INTRODUCTION

The purpose of this document is to present a detailed description of the **Virtual medico.** People may consult doctor and doctor will identify his/her illness and prescribe the necessary medicines. Our app contains an intelligent Virtual Doctor which will authenticate or validate the medicines or illness predicted by normal doctor, the user can directly approach the Doctor. There is also a provision for buying medicine which is mainly based on some terms and conditions, as the product that we sell is medicine which is sometimes call it is as drugs.

In short, the purpose of this document is to provide a detailed overview of our software product, its parameters and goals. This document describes the project's target audience and its user interface, hardware and software requirements. Also it defines how user, admin, pharmacy and virtual doctor are handled in the product and its functionality.
In this project, all users have their own profiles.

The scope of the project will be vast enough as it contains a Virtual Doctor who itself treat the patients (users) and will prescribe medicines. And through this app user can order the medicines and will receive it at his doorstep. . It focuses on the virtual doctor, the users and pharmacies, which allow for offline sales, distribution and marketing of medicines. The main advantage of this app is, it will help the user to find out the medicines available near to the pharmacies from where the user is using the app (through position navigation) and will sort the price of the medicine available in the pharmacies and helps the user to buy the medicine at the lowest price available near to him.

OBJECTIVES

A Project Objective describes the desired results of a project, which often includes a tangible item. An objective is specific and measurable, and must meet time, budget, and quality constraints.

At present, users spend more time to consult doctor and bought medicine. In this project, users have consult virtual doctor and doctor prescribes medicine. Users get medicine via online. In this case, patients did not spend time. Virtual medico is very useful for users.

Virtual medico increasing patient engagement and satisfaction and improve patient convenience.

The product shall be based on web and has to be run from a web server.
The product shall take initial load time depending on internet connection strength which also depends on the media from which the product is run.
The performance shall depend upon hardware components of the client/customer.
The system shall be built using a standard web page development tool that conforms to either IBM's CUA standards or Microsoft's GUI standards.
This is a Web Based Product and there are no memory requirements
The computers must be equipped with web browsers such as Internet explorer and the product must be stored in such a way that allows the client easy access to it.
Response time for loading the product should take no longer than five minutes a general knowledge of basic computer skills is required to use the product.

PROJECT CATEGORY

REQUIREMENTS

Software Requirements:

- Operating system : Windows 7 or above, Android
- Technology Used : Python, java
- IDE : PyCharm ,Eclipse/Android Studio
- Framework : Flask
- Database : MySQL

Hardware Requirements:

- Processor : 64 bit
- RAM : Min 3 GB
- Hard Disk : 10 GB

PROBLEM DEFINITION

At present, users are buying medicine by go to pharmacy. In that case, the pharmacy is exploiting the users. Today, patients are consulting doctor and doctor prescribes the medicine. Patients are buying medicine by pharmacy. Pharmacy exploits the users by increase the rate of medicine or by give quality less medicine. There by users have decrease their immunity and there is a chance to increase disease.

REQUIREMENT SPECIFICATION

FUNCTIONAL REQUIREMENTS

Provide Login or Sign up facility

The system shall display two buttons to login and for signup for new users.

The system shall allow user to enter the login id and password on selecting login else
Display a sign up form with necessary details to join the app.

The system shall display Forgot password link below when click on to Login button to
Reset the password for successful login.

The system shall welcome the user for successful login.

Email confirmation

The system shall send an email to the user to authenticate the user login.

Maintain customer profile.

The system shall allow user to create profile and set his credential.

The system shall authenticate user credentials to view the profile.

The system shall allow user to update the profile information.

Talk with virtual doctor.

The system shall enable user to enter the symptoms of his/her illness.

The system shall ask the user so many questions related to symptoms.

The system shall display the illness after a detailed conversation with user.

The system shall display the medicines for that illness.

The system shall provide the user a facility to have a lookup through the medicine details on a click on medicine displayed.

The system shall display the right consumption time of the medicine and the quantity needed.

Provide Search facility.

The system shall enable user to select multiple options on the screen to search

The system shall display all the matching products based on the search.

The system shall enable user to navigate between the search results.

The system shall notify the user when no matching product is found on the search.

Provide shopping cart facility.

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The system shall provide shopping cart during online purchase.

The system shall allow user to add/remove products in the shopping cart.

Provide personalized profile

The system shall display both the active and completed order history in the customer profile.

The system shall allow user to select the order from the order history.

The system shall display the detailed information about the selected order.

The system shall display the most frequently searched items by the user in the profile.

The system shall allow user to register for newsletters and surveys in the profile.

Doctor prescription verification

The system shall provide an option to upload the doctor prescription.

Providing Buy now

The system shall navigate the available nearby shops where that particular medicine is available.

The system shall list out the pharmacies where the medicine is available and sort the price accordingly.

The system shall allow the user to select the pharmacy where they are willing to buy.

Offer online promotions and rewards.

The system shall generate a coupon code for some promotion and discount.

Provide multiple shipping methods.

The system shall display different shipping options provided by shipping department.

The system shall enable user to select the shipping method during payment process.

The system shall display the shipping charges.

The system shall display tentative duration for shipping.

Online tracking of shipments

The system shall allow user to enter the order information for tracking.

The system shall display the current tracking information about the order.

Allow multiple payment methods.

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The system shall display available payment methods for payment.

The system shall allow user to select the payment method for order.

Allow online change or cancellation of order.

The system shall display the orders that are eligible to change.

The system shall allow user to select the order to be changed.

The system shall allow user to cancel the order

The system shall allow user to change shipping, payment method.

