

A Project Report On

OPD SOFTWARE

In partial fulfillment for the award of the degree

Of

BACHELOR OF ENGINEERING

In

COMPUTER ENGINEERING

Submitted By

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GANDHINAGAR INSTITUTE OF TECHNOLOGY

MOTI-BHOYAN, GANDHINAGAR

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Acknowledgement

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Abstract

OPD Software is mainly a system used in hospitals or clinics to maintain patient records. The technology used in this project is mainly vb.net. The three main people interacting with the system are Admin, Doctor and Front-desk staff. The main features supported which makes this system different from other system are Efficient backup of data, User friendly system which makes it easy to navigate, Regular reminder to patient, Color-coding, Customizable display, etc.



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CERTIFICATE

This is to certify that the work of Industrial Project entitled "**OPD SOFTWARE**" has been carried out by **Shah Riddhi G (100120107034)** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in **Computer Engineering** 8th Semester at the Department of Computer Engineering, **Gandhinagar Institute of Technology**, Moti-Bhoyan, Gandhinagar, Gujarat, during the academic year 2013-14 and her work is satisfactory. This student has successfully completed Industrial Defined Project under my guidance.

Internal Guide,
Prof. Sweta Garasia,
Assistant Professor,
Computer Engineering Department.

External Guide,
Mr. Vishal Shah,
Addon Web Solutions.

Prof. Kinjal Adhvaryu
Head of Department,
Computer Engineering.



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Prof. Sweta Garasia,
Assistant Professor,
Computer Engineering Department.

External Guide,
Mr. Vishal Shah,
Addon Web Solutions.

Prof. Kinjal Adhvaryu
Head of Department,
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CERTIFICATE

This is to certify that the students pursuing degree of Bachelor of Engineering in Computer Engineering 8th Semester at the Department of Computer Engineering, Gandhinagar Institute of Technology, Shah Riddhi G (100120107034) and Shah Meghna B (100120107038) have carried out their Industrial Defined project "OPD SOFTWARE" for the academic year 2013-2014 under my guidance and their work is satisfactory. They have successfully completed their project under my guidance.

**External guide,
Mr. Vishal Shah,
Addon Web Solutions.**

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CHAPTER-1 INTRODUCTION

1.1 ORGANIZATION PROFILE

Addon web solution is a multi-dimensional & multi-functional company with its base at Ahmedabad and operations spread all over India. The promoters have very rich experience in the field of Technology oriented education. They are operational in the industry for providing qualitative education for developing future professional for the industry. They not only concentrate on the project or subjective training of the student, but also work on the overall development of the students to develop them into outstanding professionals in their respective field, so that they can meet the challenges of the industry in future. It provides training in PHP, .NET, IPHONE and ANDROID technologies.

1.2 PROJECT DETAILS

1.2.1 PROJECT DEFINITION

Out-patient Department (OPD) software is mainly used in hospitals or small clinics by doctors, patient and front-desk staff for maintaining and easy access of patient information.

1.2.2 PROJECT PROFILE

The primary objective of this project is to render health service at minimal cost. The information from the patients is collected and analyzed.

OPD software reduces manual effort put in by doctors, receptionist and admin to maintain patient registration, record, reports, track consults, maintain doctor schedule, medicine details, etc.

1.3 PURPOSE

The main purpose of our system is to make hospital task easy and is to develop software that replaces the manual OPD system into automated OPD system. This document serves as the unambiguous guide for the developers of this software system.

1.4 SCOPE

The scope of this project is to reduce the manual work done to maintain the record of patient and other data. Also this project should increase the efficiency of work in the hospital/clinic. The wastage of time done to go through files should reduce. Doctors, admin and front-desk staff will use this software to do work more efficiently and accurately.

1.5 OBJECTIVE

The primary objective of OPD Software is to render health service at minimal cost. The information from the patients is collected and analyzed.

If this implementation is maintained in the long run, it should benefit the hospital. The software is mostly used by doctors, front-desk staff and administration for data collection, storage, maintenance and analysis.

Expected outcome:-

- Easy to use interface will reduce time, effort and money wasted on training people on how to use the software.
- It will also help increase efficiency and will save time wasted to search a particular feature.
- Color coding will save doctor's and receptionist's time to go through the whole patient details every time to find an emergent patient.
- Mail facility will help patients to know their appointments. Also patients can be impressed by sending them their diet plan, height, weight, report summary etc.
- Website will give an easy access to patients of their details.
- Also website can be used for advertisement purpose.
- Export facility will help convert files from one format to another.
- This change in format will not affect the database.
- LAN compatibility and multi-user facility will help to access/update/edit information in the whole clinic/hospital from anywhere.

1.6 TECHNOLOGY AND LITERATURE REVIEW

The technologies that will be used in making of this software are:-

- Front end: - vb.net version-2008, asp.net, HTML, CSS3, Photoshop 3
- Back end: - MySQL, SQL server 2008

CHAPTER-2 ABOUT THE SYSTEM

2.1 SYSTEM REQUIREMENT SPECIFICATION

Specific Requirements

Hardware Interface:-

Hard disk – 40 GB

RAM – 128 MB

Software Requirements

OS – any windows OS

Communicative Requirements

Keyboard – Standard QWERTY keyboard for interface

Mouse – Standard mouse with 2 buttons

Non-functional Requirements

- Security: - Every user should first enter their username and password to access the software. This will ensure security.
- Maintainability: - The software does not use any external resources for maintenance.
- Usability: - The software interface will be user-friendly. The users will be able to easily use and navigate through the software.
- Reliability: - The software will be reliable in the sense that will not return false data.
- Backup: - The backup feature is provided. Backup will be taken manually.

2.2 FEASIBILITY STUDY

The present OPD software available in the market has following problems:-

- The features are arranged in such a manner that it becomes difficult to navigate from one place to another.
- The interface is not easy to use.
- Any naïve user cannot easily use this software. It requires a lot of practice and experience to get acquainted to the product.
- Many OPD software are desktop application. This limits the sharing of resources.
- Also there is nothing for patients in such software.
- Patients cannot get access to their details from anywhere.
- Every time to set or confirm an appointment, patient needs to visit the hospital.

- Also doctor needs to go through all the patients' details to know which patient requires more attention.
- This also makes it difficult for the receptionist to give appointment to patient.
- Also there are chances that patients miss their appointment which leads to waste of doctor's time.
- Export facility for reports or details is not available.
- The templates present for prescription or certificate are not editable.
- Page format cannot be changed.
- Reprint facilities are mostly not available.
- Not user friendly.

The problems discussed above needs to be addressed which will lead to a more user friendly, easy to use and widely compatible product. The interface makes it difficult to use the product. It consumes more time than reducing effort. This may discourage people to use this product. OPD software is used to reduce effort and increase efficiency but due to the above problems it may decrease efficiency. Training people for using the software takes lot of time, effort and money. So the product should be such that no training should be necessary. Thus it should have an easy to use interface. Patient should get reminder for their appointments. Also patient should be able to access his information from anywhere. Export facility should be present. The patients that require immediate attention should be highlighted. It should be LAN compatible.

Innovations/Solutions adopted for above discussed problem are:-

- Website from where the patient can access his data from anywhere.
- Color coding to prioritize patients e.g.: - Patients who are critical emergency cases will show up in RED which will result in fast action and treatment of the patient.
- An easy to use interface.
- Multi-user and LAN compatible.
- Export details and report facility.
- Mail facility to remind patients of their appointments.

2.3 PROJECT PLANNING

2.3.1 PROJECT DEVELOPMENT APPROACH

The process model that will be used in our project is PROTOTYPE MODEL. Prototype model is very effective for large system like ours. Using this model instead of freezing the requirements before designing and coding initially we will make a basic system so that the customer can get a basic idea of how the system will look and feel. Later according to their inputs the system will be enhanced. This will help keep the customer in the development loop.

2.3.2 PROJECT PLAN

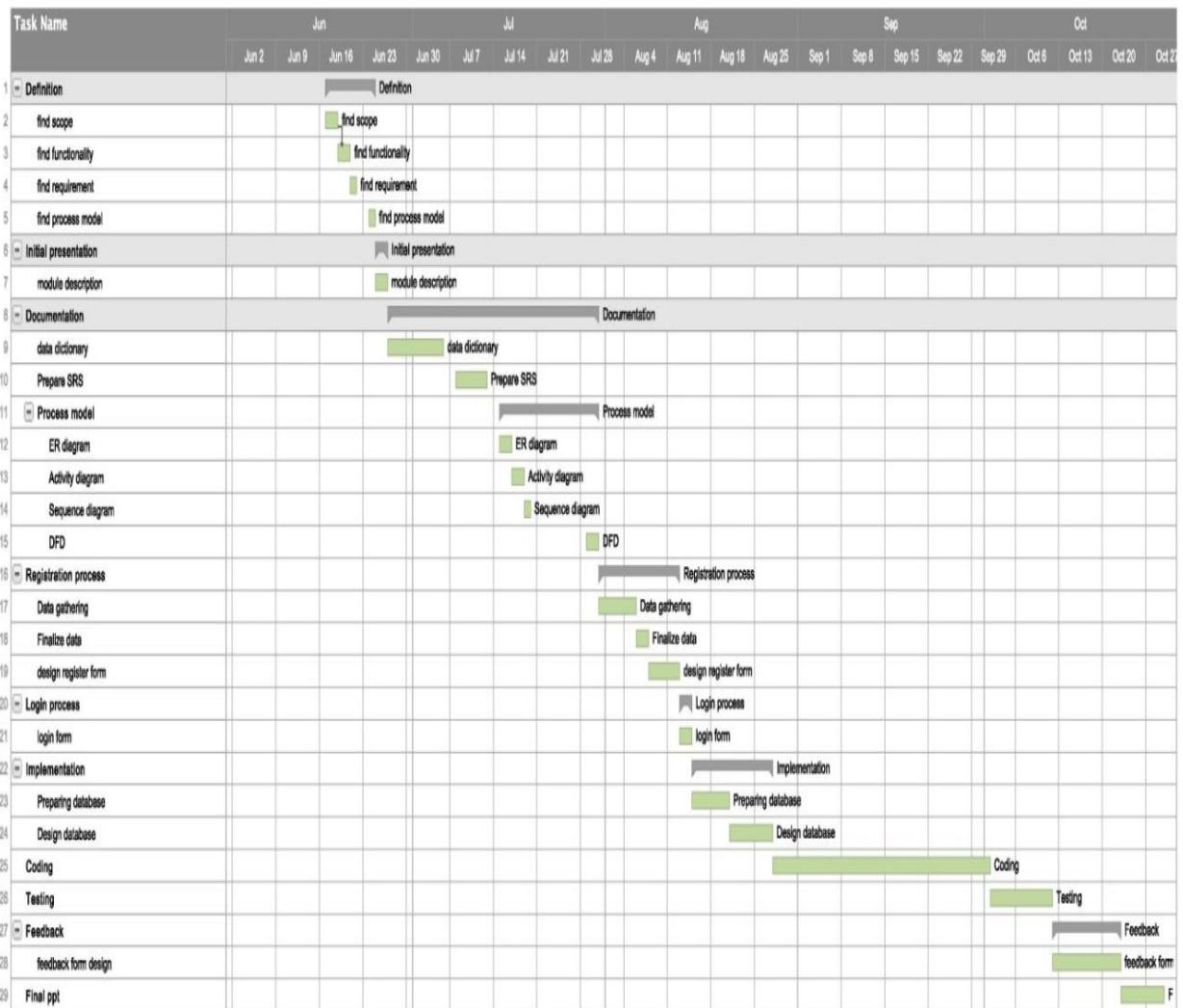


Figure 2.1 Timeline Chart

CHAPTER-3 ANALYSIS

3.1 E-R DIAGRAM

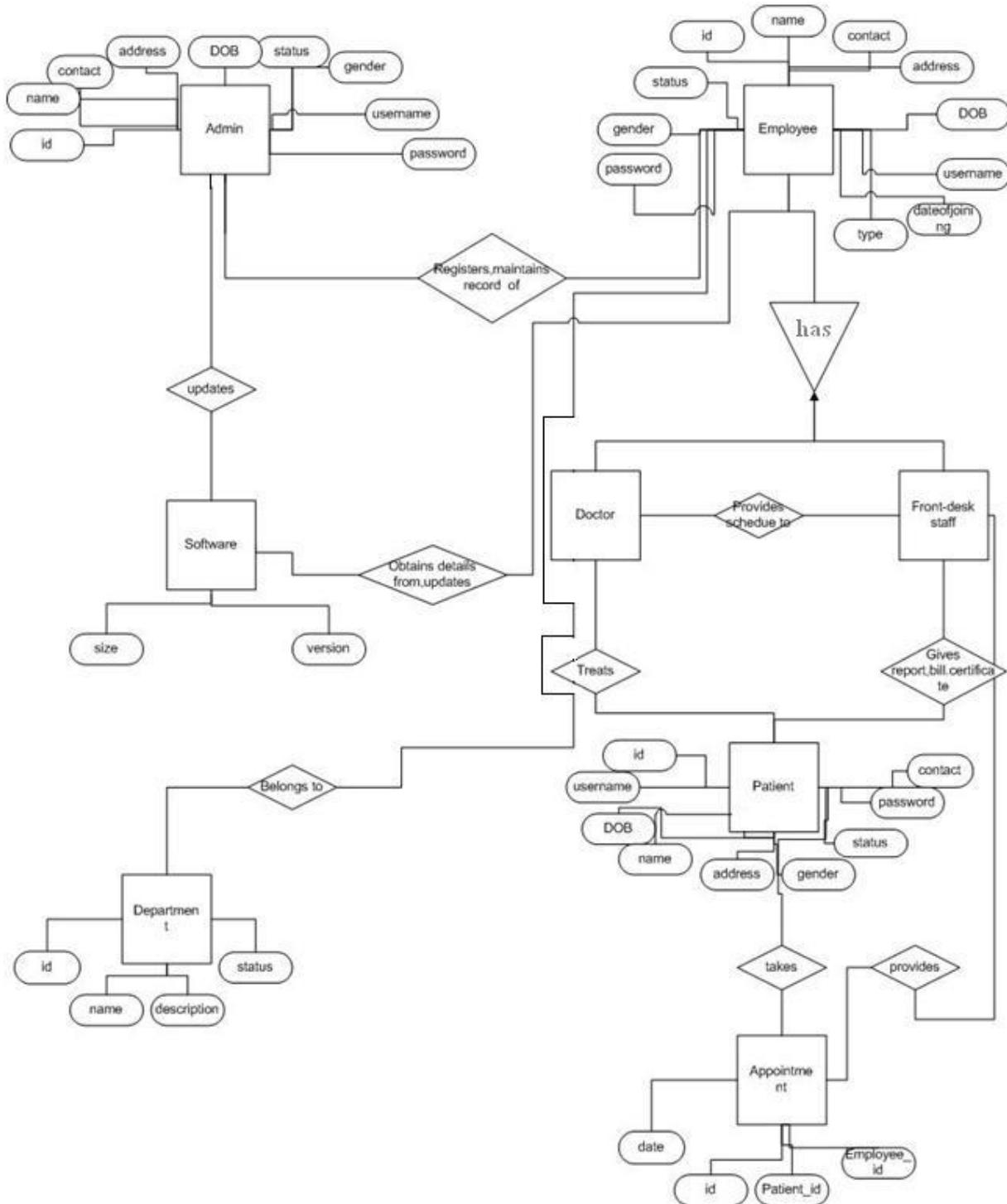


Figure 3.1 E-R Diagram

3.2 DATA FLOW DIAGRAM

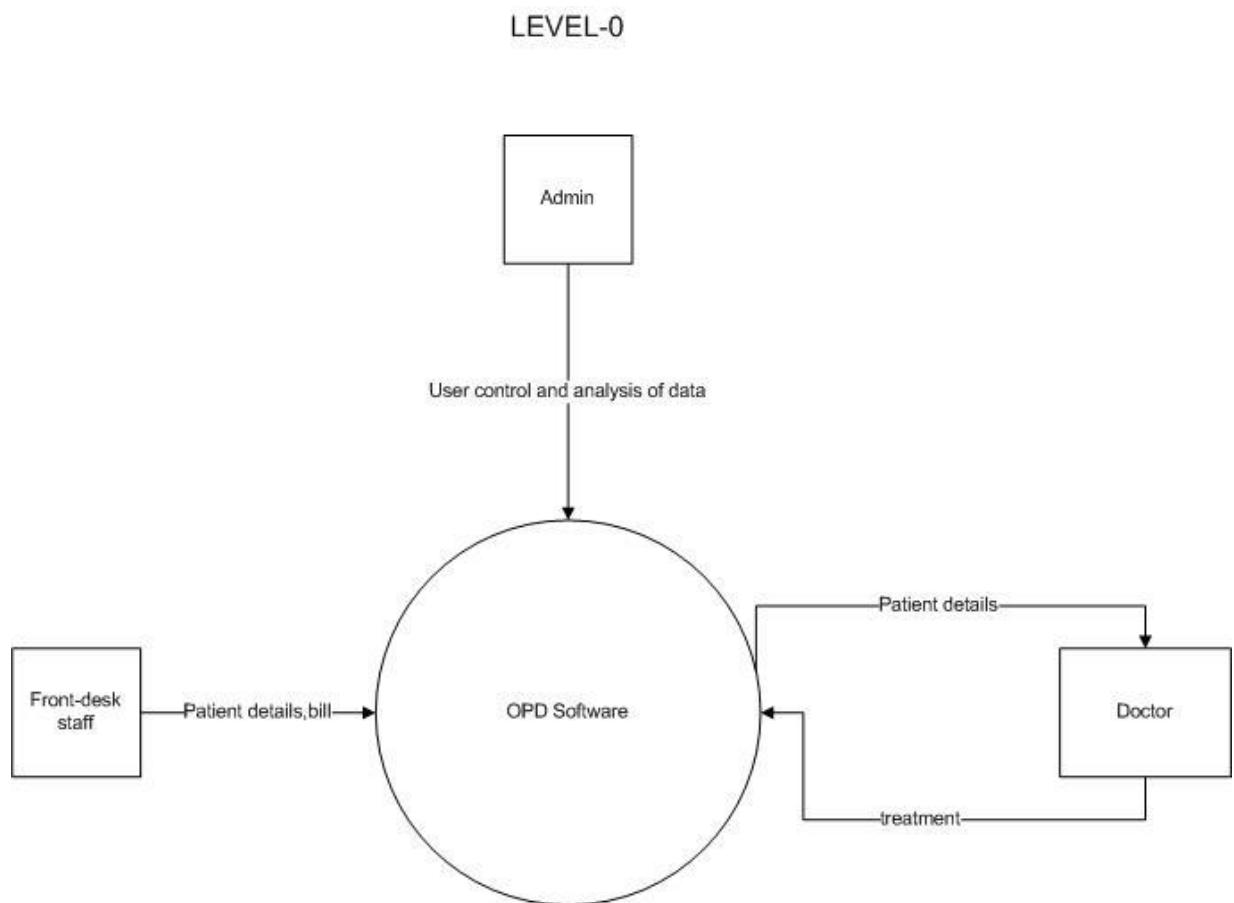
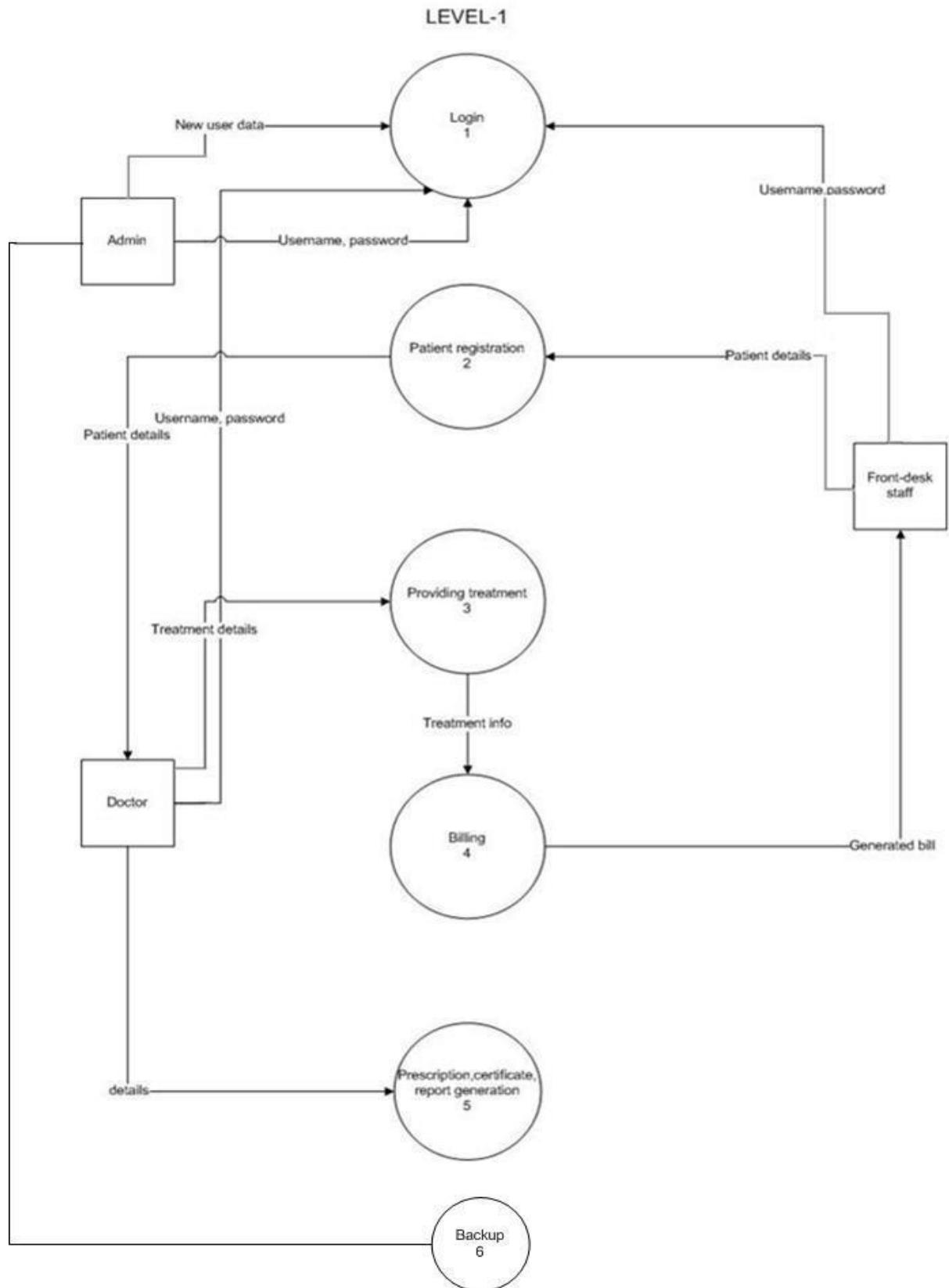


