TA
SK);

        startActivity(intent);
    }
  }
```

Out Put :

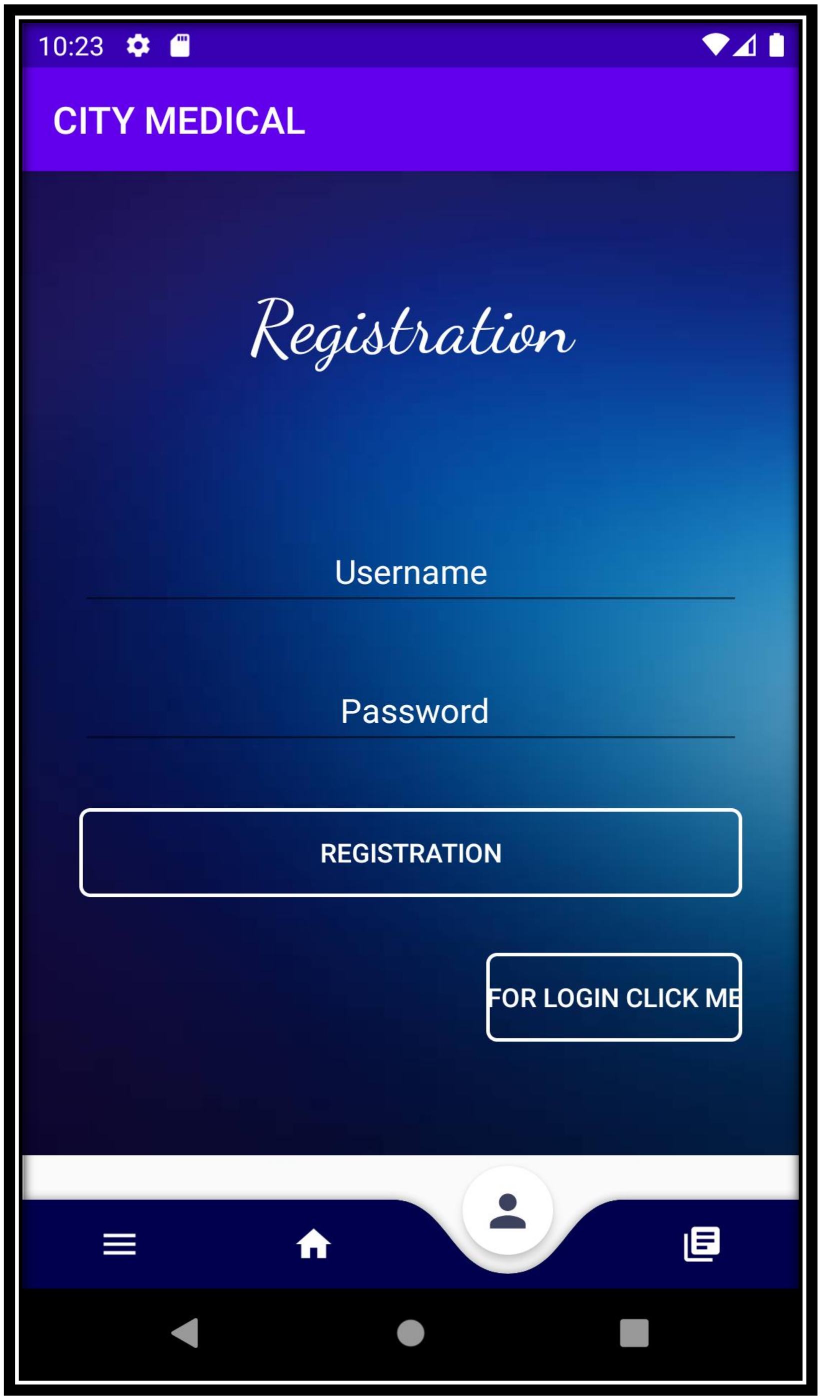


Fig : Registration Page

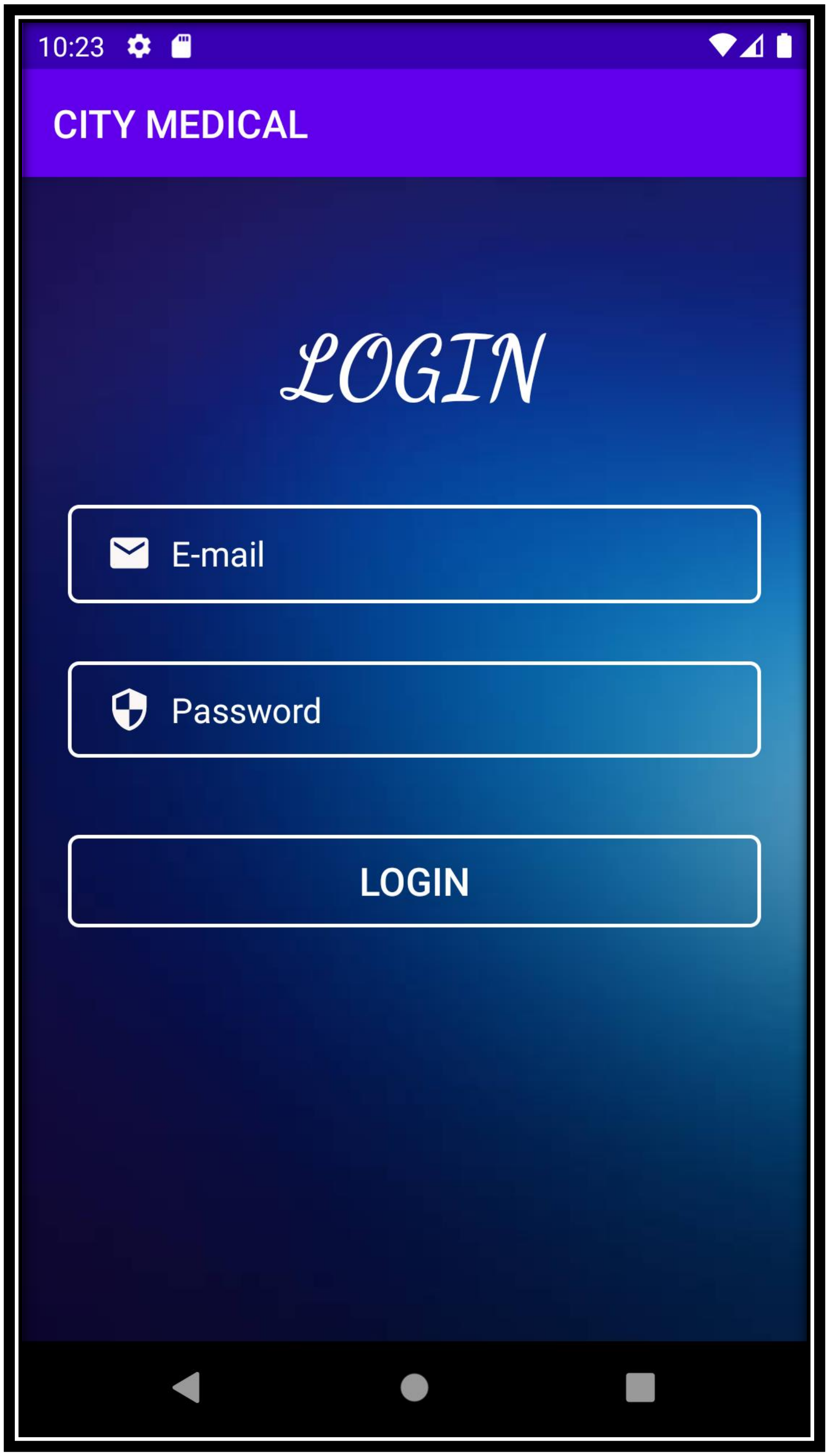


Fig : Login Page

Ayurvedic.java

```
package com.example.citymedical;

import androidx.annotation.NonNull;

import androidx.appcompat.app.AppCompatActivity;

import androidx.recyclerview.widget.LinearLayoutManager;

import androidx.recyclerview.widget.RecyclerView;

import android.os.Bundle;

import com.google.firebase.database.DataSnapshot;

import com.google.firebase.database.DatabaseError;

import com.google.firebase.database.DatabaseReference;

import com.google.firebase.database.FirebaseDatabase;

import com.google.firebase.database.ValueEventListener;

import java.util.ArrayList;


public class Ayurvedic extends AppCompatActivity {

    RecyclerView recyclerView;

    DatabaseReference database;

    MyAdapter myAdapter;