The system shall notify the user about any changes made to the order.

Prescription verification by delivery man

He shall verify the prescription uploaded during purchase and successfully delivered.

Allow Online Product reviews and ratings

The system shall display the reviews and ratings of each product, when it is selected.

The system shall enable the user to enter their reviews and ratings.

TECHNICAL SPECIFICATION

This application is based on web as well as mobile. So it is necessary to use a technology which is capable of providing the network facilities to the application. In this application we use Python as a frontend and MySQL as a backend and for mobile we use android OS.

PYTHON:

Python is an interpreted, object oriented, high level programming language with dynamic semantics. Its high level built in data structures, combined with dynamic typing and dynamic binding, make it very attractive for rapid application development as well as for use as a scripting or glue language to connect existing components together. Python's simple, easy to learn syntax emphasizes readability and therefore reduces the cost of program maintenance. Python supports modules and packages, which encourages program modularity and code reuse. The Python interpreter and the extensive standard library are available in source or binary form without charge for all major platforms, and can be freely distributed.

Python's features include –

- Easy-to-learn − Python has few keywords, simple structure, and a clearly defined syntax. This allows the student to pick up the language quickly.
- Easy-to-read − Python code is more clearly defined and visible to the eyes.
- Easy-to-maintain − Python's source code is fairly easy-to-maintain.
- A broad standard library − Python's bulk of the library is very portable and crossplatform compatible on UNIX, Windows, and Macintosh.
- Interactive Mode − Python has support for an interactive mode which allows interactive testing and debugging of snippets of code.
- Portable − Python can run on a wide variety of hardware platforms and has the same interface on all platforms.
- Extendable − You can add low-level modules to the Python interpreter. These modules enable programmers to add to or customize their tools to be more efficient.
- Databases − Python provides interfaces to all major commercial databases.
- Scalable − Python provides a better structure and support for large programs than shell scripting.
- GUI Programming − Python supports GUI applications that can be created and ported to many system calls, libraries and windows systems, such as Windows MFC, Macintosh, and the X Window system of Unix

FLASK:

Flask is a micro web framework written in Python. It is classified as a micro framework because it does not require particular tools or libraries. It has no database abstraction layer, form validation, or any other components where pre-existing third-party libraries provide common functions. However, Flask supports extensions that can add application features as if they were implemented in Flask itself. Extensions exist for object relational mappers, form validation, upload handling, various open authentication technologies and several common framework related tools. Extensions are updated far more regularly than the core Flask program.

Some of the features of flask are the following,

- Contains development server and debugger
- Integrated support for unit testing
- RESTful request dispatching
- Support for secure cookies (client side sessions)
- Unicode-based
- Google App Engine compatibility

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MySQL:

MySQL is an open-source relational database management system (RDBMS).The MySQL development project has made its source code source code available under the terms of the GNU General Public License, as well as under a variety of proprietary agreements. MySQL is offered under two different editions: the open source MySQL Community Server and the proprietary Enterprise Server. MySQL Enterprise Server is differentiated by a series of proprietary extensions which install as server plugins, but otherwise shares the version numbering system and is built from the same code base.

ANDROID:

Android is an open source and Linux-based Operating System for mobile devices such as smart phones and tablet computers first developed by a Silicon Valley company by the name of Android Inc which Google bought in 2005. On November 5, 2007, the Open Handset Alliance, a consortium of technology companies including Google, device manufacturers such as HTC, Motorola and Samsung, wireless carriers such as Sprint and T-Mobile, and chipset makers such as Qualcomm and Texas Instruments, unveiled itself, with a goal to

develop "the first truly o pen and comprehensive platform for mobile devices" and the Android distribution was announced by them. The core Android source code is known as Android Open Source Project (AOS P) and is primarily licensed under the Apache License.
Android is also associated with a suite of proprietary software developed by Google, called Google Mobile Services (GMS) that very frequently comes pre-installed in devices, which usually includes the Google Chrome web browser and Google Search and always includes core apps for services such as Gmail, as well as the application store and digital distribution platform Google Play, and associated development platform. Android includes middleware, libraries and APIs written in C and application software running on an application framework which includes Java-compatible libraries based on Apache Harmony. Android uses the Dalvik virtual machine with just-in-time compilation to run compiled Java code. The first commercial Android device launched in September 2008.

INTERFACES

There are many types of interfaces as such supported by the E-Store software system namely; User Interface, Software Interface and Hardware Interface.

The protocol used shall be HTTP.

The Port number used will be 80.

There shall be logical address of the system in IPv4 format.

User Interfaces

The user interface for the software shall be compatible to any browser such as Internet Explorer, Mozilla or Netscape Navigator by which user can access to the system.

The user interface shall be implemented using any tool or software package like Java Applet, MS Front Page, EJB etc.

Hardware Interfaces

Since the application must run over the internet, all the hardware shall require to connect internet will be hardware interface for the system. As for e.g. Modem, WAN – LAN, Ethernet Cross-Cable.

Software Interfaces

1. The e-store system shall communicate with the Configurator to identify all the available components to configure the product.
2. The e-store shall communicate with the content manager to get the product specifications, offerings and promotions.
3. The e-store system shall communicate with bill Pay system to identify available payment methods, validate the payments and process payment.
4. The e-store system shall communicate to credit management system for handling financing options.
5. The e-store system shall communicate with CRM system to provide support.
6. The e-store system shall communicate with Sales system for order management.
7. The e-store system shall communicate with shipping system for tracking orders and updating of shipping methods.
8. The e-store system shall communicate with external Tax system to calculate tax.
9. The e-store system shall communicate with export regulation system to validate export regulations.
10. The system shall be VeriSign like software which shall allow the users to complete secured transaction. This usually shall be the third party software system which is widely used for internet transaction.