Figure 3.2 Data Flow Diagram Level-0

**Figure 3.3 Data Flow Diagram Level-1**

LEVEL-2(1)

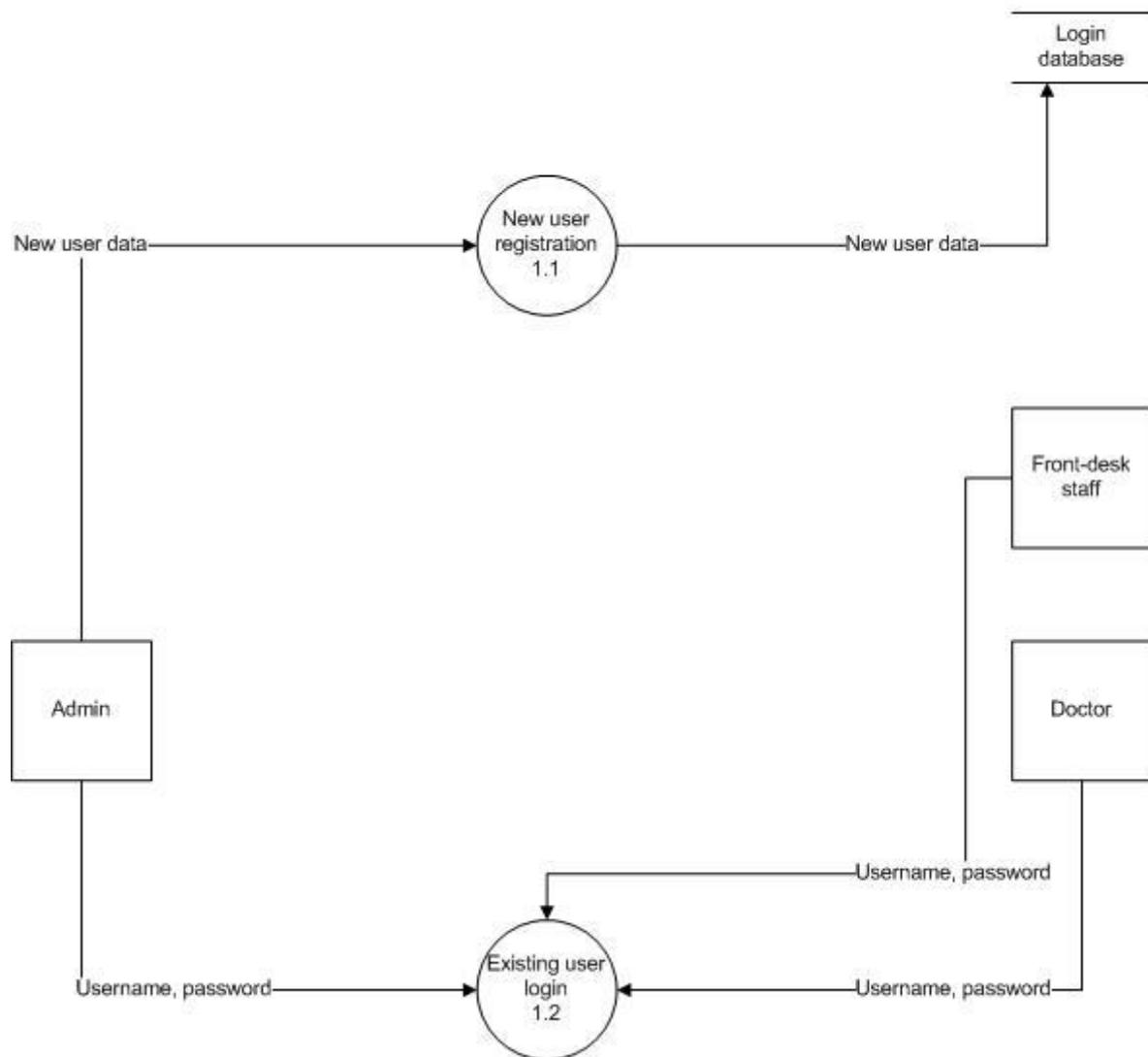


Figure 3.4 Data Flow Diagram Level-2(1)

LEVEL-2(2)

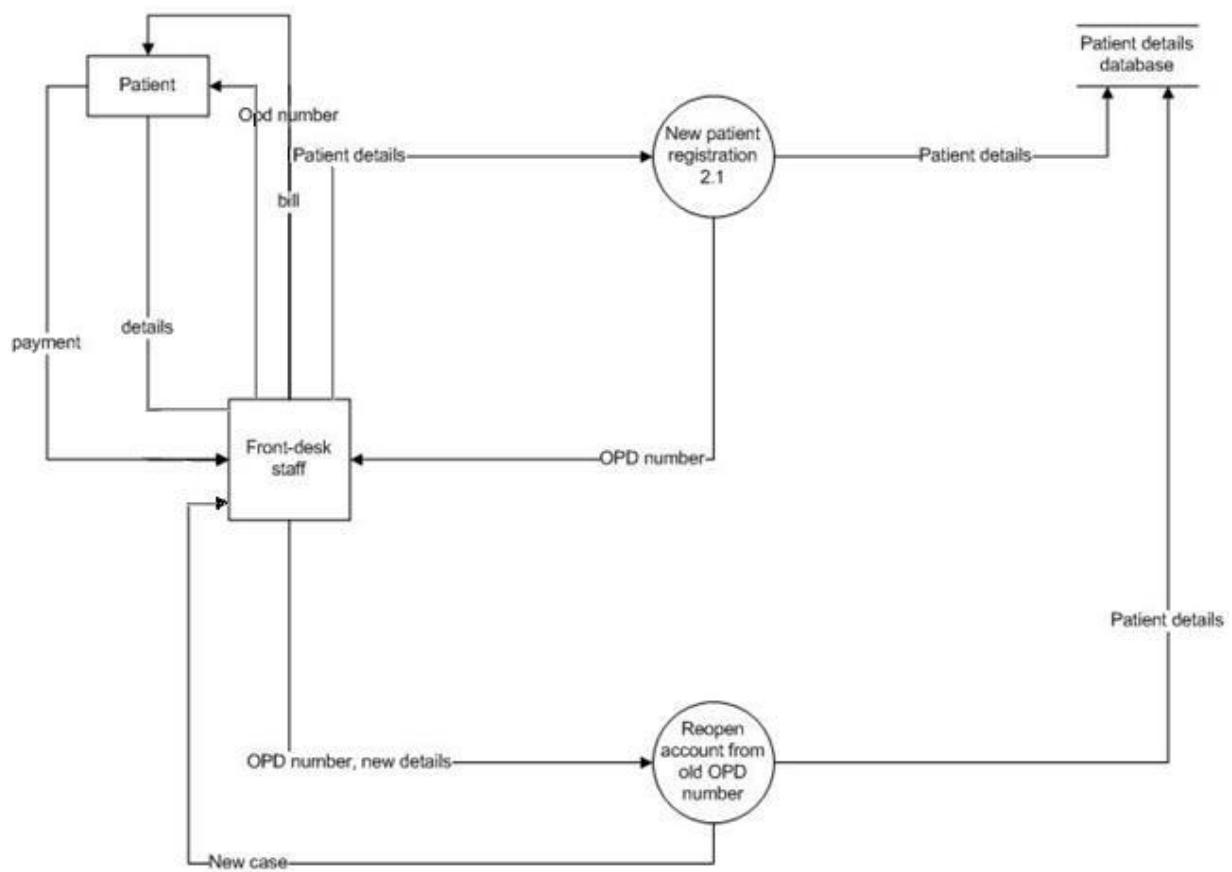


Figure 3.5 Data Flow Diagram Level-2(2)

LEVEL-2(3)

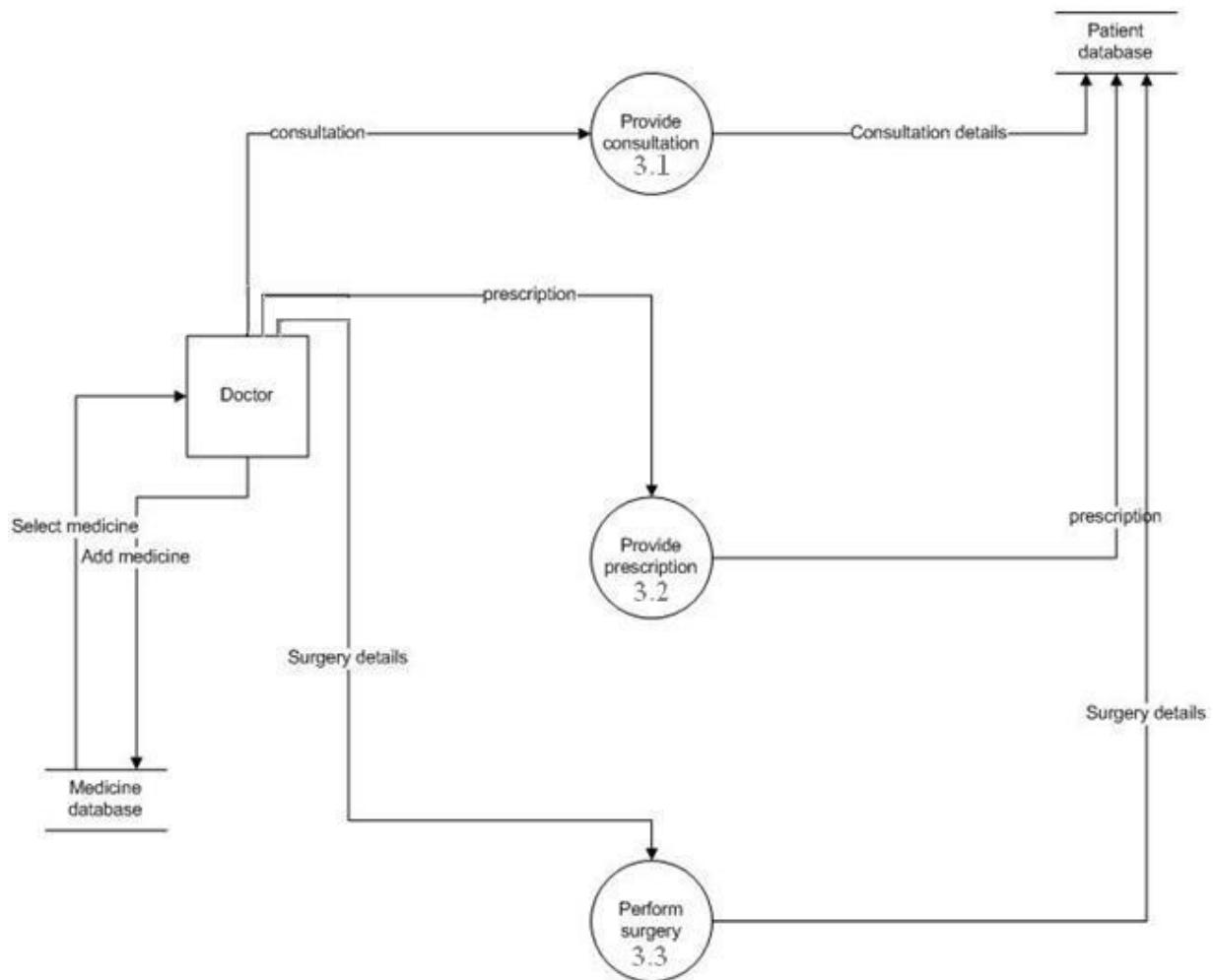


Figure 3.6 Data Flow Diagram Level-2(3)

LEVEL-2(4)

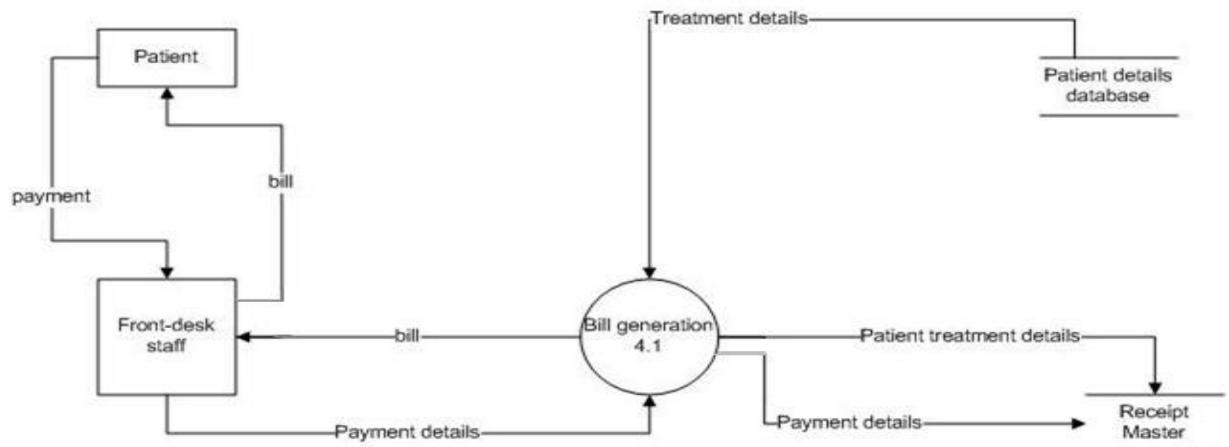
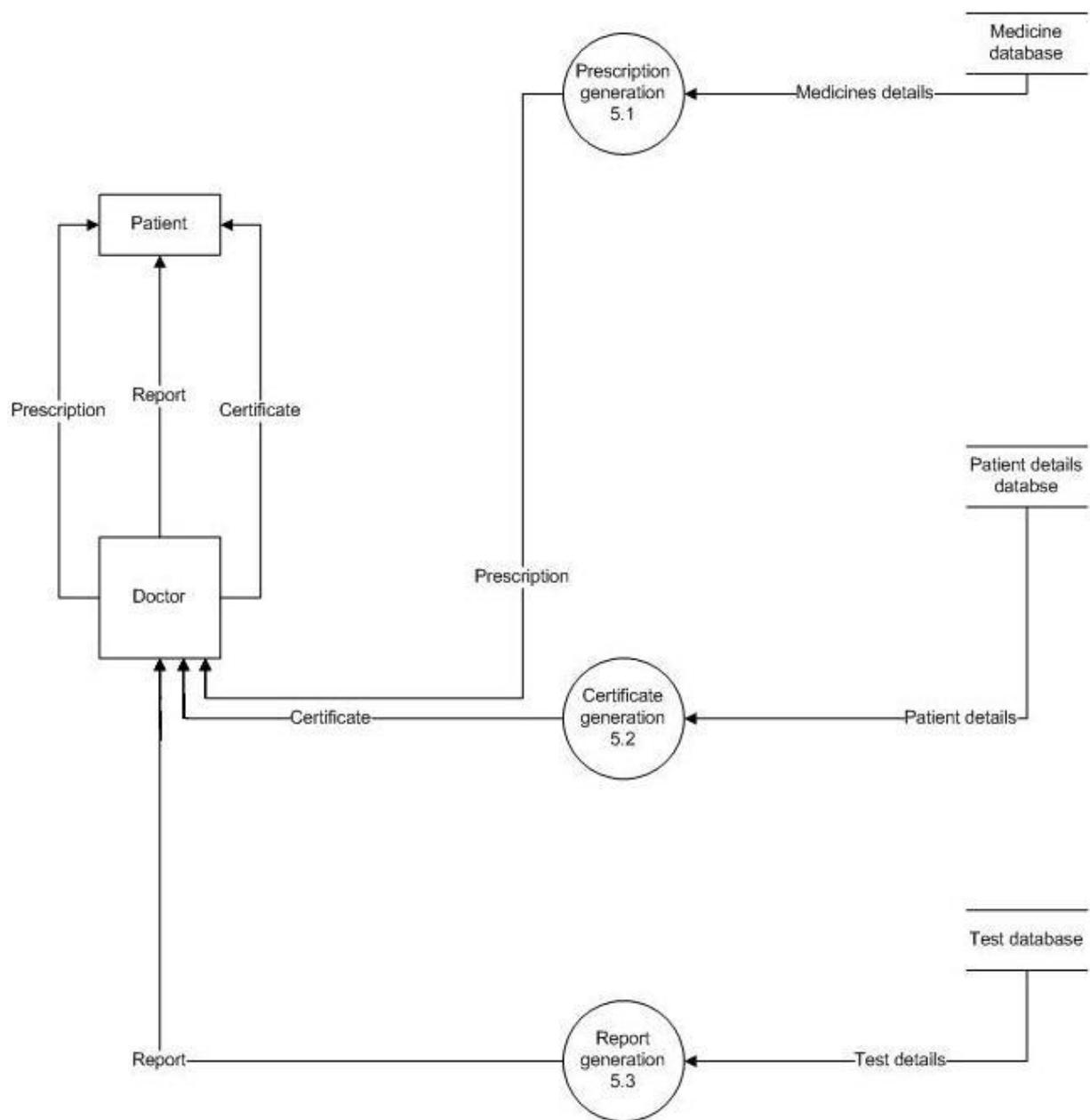


Figure 3.7 Data Flow Diagram Level-2(4)

LEVEL-2(5)

**Figure 3.8 Data Flow Diagram Level-2(5)**

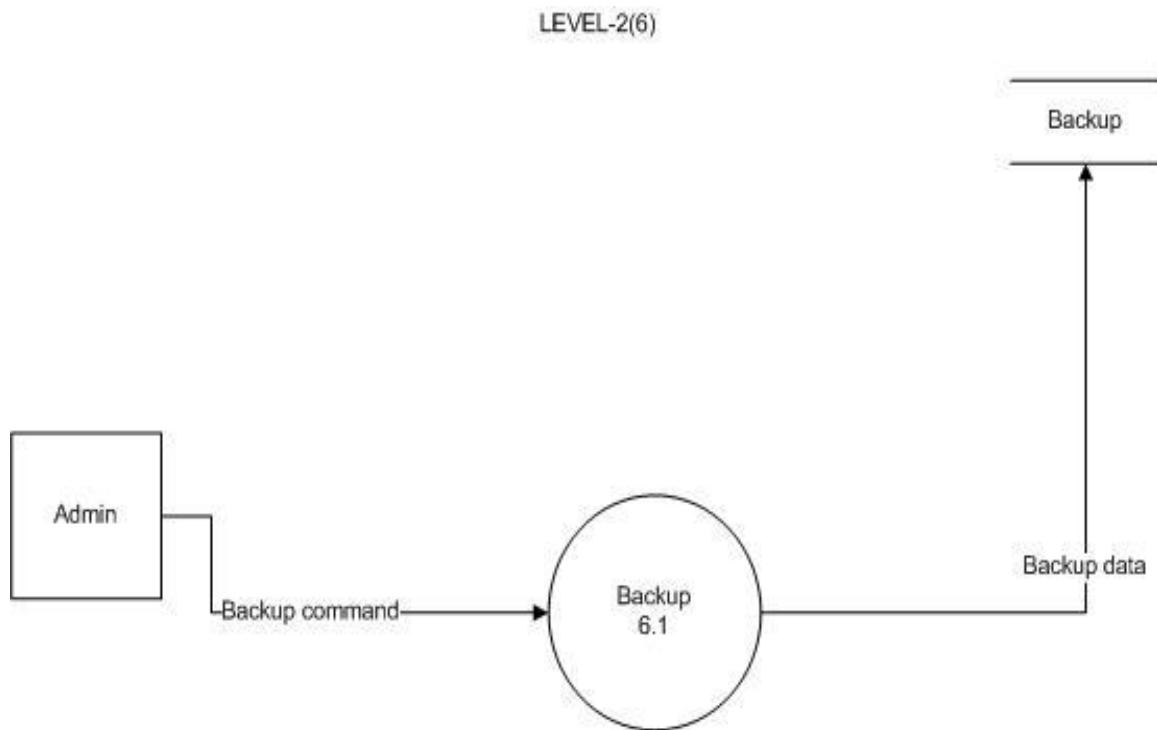


Figure 3.9 Data Flow Diagram Level-2(6)