    ArrayList<User> list;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_allopathus);

        recyclerView = findViewById(R.id.allopathuc);
        database = FirebaseDatabase.getInstance().getReference("Users");
        recyclerView.setHasFixedSize(true);
        recyclerView.setLayoutManager(new LinearLayoutManager(this));
        list = new ArrayList<>();
        myAdapter = new MyAdapter(this,list);
        recyclerView.setAdapter(myAdapter);
        database.addValueEventListener(new ValueEventListener() {
            @Override
            public void onDataChange(@NonNull DataSnapshot snapshot) {
                for (DataSnapshot dataSnapshot : snapshot.getChildren()) {
                    User user = dataSnapshot.getValue(User.class);
                    list.add(user);
                }
                myAdapter.notifyDataSetChanged();
            }
            @Override
            public void onCancelled(@NonNull DatabaseError error) {
            }
        });
    }
}
```

MyAdapter.java

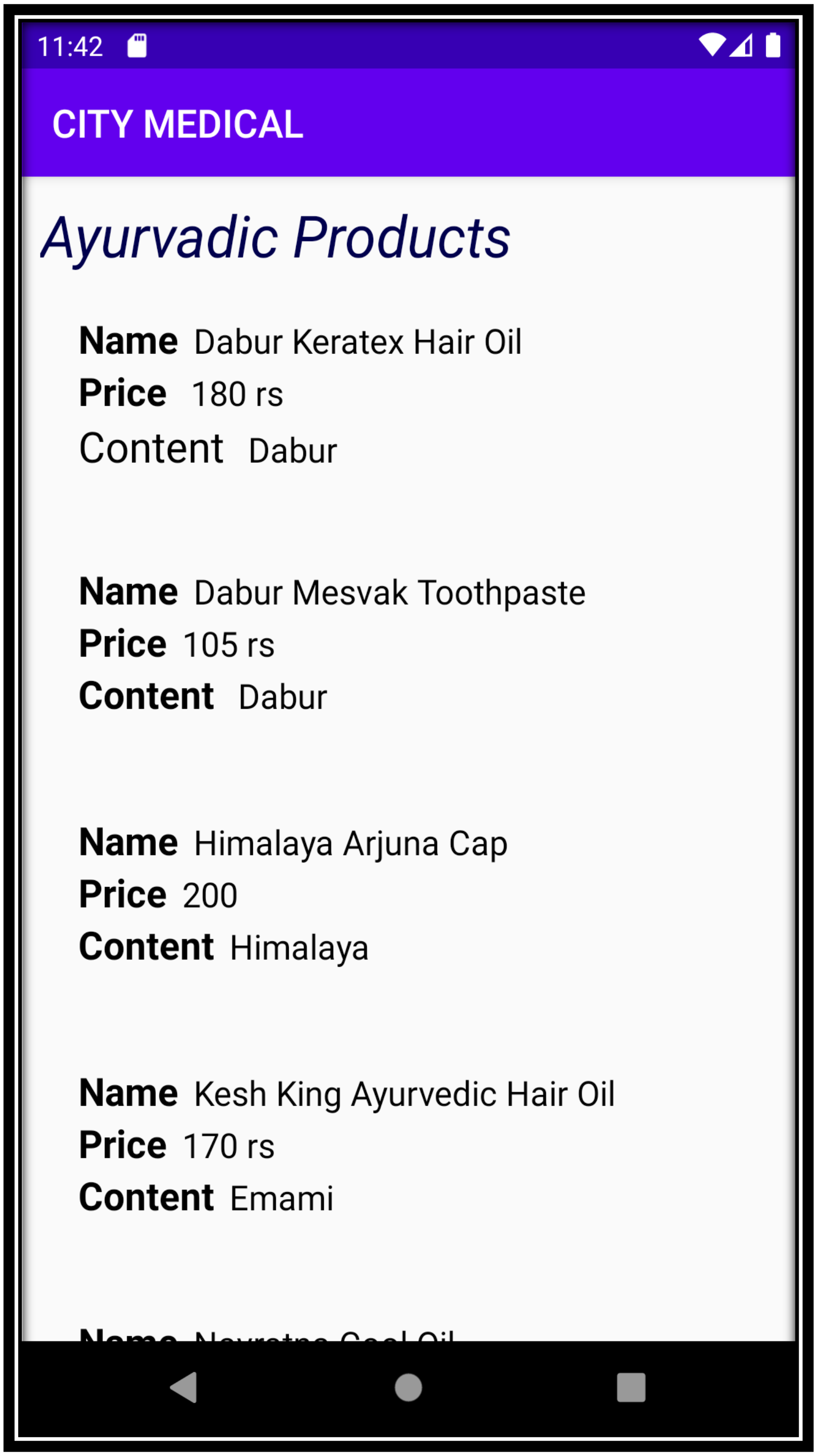
```
package com.example.citymedical;

import android.content.Context;

import android.view.LayoutInflater;

import android.view.View;

import android.view.ViewGroup;

import android.widget.TextView;

import androidx.annotation.NonNull;

import androidx.recyclerview.widget.RecyclerView;

import java.util.ArrayList;


public class MyAdapter extends RecyclerView.Adapter<MyAdapter.MyViewHolder>{

   Context context;

   ArrayList<User>  list;

   public MyAdapter(Context context, ArrayList<User> list) {


       this.context = context;

       this.list = list;

   }

   @NonNull

   @Override

   public MyViewHolder onCreateViewHolder(@NonNull ViewGroup parent, int viewType) {

       View v = LayoutInflater.from(context).inflate(R.layout.item,parent,false);

       return new MyViewHolder(v);
```

```
    }
    @Override
    public void onBindViewHolder(@NonNull MyViewHolder holder, int position) {
        User user = list.get(position);
        holder.name.setText(user.getName());
        holder.price.setText(user.getPrice());
        holder.content.setText(user.getContent());
    }
    @Override
    public int getItemCount() {
        return list.size();
    }
    public static class MyViewHolder extends RecyclerView.ViewHolder{
        TextView name,price,content;
          public MyViewHolder(@NonNull View itemView) {
              super(itemView);

             name = itemView.findViewById(R.id.tvname);
             price = itemView.findViewById(R.id.tvprice);
             content = itemView.findViewById(R.id.tvcontent);
          }
      }
}
```

User.java

```
package com.example.citymedical;
public class User {
    String name,price,content;
    public String getName() {
        return name;
    }