SCOPE OF THE SOLUTION

The system shall provide a uniform look and feel between all the web pages.

The system shall provide a digital image for each product in the product catalog.

The system shall provide use of icons and toolbars.

The system shall provide handicap access.

The system shall provide storage of all databases on redundant computers with automatic switchover.

The system shall provide a contractual agreement with an internet service provider for T3 access with 99.9999% availability.

The system shall provide a contractual agreement with an internet service provider who can provide 99.999% availability through their network facilities onto the internet.

The product shall be based on web and has to be run from a web server.

The product shall take initial load time depending on internet connection strength which also depends on the media from which the product is run.

The performance shall depend upon hardware components of the client/customer.

COMPLETE DATABASE

Login Table:

Attributes	Data Types	Constraints	Description
Login_id	Int	Primary Key	Login id
Username	Varchar (50)	Not Null	Username
Password	Varchar (50)	Not Null	Password
User_type	Varchar (50)	Not Null	User type

Hospital :

Attributes	Data Types	Constraints	Description
Hospital_id	Int	Primary Key	Hospital id
Login_id	Int	Foreign key	Login id
Name	Varchar (50)	Not Null	Hospital Name
Place	Varchar (50)	Not Null	Place
Post	Varchar (50)	Not Null	Post
Pin	Int	Not Null	Pin Code
Email	Varchar (50)	Not Null	Email
Phone	Int	Not Null	Phone Number

Notification:

Attributes	Data Types	Constraints	Description
Notification_id	Int	Primary Key	Notification id
Notification	Varchar (50)	Not Null	Notification
Date	Date	Not Null	Date

Pharmacy:

Attributes	Data Types	Constraints	Description
Pharmacy_id	Int	Primary Key	Hospital id
Login_id	Int	Foreign key	Login id
Name	Varchar (50)	Not Null	Pharmacy Name
Place	Varchar (50)	Not Null	Place
Post	Varchar (50)	Not Null	Post
Pin	Int	Not Null	Pin Code
Email	Varchar (50)	Not Null	Email
Phone	Int	Not Null	Phone Number

Feedback:

Attributes	Data Types	Constraints	Description
Feedback_id	Int	Primary Key	Feedback id
Login_id	Int	Foreign key	Login id
Feedback	Varchar (50)	Not Null	Feedback
Date	Date	Not Null	Date

Complaint:

Attributes	Data Types	Constraints	Description
Complaint_id	Int	Primary Key	Complaint id
Login_id	Int	Foreign key	Login id
Complaint	Varchar (50)	Not Null	Complaint
Date	Date	Not Null	Date
Reply	Varchar (50)	Not Null	Reply

Doctor:

Attributes	Data Types	Constraints	Description
Doctor_id	Int	Primary Key	Hospital id
Login_id	Int	Foreign key	Login id
Fname	Varchar (50)	Not Null	First Name
Lname	Varchar (50)	Not Null	Last Name
Gender	Varchar (50)	Not Null	Gender
Dob	Varchar (50)	Not Null	Date of Birth
Qualification	Varchar (50)	Not Null	Qualification
Specialization	Varchar (50)	Not Null	Specialization
Place	Varchar (50)	Not Null	Place
Post	Varchar (50)	Not Null	Post
Pin	Int	Not Null	Pin Code
Email	Varchar (50)	Not Null	Email
Phone	Int	Not Null	Phone Number

Staff:

Attributes	Data Types	Constraints	Description
Staff_id	Int	Primary Key	Staff id
Login_id	Int	Foreign key	Login id
Fname	Varchar (50)	Not Null	First Name
Lname	Varchar (50)	Not Null	Last Name
Gender	Varchar (50)	Not Null	Gender
Dob	Varchar (50)	Not Null	Date of Birth
Qualification	Varchar (50)	Not Null	Qualification
Place	Varchar (50)	Not Null	Place
Post	Varchar (50)	Not Null	Post
Pin	Int	Not Null	Pin Code
Email	Varchar (50)	Not Null	Email
Phone	Int	Not Null	Phone Number

Facility:

Attributes	Data Types	Constraints	Description
Facility_id	Int	Primary Key	Facility id
Login_id	Int	Foreign key	Login id
Facility	Varchar (50)	Not Null	Facility
Description	Varchar (50)	Not Null	Description

Department:

Attributes	Data Types	Constraints	Description
Department_id	Int	Primary Key	Department id
Login_id	Int	Foreign key	Login id
Name	Varchar (50)	Not Null	Name
Description	Varchar (50)	Not Null	Description

Booking:

Attributes	Data Types	Constraints	Description
Booking_id	Int	Primary Key	Booking id
Doctor_id	Int	Foreign key	Doctor id
User_id	Int	Foreign key	User id
Date	Date	Not Null	Date

User Register:

Attributes	Data Types	Constraints	Description
User_id	Int	Primary Key	User id
Login_id	Int	Foreign key	Login id
Fname	Varchar (50)	Not Null	First Name
Lname	Varchar (50)	Not Null	Last Name
Gender	Varchar (50)	Not Null	Gender
Dob	Varchar (50)	Not Null	Date of Birth
Place	Varchar (50)	Not Null	Place
Post	Varchar (50)	Not Null	Post
Pin	Int	Not Null	Pin Code
Phone	Int	Not Null	Phone Number

Location:

Attributes	Data Types	Constraints	Description
Location_id	Int	Primary Key	Location id
Pharmacy_id	Int	Foreign key	Pharmacy id
Latitude	Varchar (50)	Not Null	Latitude
Longitude	Varchar (50)	Not Null	Longitude
Place	Varchar (50)	Not Null	Place

Medicine:

Attributes	Data Types	Constraints	Description
Medicine_id	Int	Primary Key	Medicine id
Pharmacy_id	Int	Foreign key	Pharmacy id
Medicine Name	Varchar (50)	Not Null	Medicine Name
Description	Varchar (50)	Not Null	Description
Photo	Varchar (50)	Not Null	Photo
Price	Varchar (50)	Not Null	Price
Exp_date	Date	Not Null	Expiry Date
Dosage	Varchar (50)	Not Null	Dosage

Order:

Attributes	Data Types	Constraints	Description
Order_id	Int	Primary Key	Order id
User_id	Int	Foreign key	User id
Medicine_id	Int	Foreign Key	Medicine id
Date	date	Not Null	Date

PLANNING AND SCHEDULING

Project planning is the process of defining objectives and scope, goals and milestones (deliverables), and assigning tasks and budgetary resources for each step. A good plan is easily shareable with everyone involved, and it's most useful when it's revisited regularly.

Planning is needed to identify desired goals, reduce risks, avoid missed deadlines, and ultimately deliver the agreed product, service or result.

The project schedule indicates what needs to be done, which resources must be utilized, and when the project is due. In short, it's a timetable that outlines start and end dates and milestones that must be met for the project to be completed on time. Project scheduling is just as important as cost budgeting as it determines the timeline, resources needed, and reality of the delivery of the project. Project managers that have experience are better able to properly dictate the tasks, effort and money required to complete a project.

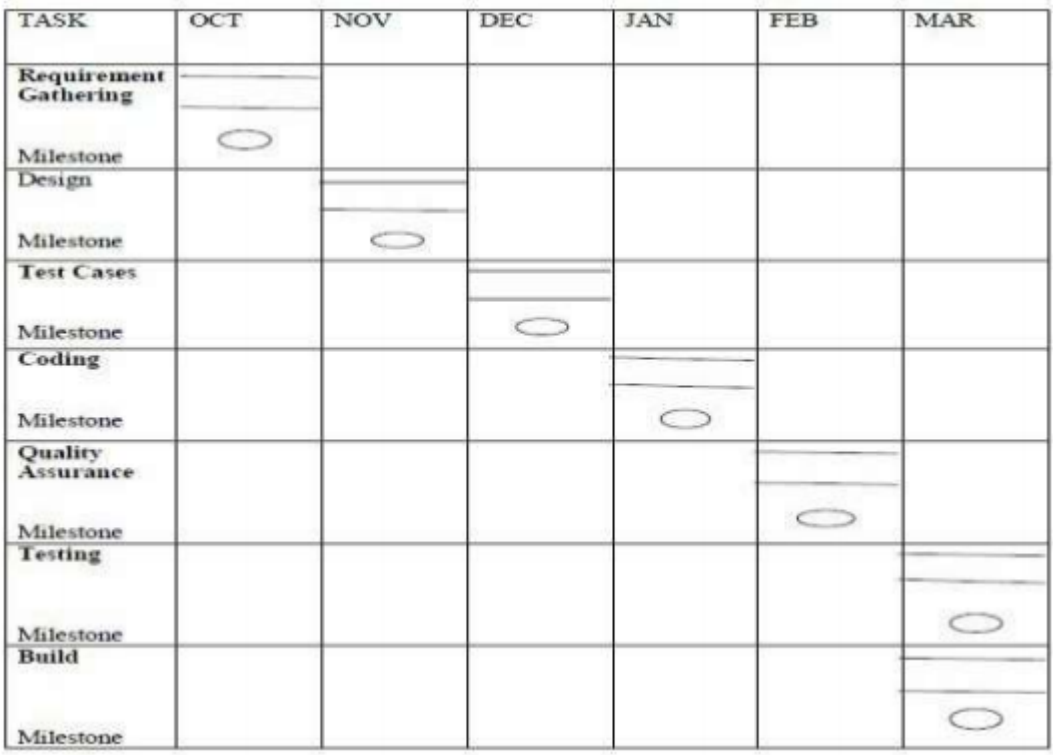
Project scheduling provides details such as start and end date of the project, milestones and tasks for the project. In addition it specifies the resources (such as people, equipment, and facilities) required to complete the project and the dependencies of tasks of the project on each other.

The purpose of project plan is to define all the technique, procedure and methodologies will be used in the project to assure timely delivery of the software that meets specified requirements within project resources. This will be reviewing and auditing the software products and activities to verify that they comply with the applicable procedure and standards and providing the software project and other appropriate managers with the results of these reviews and audits.

PERT CHART

PERT chart is a project management tool that provides a graphical representation of a project's timeline. PERT charts allow the tasks in a particular project to be analyzed, with particular attention to the time required to complete each task, and the minimum time required to finish the entire project. A PERT chart is a graph that represents all of the tasks necessary to a project's completion, and the order in which they must be completed along with the corresponding time requirements. A PERT chart presents a graphic illustration of a project as a network diagram consisting of numbered nodes (either circles or rectangles) representing events, or milestones in the project linked by labelled vectors (directional lines)

representing tasks in the project. The direction of the arrows on the lines indicates the sequence of task.