3.3 USE CASE DIAGRAM

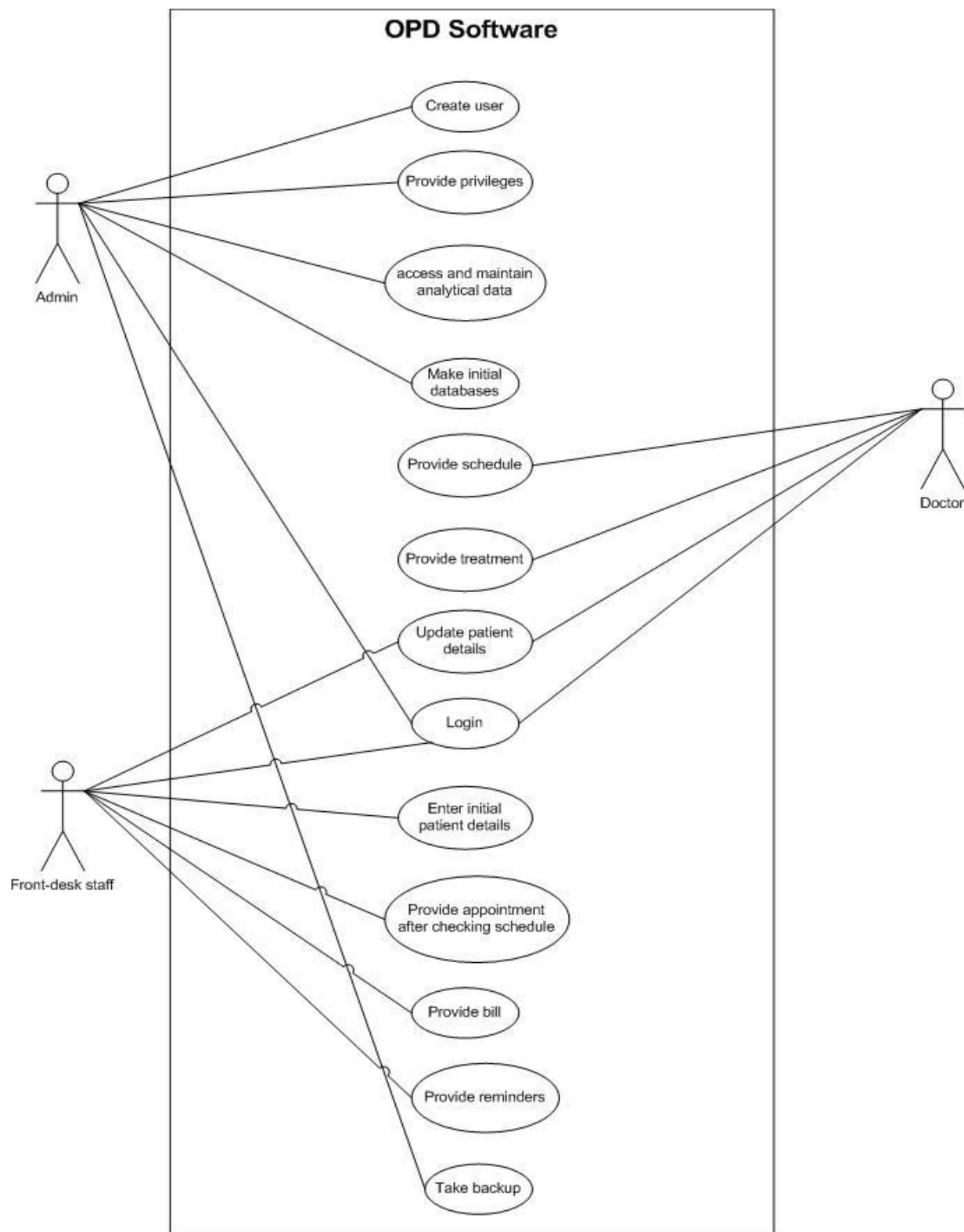


Figure 3.10 Use-case Diagram

3.4 SEQUENCE DIAGRAM

SEQUENCE FOR CREATING NEW USER

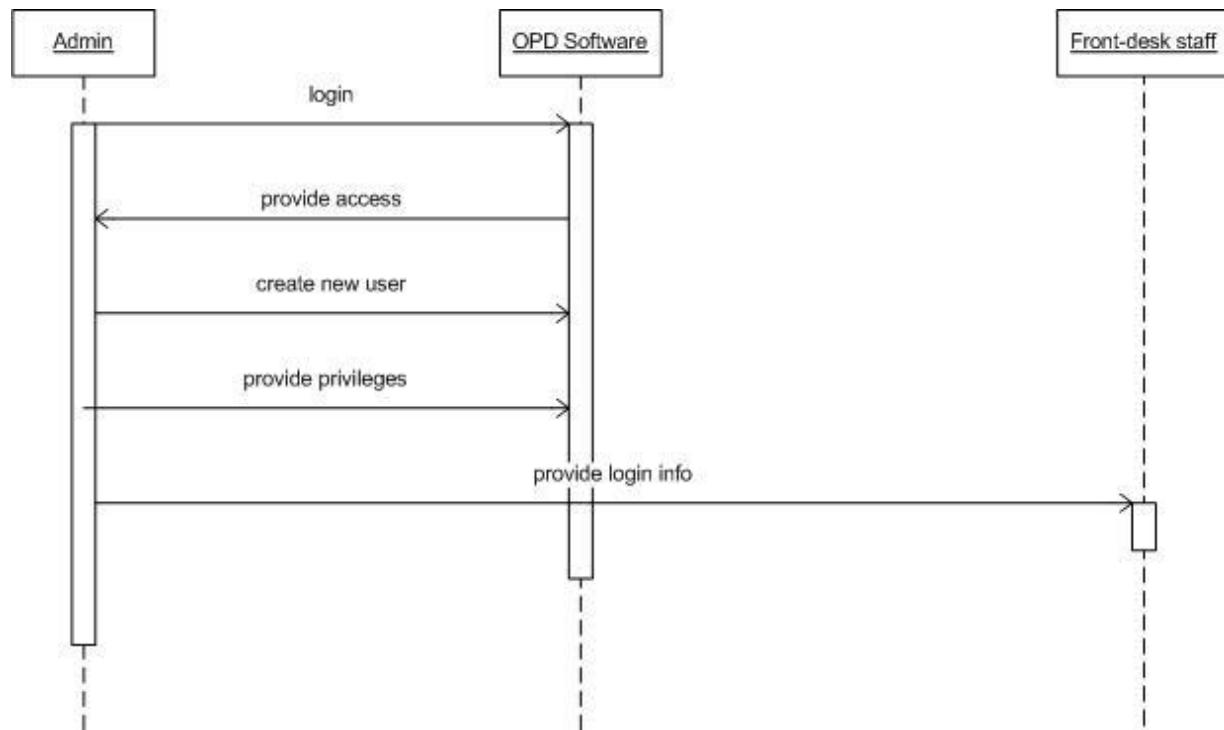


Figure 3.11 Sequence Diagram for Creating New User

SEQUENCE FOR PROVIDING TREATMENT

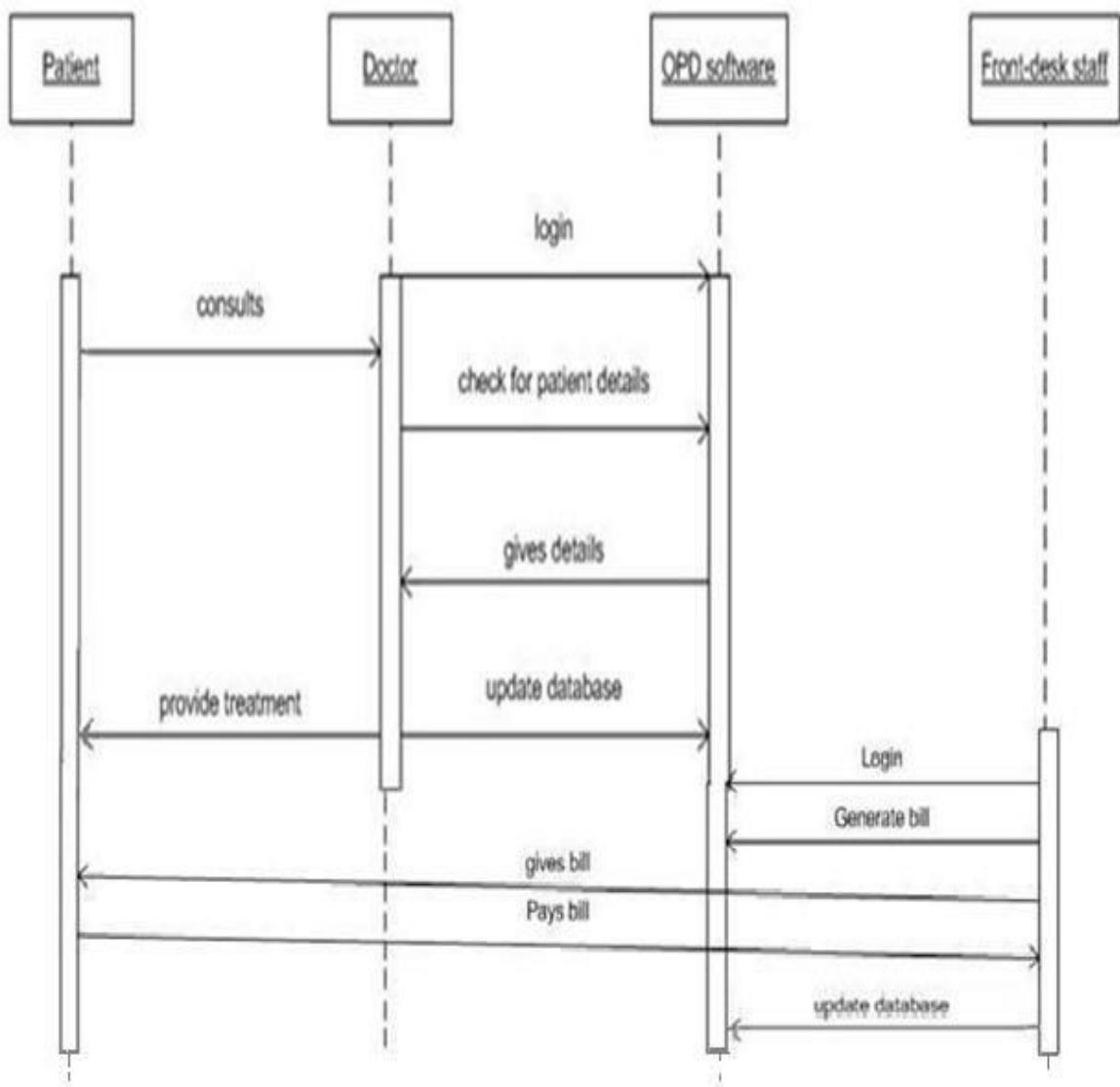


Figure 3.12 Sequence Diagram for Providing Treatment

SEQUENCE FOR PATIENT REGISTRATION

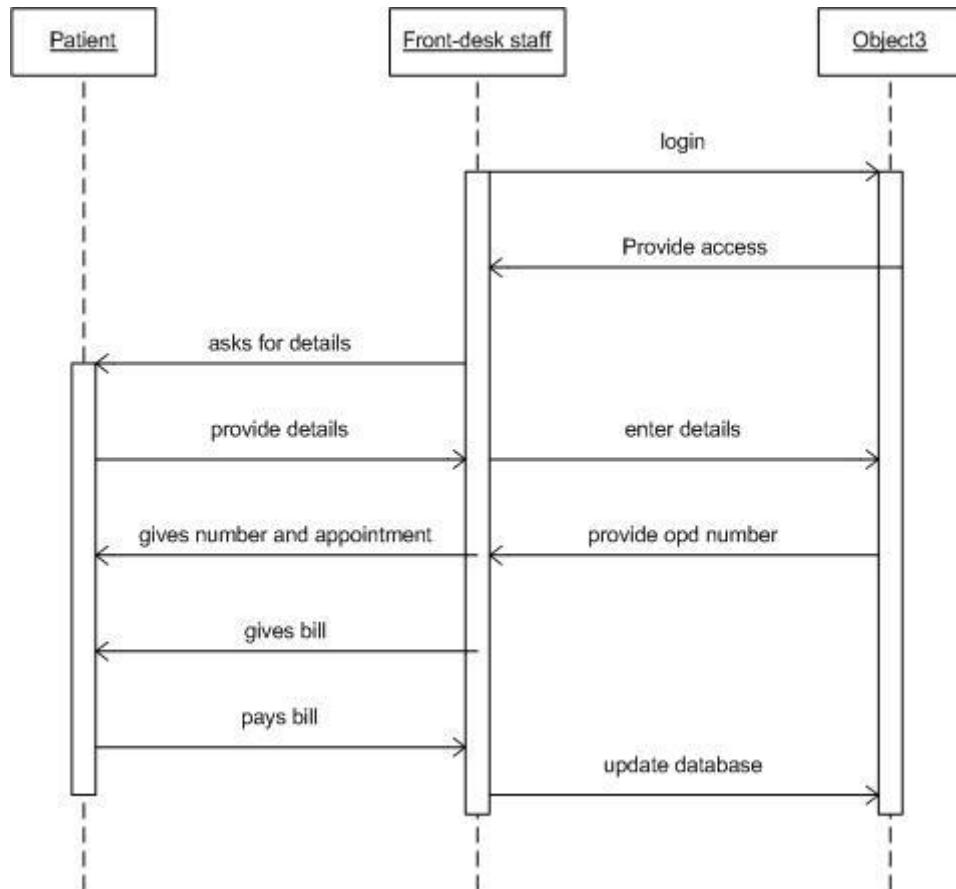


Figure 3.13 Sequence Diagram for Patient Registration

3.5 ACTIVITY DIAGRAM

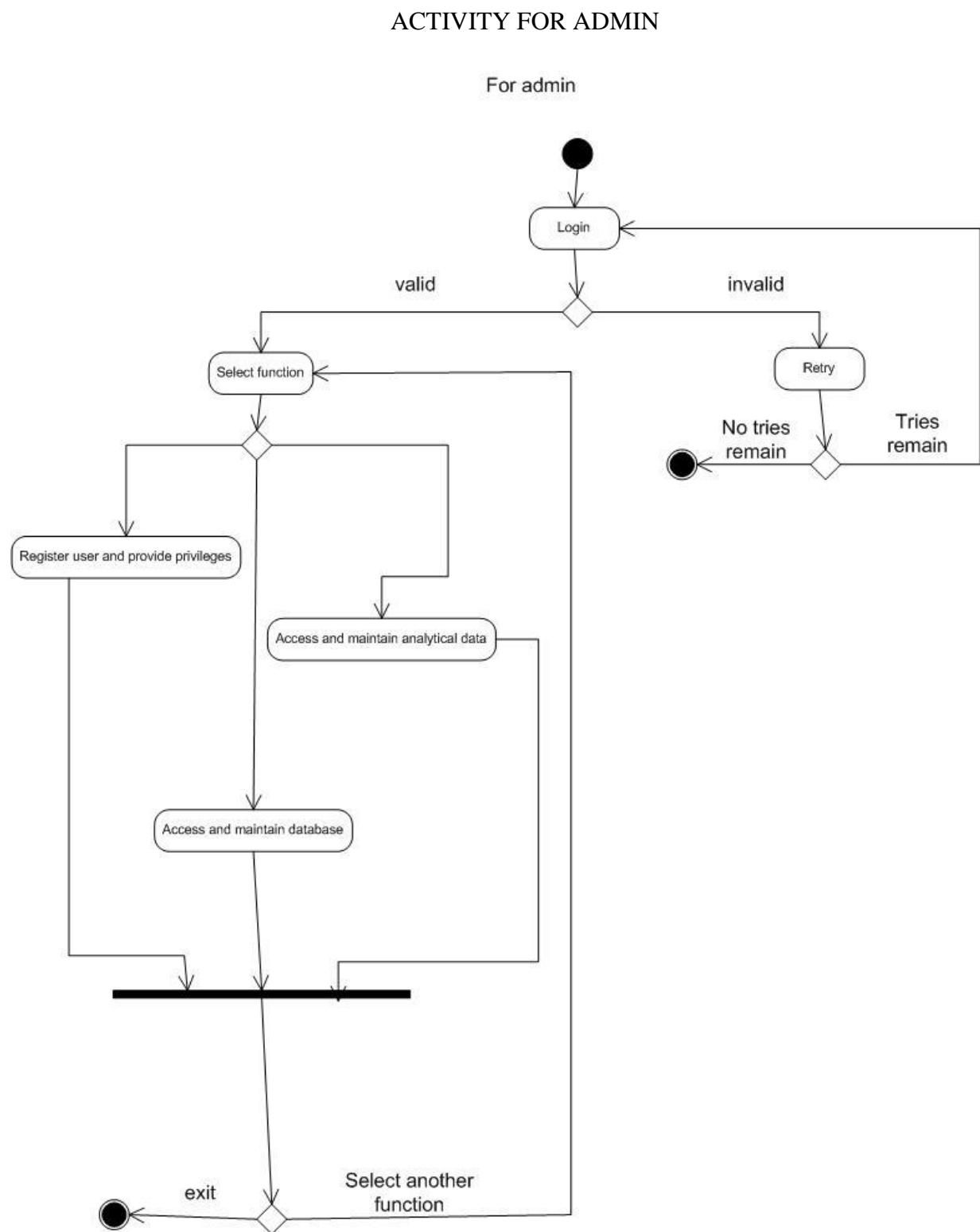
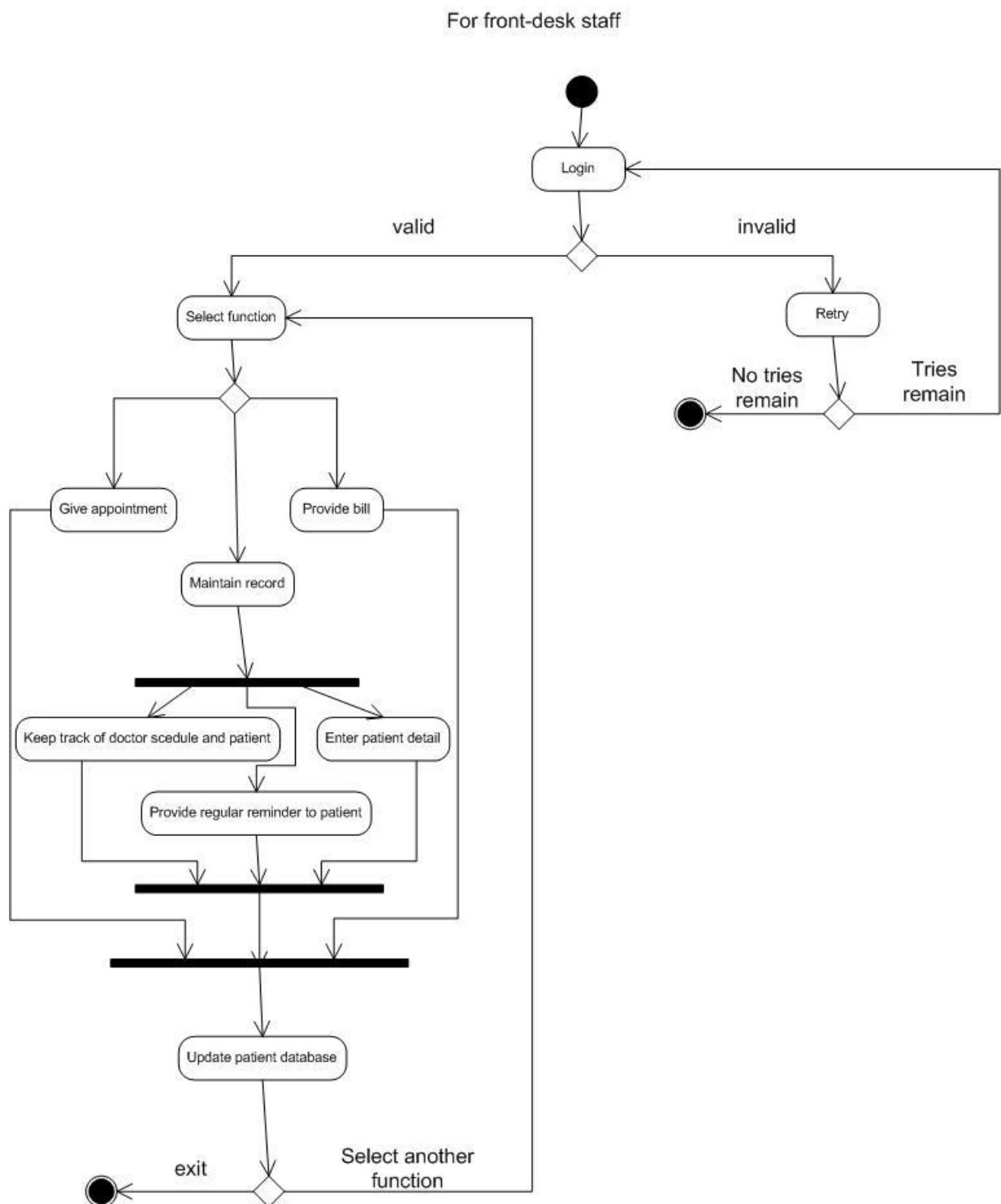


