

UPHAR (Universal Patient Hospital and Administration Registry)

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Abstract – This website is build to manage different data such as doctor, patient, appointment information and other hospital stuff and also to provide an optimized and successful management system to Hospital. This app can also store hospital related data and make efficient use of collected data to provide better management and also manage the incident record and provide information to concerned authority. We made this app to make hospital system less time consuming.

With the usage of this system hospitals are able to provide more facilities to patients.

Key Words: Hospital Management System, Decision Making Process, Management Work, Product Backlog, Incident management system, medicine prediction.

1. INTRODUCTION

This project will provide the complete digital solutions for all the tasks related to hospital management. Such as appointment booking, doctor information and many more. The prediction algorithms are used to predict the medicine of future years. Report will be generated by the system according to the previous data with the help of prediction algorithm such as linear regression which will help management's decision making process. Here we provided a unique feature named as medicine search which shows relevant medicine as per given medicine name or content name or by disease.

1.1 Technology used

For the application framework we used HTML, CSS, Javascript and for the database used MySQL. There are some machine learning libraries are also used such as numpy, pandas and sk-lern. We used python 3.7 for backend and also used Django.

1.2 Project planning

There are plenty of parts which are very important while making a project. For example: Deciding tasks, Need and scope of the project.

2. SYSTEM ANALYSIS

Current hospital management systems are working just for data storing purpose. An incident management system to handle various types of incident and to inform concerned authority about this incident so problem is resolved in very quick manner.

Table -1: Requirements to use application

User System requirements	
1.	Windows/ios system
2.	4 GB ram
3.	128 GB storage
4.	Internet/wi-fi

2.1 Proposed system

We have provided medicine search options to user by which user can get details about various medicine by entering name of medicine name or content or disease name. They can also add it to wish list for easy access in future which is not provided by any other hospital.

We have provided solution which will predict medicine in upcoming year using linear regression and previously stored data.

2.2 Scope of the project

This website is developed for a purpose of making an efficient management system by which major management work can be done with ease. Prediction module which predict the requirement of specific medicines in nearby future time and represent it in graph. An incident management system to handle various types of incident and to inform concerned authority about this incident so problem is resolved in very quick manner. Medicine search in which user can see all the medicines entered by chemist and wish list option for easy access in future. Book appointment where user can book appointment. The details of appointments visible to admin module.

3. SYSTEM DESIGN

3.1 Use case diagram

Before building the application first we draw a flow chart and in that divide all the section according to their places. Because it is a graphical representation of steps.