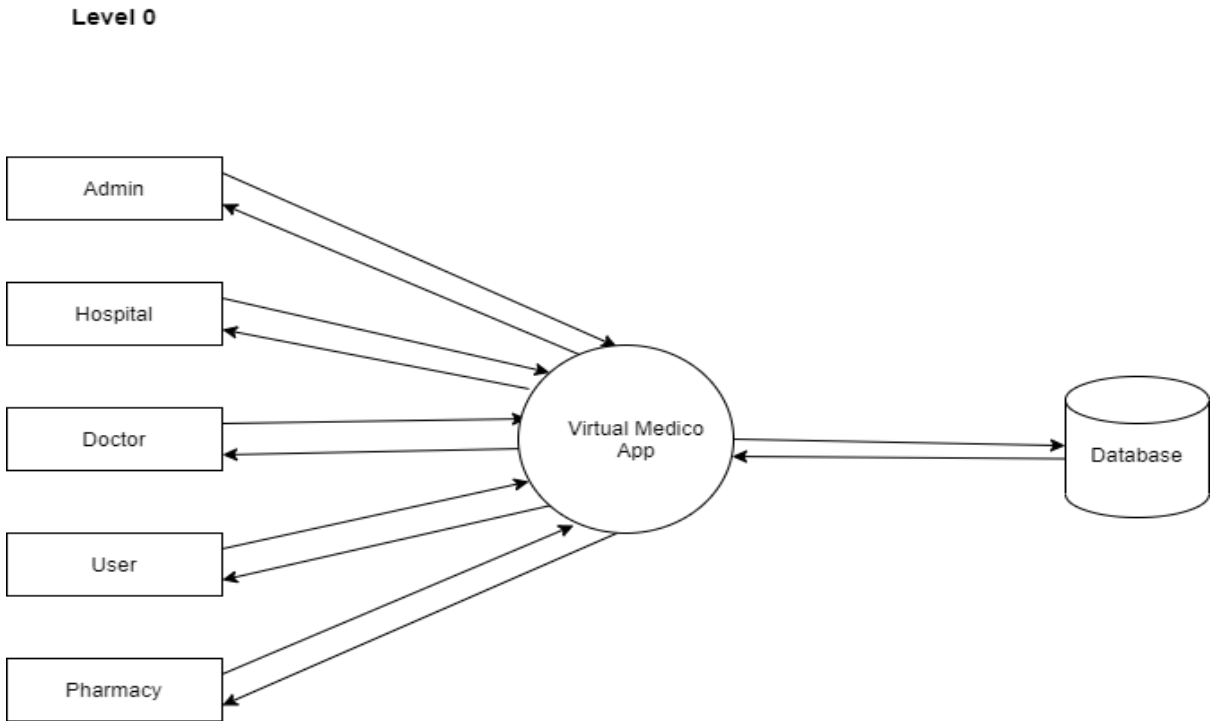
GANTT CHART

Process name	Oct	Nov	Dec	Jan			feb		mar
Requirements									
Prepare SRS Report									
Module development									
Module testing									
Test case resolution									
Implementation									
User training									
Software handover									

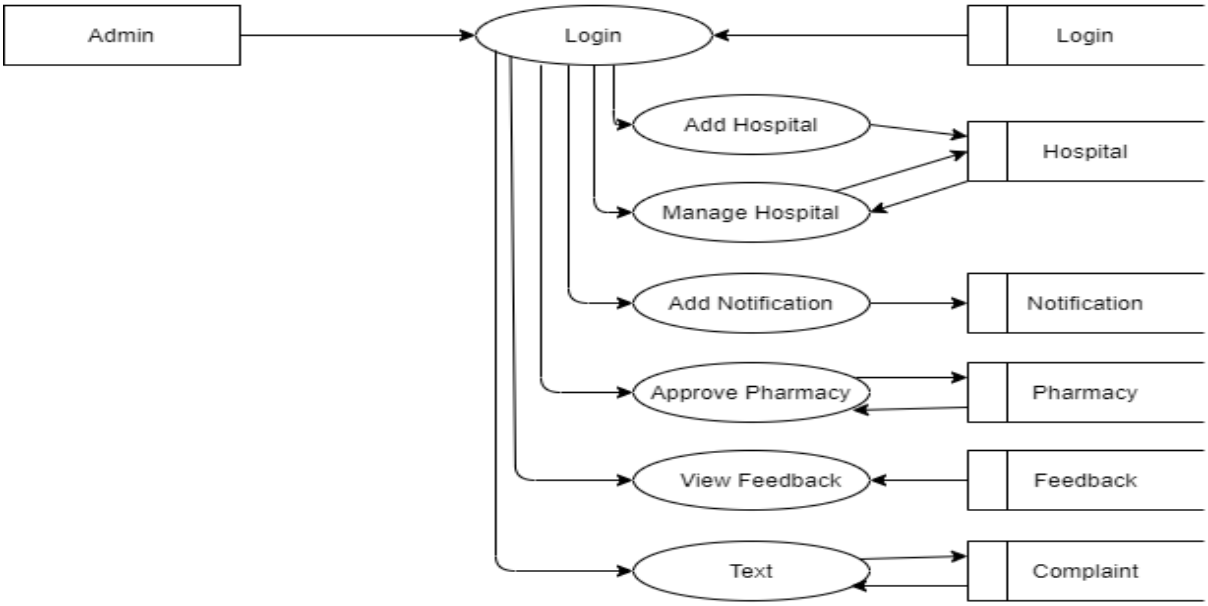
ANALYSIS

Analysis is the study of various performed by the system and their relationship within and outside the system. Different kinds of tools are used in analysis.