Figure 3.14 Activity diagram for admin

ACTIVITY FOR FRONT DESK STAFF

**Figure 3.15 Activity diagram for front-desk staff**

ACTIVITY FOR DOCTOR

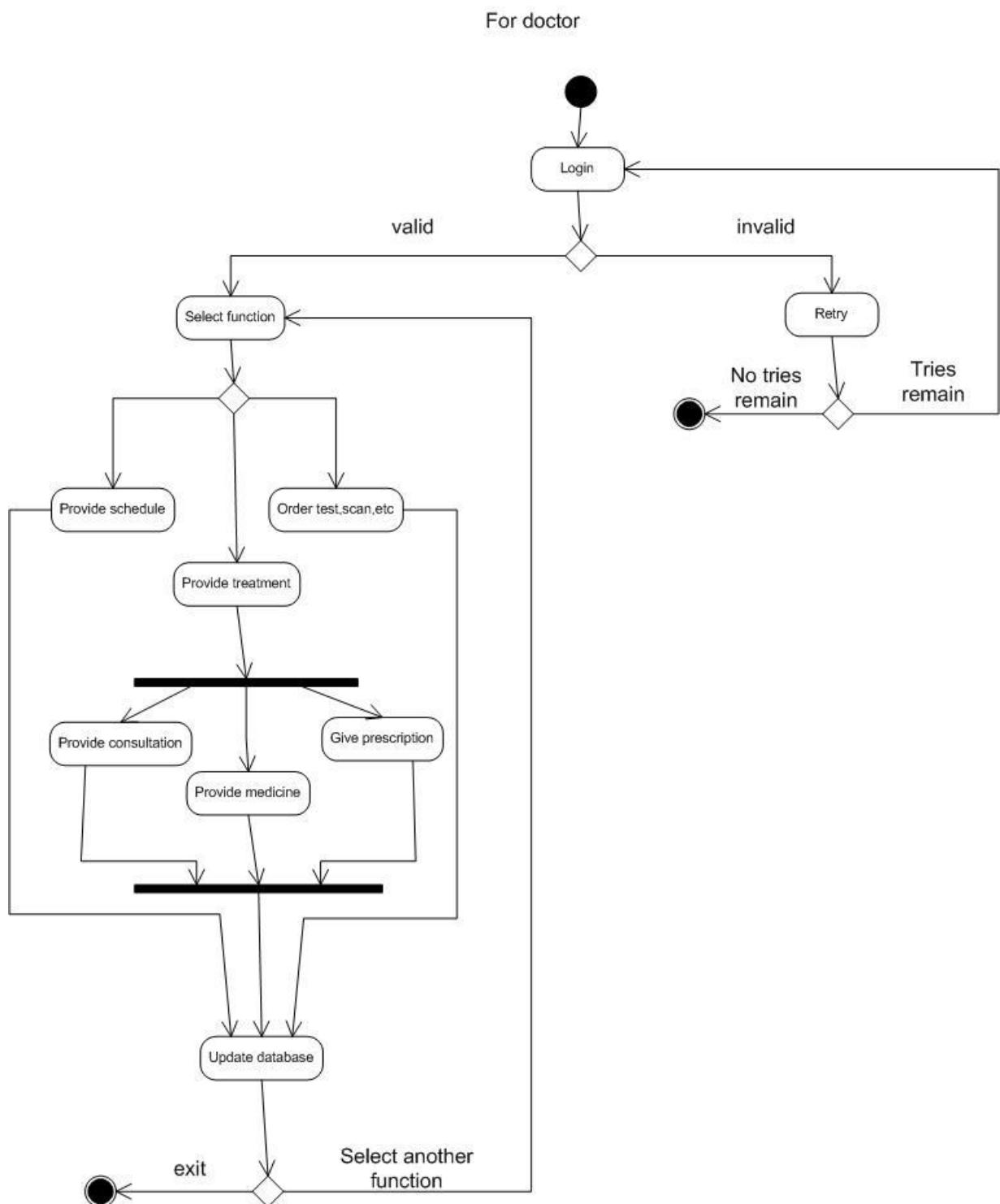


Figure 3.16 Activity diagram for doctor

3.6 CLASS DIAGRAM

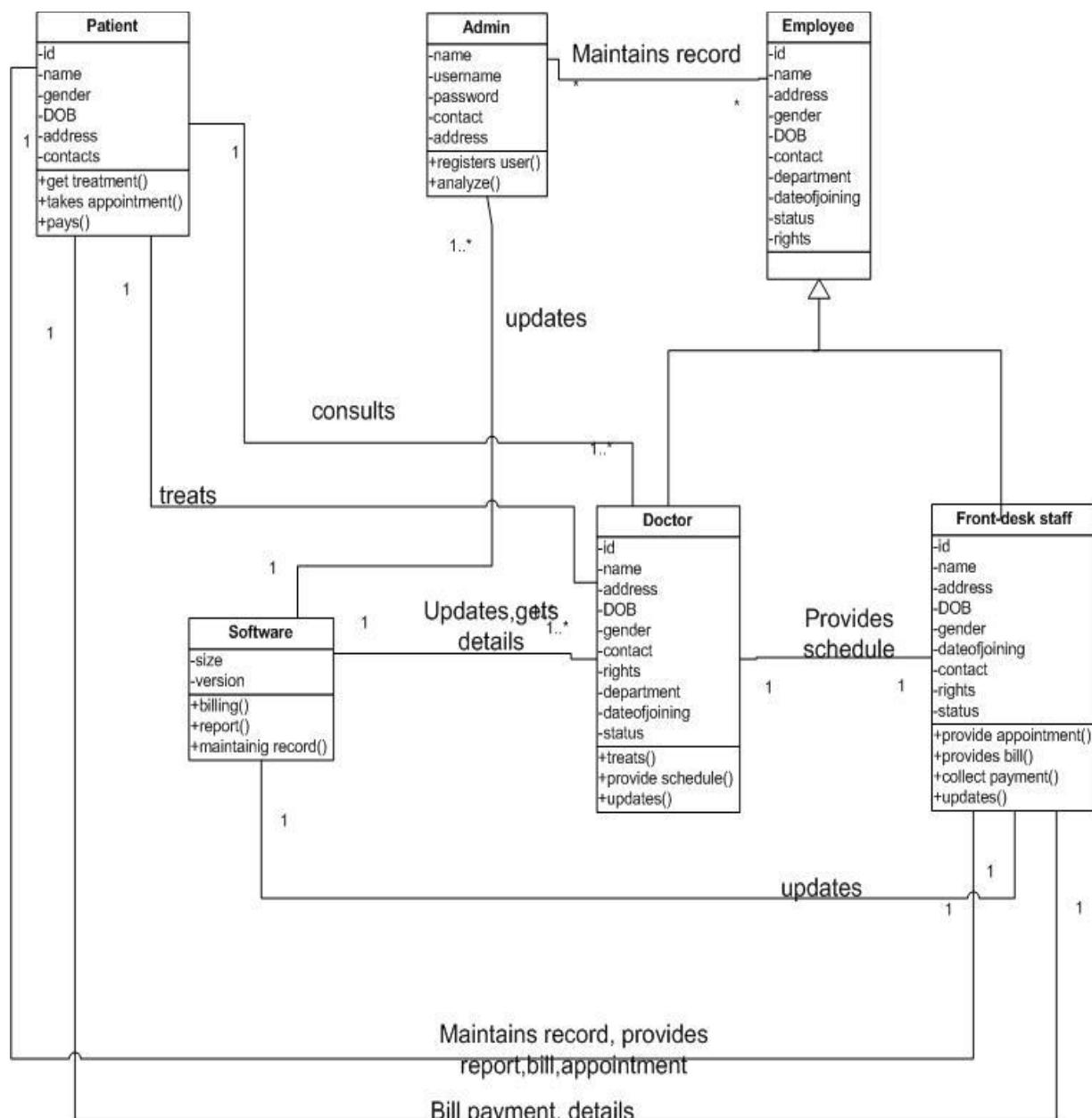
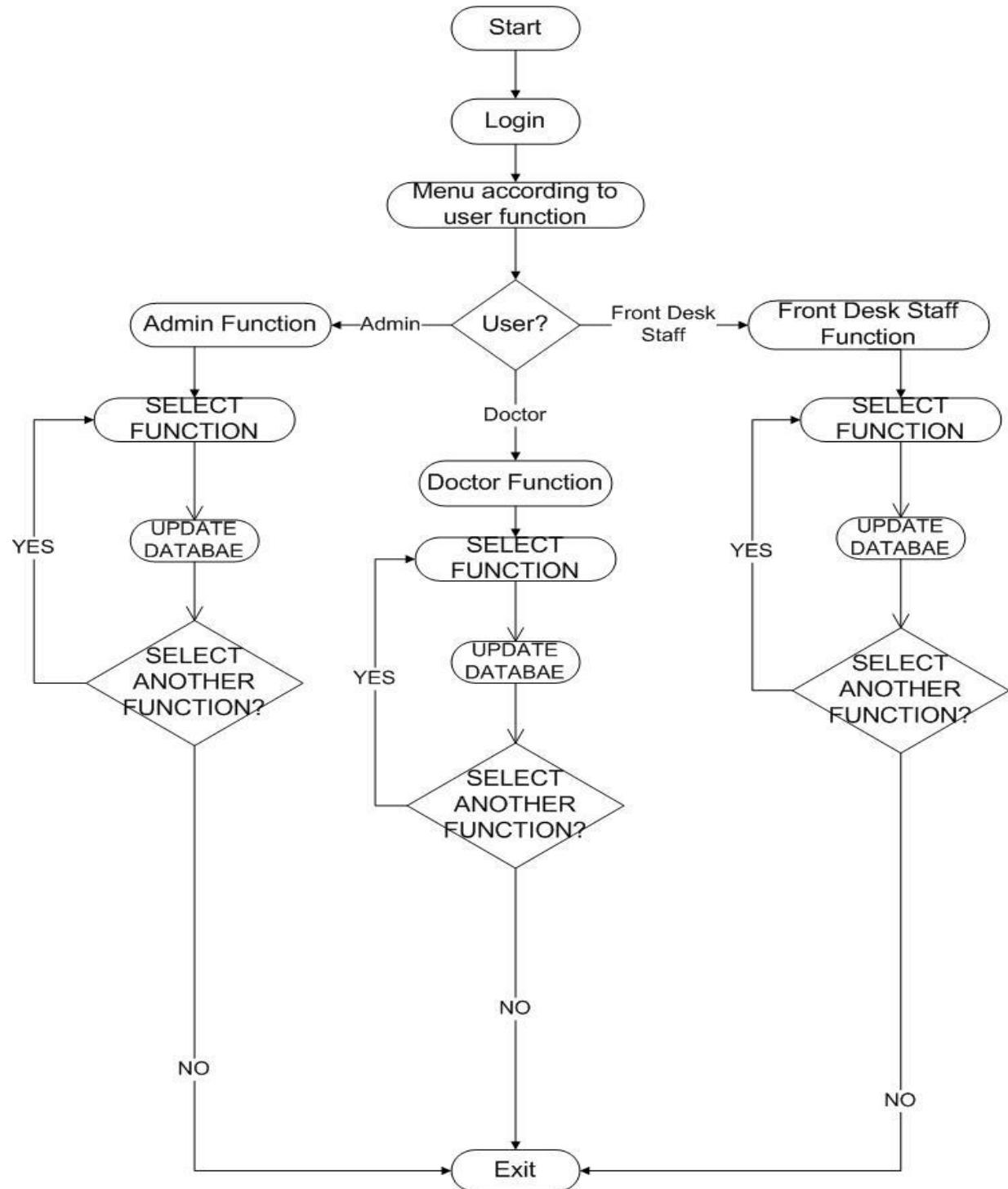


Figure 3.17 Class diagram

CHAPTER-4 DESIGN**4.1 SYSTEM FLOW DIAGRAM****Figure 4.1 System Flow Diagram**

4.2 DATA DICTIONARY

TABLE 4.1 COMPANY MASTER

FIELD NAME	DATA TYPE	SIZE	CONSTRAINTS	DESCRIPTION
cmp_id	Int	-	Primary key	Unique id of company
cmp_name	Varchar	50	Not null	Name of the company
cmp_address	Varchar	150	Not null	Full address of company
cmp_city	Varchar	50	Not null	City in which company is located
cmp_state	Varchar	50	Not null	State in which company is located
cmp_country	Varchar	50	Not null	Country in which company is located
cmp_pincode	Int	-	Not null	Pincode of area in which company is located
cmp_email	Varchar	50	Not null	Email id of the company
cmp_fax	Int	-	Not null	Fax number of the company
cmp_receptiondesk	Int	-	Not null	Reception number of the company
cmp_photo	Varchar	200	Not null	Icon of the company
cmp_status	Varchar	50	Not null	Active or deactivate

TABLE 4.2 DEPARTMENT MASTER

FIELD NAME	DATA TYPE	SIZE	CONSTRAINTS	DESCRIPTION
dep_id	Int	-	Primary key	Unique id of the department
dep_name	Varchar	50	Not null	Department name
dep_description	Varchar	150	Not null	Department description
dep_status	Varchar	50	Not null	Active/Deactive

TABLE 4.3 EMPLOYEE MASTER

FIELD NAME	DATA TYPE	SIZE	CONSTRAINTS	DESCRIPTION
emp_id	Int	-	Primary key	Unique id of the employee
emp_name	Varchar	50	Not null	Name of employee
emp_type	Varchar	20	Not null	Designation of employee
emp_password	Varchar	20	Not null	Password provided for login
emp_dateofjoining	Date time	-	Not null	Date of joining the hospital
emp_birthdate	Date time	-	Not null	Date of birth
dep_id	Int	-	Foreign key	Department id in which employee works
emp_address	Varchar	150	Not null	Residential address of employee
emp_city	Varchar	50	Not null	City
emp_state	Varchar	50	Not null	State
emp_country	Varchar	50	Not null	Country
emp_pincode	Int	-	Not null	Area pincode
emp_email	Varchar	50	Not null	Email id of employee
emp_mobile	Int	-	Not null	Mobile number of employee
emp_landline	Int	-	Not null	Landline number
emp_status	Varchar	50	Not null	Active/Deactive
emp_photo	Varchar	200	Not null	Photo of employee

TABLE 4.4 EMPLOYEE RIGHTS

FIELD NAME	DATA TYPE	SIZE	CONSTRAINTS	DESCRIPTION
emp_right_id	Int	-	Primary key	Unique id of rights provided to employee
emp_id	Int	-	Foreign key	Unique id of employee to whom right is provided
tablename	Varchar	50	Not null	Name of table employee can access

TABLE 4.5 CATEGORY MASTER

FIELD NAME	DATA TYPE	SIZE	CONSTRAINTS	DESCRIPTION
category_id	Int	-	Primary key	Id of category in which diagnosis belongs
category_name	Varchar	50	Not null	Name of category in which diagnosis belongs
category_description	Varchar	150	Not null	Description of category
category_status	Varchar	50	Not null	Active/Deactive

TABLE 4.6 SUBCATEGORY MASTER

FIELD NAME	DATA TYPE	SIZE	CONSTRAINTS	DESCRIPTION
subcategory_id	Int	-	Primary key	Id of subcategory category in which diagnosis belongs
subcategory_name	Varchar	50	Not null	Name of subcategory
category_id	Int	-	Foreign key	Id of category in which subcategory belongs
subcategory_description	Varchar	150	Not null	Description of subcategory
subcategory_status	Varchar	50	Not null	Active/Deactive

TABLE 4.7 MEDICINE MASTER

FIELD NAME	DATA TYPE	SIZE	CONSTRAINTS	DESCRIPTION
medicine_id	Int	-	Primary key	Unique id of medicine
medicine_name	Varchar	50	Not null	Name of medicine
medicine_descriptio n	Varchar	150	Not null	Description of medicine
category_id	Int	-	Foreign key	Id of category of medicine according to diagnosis belongs
subcategory_id	Int	-	Foreign key	Id of subcategory of medicine according to diagnosis belongs

TABLE 4.8 PATIENT MASTER

FIELD NAME	DATA TYPE	SIZE	CONSTRAINTS	DESCRIPTION
patient_id	Int	-	Primary key	Unique auto-generated id of patient
patient_name	Varchar	50	Not null	Full name of the patient
patient_DOB	Date Time	-	Not null	Date of birth
patient_gender	Varchar	-	Not null	Gender
patient_age	Int	-	Not null	Age
patient_address	Varchar	150	Not null	Full address
patient_city	Varchar	50	Not null	City
patient_state	Varchar	50	Not null	State
patient_country	Varchar	50	Not null	Country
patient_pincode	Int	-	Not null	Area pincode
patient_email	Varchar	50	Not null	Email id of the patient
patient_mobile	Int	-	Not null	Mobile number
patient_landline	Int	-	Not null	Landline number
patient_photo	Varchar	200	Not null	Photo of patient
patient_state_stat us	Varchar	50	Not null	Patient medical condition
patient_status	Varchar	50	Not null	Active/Deactive

TABLE 4.9 PATIENT DETAILS

FIELD NAME	DATA TYPE	SIZE	CONSTRAINTS	DESCRIPTION
patient_id	Int	-	Foreign key	Id of patient
medical details	Varchar	150	Not null	Medical details
previous_treatment	Varchar	150	Not null	Description of previous treatments taken
complaints	Varchar	150	Not null	Reason for coming to hospital
category_id	Int	-	Foreign key	Id of category in which patient belongs
subcategory_id	Int	-	Foreign key	Patient's id of subcategory

TABLE 4.10 PATIENT DIAGNOSIS

FIELD NAME	DATA TYPE	SIZE	CONSTRAINTS	DESCRIPTION
diagnosis_id	Int	-	Primary key	Unique id of diagnosis
diagnosis_name	Varchar	-	Not null	Name of diagnosis
patient_id	Int	-	Foreign key	Id of patient
diagnosis_date	Date time	-	Not null	Date on which patient is diagnosed
advice	Varchar	150	Not null	Advice to patient
recommendation	Varchar	100	Not null	Recommendations
prescription	Varchar	200	Not null	Prescription of medicine
status	Varchar	50	Not null	Active/Deactive

TABLE 4.11 PATIENT TEST ASSIGN MASTER

FIELD NAME	DATA TYPE	SIZE	CONSTRAINTS	DESCRIPTION
test_id	Int	-	Foreign key	Id of test ordered if any
patient_id	Int	-	Foreign key	Id of patient
test_date	Date time	-	Not null	Date on which test done
status	Varchar	50	Not null	Active/Deactive

TABLE 4.12 PATIENT TEST RESULT

FIELD NAME	DATA TYPE	SIZE	CONSTRAINTS	DESCRIPTION
result_id	Int	-	Primary key	Unique id of result
test_id	Int	-	Foreign key	Unique id of test
patient_id	Int	-	Foreign key	Patient Id on whom test is done
filename	Varchar	150	Not null	Location of patient file
status	Varchar	50	Not null	Active/Deactive

TABLE 4.13 APPOINTMENT MASTER

FIELD NAME	DATA TYPE	SIZE	CONSTRAINTS	DESCRIPTION
appoint_id	Int	-	Primary key	Unique id of appointment
patient_id	Int	-	Foreign key	Id of patient to whom appointment is given
emp_id	Int	-	Foreign key	Id of employee
appoint_date	Date time	-	Not null	Date of appointment
status	Varchar	50	Not null	Active/Deactive

TABLE 4.14 TEST MASTER

FIELD NAME	DATA TYPE	SIZE	CONSTRAINTS	DESCRIPTION
test_id	Int	-	Primary key	Unique id of test ordered
test_name	Varchar	50	Not null	Name of test
test_description	Varchar	150	Not null	Description of test
test_rate	Int	-	Not null	Amount charged for test
test_status	Varchar	50	Not null	Active/Deactive

TABLE 4.15 RECEIPT MASTER

FIELD NAME	DATA TYPE	SIZE	CONSTRAINTS	DESCRIPTION
receipt_id	Int	-	Primary key	Unique id of receipt
receipt_date	Date time	-	Not null	Date on which receipt is issued
patient_id	Int	-	Foreign key	Id of patient to whom receipt is given
receipt_particular	Varchar	50	Not null	Particular information
receipt_amount	Int	-	Not null	Amount
receipt_mode	Varchar	20	Not null	Mode of payment
receipt_chqno	Int	-	Not null	Cheque number if amount paid by cheque
receipt_chqdate	Date time	-	Not null	Cheque date if amount is paid by

				cheque
receipt_bankname	Varchar	20	Not null	Name of bank
receipt_status	Varchar	50	Not null	Active/Deactive