    public String getPrice() {
        return price;
    }
    public String getContent() {
        return content;
    }
}
```

Out Put :



CITY MEDICAL

Ayurvadic Products

Name Dabur Keratex Hair Oil
Price 180 rs
Content Dabur

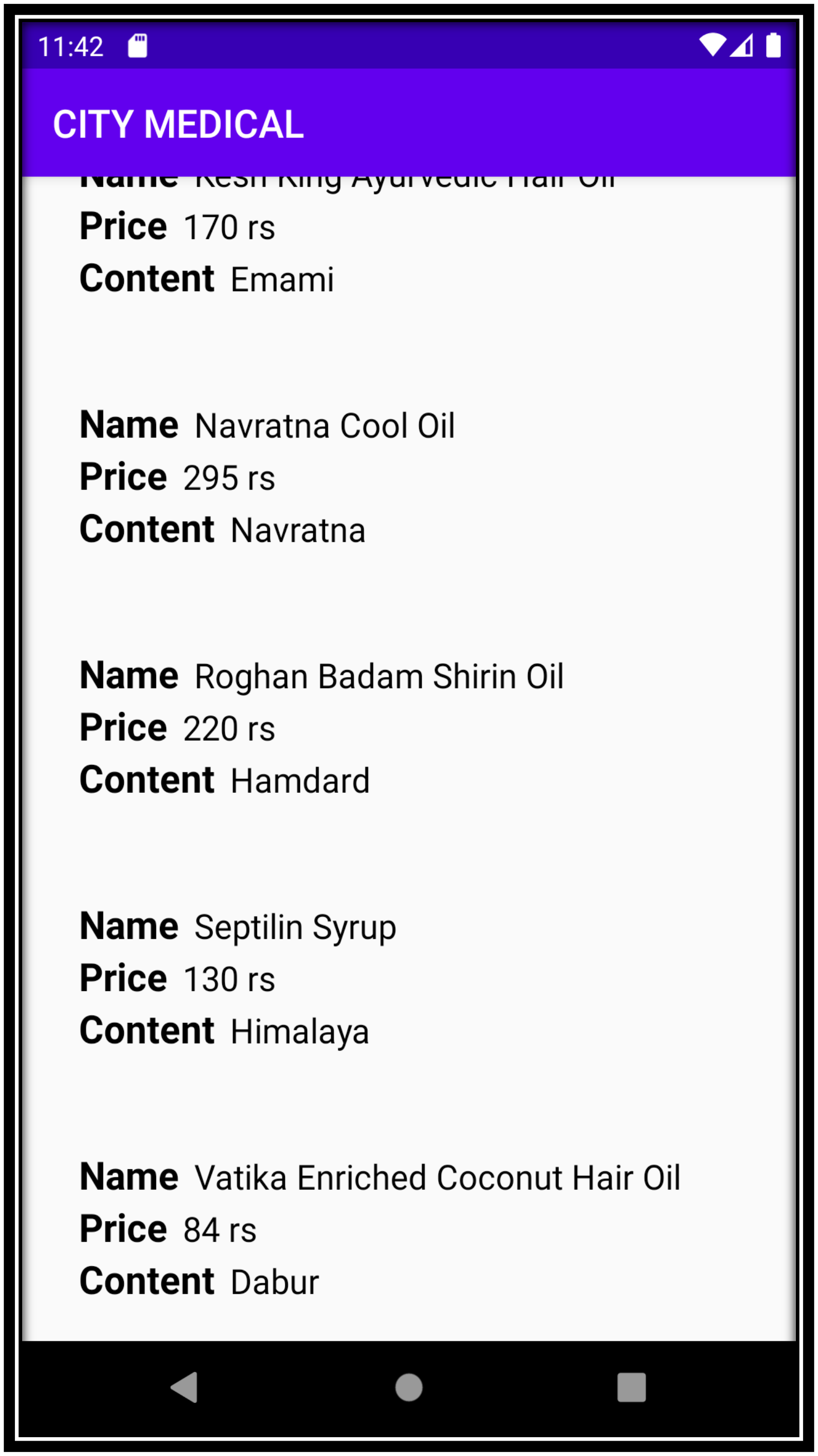
Name Dabur Mesvak Toothpaste
Price 105 rs
Content Dabur

Name Himalaya Arjuna Cap
Price 200
Content Himalaya

Name Kesh King Ayurvedic Hair Oil
Price 170 rs
Content Emami

Name Navratna Cool Oil

Fig : Ayurvadic Product Page



Name Kesh King Ayurvedic Hair Oil
Price 170 rs
Content Emami

Name Navratna Cool Oil
Price 295 rs
Content Navratna

Name Roghan Badam Shirin Oil
Price 220 rs
Content Hamdard

Name Septilin Syrup
Price 130 rs
Content Himalaya

Name Vatika Enriched Coconut Hair Oil
Price 84 rs
Content Dabur

Fig : Ayurvadic Product Page

5.2 TESTING APPROACH :

❖ TESTING

Software testing is a process of running with intent of finding errors in software. Software testing assures the quality of software and represents final review of other phases of software like specification, design, code generation etc.

5.2.1 UNIT TESTING

Unit testing emphasizes the verification effort on the smallest unit of software design i.e. a software component or module. Unit testing is a dynamic method for verification, where program is actually compiled and executed. Unit testing is performed in parallel with the coding phase.Unit testing tests units or modules not the whole software. I have tested each view/module of the application individually. As the modules were build up testing was simultaneously tracking out each and every kind of input and checking the corresponding output until module is working correctly.

The unit testing is done included the testing of the following item:

1. Functionality of the entire module/form.

2. Validation for user input.

3. Checking of the coding standards to be maintained during coding.

4. Testing the module with all the possible test data.

5. Testing of the functionality involving all types of calculations etc.

6. Commenting standards in the source file.

After completing the unit testing of all the modules, the whole system is integrated with all its dependencies in that module. While system integration, we integrated the module one by one and tested the system at each step. This helped in reduction of error at the time of system testing.

5.2.2 INTEGRATION TESTING

In integration testing a system consisting of different modules is tested for problems arising from component interaction .Integration testing should be developed the system specification. Firstly, a minimum configuration must be integrated and tested. In my project I have done integration testing in a bottom up fashion i.e. in this project I have started construction and testing with atomic modules. After unit testing the modules are integrated one by one and then tested the system for problems arising from component interaction.

- **Security Testing**