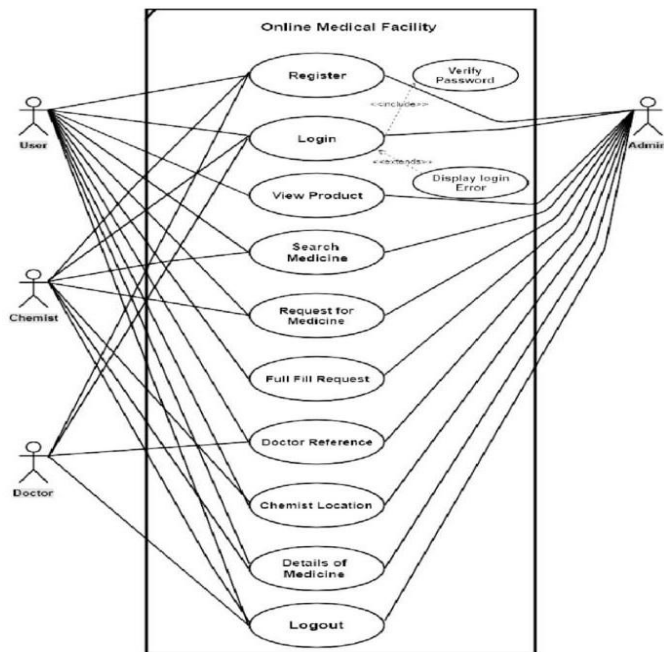


Chart -1: Flow chart

3.2 Activity Diagram

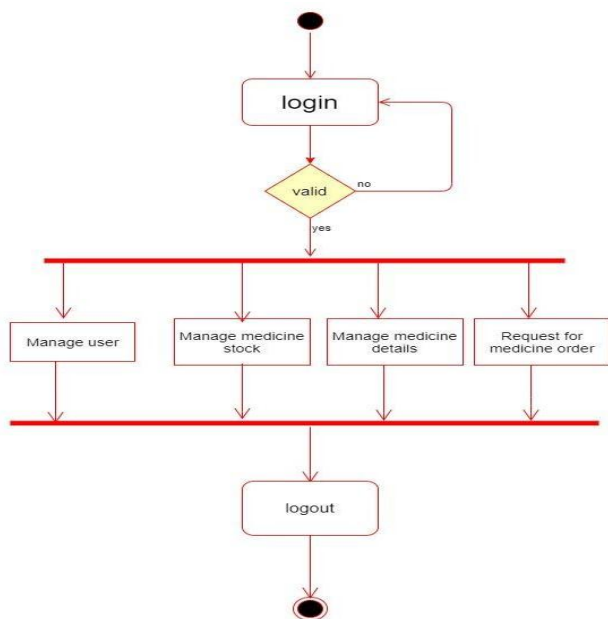


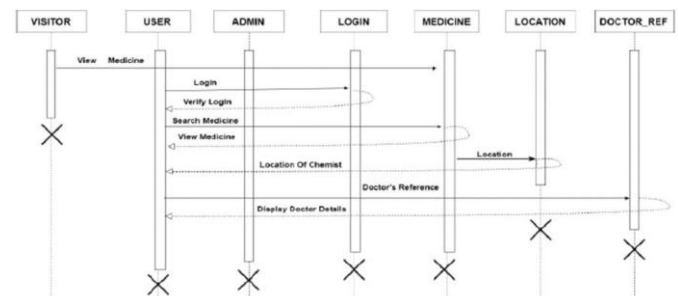
Fig -1: Activity diagram

In this diagram activities defined such as manage user, manage medicine stock and details, Request for medicine order.

3.2 Data Flow Diagram (DFD)

Data flow diagram is define the flow of data. At DFD level-0

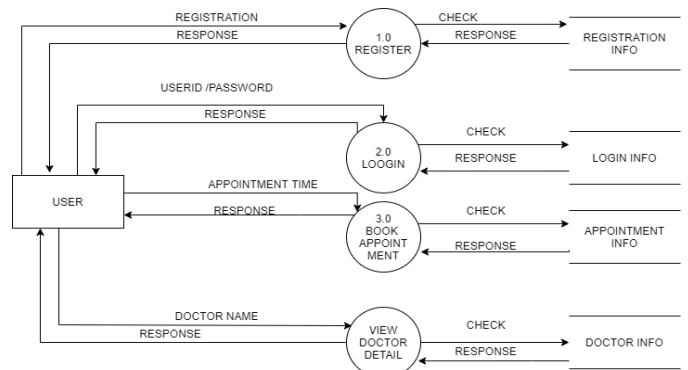
there are many options are available.



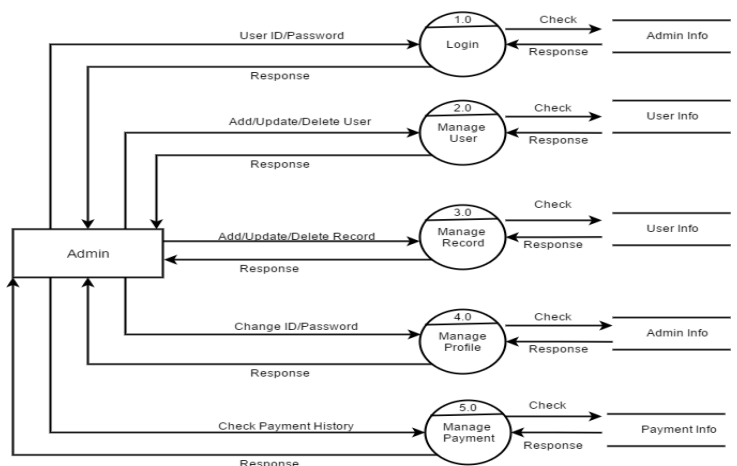
DFD level-0

There are another two DFD level-1 one is for user and one is for Admin.

1. DFD level-1 for user



2. DFD level-1 for Admin



In user DFD they can book appointment, check doctor information and in other Admin can Add/update/delete user, check payment history, change ID/password and also can Add/update/delete record.

3.3 Database Dictionary

In data dictionary it is easy to view and understand that in admin's part which tables are used and in user and chemist's part which data store in their assigned directory.