4.3 RELATIONSHIP OF TABLES

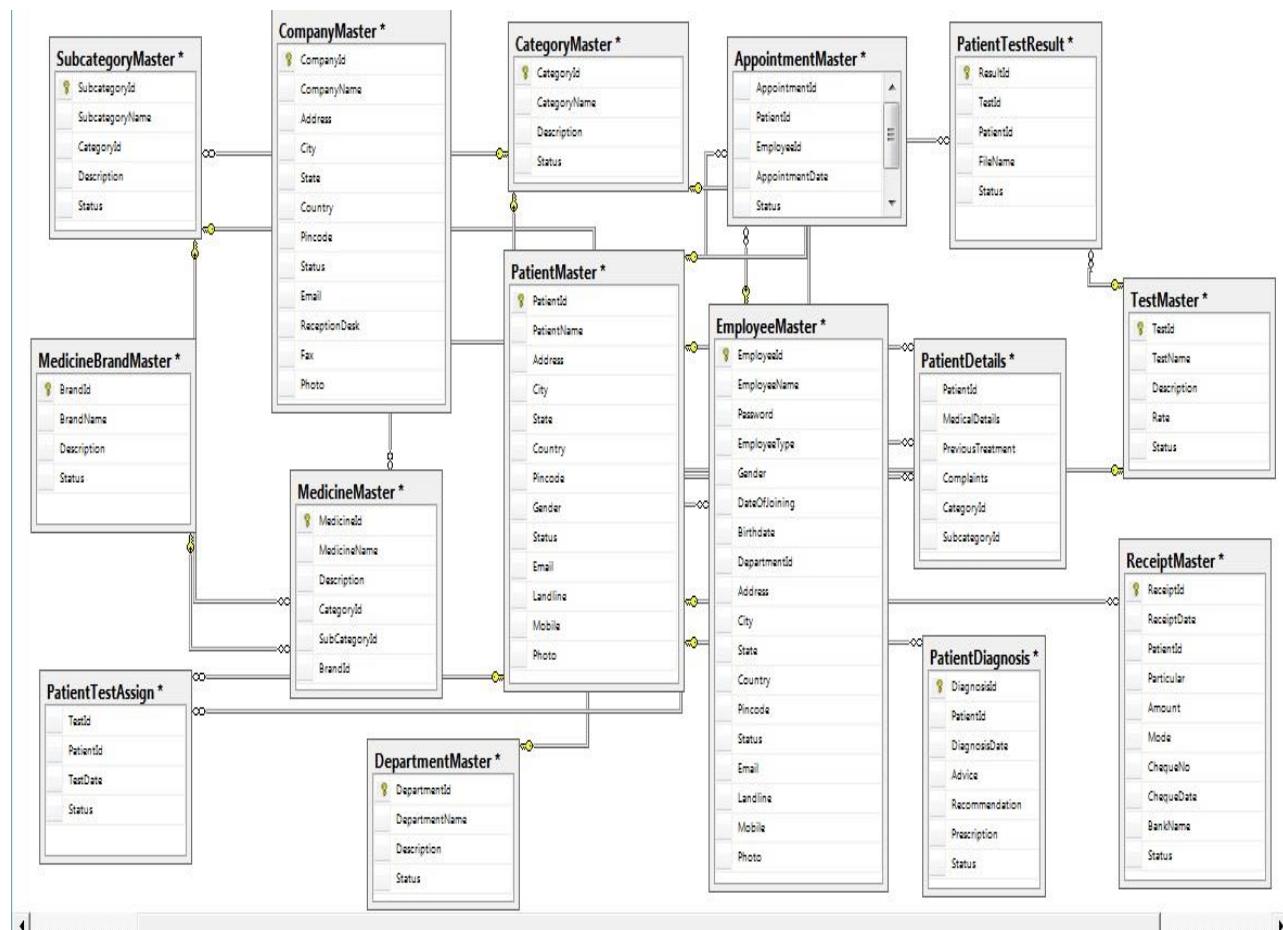


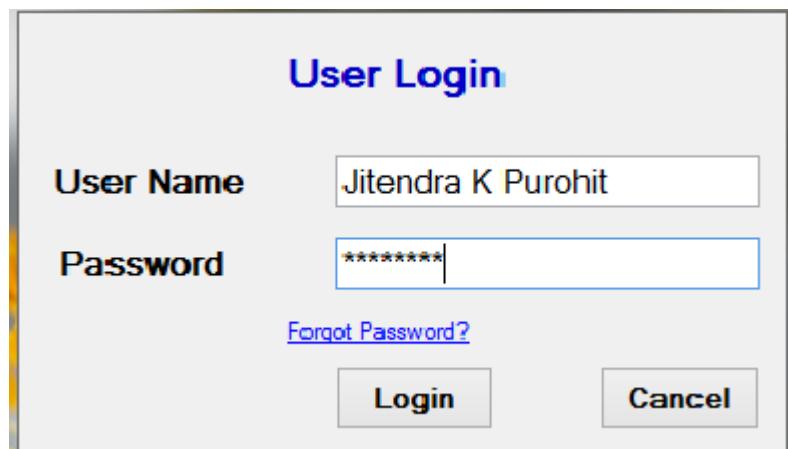
Figure 4.2 Relationship of Tables

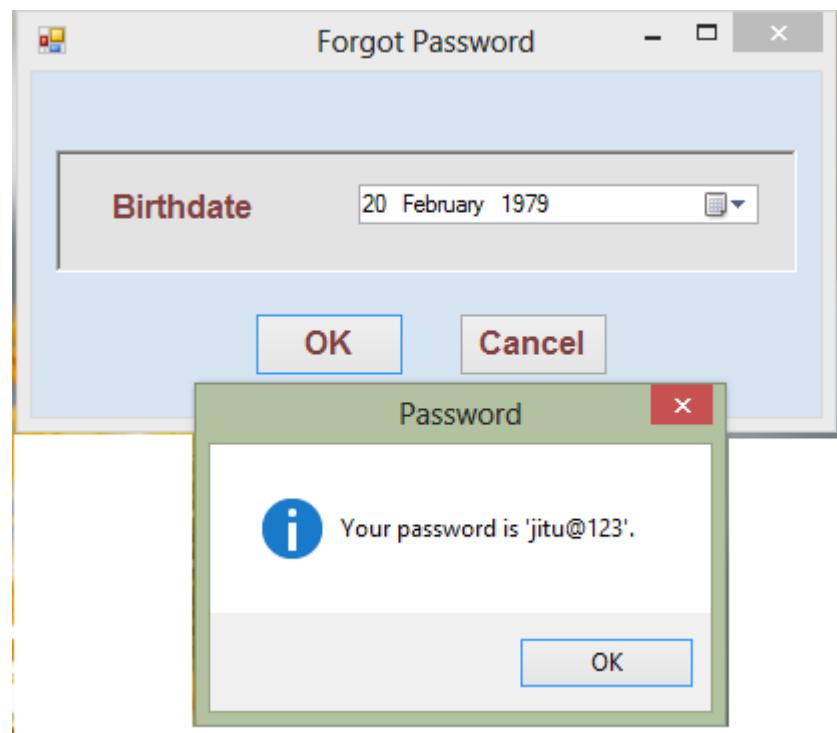
4.4 USER INTERFACE

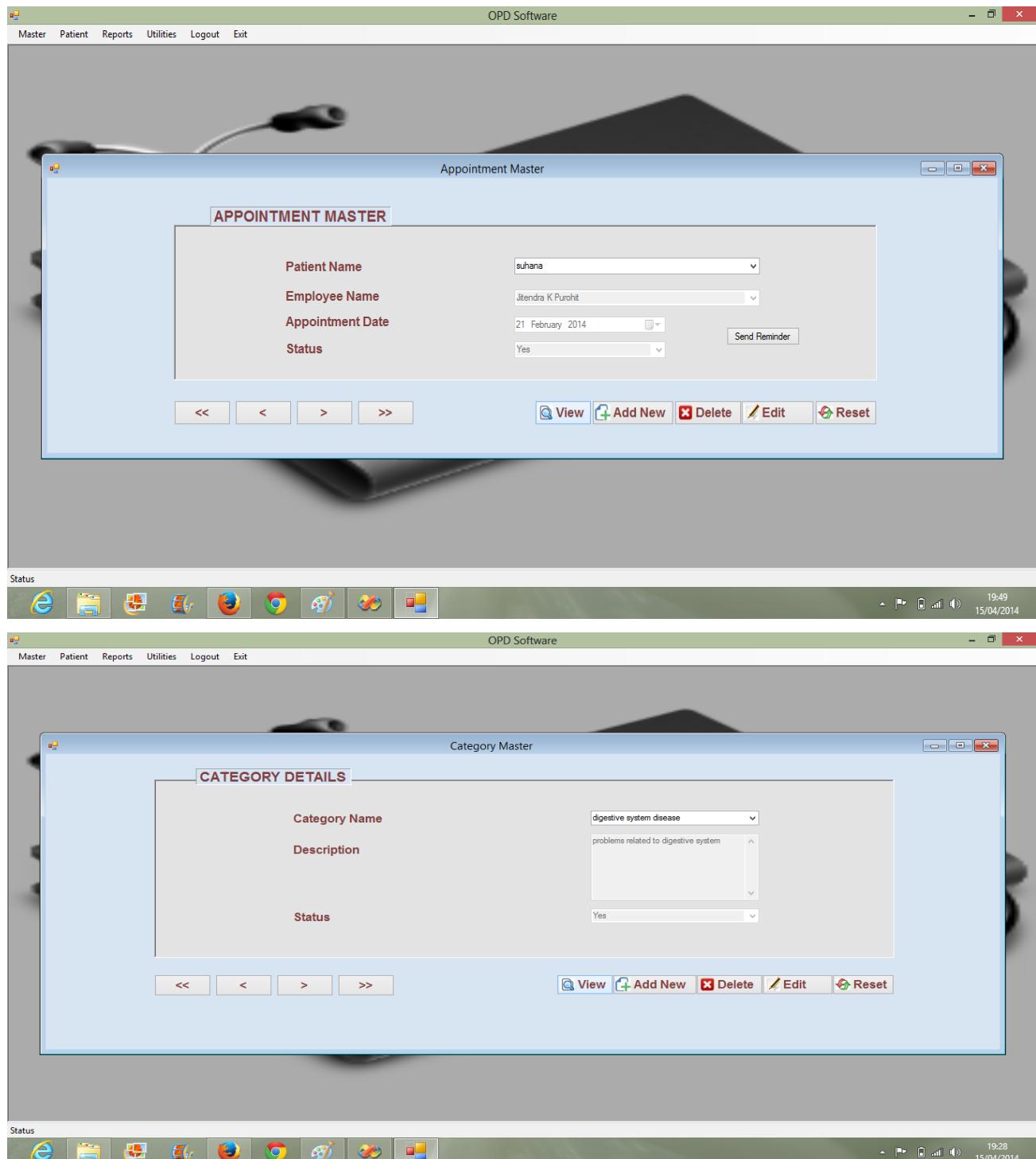
We have used various components to make the interface user friendly. The various components used are:-

- Textbox
- Radiobutton
- Button
- Panel
- Picturebox
- Datetimepicker
- Label
- Combobox
- OpenFileDialog Box
- Progressbar
- Timer
- MdiParent
- GridView
- WindowsApplicationForm

SCREENSHOTS







OPD Software

Master Patient Reports Utilities Logout Exit

Company Master

HOSPITAL DETAILS

Hospital Name	jeevan
Address	setu complex, kalyani road, ahmedabad, gujarat india-380000
Status	Yes
City	ahmedabad
State	gujarat
Country	india
Pincode	380000

CONTACT INFO

Email	jeevan@gmail.com
Reception Desk	57546564 <input type="text" value="Enter reception desk number"/>
Fax	57546564 <input type="text" value="Enter fax number"/>

<< < > >>

 Load Photo Remove Photo

 View  Add New  Delete  Edit  Reset

OPD Software

Master Patient Reports Utilities Logout Exit

Department Master

DEPARTMENT DETAILS

Department Name	burn center
Description	18 staff members
Status	Yes

<< < > >>

 View  Add New  Delete  Edit  Reset

Status

Employee Master

EMPLOYEE DETAILS			
Employee Name	Jitendra K Purohit	City	ahmedabad
Password	jtu@123	State	gujarat
Date Of Birth	20 February 1979	Country	india
Address	b/12 gajanan flats, satellite, ahmedabad, gujarat india-380000	Pincode	380000
Employee Type	doctor	Date Of Joining	01 February 2000
Department Name	burn center	Status	Yes

CONTACT INFO

Email	jitendra@jeevan.gmail.com	Mobile Number	7684467765	Enter a 10 digit mobile number	Landline Number	65456833	Enter residential number
-------	---------------------------	---------------	------------	--------------------------------	-----------------	----------	--------------------------

Employee Rights Master

EMPLOYEE RIGHTS DETAILS																	
Employee Name	Jitendra K Purohit																
Table Name	diagnosis details,test assign,test result																
<<	<	>	>>	View	Add New	Delete	Edit	Reset									
<table border="1"> <thead> <tr> <th>emp_right_id</th> <th>emp_name</th> <th>tablename</th> </tr> </thead> <tbody> <tr> <td>10</td> <td>Jitendra K Purohit</td> <td>diagnosis details.t...</td> </tr> <tr> <td>*</td> <td></td> <td></td> </tr> </tbody> </table>									emp_right_id	emp_name	tablename	10	Jitendra K Purohit	diagnosis details.t...	*		
emp_right_id	emp_name	tablename															
10	Jitendra K Purohit	diagnosis details.t...															
*																	

PATIENT MEDICAL DETAILS

Patient Name	suhana
Medical Details	gastrointestinal disease
Previous Treatment	no previous treatment
Complaint	intensive stomach pain
Category Name	digestive system disease
Subcategory Name	gastrointestinal disease

PATIENT DIAGNOSIS DETAILS

Diagnosis	gastro disease
Patient Name	suhana
Diagnosis Date	06 March 2014
Advice	take light diet
Recommendation	gas-x oral chewable tablet after meal
Prescription	gas-x oral
Status	Yes

PATIENT DETAILS

Patient Name	suhana	 <input type="button" value="Load Photo"/> <input type="button" value="Remove Photo"/>
Gender	<input checked="" type="radio"/> Female	
Date of Birth	19/10/1993	
Address	a\16 dev apartments, maninagar, ahmedabad, gujarat, india-380000	
Status	Yes	
Age	21	
City	ahmedabad	
State	gujarat	
Country	india	
Pincode	380000	
Patient Condition		
Normal		

CONTACT INFO

Email	suhana@mail.com
Mobile Number	1234543210 <small>Enter 10 digit mobile number</small>
Landline Number	99999999 <small>Enter residential number</small>

PATIENT TEST ASSIGN

Test Name	blood test
Patient Name	suhana
Test Date	09 March 2014
Status	Yes

OPD Software

Master Patient Reports Utilities Logout Exit

Receipt Master

RECEIPT DETAILS

Receipt ID	18
Receipt Date	22 February 2014
Patient Name	suhana
Particular	paid by cheque
Amount	456778
Status	Yes
Payment Mode	Cheque
Cheque Number	6789
Cheque Date	19 February 2014
Bank Name	icici

<< < > >>

View Add New Delete Edit Reset

Status

OPD Software

Master Patient Reports Utilities Logout Exit

Patient Test Result Master

PATIENT TEST RESULT

Test Name	blood test
Patient Name	suhana
File	C:\Users\DELL\Downloads\tab1Cisco
Status	Yes

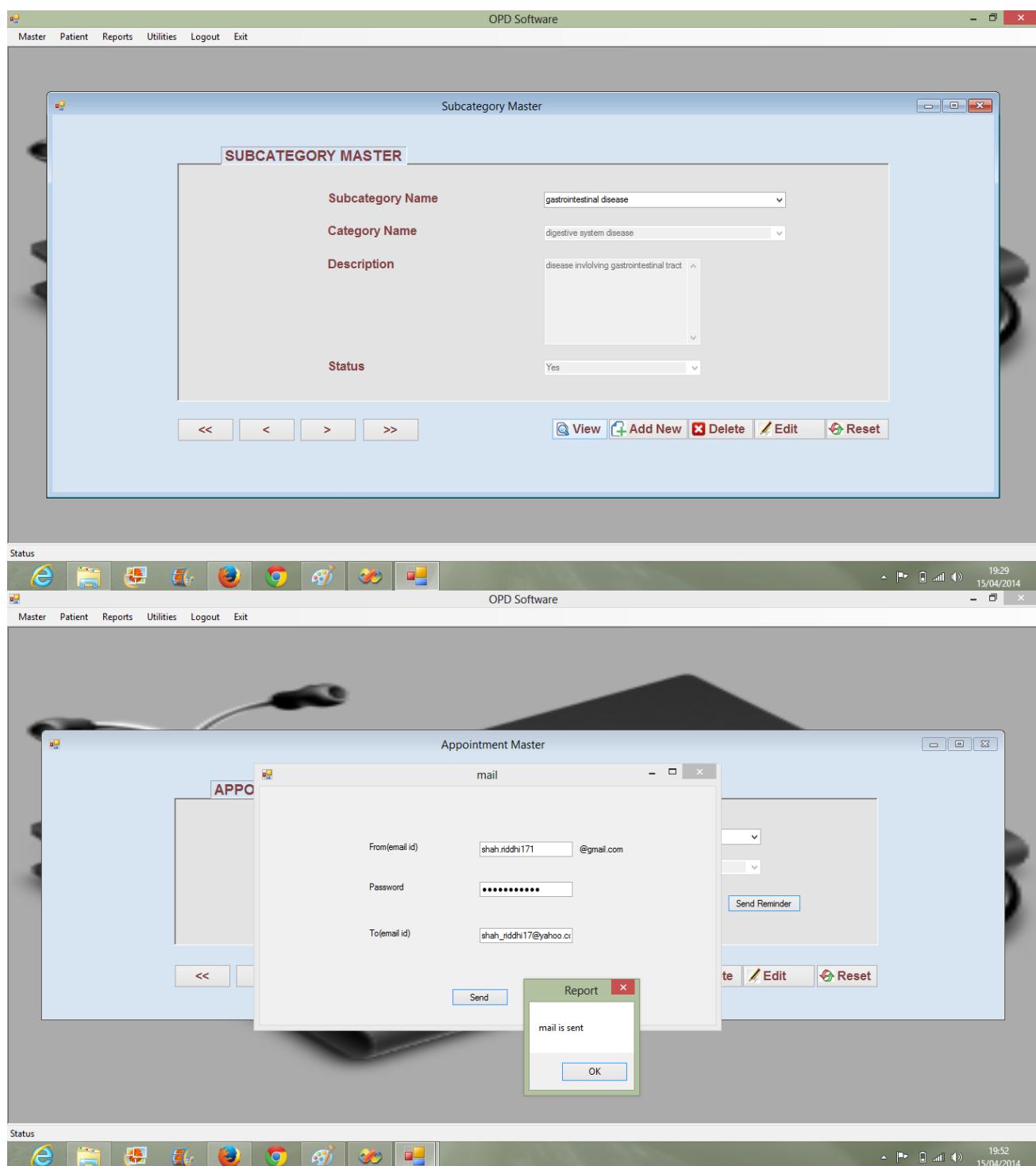
Upload File

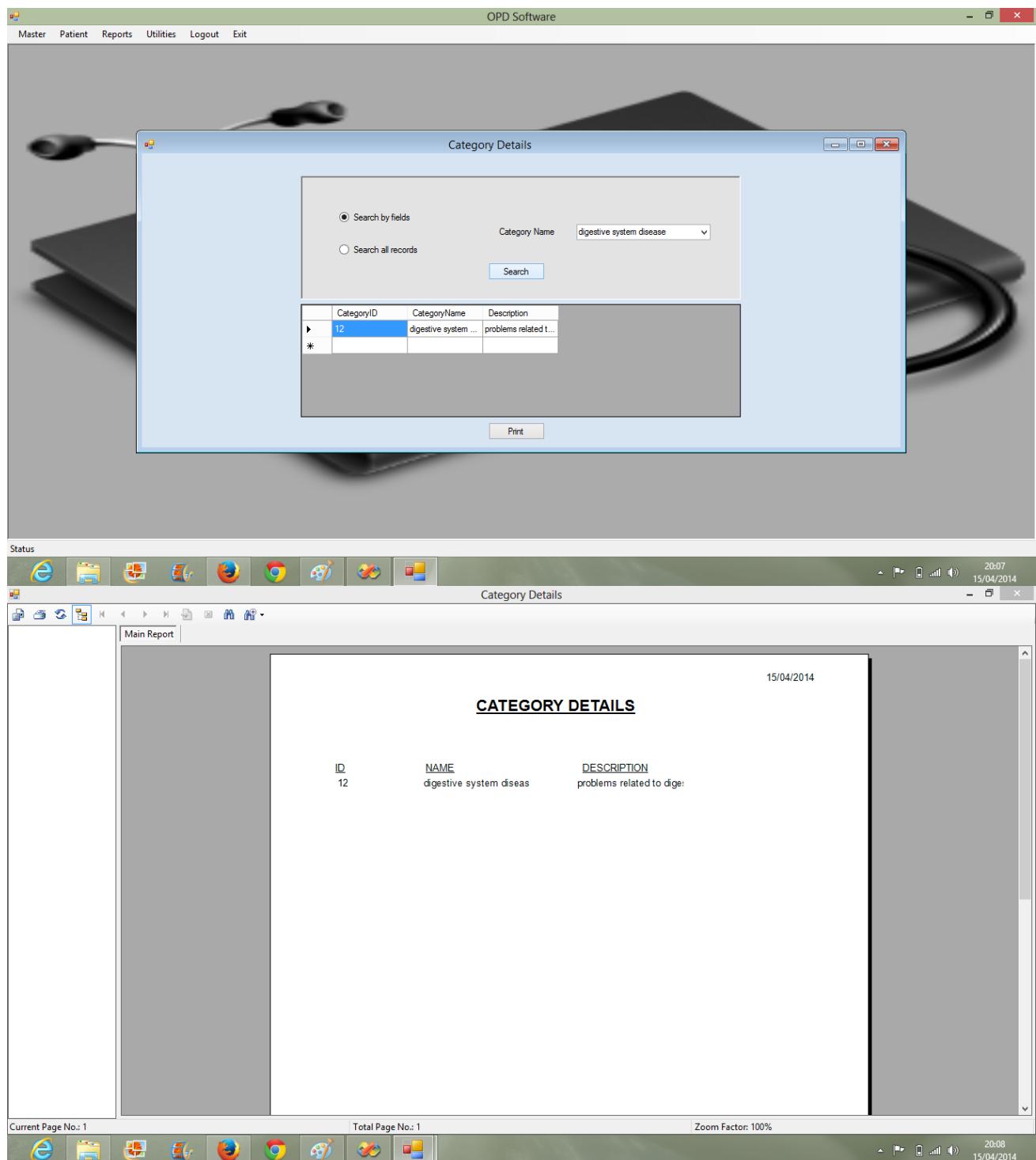
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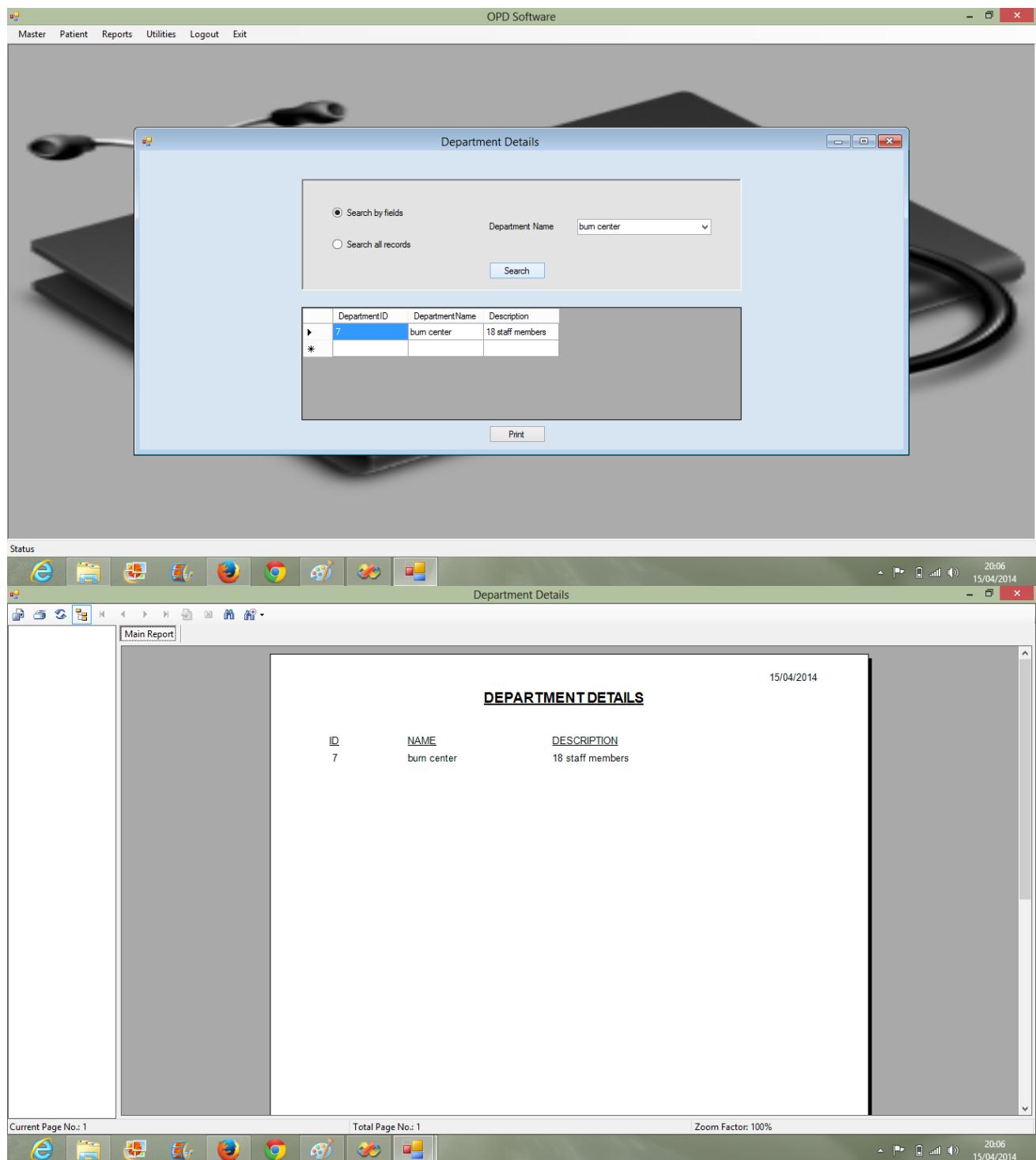
View Add New Delete Edit Reset