Testing is vital for the success of any software number system design is even perfect .Testing is also carried in two phases first phase is during the software engineering that is during the model creating second phase is after the completion of software. This is system testing which verifies that the whole set of programs hanged together.

5.2.2.1 Validation Testing

It provides final assurances that software meets all functional, behavioral & performance requirement. Black box testing techniques are used. There are three main components -Validation test criteria (no. in place of no. & char in place of char) Configuration review (to ensure the completeness of s/w configuration.)

5.2.2.2 Alpha Beta Testing

Alpha testing is done at developer’s site i.e. at home and Beta testing once it is deployed. Since I have not deployed my applications, I could not do the Beta testing.

5.2.2.3 Big Bang Testing

Big Bang Testing is an approach to Integration Testing where all or most of the units are combined together and tested at one go. This approach is taken to test the complete functionality of my application to avoid uncertain actions during execution of website.

5.2.2.4 Unit testing

Each module is considered independently it focuses on each unit of software as implemented . In the source code it is white box testing.

5.2.2.5 System Testing

It is executing programs to check logical change made in it with intention of finding errors a system is tested for online response, volume of transaction, recovery from failure etc. System testing is done to ensure that the system satisfies all the user requirements.

5.2.3 Module Testing :

A module is formed by integrating many units. The module may work of its own or may need stubs/ drivers for its execution, if the module cannot be compiled into an executable. If the module can work independently it is tested by tester. If it need stubs and drivers, it is tested by developers. Module testing mainly concentrates on the structure of the system. Module test cases must be traceable to requirement design. Module test cases are derived from low-level design. Module testing is done on related unit-tested components to find if individually tested units can work together as a module or not.

5.2.4 Compatibility Testing:

Compatibility testing refers to the testing the software on multiple configuration to check the behaviors of different system components and their combinations. The variables can be operating system, browsers, databases and languages. The hardware can be machines and servers, routers, printers. Integration with other communication system can be mailing softwares, messaging, softwares. Different languages used across the globe can be Chinese, Korean, or Japanese Hindi, Urdu, or Hebrew English, German, or French.

Types of Compatibility Testing.

1) Friend Compatibility

2) Neutral Compatibility

3) Enemy Compatibility

1) Friend Compatibility :

Friend compatibility happens when the application behavior on new platforms is as if it is working on its base platform. The application utilize all the facilities and services available in the given platform efficiently and functioning is optimized. Cost-benefit analysis has to be done to determine how much friend compatibility is required, and how much is the minimum acceptable to the users.