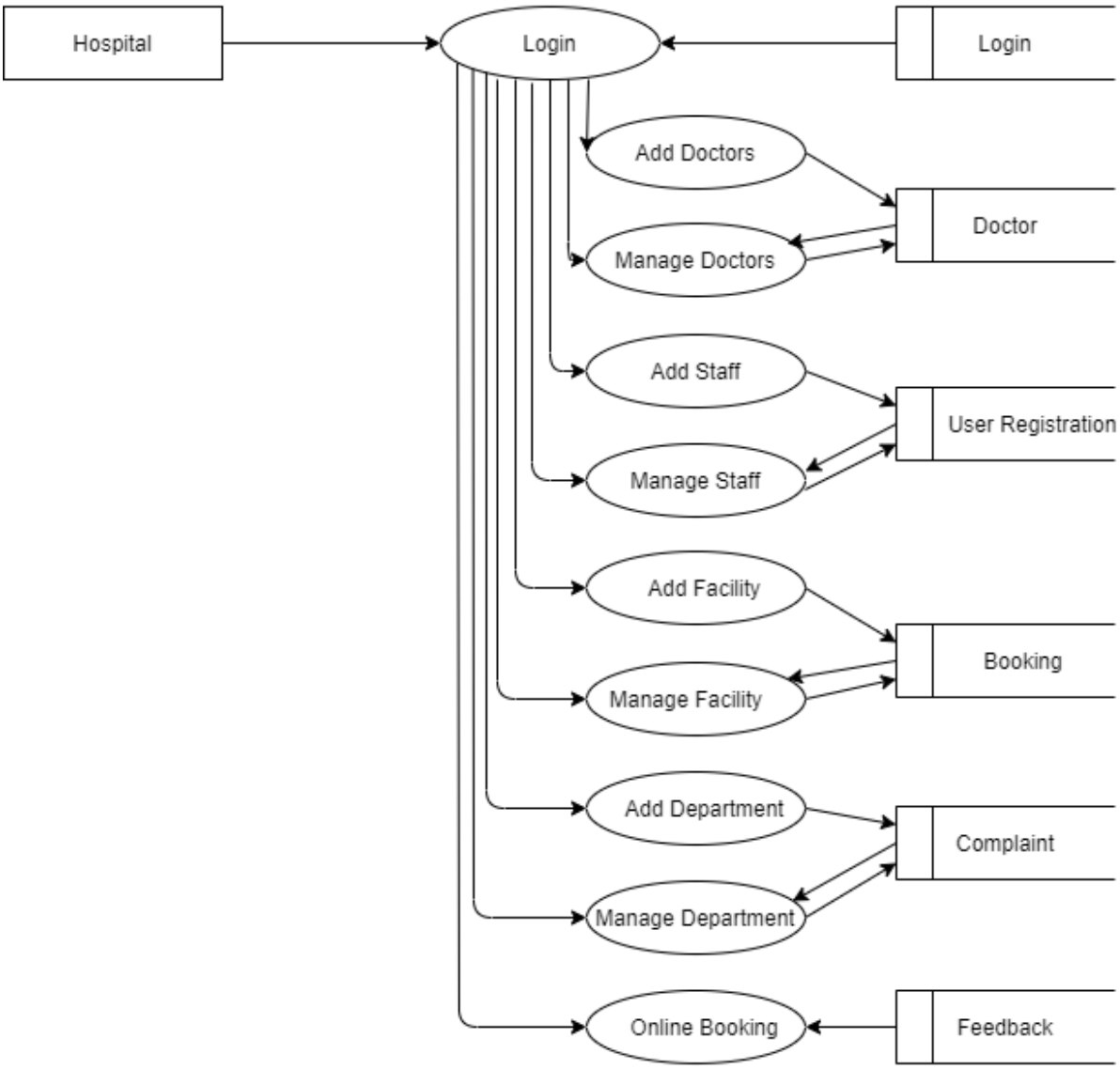
DATA FLOW DIAGRAM



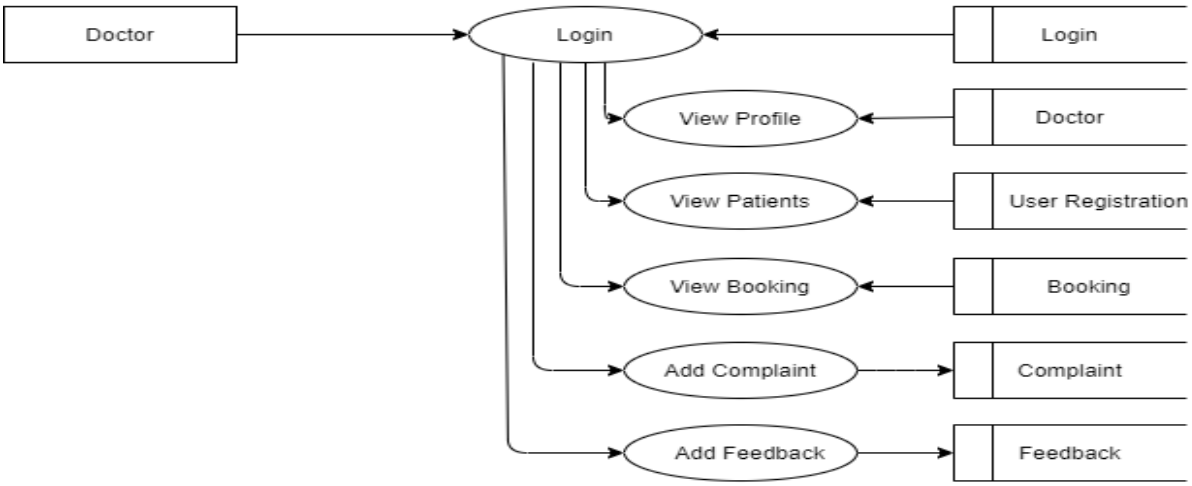
Level 1


Admin
Login
Login
Add Hospital
Hospital
Manage Hospital
Add Notification
Notification
Approve Pharmacy
Pharmacy
View Feedback
Feedback
Text
Complaint