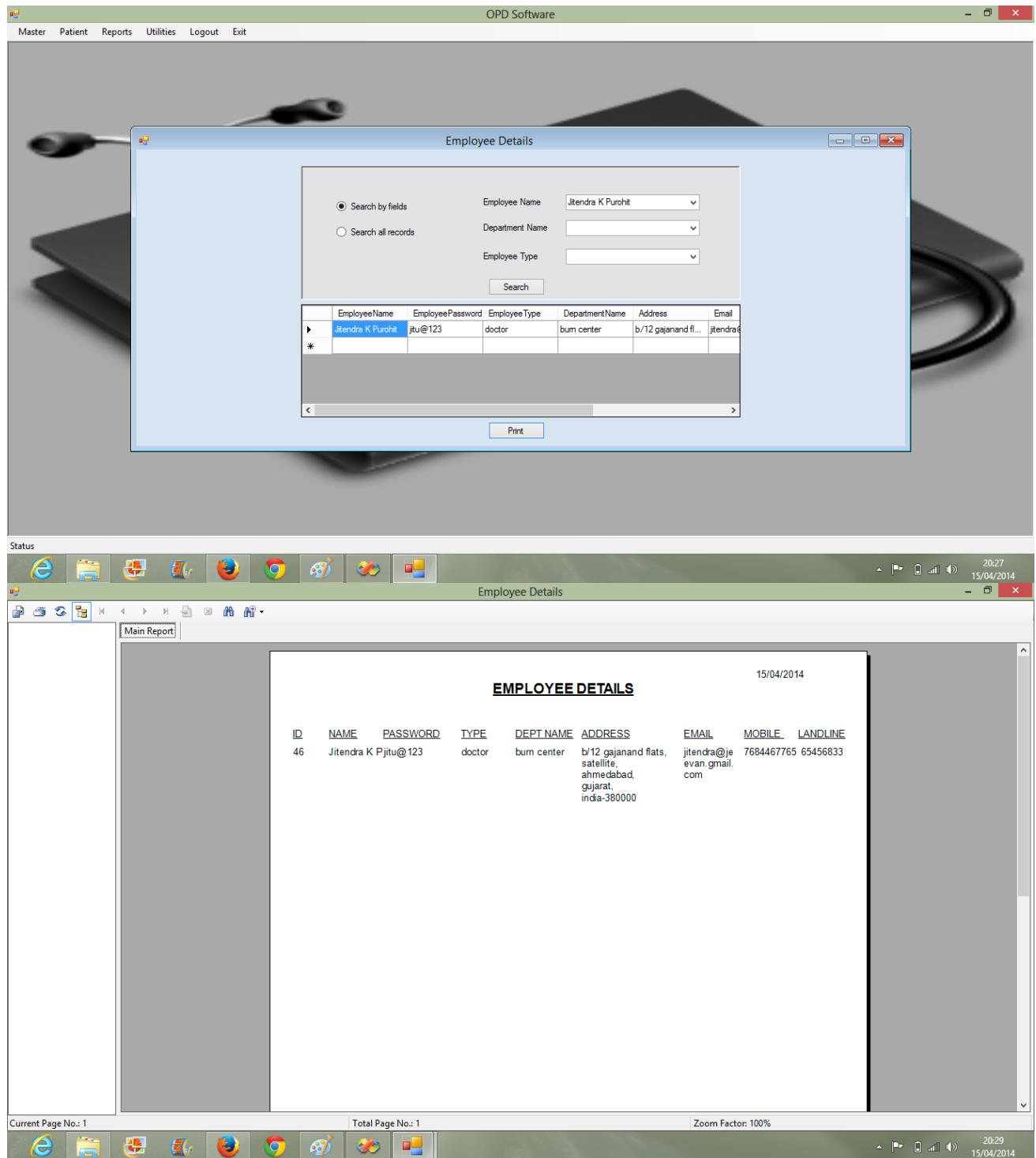
Status

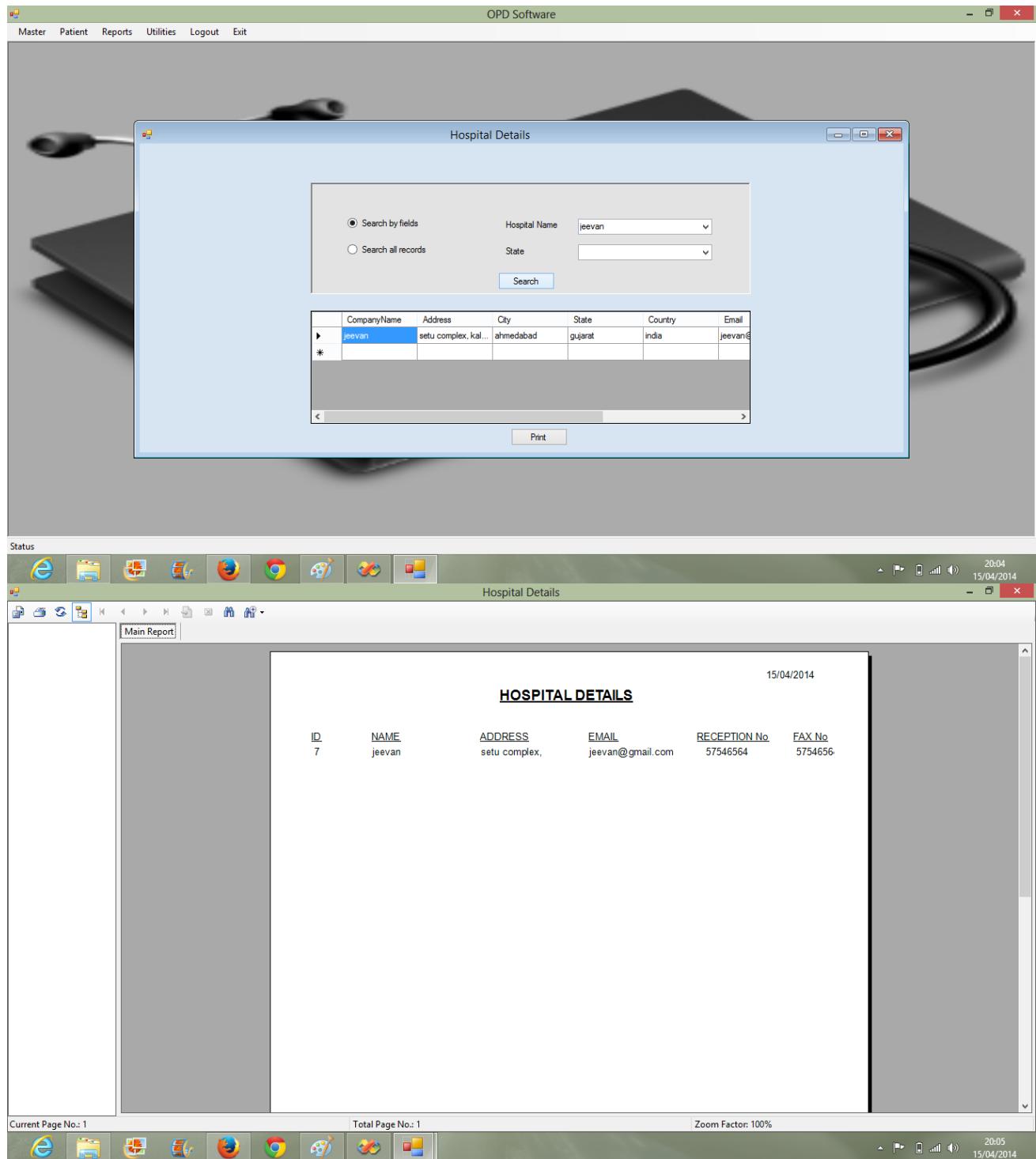
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15/04/2014

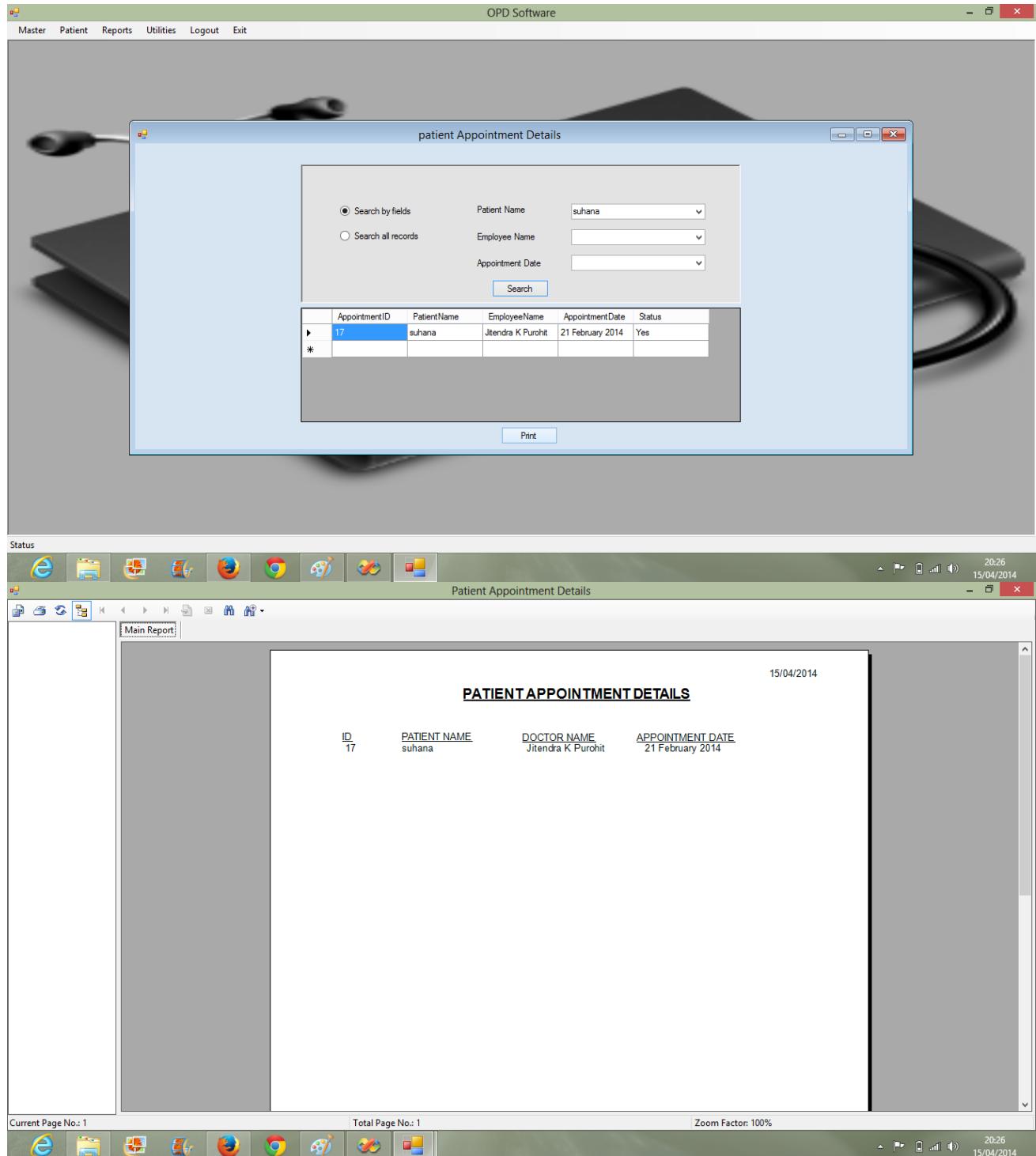


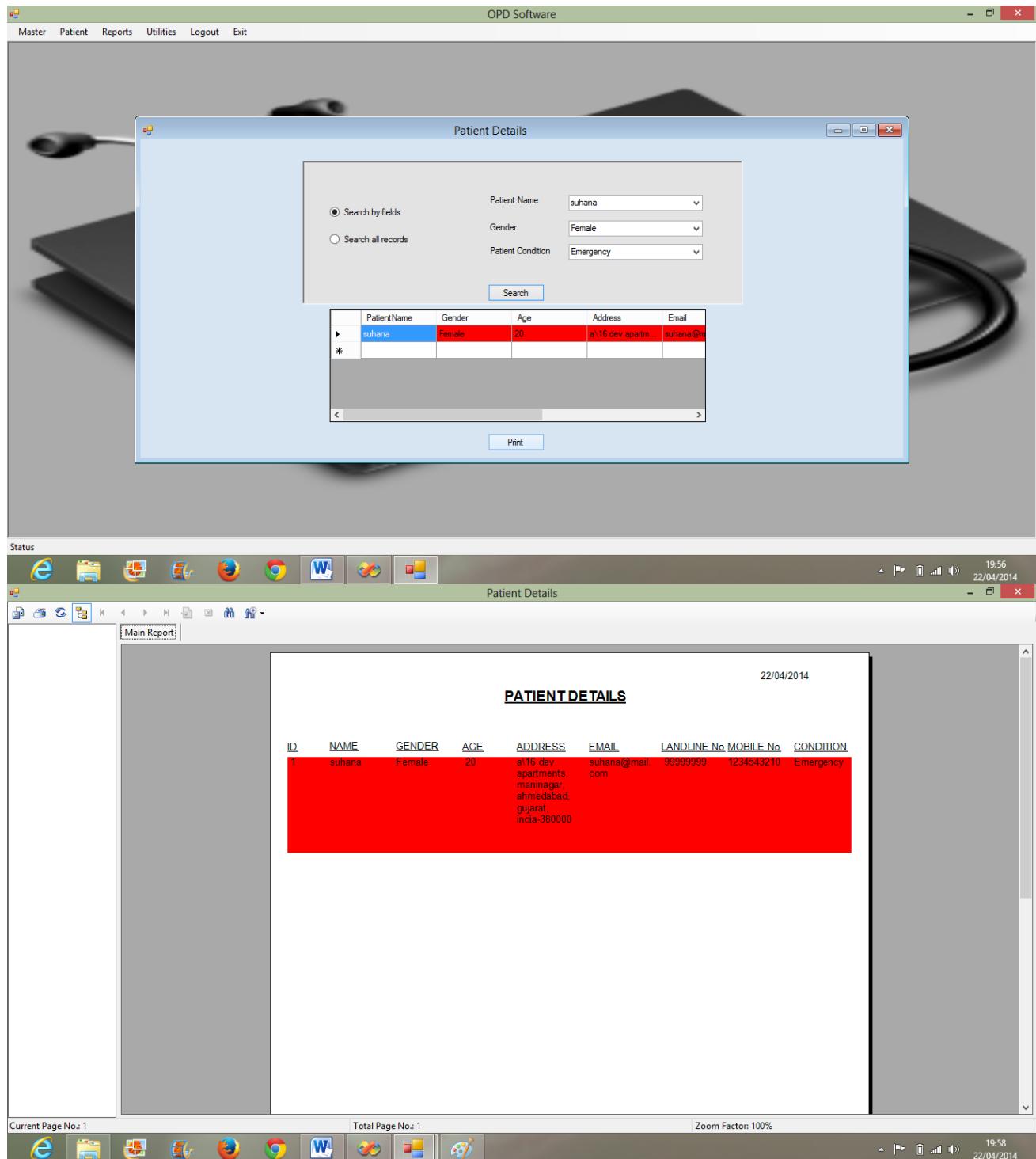












OPD Software

Master Patient Reports Utilities Logout Exit

Patient Medical Details

Patient Name: suhana
Category Name:
Subcategory Name:
Search

	PatientName	MedicalDetails	PreviousTreatment	Complaints	CategoryName	Subcat
>	suhana	gastrointestinal di...	no previous treat...	intensive stomach...	digestive system ...	gastroin
*						