2) Neutral Compatibility :

If the application has its own utilities and services, and uses them as if nothing has been provided by any platform. This is termed neutral compatibility. The application behavior on new platform is similar to its working on parent platform. Only difference is that the application does not use the facilities provided by new platform at all.

3) Enemy Compatibility :

If application is not compatible with the targeted platform then this may be termed enemy compatibility. The application does not perform as expected on new platform similar to its base platform or it does not perform at all when put on targeted platform.

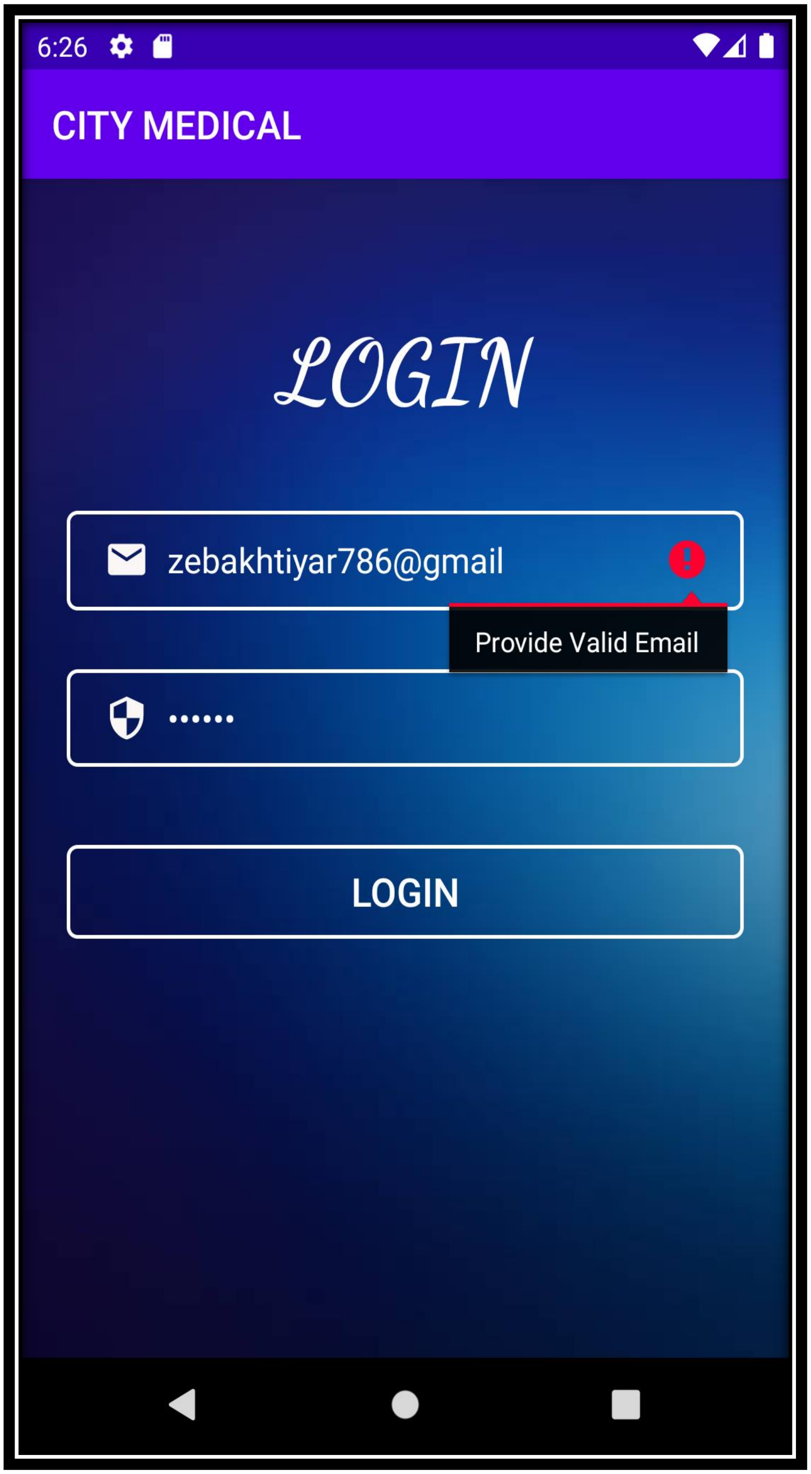
TEST CASES DESIGN:

❖ Test case

A test case is a specification of the inputs, execution conditions, testing procedure, and expected results that define a single test to be executed to achieve a particular software testing objective, such as to exercise a particular program path or to verify compliance with a specific requirement.

Here we apply test case on login functionality :

TEST SCENARIO	TEST CASE	PRE CONDITION	TEST DATA	ACTUAL RESULT
Check login functionality	Check response on Entering valid username and password	Registration must be done	Username : xyz.. Password : 123456	Login successful.

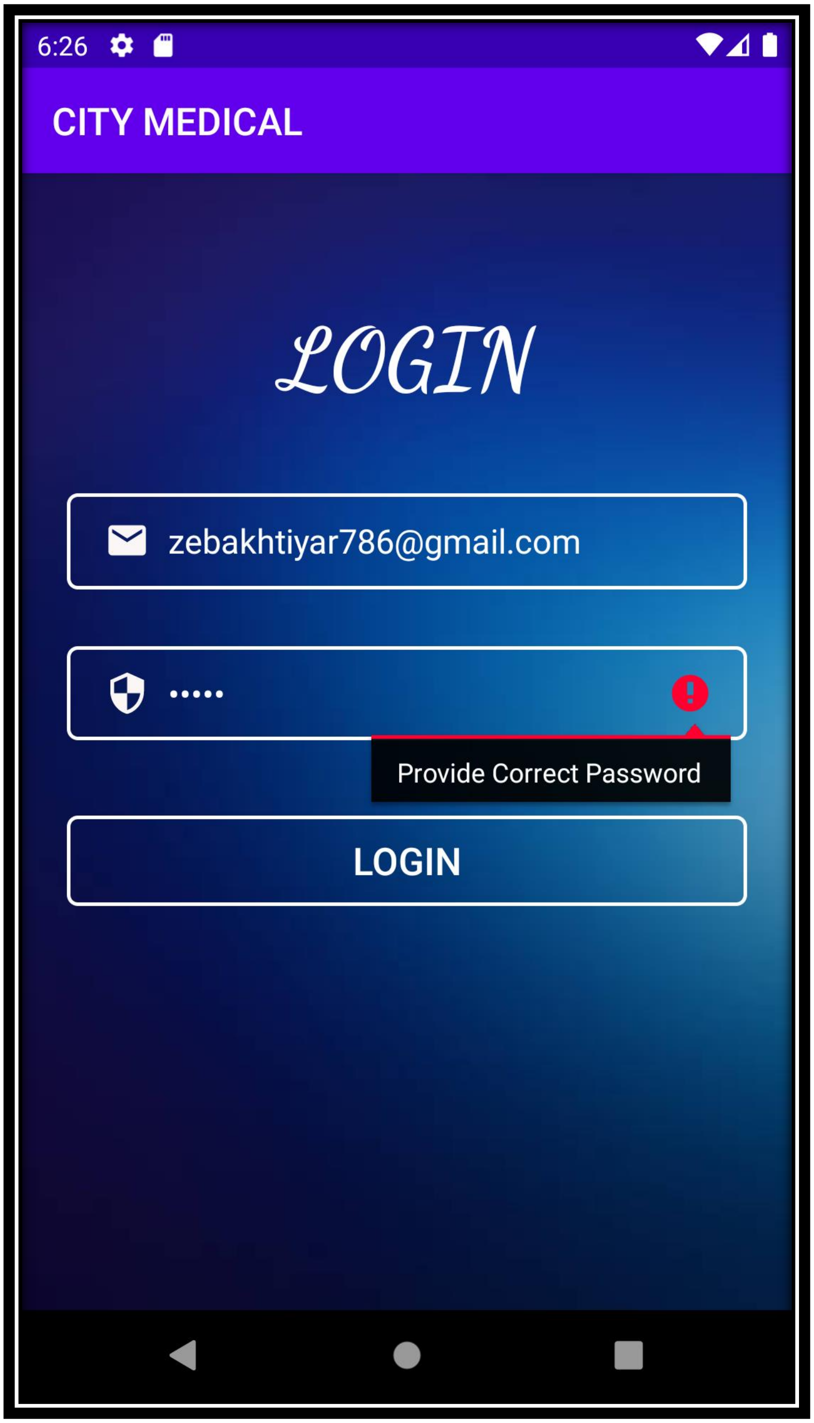


zebakhtiyar786@gmail

Provide Valid Email

••••••

Fig. Testing of Login Page with email characters



6:26

CITY MEDICAL

LOGIN

zebakhtiyar786@gmail.com

•••••

Provide Correct Password

Fig. Testing of Login Page with password characters

CHAPTER 6
RESULTS AND DISCUSSION

6.1 Test Report :

After testing each and every module we came on the conclusion that the project is ready to use and can handle the bugs, it will give you the user friendly interface, and the GUI helps you to access the system efficiently. Because we apply unit testing in which we test each and every module and its functionality.

This is also inform you about the product as you required like how much amount medicine you need to make and when. You can easily buy your required material via this app . It will overcome the managing the information of medicine, company, customer medicine stock, payment, order etc.

Our systems come with remote access features, which will allow you to manage your workforce any time, at all times. These systems will ultimately allow you to better manage resources. Here, some extra stationary are also available for your better convenient. It will ultimately allow you to better manage resource. And you can easily order your product for your better health

❖ Efficiency and Maintainability :

After integrating the module with one another system is running smoothly and responding also. It store user data and generate notifications

6.2 User Documentation :

- Online Medical Store is design for Client and Users.
- The system generates types of information that can be used for various purposes.
- In a very short time, the collection will be obvious, simple and sensible.