Sr.No.	Field Name	Data Type	Size	Constraint	Description
1	Admin_Id	Char	50	Pk	It stores Email-Id of Admin.
2	First_Name	Char	20	Not Null	It stores First Name of Admin.
3	Middle_Name	Char	20	Not Null	It stores Middle Name of Admin.
4	Last_Name	Char	20	Not Null	It stores Last Name of Admin.
5	Password	Char	20	Not Null	It stores Password of Admin.

Data Dictionary-Admin

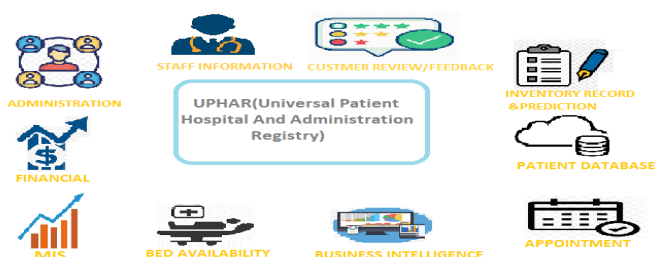
Sr.No.	Field Name	Data Type	Size	Constraint	Description
1	User_Id	Char	50	pk	It stores Email- Id of User.
2	First_Name	Char	20	Not Null	It stores First Name of User.
3	Middle_Name	Char	20	Not Null	It stores Middle Name of User.
4	Last_Name	Char	20	Not Null	It stores Last Name of Admin.
5	Address	Char	20	Not Null	It stores User's Address.
6	Area	Char	20	Not Null	It stores User's Area.
7	Pincode	Int	-	Not Null	It stores User's Pincode.
8	Contact_no	Numeric	10	Not Null	It stores User's Contact Number.
9	Chemist_Id	Char	20	fk	It stores Chemist's Email-Id.
10	Doctor_Id	Char	20	fk	It stores Doctor's Email-Id.

Data Dictionary-User

Sr.No.	Field Name	Data Type	Size	Constraint	Description
1	Chemist_Id	Char	50	Pk	It stores Email-Id of Chemist.
2	First_Name	Char	20	Not Null	It stores First Name of Chemist.
3	Middle_Name	Char	20	Not Null	It stores Middle Name of Chemist.
4	Last_Name	Char	20	Not Null	It stores Last Name of Chemist.
5	Password	Char	20	Not Null	It stores Chemist's Password.
6	Contact_no	Numeric	10	Not Null	It stores Chemist's Contact Number.
7	Address	Char	20	Not Null	It stores Chemist Store's address.
8	Area	Char	20	Not Null	It stores Chemist Store's area.
9	Pincode	Int	-	Not Null	It stores Chemist Store's Pin code.
10	Medicine_Id	Int	20	Fk	It stores Medicine Id.

Data Dictionary-Chemist

4. WORKING MECHANISM



In working part of UPHAR first we start from administration department they can check staff information and with the usage of this system patient can check bed availability and according to that they can book the appointment. Through our website customer can give reviews and feedbacks and hospital also have patient database from that they analyze patient's last visiting condition and treat them according to that information.

5. POSSIBLE ALTERNATIVES

In each hospital there is their own private hospital management system which helps to workout their basic hospital operations. UPHAR is used to provide additional functionalities like medicine prediction, Incident management system, medicine search etc. to make it a unique one.

6. RESULTS

After the deployment we have observed that for hospitals they can easily treat their patient by observing past data which was stored in database. They do not need to maintain hardcopy record. On the patient side, they can check doctor's information, bed availability on website form their home. Hospitals can maintain medicine stock and it's information very well as compared to past situation.

7. CONCLUSION

In admin module we have provided feature named prediction in which user can add current and previous data of medicine and can predict the medicine requirement in future year. It represent the futuristic data in graph manner which will become very easy to understand.

Here we have provided incident manage system which resolves the many problem that exist in current manual system. This system automatically send information to concerned authority via mail when any incident is mentioned in system.

Digital medical record in which we can manage the details about patient, bed, doctor and stock details of medicines.

We have provided medicine search option in user module in which user can search about any medicine and add it to wish list for easy access in future.

8. LIMITATIONS OF THIS SYSTEM

Because of the daily entry size of the database increases day-by-day and it is increasing the load on the database back up and data maintenance activity.

Time consuming –all data entries need to be verified before filing, this is a time consuming task.

Retrieving data from the system also takes a considerable amount of time.

Quality of outputs governed by quality of inputs and it is expensive to set up and configure.

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BIOGRAPHIES



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