Print

Status

20:22 15/04/2014

Patient Medical Details

Main Report

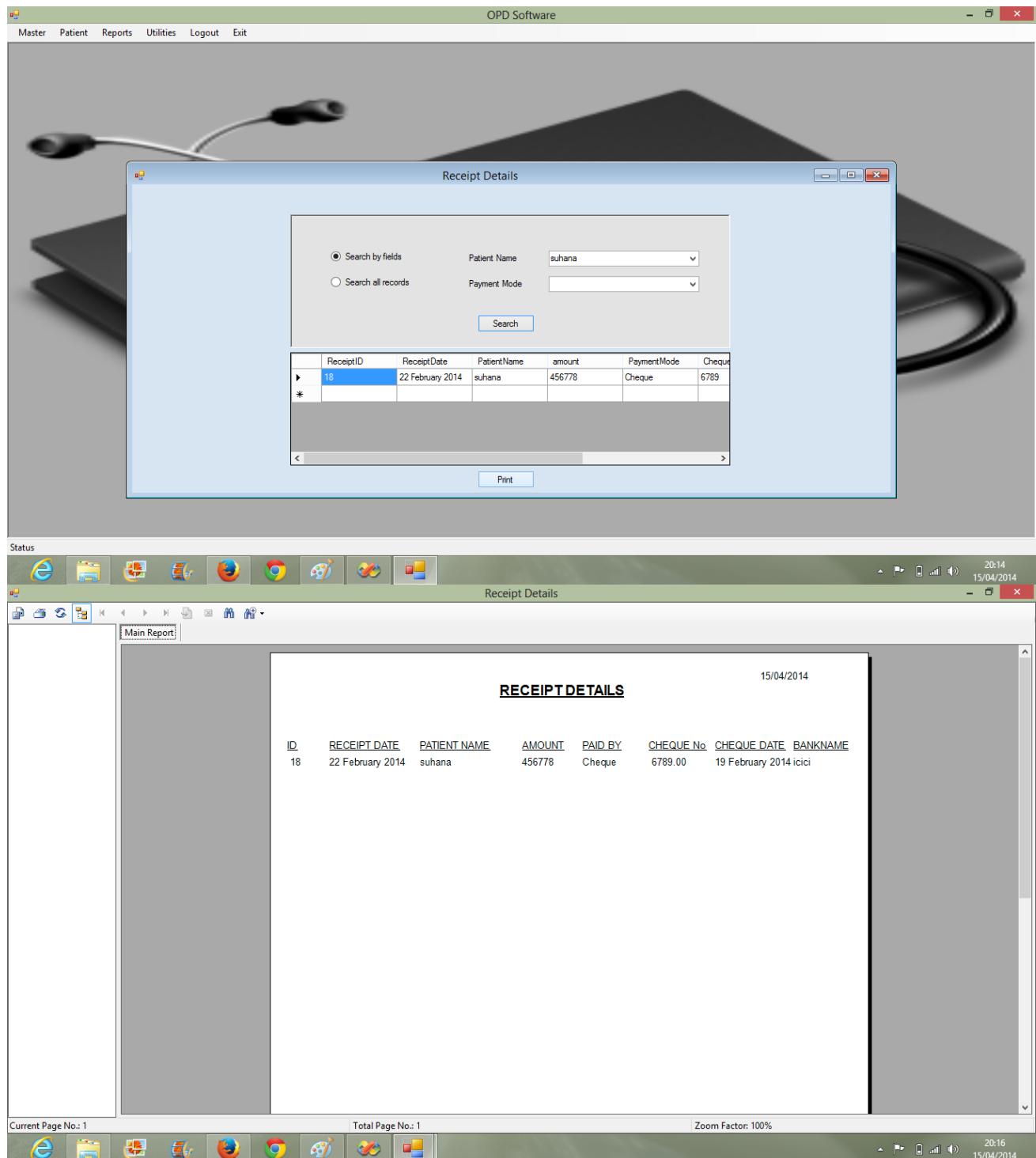
PATIENT MEDICAL DETAILS

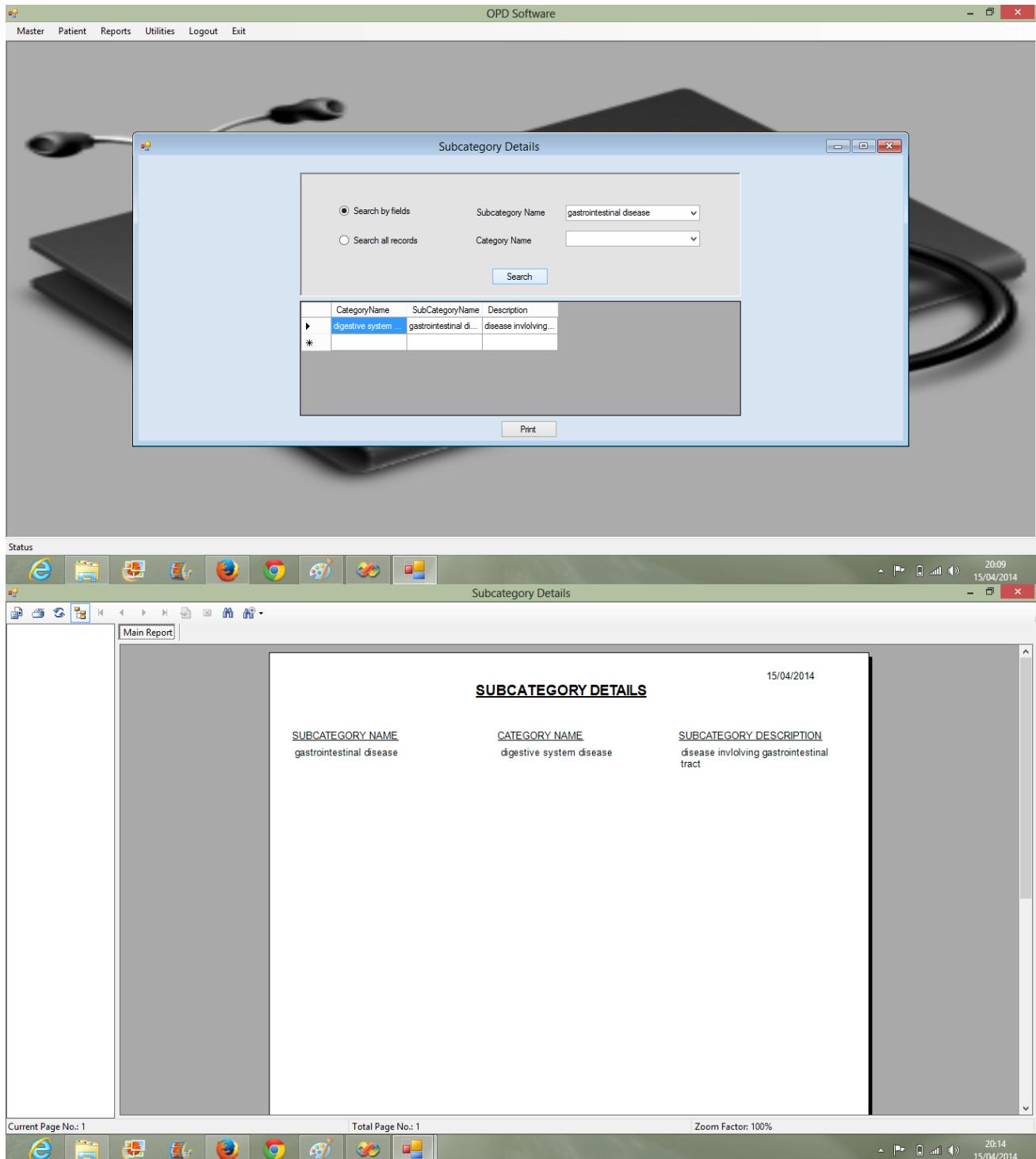
15/04/2014

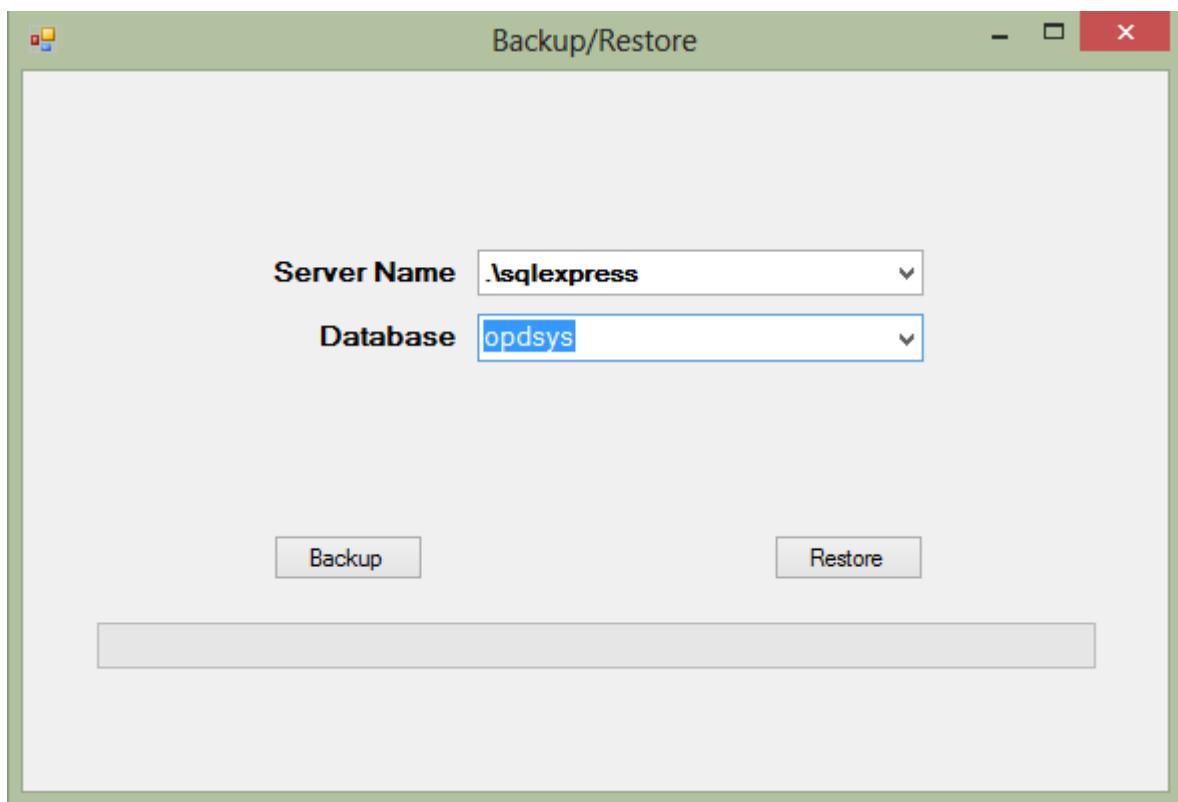
PATIENT NAME	MEDICAL DETAILS	PREVIOUS TREATMENT	COMPLAINTS	CATEGORY	SUBCATEGORY
suhana	gastrointestinal disease	no previous treatment	intensive stomach pain	digestive system	gastrointestinal disease

Current Page No.: 1 Total Page No.: 1 Zoom Factor: 100%

20:22 15/04/2014







Medical Clinic

The glory of medicine is not its scientific attainments, but its outlook on all humanity as one family, with medicine as humanity's universal servant.

Paul W. Harrison

My Medicine

We define "quality" as a comprehensive look at all aspects of a patient's experience. Our patients seek excellence in care, the best medical knowledge and experience, the best technology available, and the kindness and hope offered by our staff.

My Events

- Blood Pressure Screenings: 55 Holly Hill Lane 9:00 AM - 1st Floor Community Room
- Family Caregiver Support Group: 98 Chris Hill Lane 1:00 PM - Center for Healthy Aging

My Goals

- The Community Service Plan outlines our programs and goals to address two of the health issues that are deeply affecting our community: falls in the elderly and unsafe drinking practices.
- We are committed to rendering

Humanity In Medicine

Humanities in Medicine programs are made possible by the generous support of patients and friends. Humanities in Medicine supports the primary value of our clinic, the needs of the patient come first, by integrating the arts and expressions of human culture.

Health Tips

- Drink atleast 8 glasses of water everyday.
- Take breakfast like king, lunch like prince and dinner like pauper.
- Exercise at least four days a week for 20 to 30 minutes each day. If

Mission And Values

Our mission is to inspire hope and contribute to health and well-being by providing the best care to every patient through integrated clinical practice, education and research. Our primary value is "The needs of the patient come first." We value the contributions of all, blending the skills of individual staff members in unsurpassed collaboration. We sustain and reinvent our missions

Facts And Statistics

Every year, more than a million people from all 50 states and nearly 150 countries come to us for care. Our unique style of care brings teams of experts together to provide high-quality, compassionate care to each patient. Our multidisciplinary research teams translate new discoveries rapidly to improve the prevention and treatment of disease and injury.

Our Governance

Our organizational priorities are aimed at ensuring that our patient focus permeates the entire organization, in every department at every location. In its earliest days, one of our founders, stated, "The best interest of the patient is the only interest to be considered." That primary value — the needs of the patient come first — at every site.

Publications And Newsletters

Keep up with our latest patient

Our Volunteers

In key areas throughout

Commitments To Community

Our partners with many others to

Medical Clinic

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medical clinic

login

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WE ARE PROUD TO PROVIDE QUALITY HEALTH CARE TO PATIENTS

“ The glory of medicine is not its scientific attainments, but its outlook on all humanity as one family, with medicine as humanity's universal servant. **”**
Paul W. Harrison



Unparalleled Services



We care as much about the success of your programs as you do. We listen – and we respond. We commit – and we deliver. We innovate – and apply. We serve our clients with passion and insight, delivering exceptional service, outcomes that exceed expectations and an unwavering commitment to continuous improvement in everything we do. Our experience, stability, industry expertise and a team-based model combine to provide 'one-size-fits-one' service excellence that can't be imitated – or replicated.

Experience & Stability

- Our brand means something. After 150 years of providing unparalleled expertise, quality and service, it means stability.
- It means excellence. It means persistence. We've been here for decades, and we're in this

Subject Matters Expert

- We don't just believe that two heads are better than one. We live it. We breathe it. It's embedded in our DNA.
- By blending the wisdom of clinicians with a wide range of business disciplines, we build,

Team-Based Approach

- When we talk 'team,' it's not just talk. When it comes to health care, the concept of teamwork was invented by us.
- We embrace and apply this approach to help our clients meet their business objectives. On

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localhost:52865/Project/contactus.aspx

medical clinic

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Paul W. Harrison



Arizona — Scottsdale/Phoenix

Address
Medical Clinic
13480 E. Shea Blvd.
Scottsdale, AZ 85259

General number
480-301-8000

Appointment Office
480-301-1735
800-446-2279 (toll-free)

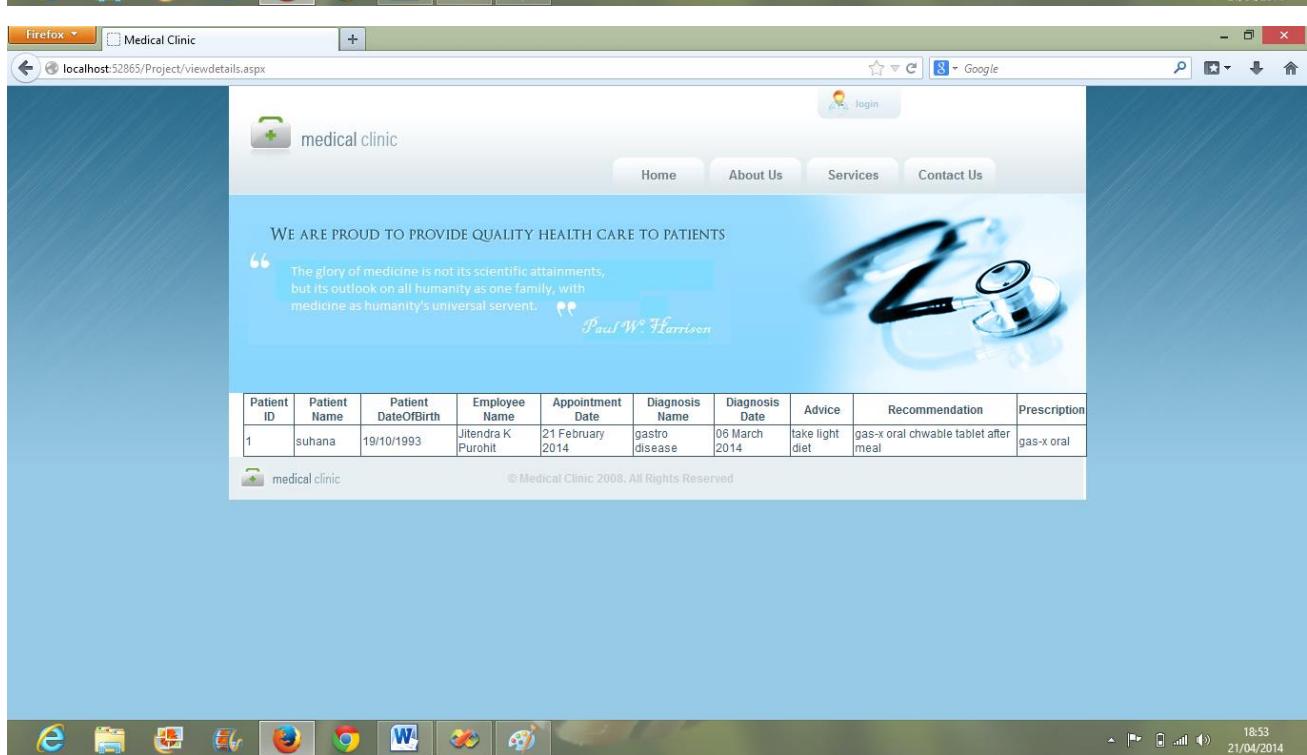
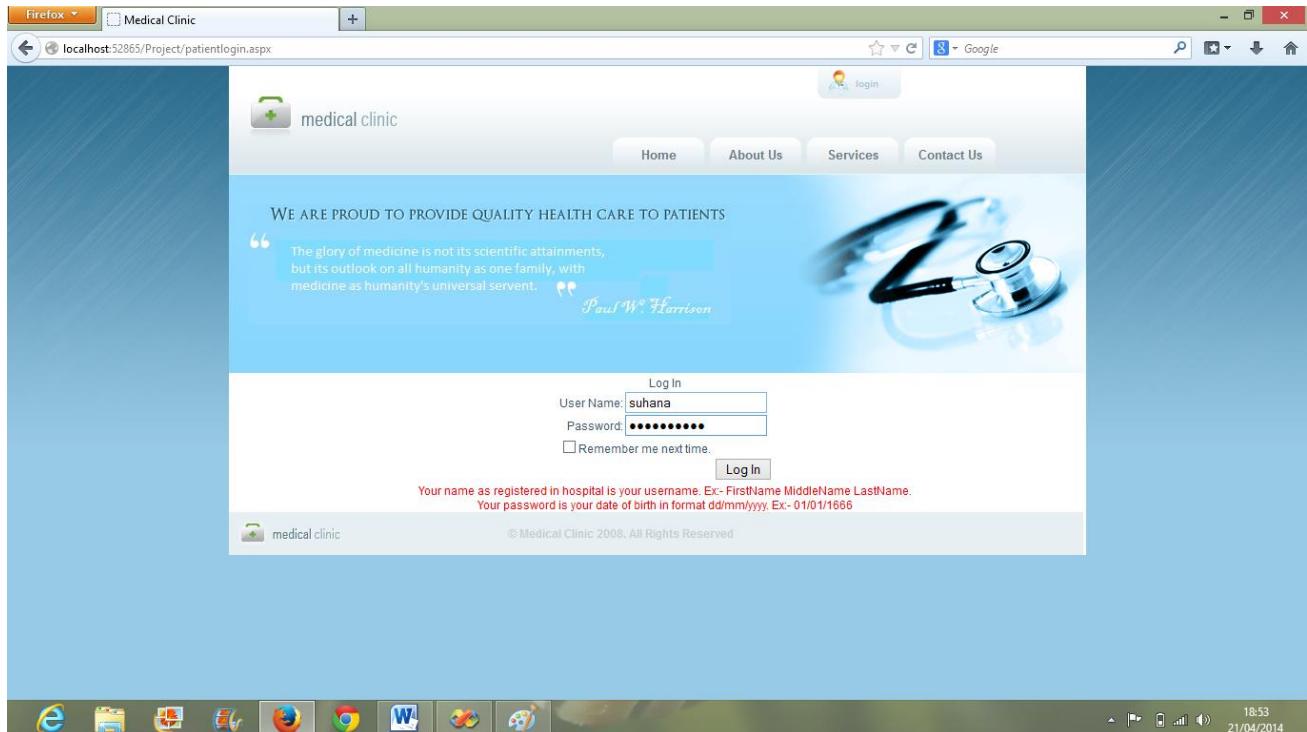
Insurance and billing
480-301-7033
800-603-0558 (toll-free outside Phoenix)

International Patients Center
480-301-7101



We are always ready to help you!

localhost:52865/Project/contactus.aspx



4.5 APPLICATION NAVIGATION

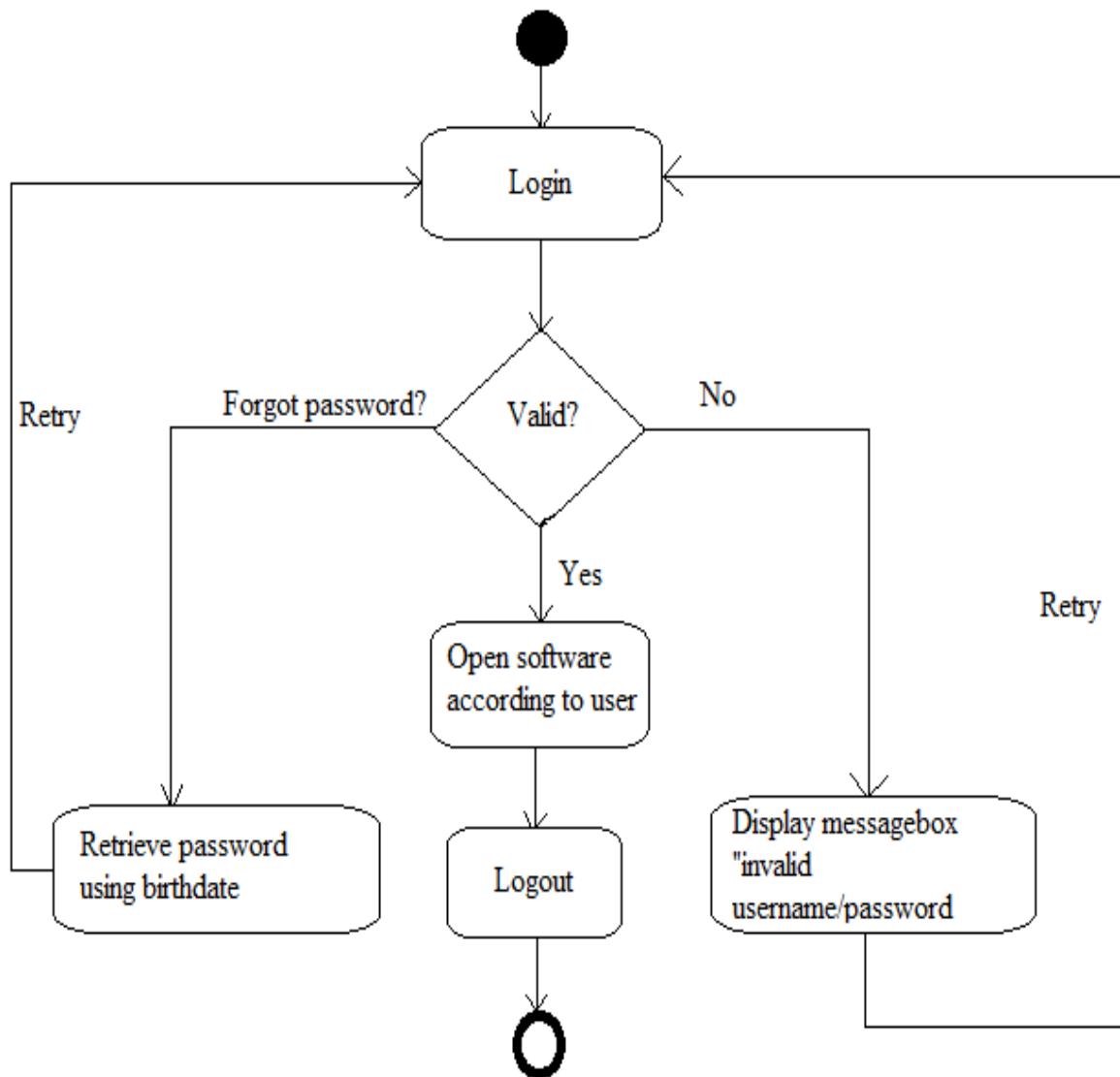


Figure 4.3 Application navigation diagram

CHAPTER-5 IMPLEMENTATION

5.1 IMPLEMENTATION ENVIRONMENT

The system has a very friendly user interface. The system can be made LAN compatible to be used by different users. The system can be used by Doctors, Admin and Front Desk Staff.

The user will use its unique username and password to log into the system. The software will open according to the user. All users will not be able to access all the data. The user will be able to access the system according to its rights.

Admin

The admin will access the system with its username and password. The admin will have full access to the system. Admin will be able to access all forms and will have full rights to the system. So the admin will be able to create and/or modify new user, categories, products or any other thing related to the user interface without contacting the developer. Admin will also be able to access backup and restore facility.

Front Desk Staff

The front desk staff will access the system with its username and password. Thus the system will open according to the rights provided to the front desk staff. The front desk staff will have access only to a limited part of the system. Front desk staff will be able to create new patient, provide appointment, make receipt and will have access to reports for patient details and receipt details.

Doctor

The doctor will access the system with its individual username and password. Thus the system will open according to the rights provided to the doctor. The doctor will mainly have access to all the patient related records. The doctor will have write access to all the patient record. The doctor will also have access to patient reports.

5.2 SECURITY FEATURE

- Only authenticated user can enter into the system. This will prevent unauthorized access to the system.
- We have used stored procedure to provide enhanced security to the system.
- Every user of the system will have unique username and password to access the system.

- Only the admin will be able to change the password.
- The input to the database is validated. E.g.:
 - Email id has to be in the correct format.
 - The user cannot enter alphabets where only numbers are allowed.
 - The length of mobile numbers and residential numbers should be correct.
 - Each user will have unique id.
 - Only administrator has full access to the system.

5.3 CODING STANDARD

The Software needs to be updated from time to time according the changing needs of users. So some standards are to be maintained in implementation and coding, so that if the software needs to be modified due to some changes in User needs or some enhancements to be done, then it's easy for the person to find some specific modules, pages, functions, variables or even the tables or stored procedures in the database.

We have followed all the naming rules.

- The database table names are meaningful.
- The field names specified is meaningful.
- The variables used in the coding are all meaningful.
- The procedures and functions used are given the names such that they can be easily related to the part of the system where they are used.

5.4 STORED PROCEDURE

A stored procedure is a precompiled executable object that contains one or more SQL statements. Using stored procedures, database operations can be encapsulated in a single command, optimized for best performance, and enhanced with additional security.