- It will help a person to know the management of passed year perfectly and vividly.
- Be easy to understand by user and operator.
- Have a good user interface . Be easy to operate.
- It satisfy the user requirement.
- It also helps in current all works relative to Online Medical Store.
- It will be also reduced the cost of collecting the management and collection procedure will go on smoothly.

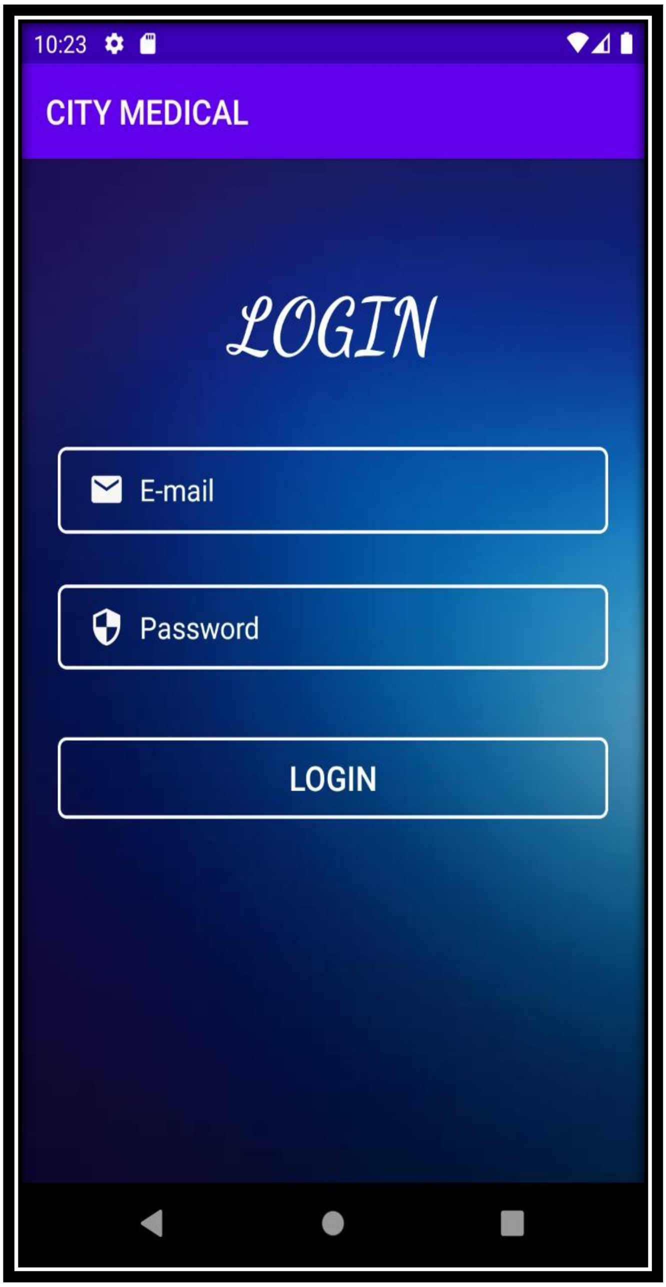
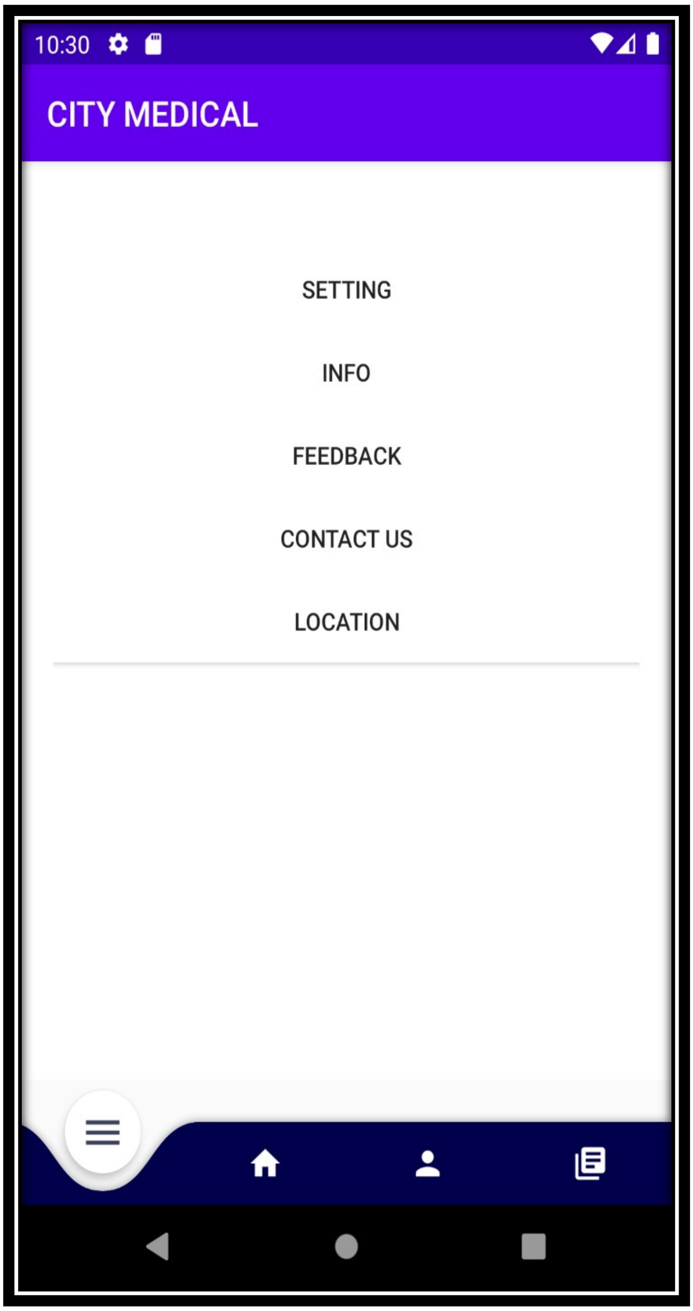


Fig : Login Page



10:30

CITY MEDICAL

SETTING

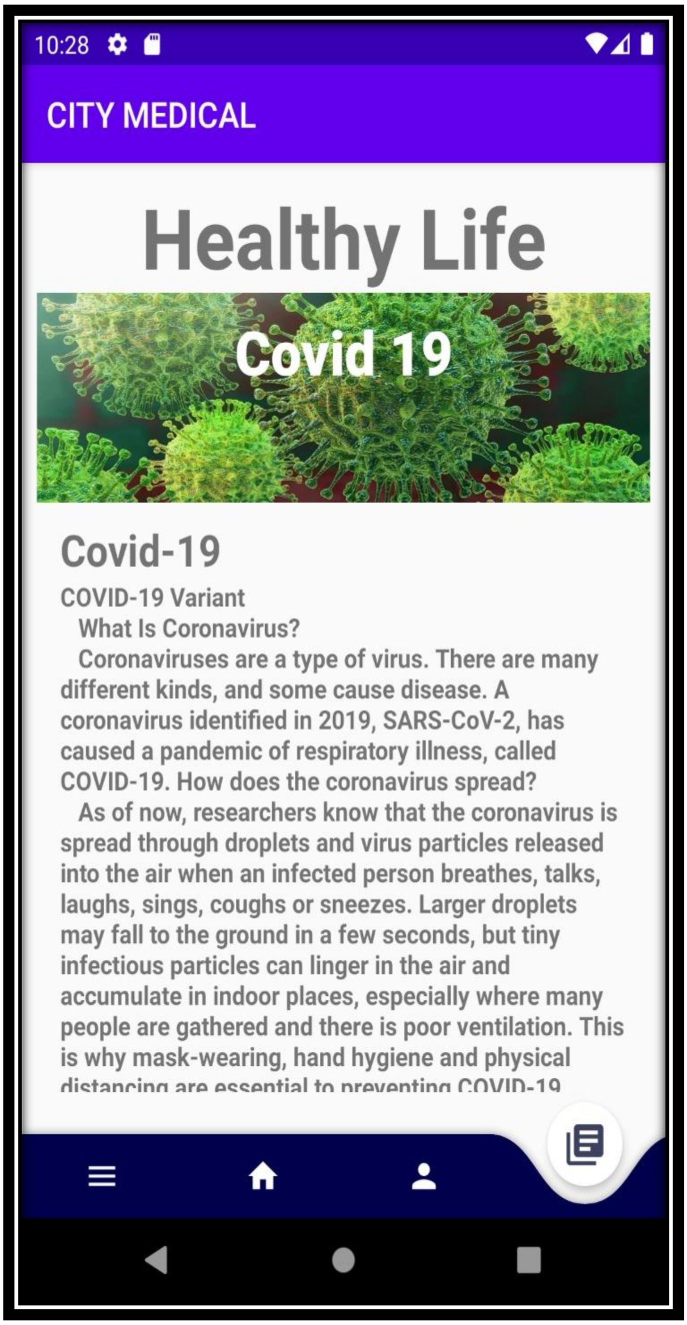
INFO

FEEDBACK

CONTACT US

LOCATION

Fig : Menu Page



Covid-19

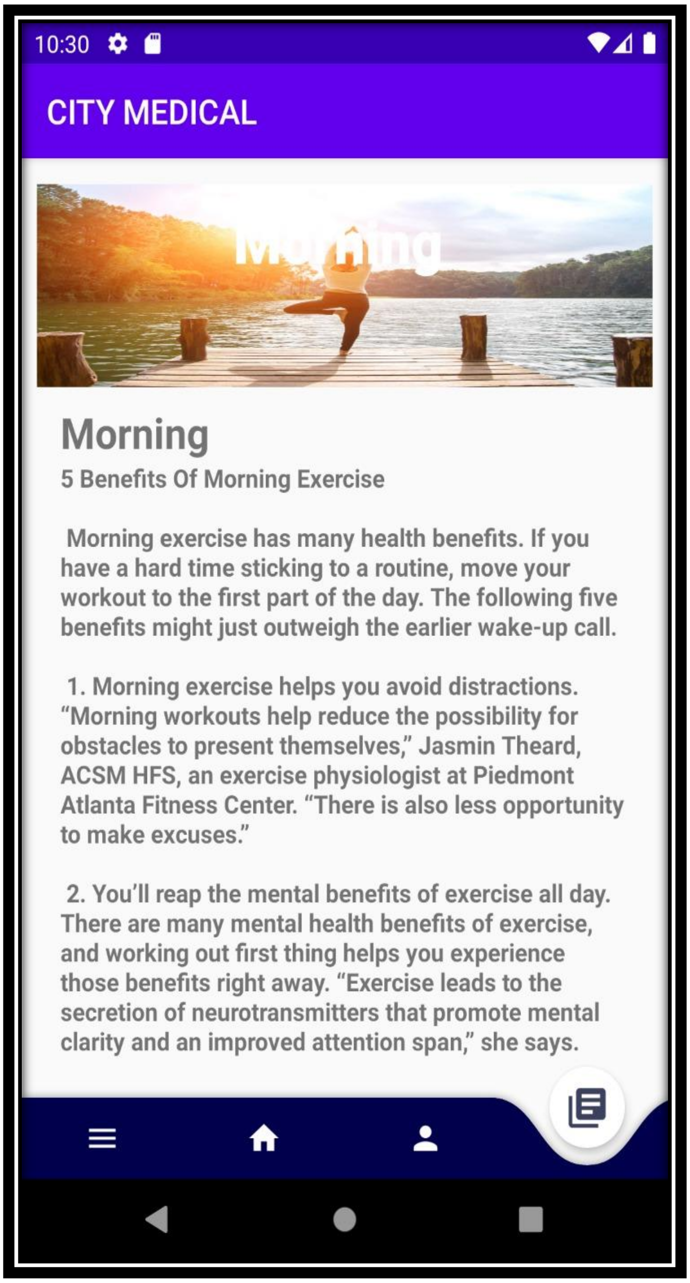
COVID-19 Variant

What Is Coronavirus?

Coronaviruses are a type of virus. There are many different kinds, and some cause disease. A coronavirus identified in 2019, SARS-CoV-2, has caused a pandemic of respiratory illness, called COVID-19. How does the coronavirus spread?

As of now, researchers know that the coronavirus is spread through droplets and virus particles released into the air when an infected person breathes, talks, laughs, sings, coughs or sneezes. Larger droplets may fall to the ground in a few seconds, but tiny infectious particles can linger in the air and accumulate in indoor places, especially where many people are gathered and there is poor ventilation. This is why mask-wearing, hand hygiene and physical distancing are essential to preventing COVID-19

Fig : Healthy Life Page



Morning

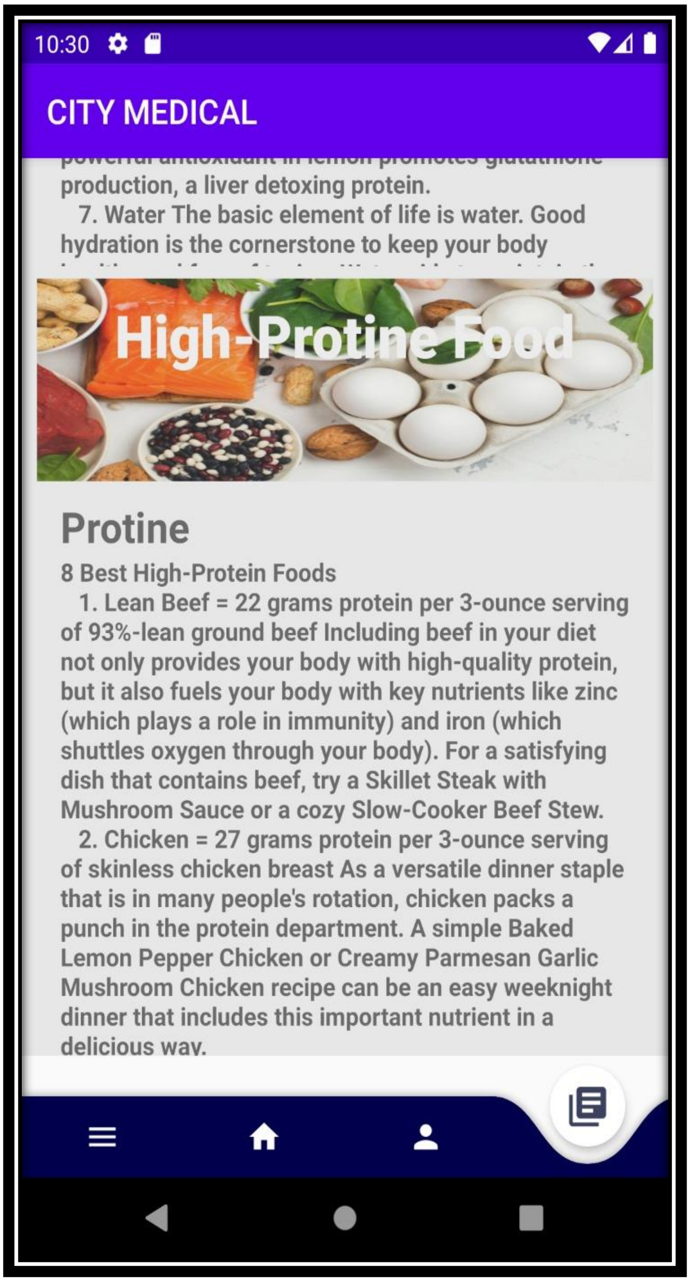
5 Benefits Of Morning Exercise

Morning exercise has many health benefits. If you have a hard time sticking to a routine, move your workout to the first part of the day. The following five benefits might just outweigh the earlier wake-up call.

1. Morning exercise helps you avoid distractions. “Morning workouts help reduce the possibility for obstacles to present themselves,” Jasmin Theard, ACSM HFS, an exercise physiologist at Piedmont Atlanta Fitness Center. “There is also less opportunity to make excuses.”

2. You’ll reap the mental benefits of exercise all day. There are many mental health benefits of exercise, and working out first thing helps you experience those benefits right away. “Exercise leads to the secretion of neurotransmitters that promote mental clarity and an improved attention span,” she says.

Fig : Healthy Life Page



CITY MEDICAL

powerful antioxidant in lemon promotes glutathione production, a liver detoxing protein.

7. Water The basic element of life is water. Good hydration is the cornerstone to keep your body

Protine

8 Best High-Protein Foods

1. Lean Beef = 22 grams protein per 3-ounce serving of 93%-lean ground beef Including beef in your diet not only provides your body with high-quality protein, but it also fuels your body with key nutrients like zinc (which plays a role in immunity) and iron (which shuttles oxygen through your body). For a satisfying dish that contains beef, try a Skillet Steak with Mushroom Sauce or a cozy Slow-Cooker Beef Stew.