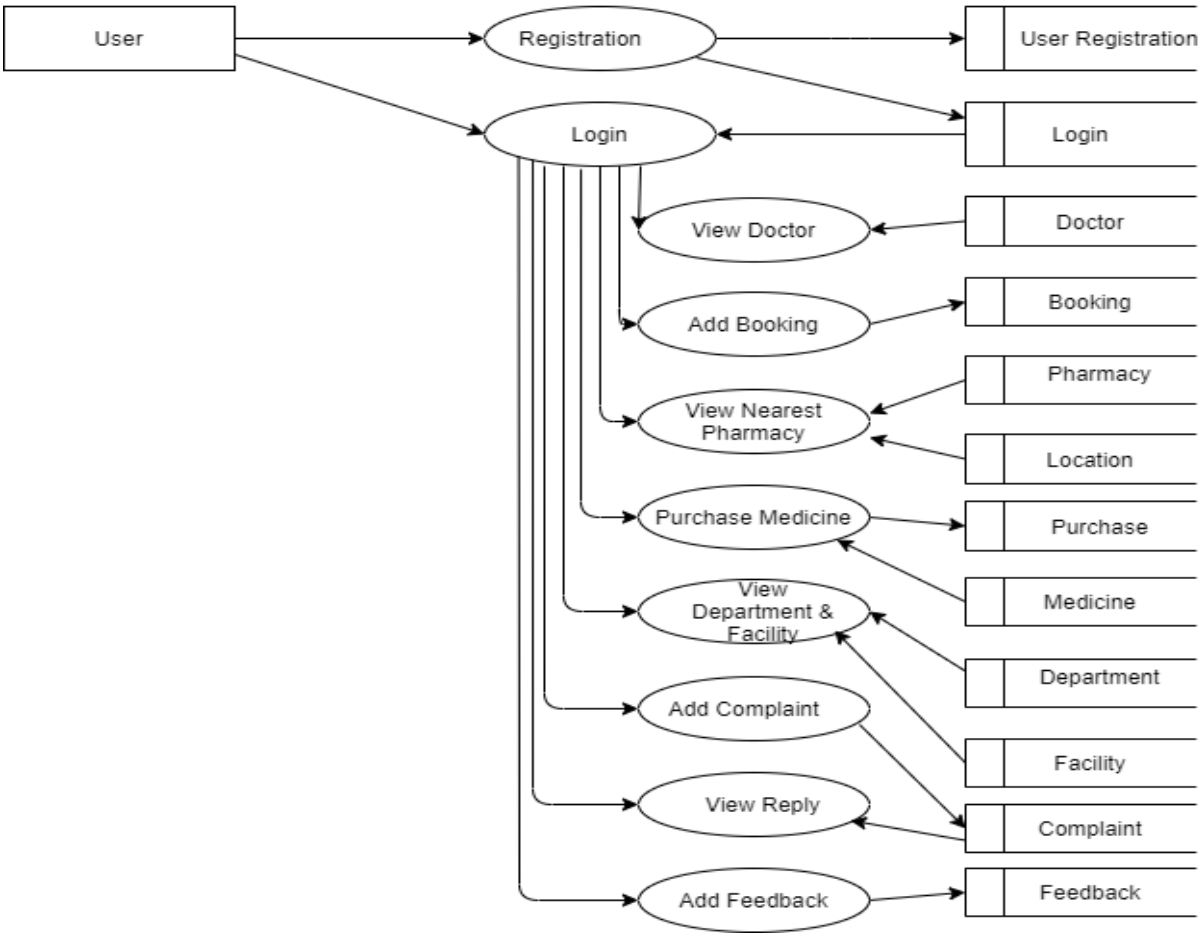
Level 2


Hospital
Login
Login
Add Doctors
Doctor
Manage Doctors
Add Staff
User Registration
Manage Staff
Add Facility
Booking
Manage Facility
Add Department
Complaint
Manage Department
Online Booking
Feedback