We have made stored procedure for these functions:

- Submit
- Delete
- Update

These stored procedures are made for all forms. The variables used in the stored procedure are in accordance to the naming convention. Thus we have implemented 3-tier architecture with stored procedure. There are in all 51 stored procedures.

5.5 DATA ACCESS LAYER

Data Access Layer provides simplified access to data stored in database. We have used stored procedure to access data rather than using insert, delete and update commands in the form itself. The stored procedure will provide higher level of abstraction. This database can be used for another application using the data source string of sql connection where the store procedure name can be used while writing code for another application.

5.6 BUSINESS LOGIC LAYER

Business Logic Layer enforces the methods by which business objects are accessed and updated. To implement business logic layer we have used views. All the data are accessed using view. View creates an instance to access the data. The data is searched using views. The datasets are linked to the views. Dataset stores the data fetched to show the data in the forms.

CHAPTER-6 TESTING

6.1 TESTING PLAN

Software testing in our system has a dual function; it is used to establish the presence of defects in program and it is used to help/judge whether or not the program is usable in practice. The software testing is used for validation and verification, which ensures that our software conforms to its specification and meets the need of the software customer. We use it to check errors and validations.

We have started with first testing for requirements gathering and designing. Design errors are costly to repair once the system has started operating. So it is very important to fix the designing errors first. Then we move onto implementation errors.

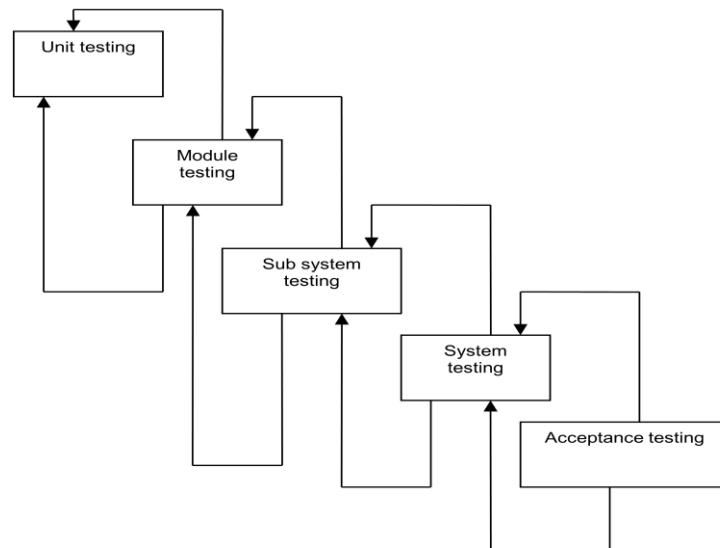


Figure 6.1 Testing Process Chart

6.2 TESTING STRATEGY

Our strategy for software testing integrates software test case design method into a well-planned series of steps that result in the successful construction of this software. This strategy provides the roadmap that describes the steps to be conducted as a part of testing, then these steps are planned and then undertaken, and how much effort, time and resource will be required.

- We have tested the whole system using bottom-up approach.
- Bottom up testing involves integrating and testing the modules to the lower levels in the hierarchy, and then working up hierarchy of modules until the final module is tested.
- For each module testing, we have decided to test each lower level module with white box testing strategy.
- When all modules will be tested successfully then we will integrate those modules and try to test integrated system using black box testing strategy.

Why Black Box Testing in our Project?

In our project, whatever we have implemented was going to be tested by external guide Mr. Vishal Shah without knowing our code, so there was a black box testing involved directly.

Why White Box Testing in my Project?

During the project we were making the applications, we knew how it should proceed internally; we needed debugging also for testing our small functionalities.

6.3 TESTING METHODS

Unit Testing

In unit testing we focus on verification effort on the smallest unit of software design the software component. It can be done in two ways bottom-up or top- down. But we use the bottom-up approach. In bottom-up approach, the last module is tested first and then moving upwards towards the first module.

Integration Testing

When the unit testing is over, we integrate all the module and test it as a whole. It might be possible that all modules may work individually, but they may not work when we put them together. Data can be lost across the interface, one module can have adverse effect on other or sub functions of another, when combined may not produce desired major function, individually acceptable imprecision may be magnified to unacceptable level; global data structure can present problem. So we had to test it this way so that the final O/P is the desired one.

Validation Testing

After the integration testing software is completely assembled as a package, interfacing error has been uncovered and corrected, and then validation testing began. Validation testing proved that the software functions in a manner that can be reasonably accepted by the customer.

Storage Testing

The database of the system has to be stored on the hard disk. Therefore, the storage capacity of the hard disk should be enough to store all the data required for the efficient running of the system. This also has been checked.

6.4 TEST CASES

TABLE 6.1 LOGIN

TEST CASE	NAME: Login
TESTING STRATEGY:	Black Box and White Box Testing
PURPOSE:	Checking the authenticity of the user.
INPUT:	User name, password
TEST DATA:	Username, Password
EXPECTED O/P:	If username and password are correct then user is allowed to enter in to the system and if not then he/she is again asked to enter the username and password
UNBEHAVIOURABLE O/P:	N.A.
STEPS:	<ol style="list-style-type: none"> 1. After user enters user name and password it is going to be verified with database and allows user to access system if both matches correctly

TABLE 6.2 USER RIGHTS

TEST CASE	NAME: User Rights
TESTING STRATEGY:	Black Box and White Box Testing
PURPOSE:	Checking the authenticity of the user.
INPUT:	User name, password
TEST DATA:	Username, Password
EXPECTED O/P:	Access rights are allocated according to user group.
UNBEHAVIOURABLE O/P:	N.A.
STEPS:	<ol style="list-style-type: none"> 1. After user enters user name and password it is going to be verified with database 2. It matches user name and password and get his user rights 3. As per assigned rights the application will open.

TABLE 6.3 FORGOT PASSWORD

TEST CASE	NAME: Forgot Password
TESTING STRATEGY:	Black Box and White Box Testing
PURPOSE:	To get the password if forgot
INPUT:	Date of Birth
TEST DATA:	Date of Birth
EXPECTED O/P:	Message box will be displayed showing password
UNBEHAVIOURABLE O/P:	N.A.

STEPS:

1. The user will select his/her date of birth. The matching password will be displayed in message box.

TABLE 6.4 EMAIL VALIDATION

TEST CASE	NAME: Email Validation [asfdsg@afasg.com]
TESTING STRATEGY:	Black Box and White Box Testing
PURPOSE:	Validating Email addresses and allow user to enter in a proper format
INPUT:	Email address
TEST DATA:	Email
EXPECTED O/P:	Validation occurs
UNBEHAVIOURABLE O/P:	N.A.
STEPS :	<ol style="list-style-type: none"> 1. When the textbox is changed and if the validation is not correct, message box will appear.

TABLE 6.5 FIELDS CANNOT BE NULL VALIDATION

TEST CASE	NAME: Fields cannot be null Validation
TESTING STRATEGY:	Black Box and White Box Testing
PURPOSE:	Validating input data in component. It should not be null.
INPUT:	Required field of all forms

TEST DATA:	All fields
EXPECTED O/P:	Validation occurs
UNBEHAVIOURABLE O/P:	N.A.
STEPS :	<p>1. When user presses Submit or Update button then if any field is empty then message ox will appear.</p>

TABLE 6.6 LENGTH VALIDATION

TEST CASE	NAME: Length Validation
TESTING STRATAGY:	Black Box and White Box Testing
PURPOSE:	Validating length of input components.
INPUT:	Mobile number, Landline Number
TEST DATA:	Mobilenumber, Landlinenumber
EXPECTED O/P:	Validation occurs
UNBEHAVIOURABLE O/P:	N.A.
STEPS :	<p>1. When the user enters number and moves onto another field and if the number is not of appropriate length then message box will appear.</p>

TABLE 6.7 NUMERIC VALIDATION

TEST CASE	NAME: Numeric Validation
TESTING STRATAGY:	Black Box and White Box Testing
PURPOSE:	Validating whether the value is number or not.
INPUT:	Mobile number, Landline Number, Pincode
TEST DATA:	Mobilenumber, Landlinenumber, Pincode
EXPECTED O/P:	Validation occurs
UNBEHAVIOURABLE O/P:	N.A.
STEPS :	<p>1. When the user presses alphabet keys then message box will appear telling only digits are allowed.</p>

CHAPTER-7 CONCLUSION AND FUTURE WORK

7.1 CONCLUSION

We have completed all the phases of the software life cycle of this system as mentioned in detail in previous chapters. Thus the system is now ready to use. The main aim of this system is to provide efficient, reliable and easy-to-use software to maintain the records for the hospital. The system will be used by doctor, administrator and front desk staff as discussed.

7.2 FUTURE ENHANCEMENTS

The following is the enhancements to be done in future:-

1. SMS Facility can be provided as reminder to the appointments to the patient.
2. SMS Facility can also be used to provide personalized experience to the patient like wishing birthdays, anniversaries, suggestions for diet, etc.
3. Some predefined templates can be provided for printing reports.
4. Admin can be allowed to provide rights to different users individually.

REFERENCES

- [1] Roger. S. Pressman, “*Software Engineering A practitioner’s approach, Sixth Edition*” published by McGraw Hill International
- [2] www.youtube.com/watch?v=wi7jCIzGREA
- [3] www.birlamedisoft.com/ Products
- [4] www.revolutioninfosystems.com/Clinic%20Software.aspx

GTU Innovation Council

Patent Drafting Exercise (PDE)

GICrcise Patent Drafting Exe

ProjectTeam : 240

FORM 1 THEPATENTS ACT 1970 (39 OF 1970) & THEPATENTS RULES , 2003 ATIONPPLICFOR GRANT OF PATENT	(FORLY OFFICE USE ON) Application No: 59 Filing Date: Amount of Fee paid: CBR No: _____
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3. TITLE OF INVENTION / PROJECT

Out-Patient Department Software

4. ADDRESSAPPLICANTFOR CORRESPONDENCE OF /AUPATENTHORIZEDAGENT IN INDIA

Name: Meghna B. Shah

Address: B/51,AhmedabadMahipatBunglows,Opp-382345 . Sarthak soc. Naroda ,

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Mobile: 7383094625
 Email ID: shah.meghna04@gmail.com

5. PRIOPARTICULARSIT OF THE APPLICATION (S) FIELDRY IN CONVENTION COUNT

Country	Application No.	Filing Date	NameApplicantofthe	Title of the Invention
N/A	N/A	N/A	N/A	N/A

6. PARTICULARS FOR FILING PATENT COOPERATION TREATY (PCT) ATIONAL PHASE APPLICATION

International application number	International filing date as allotted by the receiving office
N/A	N/A

7. PARTICULARS FOR FILING DIVISIONAL APPLICATION

Original(First) Application Number	Date of filing of Original (first) application
N/A	N/A

8. PARTICULARS FOR FILING PATENT OF ADDITION

MainApplication / Patent Number	Date of filing of main application
N/A	N/A

9. DECLARATIONS :

(i) Declaration by the inventor(s)

I/We, the above named inventor(s) is/are true & first inventor(s) for this invention and declare that the applicant(s) herein is/are my/our assignee or legal representative.

Date: 28-April-2014

Name

Sign & Date

1 Riddhi G.Shah _____

2 Meghna B.Shah _____

(ii) Declaration by the applicant(s) in the convention country

I/We, the applicant (s) in the convention country declare that the applicant (s) herein is /aremy /our assignee or legal representative.

NotApplicable

NOTE: This is just a mock Patent Drafting Exercise (PDE) for semester 8, BE students of GTU. These documents are not to be submitted withfficeany patent o .

(iii) Declaration by the applicant(s)

I/We, the applicant(s) hereby declare(s) that:-

- I am/We are in possession of the above mentioned invention .
- The provisional specification relating to the invention is filed with this application.
- Theinvention as disclosed in the specification uses the biological material from India and the necessary permission from the competent authority shall be submitted by me/us before the grant of patent to me/us.
- There is no lawful ground of objection to the grant of the patent to me/us.
- I am/we are the assignee or the legal representative of true & first inventors.
- Theapplication or each of the application ,particularsof each are given in the para 5 was the first application in the convention country/countries in respect of my/our invention.
- I/weclaim the priority from the above mentioned applications (s) filed in the convention country /countries& state thatno application for protection in respect of invention had been made in a convention country before that date by me/us or by any person from which I/we derived the title.
- My/Ourapplication in India is based on international application under Patent Cooperation Treaty (PCT) as mentioned in para 6.
- Theapplication is divided out of my /ourapplication (s) particulars of which are given in para 7 and pray that this application may be treated as deemed to have been filed on _____ under section 16 ofActthe .
- The said invention is an improvement in or modification of the invention particulars of which are given in para 8.

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10. FOLLOWING ARE THE ATTACHMENTS WITH THE APPLICATION :

- (a) Provisional specification/Complete specification
- (b) Complete specification (In confirmation with the international application) / as amended before the international Preliminary Authority Examination (IPEA), as applicable (2 copies), No. of pages.....No. of claims.....
- (c) Drawings (In confirmation with the international application) / as amended before the international Preliminary Authority Examination (IPEA), as applicable (2 copies), No. of sheets.....
- (d) Priority documents
- (e) Translations of priority documents/specification/international search reports
- (f) Statement and undertaking on Form 3
- (g) Power Authority of
- (h) Declaration of inventorship on Form 5
- (i) Sequence listing in electronic Form
- (j)

Fees Rs. XXX in Cash/Cheque/Bank Draft bearing No. XXX Date: XXX on XXX Bank.

I/We hereby declare that to the best of my /our knowledge, information and belief the fact and matters stated herein are correct and I/We request that a patent may be granted to me/us for the said invention.

Dated this day of 20.....

Name

Sign & Date

1 Riddhi G.Shah

2 Meghna B.Shah

To

The Controller of Patent
The Office of the Patent Office, at Mumbai.

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FORM 2
THEPATENTS ACT , 1970
(39 OF 1970)

&
THEPATENTS RULES , 2003
PROVISIONAL SPECIFICATION

1. TITLE OF INVENTION / PROJECT

Out-Patient Department Software

2. APPLICANT(S)

Riddhi G.Shah (Indian)

A/1, Radhakrishna Flats,Daxini Soc.,Maninagar, Ahmedabad-380008

Meghna B.Shah (Indian)

B/51, Mahipat Bunglows,Opp. Sarthak society. Naroda , Ahmedabad-382345

3. PREAMBLE TO THE DESCRIPTION

The following specification describes the invention.

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4. DESCRIPTION

a. Field Application of / Project / Invention

The project is based on computer engineering software application. It is a desktop application.

b. Prior Art / Background of the Invention / References

The problems with current available products are need to be addressed which will lead to a more user friendly, easy to use and widely compatible product. The difficult interface of the current product available products are di .

c. Summary of the Invention/Project

The primary objective of OPD Software is to render health service at minimal cost. The information from the patients is collected and analyzed.

If this implementation is maintained in the long run, it should be benefit the hospital.

d. Objects of the Invention/Project

- Easy to use interface will reduce time, effort and money wasted on training people on how to use the software .
- fficiencyItwillalsoandhelpwill saveinrasetimeewasted to search a particular feature .
- Color coding will save doctor 'sand receptionist 'stime to go through the whole patient details every time to find an emergent patient.
- Mail facility will help patients to know their appointments.

e. Drawing(s)

- 1 This image explains about the navigation of the ap

f. Description of the Invention

The information from the patients is collected and analyzed. If this implementation is maintained in the long run, it should benefit the hospital. The software is mostly used by doctors, front-desk staff and administration for data collection, storage, maintenance and analysis.

Expected outcome:-

- Easy to use interface will reduce time, effort and money wasted on training people on how to use the software .
- fficiencyItwillalsoandhelpwill saveinrasetimeewasted to search a particular feature .
- Color coding will save doctor 'sand receptionist 'stime to go through the whole patient details every time to find an emergent patient.
- Mail facility will help patients to know their appointments.

g. Examples

out-patient software

h. Unique Features of the Project

- Website from where the patient can access his data from anywhere .
- Color coding to prioritize patients e.g.: Patients who are critical emergency cases will show up in RED which will result in fast action and treatment of the patient.
- An easy to use interface .
- Export details and report facility.

5. DATE & SIGNATURE

Date: 28-April-2014

Name

Sign & Date

1 Riddhi G.Shah

2

2 Meghna B.Shah

NOTE: This is just a mock Patent Drafting Exercise (PDE) for semester 8, BE students of GTU. These documents are not to be submitted withfficeany patent o .

6. ABSTRACT OF THE INVENTION

OPDSOftware is mainly a system used in hospitals or clinics to maintain patient records. The three main people interacting with the system are Admin, Doctor and Front -desk staff. The main features supported which makes this system different from other system are Efficient backup of data, User friendly system which makes it easy to navigate , Regular reminder to patient, Color-coding, Customized display, etc.



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DrawingAttachment :

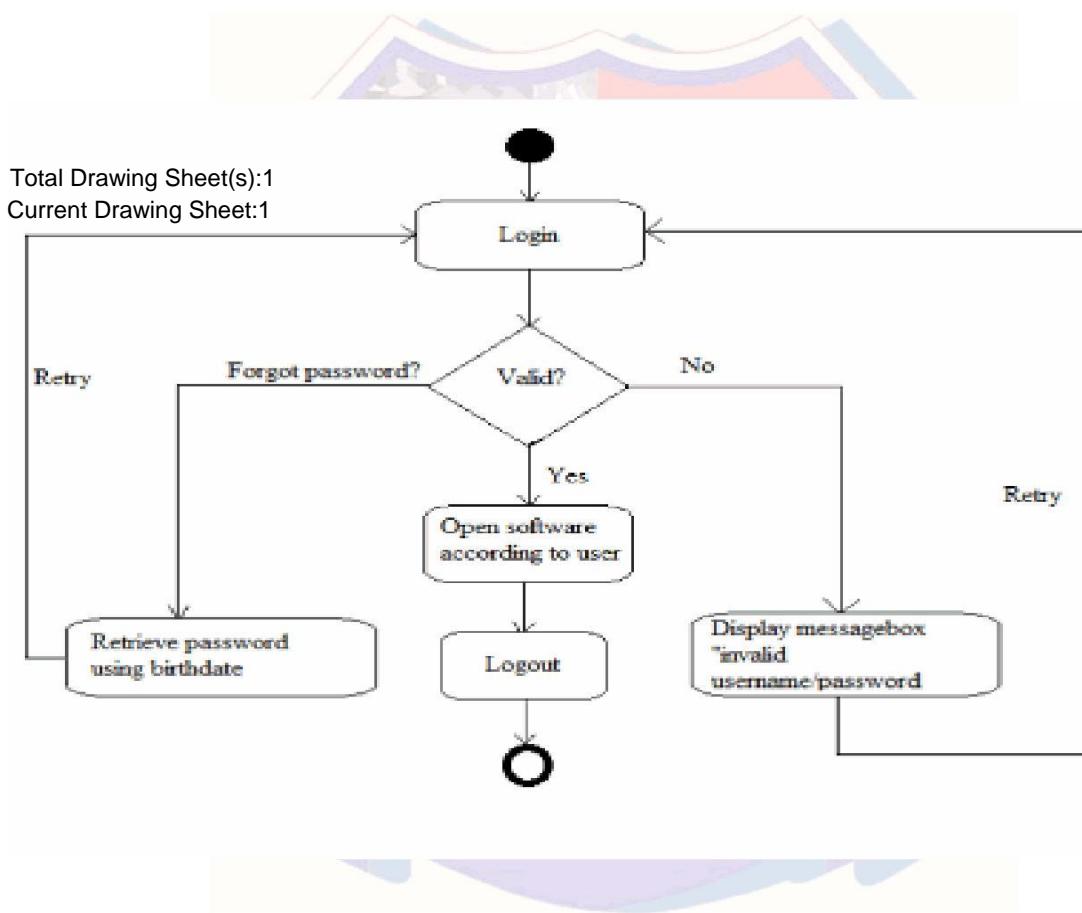


Figure:1 This image explains about the navigation of the ap

NOTE: This is just a mock Patent Drafting Exercise (PDE) for semester 8, BE students of GTU. These documents are not to be submitted withfficeany patent o .

FORM 3

THEPATENTS ACT , 1970
(39 OF 1970)
&
THEPATENTS RULES , 2003
STATEMENT AND UNDERTAKING UNDER SECTION 8

1. Declaration

I/We, Riddhi G.Shah
Meghna B.Shah

2. Name, AddressApplicantd Nationality of the joint

Riddhi G.Shah (Indian)

A/1, Radhakrishna Flats,Daxini Soc.,Maninagar, Ahmedabad-380008

Meghna B.Shah (Indian)

B/51, Mahipat Bunglows,Opp. Sarthak society. Naroda , Ahmedabad-382345

hereby declare:

- (i) that I/We have not made any application for the same/substantially the same invention outside India.
- (ii) that the right in the application(s) has/have been assigned to,

Name of the Country	Date of Application	Application Number	Status of the Application	Date of Publication	Date of Grant
N/A	N/A	N/A	N/A	N/A	N/A

- (iii) that I/We undertake that up to the date of grant of patent by the Controller , I/We would keep him inform in writing the details regarding corresponding application(s) for patents filed outside India within 3 months from the date of filing of such application.

Dated this _____ day of _____,20____

3. SignatureApplicantsof

(Sign and Date)

Riddhi G.Shah

(Sign and Date)

Meghna B.Shah

To

The Controller of Patent
ThefficePatent O , at Mumbai.



GUJARAT TECHNOLOGICAL UNIVERSITY

ONLINE PROJECT REPORT SUBMISSION CERTIFICATE

Date of Receipt: 4/28/2014

5:26:48PM

This is to certify that, GTU has received the project report of
SHAH RIDDIH GIRISH, SHAH MEGHNA BABUBHAI
entitled on *Out-Patient Department Software* from *Computer Engineering* of *Gandhinagar Institute Of Technology, Gandhinagar*

The Receipt No is:

GTU/PT/2014/BE/240

Disclaimer:

This is a computer generated copy and does not indicate that your report has been evaluated. This is the receipt that GTU has received a copy of the file that you have uploaded as your project report.