2. Chicken = 27 grams protein per 3-ounce serving of skinless chicken breast As a versatile dinner staple that is in many people's rotation, chicken packs a punch in the protein department. A simple Baked Lemon Pepper Chicken or Creamy Parmesan Garlic Mushroom Chicken recipe can be an easy weeknight dinner that includes this important nutrient in a delicious way.

Fig : Healthy Life Page

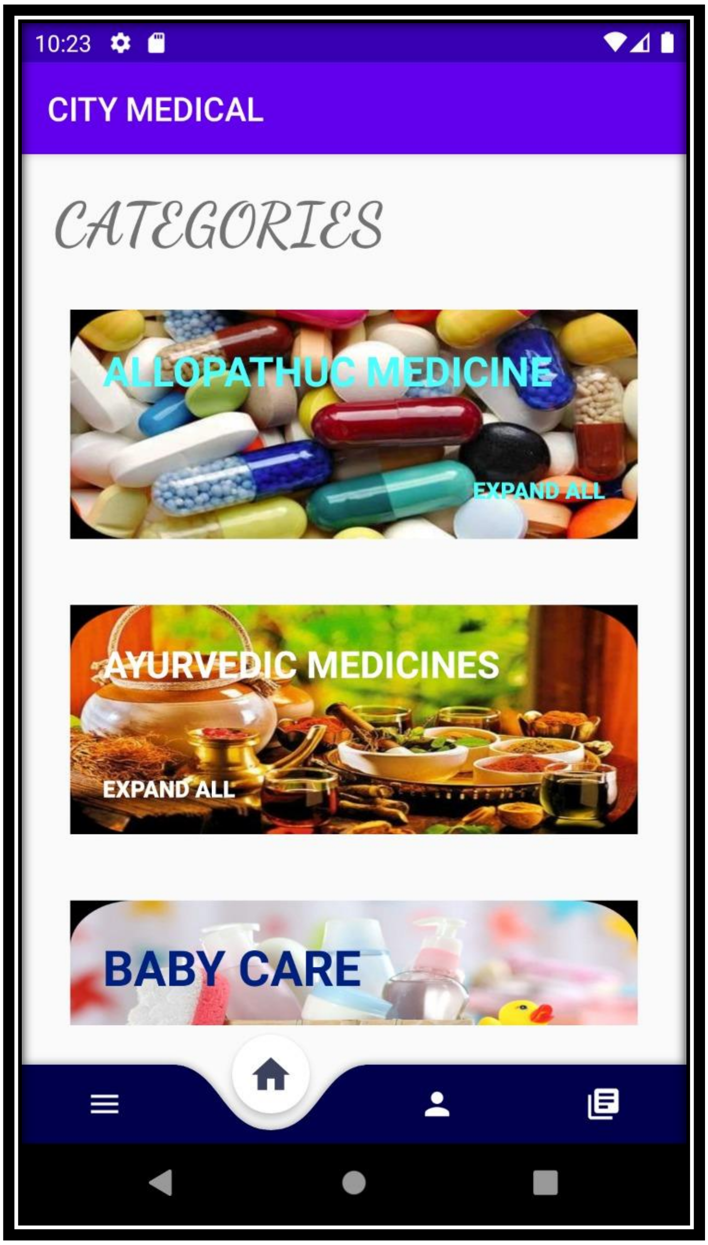


Fig : Categories of Medicine

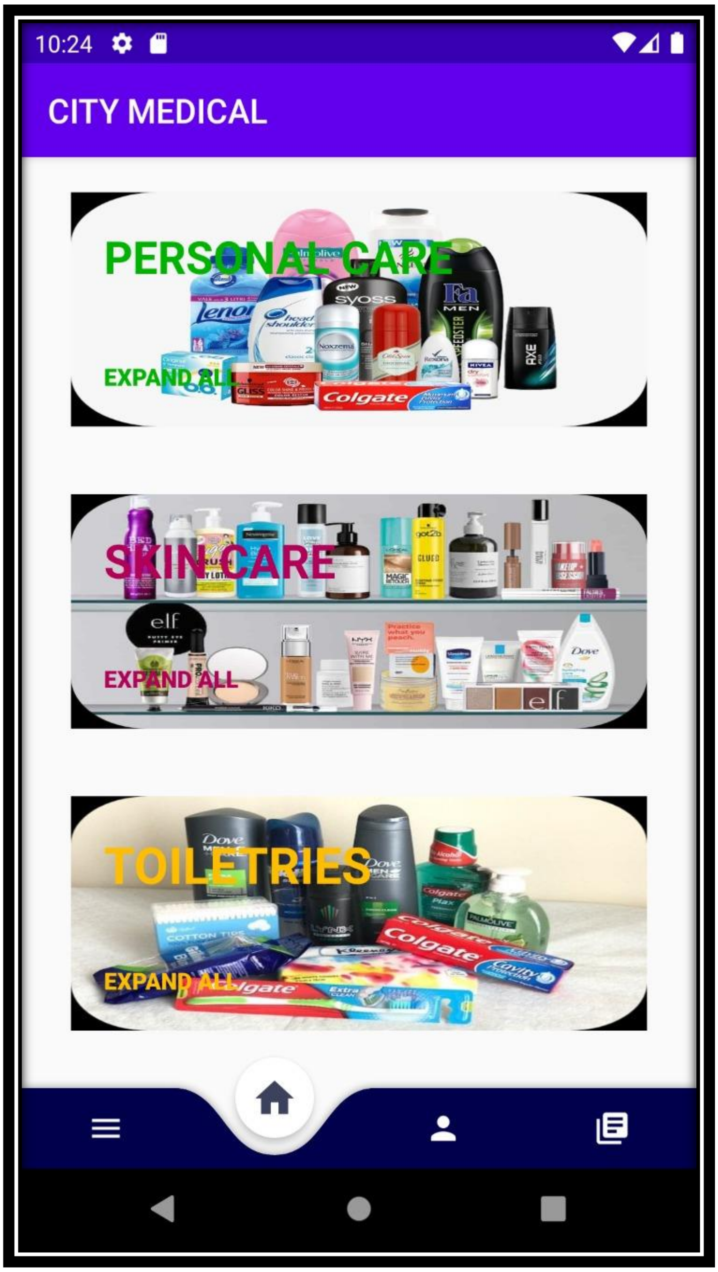
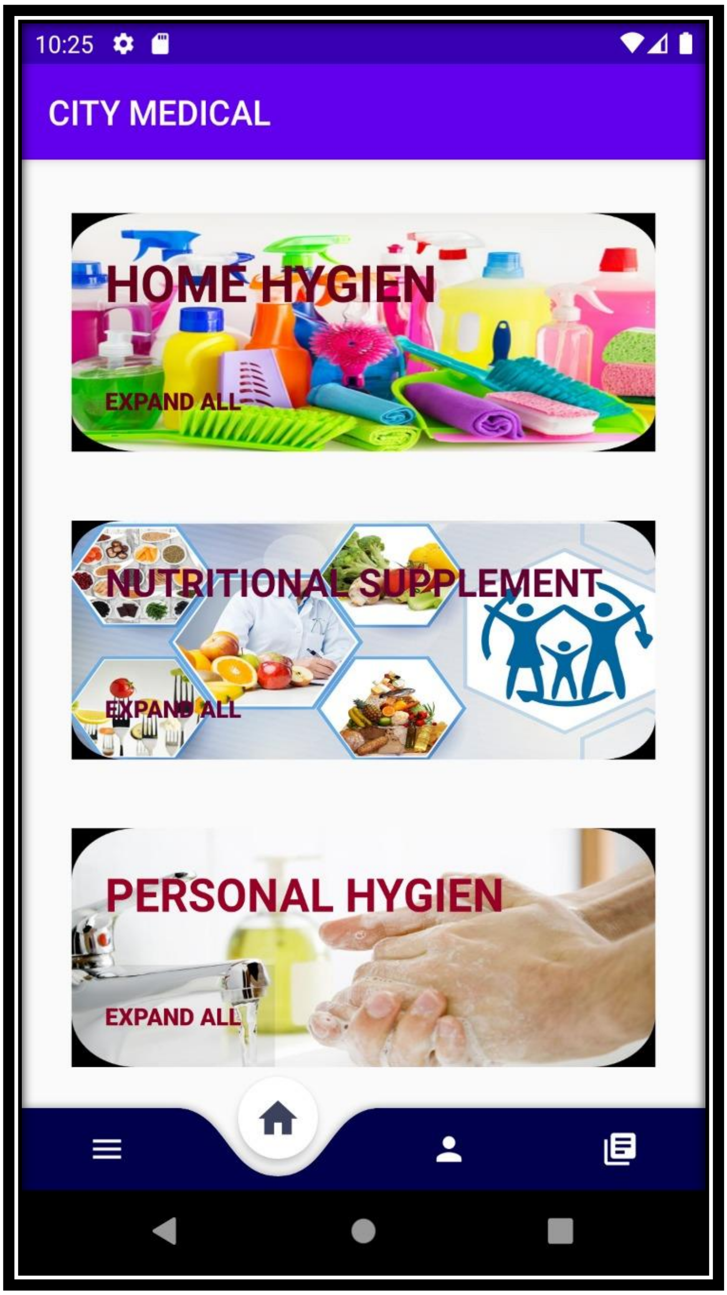


Fig : Categories of Medicine



10:25

CITY MEDICAL

HOME HYGIEN

EXPAND ALL

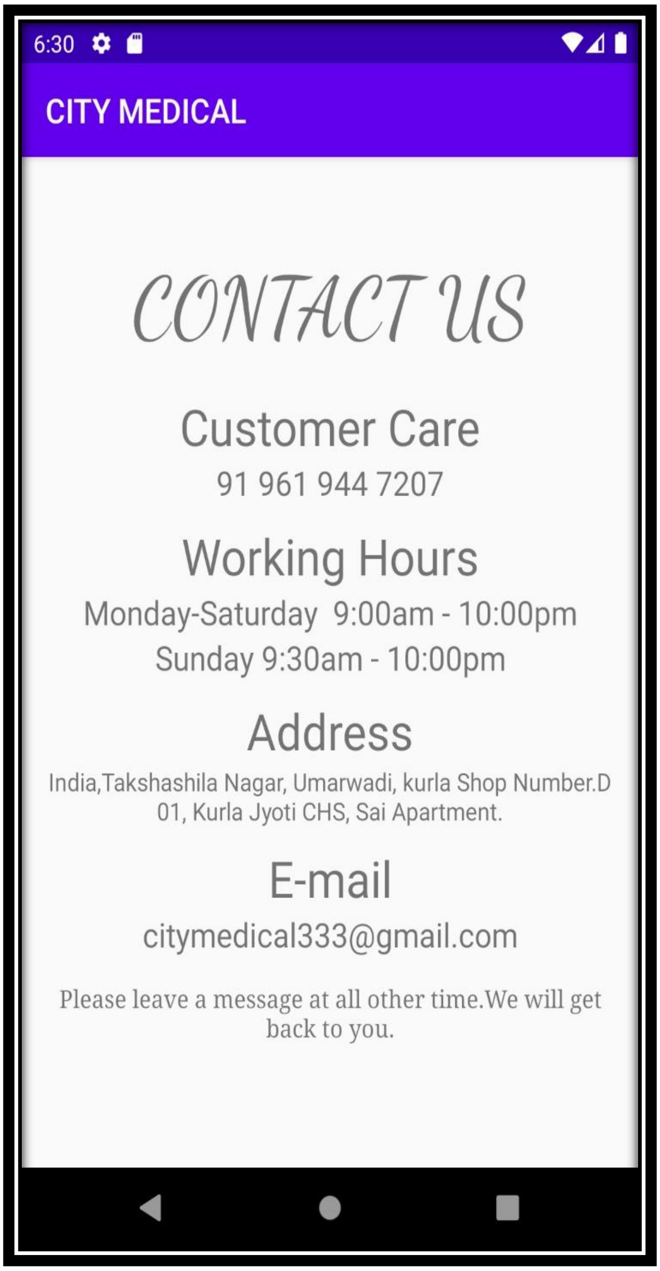
NUTRITIONAL SUPPLEMENT

EXPAND ALL

PERSONAL HYGIEN

EXPAND ALL

Fig : Categories of Medicine



CONTACT US

Customer Care

91 961 944 7207

Working Hours

Monday-Saturday 9:00am - 10:00pm

Sunday 9:30am - 10:00pm

Address

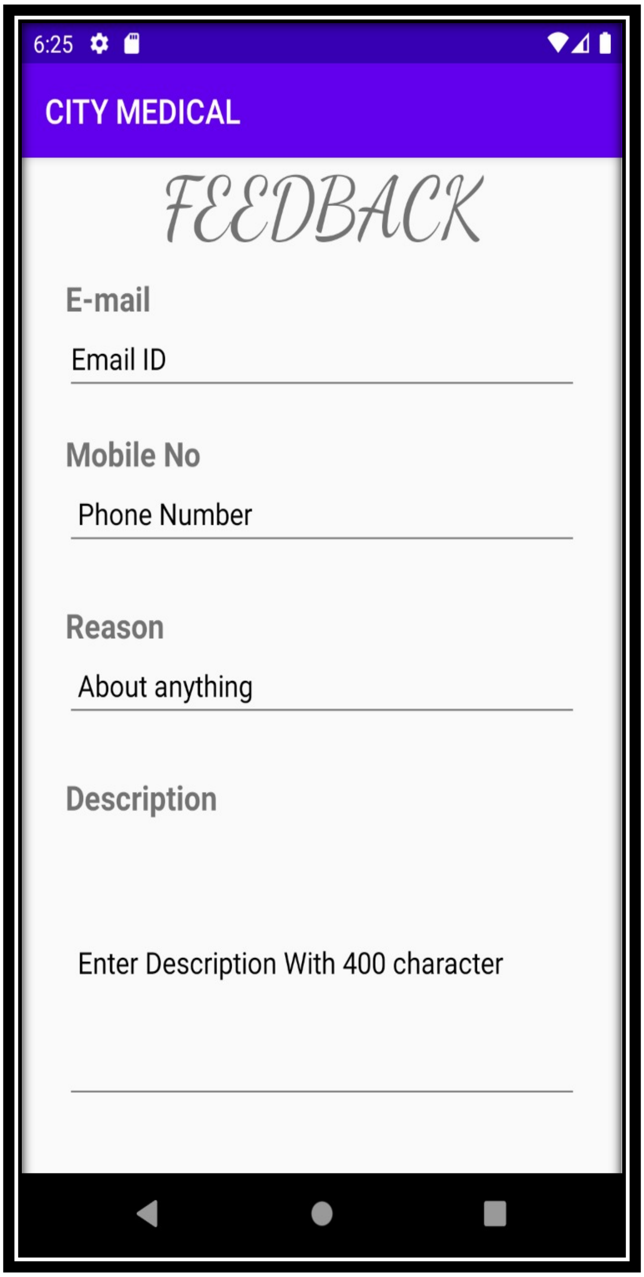
India,Takshashila Nagar, Umarwadi, kurla Shop Number.D 01, Kurla Jyoti CHS, Sai Apartment.

E-mail

citymedical333@gmail.com

Please leave a message at all other time.We will get back to you.

Fig : Contact Page



6:25

CITY MEDICAL

FEEDBACK

E-mail

Email ID

Mobile No

Phone Number

Reason

About anything

Description

Enter Description With 400 character

Fig : Feedback Page

CHAPTER 7
CONCLUSION AND FUTURE WORK

7.1 CONCLUSION :

Our Project is only a humble venture to satisfy the needs to manage their project work. Several user friendly coding have also adopted. This package shall prove to be a powerful package in satisfying all the requirements of the school. The objective of software planning is to provide a frame work that enables the manager to make reasonable estimates made within a limited time frame at the beginning of the software project and should be updated regularly as the project progresses.

At the end it is concluded that we have made effort on following points :

- A description of the background and context of the project and its relation to work already done in the area.
- Made statement of the aims and objective s of the project.
- The description of Purpose, Scope, and Applicability.
- We define the requirements Specifications of the system and the actions that can be done in these things.
- We understand the problem domain and produce a model of the system , which describes operations that can be performed on the system.
- We included features and operations in detail ,including screen layouts.
- We designed user interface and security issues related to system.
- Finally the system is implemented and tested according to test cases.

7. 2 Limitations :

Although we have put our best efforts to make the software flexible , easy to operate but limitations cannot be ruled out even by us . Through the software presents a broad range of options to its users some intricate option could not be covered into it ; partly because of logistic and partly due to lack of sophistication. Paucity of time was also major constraint , thus it was not possible to make the software fool proof and dynamic. Lack of time also compelled me to ignore some part such as storing old result of the candidate etc.