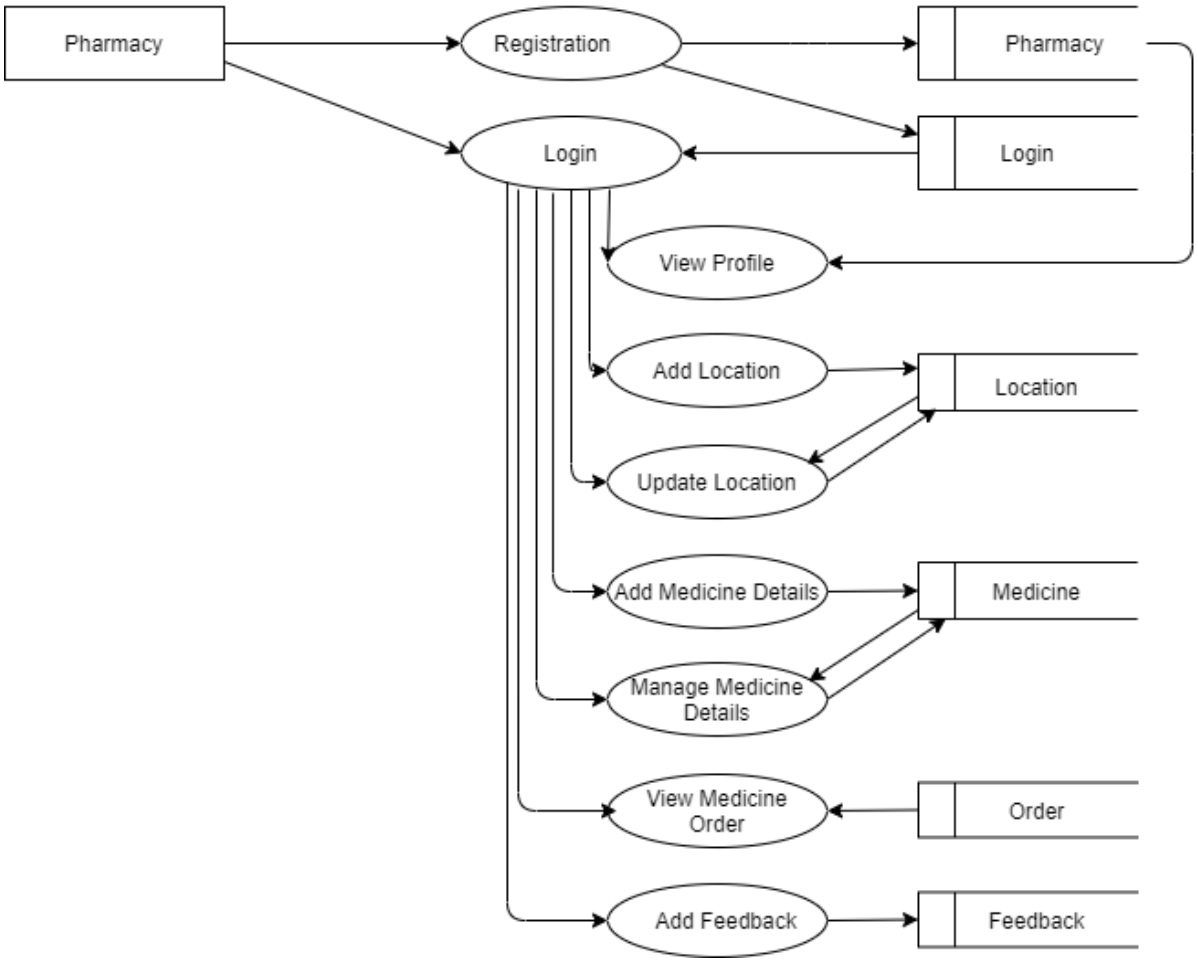
Level 3



Level 4



Level 5


Pharmacy
Registration
Pharmacy
Login
Login
View Profile
Add Location
Location
Update Location
Add Medicine Details
Medicine
Manage Medicine Details
View Medicine Order
Order
Add Feedback
Feedback

COMPLETE STRUCTURE

Modules and their description

- Admin Module
- User Module
- Hospital Module
- Doctor Module
- Pharmacy Module

Admin module

The proposed system has an admin module since the overall management of the system will be under the control of an admin, who can enter into the system by using a unique id and password. Admin can briefly analysis and studied about details of disruption update based on user updating. Admin has the permission to block the fake users. Admin can view and delete the user feedback.

Admin Module consist of following forms

- login
- Add hospital
- Manage hospital
- Add notification
- Approve pharmacy
- View feed back
- Manage complaint

User Module

User can login using username and password after registration. Clients can understanding disruption details. He/she can send feedback using this application.

User module consist of following forms

- Register
- Login
- View doctor
- Add booking
- View nearest pharmacy
- Purchase medicine
- View department and facility
- Add complaint
- View reply
- Add feedback

Hospital Module

Hospital can login using username and password . Hospital can add and manage doctors.

- Login
- Add doctors
- Manage doctors
- Add staff
- Manage staff
- Add facility
- Mange facility
- Add department
- Manage department
- Online booking

Doctor Module

Doctor can login using username and password. Doctor can view patients profile.

- Login
- View profile
- View patients
- View booking
- Add complaint
- Add feedback

Pharmacy Module

Doctor can login using username and password

- Register
- Login
- View profile
- Add location
- Add medicine details
- Manage medicine details
- View medicine order
- Add feedback

IMPLEMENTATION OF SECURITY MECHANISM AT VARIOUS LEVELS

Data Transfer

The system shall use secure sockets in all transactions that include any confidential customer information.

The system shall automatically log out all customers after a period of inactivity.

The system shall confirm all transactions with the customer's web browser.

The system shall not leave any cookies on the customer's computer containing the user's password.

The system shall not leave any cookies on the customer's computer containing any of the user's confidential information.

Data Storage

The customer's web browser shall never display a customer's password. It shall always be echoed with special characters representing typed characters.

The customer's web browser shall never display a customer's credit card number after retrieving from the database. It shall always be shown with just the last 4 digits of the credit card number.

The system's back-end servers shall never display a customer's password. The customer's password may be reset but never shown.

The system's back-end servers shall only be accessible to authenticated administrators.

The system's back-end databases shall be encrypted.

FUTURE SCOPE AND ENHANCEMENT

The scope of the project will be vast enough as it contains a Virtual Doctor who itself treat the patients (users) and will prescribe medicines. And through this app user can order the medicines and will receive it at his doorstep. . It focuses on the virtual doctor, the users and pharmacies, which allow for offline sales, distribution and marketing of medicines. The main advantage of this app is, it will help the user to find out the medicines available near to the pharmacies from where the user is using the app (through position navigation) and will sort the price of the medicine available in the pharmacies and helps the user to buy the medicine at the lowest price available near to him.