Considerable efforts have made the software easy to operate even for the people not related to the field of computers but it is acknowledged that a layman may find it a bit problematic at the first instance. The user is provided help at each step for his convenience in working with the software.

❖ List of Limitations :

- Excel export has not been developed for Customer, Medicine Company due to some criticality.
- The transactions are expected in off line mode , hence on-line data for Medicine , Medicine Stock capture and modification is not possible.
- Off-line report of Customer, Order , Medicine cannot be generated due to batch mode execution.

7.3 Future Scope of the Project :

- In a nutshell, it can be summarized that the future scope of the project circles around maintaning information regarding:
- We can add printer in future.
- We can give more advance software for Online Medical store including more facilities
- We will host the platform on online servers to make it accessible worldwide
- Integrate multiple load balancers to distribute the loads of the system
- Create the master and slave database structure to reduce the overload of the database queries
- Implement the backup mechanism for taking backup of codebase and database on regular basis on different servers

The above mentioned points are the enhancement which can be done to increase the application and usage of this project. Here we can maintain the records of Customer and Medicine Company. Also, as it can be seen that now-a-days the players are versatile, i.e. so there is a scope for introduction a method to maintain the Online Medical Shop. Enhancements can be done to maintain all the Customer, Medicine Company, Medicine, Medical Stock, Order.

We have left all the options open so that if there is any other future requirement in the system by the user for the enhancement of the system then it is possible to implement them. In the last we would like to thanks all the persons involved in the development of the system directly or indirectly. We hope that project will serve its purpose for which it is develop there by underlining success of process.

CHAPTER 8

REFERENCES

REFERENCES :

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- https://youtu.be/7S7646Cymn0
- https://youtu.be/gaykE36N7PYbj
- Software Quality Assurance
- https://youtu.be/MFRFFTDAq8w
- https://www.freeprojectz.com/project-report/1770
- https://studentprojectguide.com/vb-net/medical-shop-management-system/
- Java and Software Design Concepts by Apress
- https://www.hopkinsmedicine.org/health/conditions-and-diseases/coronavirus
- https://www.piedmont.org/living-better/5-benefits-of-morning-exercise
- https://www.who.int/westernpacific/emergencies/covid-19/information/covid-19-variants
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- Head First Java 2nd Edition
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- https://www.eatingwell.com/article/291139/the-top-10-healthiest-foods-for-kids/
- https://github.com/
- https://stackoverflow.com/
- https://www.51testing.cc/offshore-testing/