DECISION SUPPORT SYSTEM BASED ON PATIENTS' DISEASES

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A project submitted in partial fulfillment of the requirement for the degree of

Bachelor of Science in Software Engineering

Department of Software Engineering
DAFFODIL INTERNATIONAL UNIVERSITY

Fall – 2018

APPROVAL

This **Project** titled "**Decision Support System Based on Patient Diseases**", submitted by Afia Hasan, **151-35-1060** & Sumaiya Rahman Smrity, **151-35-1095** to the Department of Software Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Software Engineering and approved as to its style and contents.

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We hereby declare that, this Project report is done by us under the supervision of **Mr. Md. Khaled Sohel**, Assistant Professor, Department of Software Engineering, Daffodil International University, in partial fulfillment our original work. We are also declaring that neither this project nor any part therefore has been submitted else here for the award of Bachelor or any degree.

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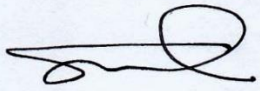

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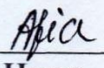

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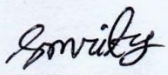

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Finally, we must acknowledge with due respect the constant support and patience of our parents.

ABSTRACT

This report is about Decision Support System Based on Diseases & Treatment Record. This report describes all the current problems of this system and its possible solutions. Top level management (Management) is a very important part of a hospital. In the past management maintain their all information & calculation through paper based. It is difficult to manage & analysis about patients. But it could be much easier by using a website. It will be discovered that which type of patients are most come. By using this analysis, they can determine which type of medicine or doctors are needed most. This way the hospital can prepare for proper treatment and patients can get proper treatment and medicine at the right time. This report helps users to operate the system as a whole. This report will be very helpful to developers if the system is to be developed further.

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Chapter-1

Introduction

1. Introduction

1.1. Project Overview

This system is very helpful for hospital management to keep patient's prescription record and analysis this record they can easily make decisions based on it.

1.2. The Purpose of the Project

This system is part of a hospital management system. By using this system, management can take right decisions at the right time.

1.2.1. Background of the Project

Decision Support System Based On Patient Diseases is a system that provides successful help to Management for making right decision for right treatment at the right time for patient based on patient diseases. This is the ongoing project for the Top Level Management in a Hospital. The majority of our clients are from Dhaka city. As it is a new idea, it needs a very powerful presentation that will have the right influence on the user.

1.2.2. Benefits and Beneficiaries

This project is mainly beneficiaries in Top Level Management. And Patients are also benefited, but indirect. Benefits are,

- This system is fully functional and flexible.
- It is very easy to use.
- This system helps any hospital management.
- It saves a lot of time, money and human resources.
- It helps to visualize all information.
- This system helps to make decisions easily.

1.2.3. Goals of the project

The basic functionality of this system is making the process user friendly for stakeholders. It helps management to take right decision at the right time about medicine and treatment. All patient data is stored in the database.

1.3. Stakeholders

1.3.1. Admin

In this system admin will register the patient as patient prescription and he also store diseases. He can manage all information. He can search patient, search diseases, view patient's information etc.

1.3.2. Management

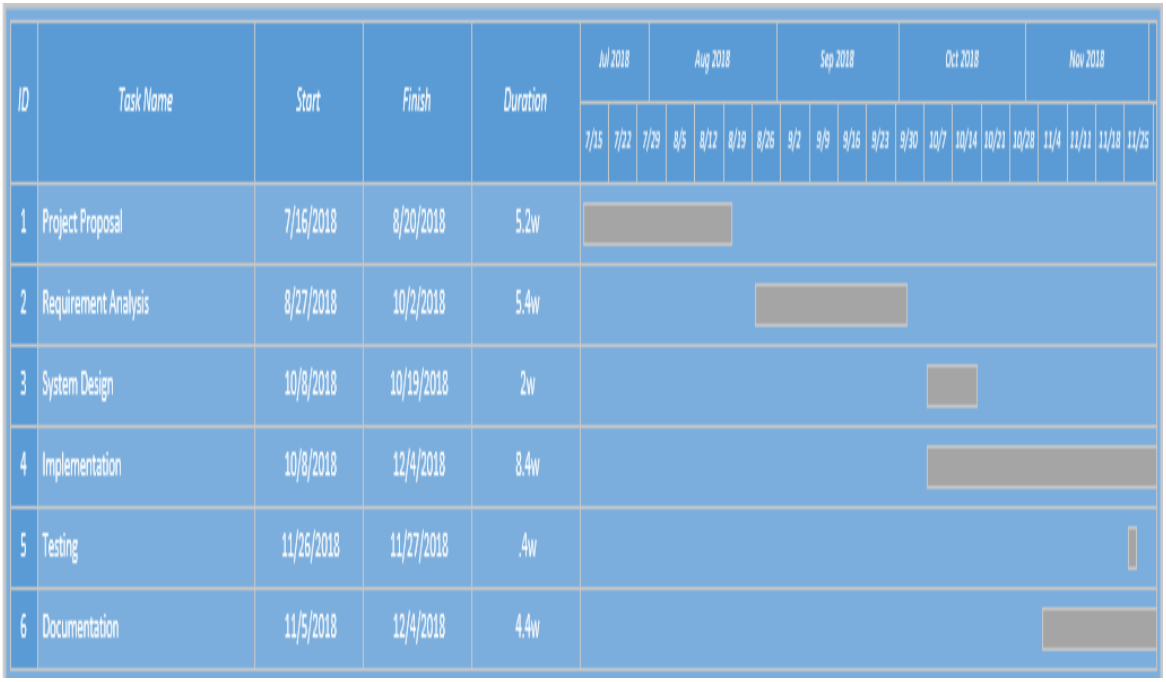
Management can visualize all graphical and PDF reports based on diseases. They can easily find out what kind of diseases are more happened and how many patients are come.

1.4. Project Schedule

1.4.1. Gantt Chart

A chart in which a series of horizontal lines shows the amount of work carried out or manufactured over certain periods in relation to the planned amount for those periods.

Table-1: Gantt Chart



1.4.2. Project Milestone

Table-2: Project Milestone

Milestone	Description	Milestone criteria	Planned date
M0	Proposal		7/16/2018
	Project description detail.	Stake holder identify, Proposal reviewed.	8/20/2018
M1	Requirement analysis		8/27/2018
	Collect all functional requirement and non-functional requirements.	Specify and finalized requirements.	10/2/2018
M2	System design		10/8/2018
	Design all user interface.	Finalized all design, Architecture reviewed.	10/29/2018
M3	Implementation		10/8/2018
	Coding of functionalities.	Buildup System, Architecture reviewed	12/4/2018
M4	Testing		11/26/2018
	System test Pass or fail.	System tested.	11/27/2018
M5	Documentation		11/5/2018
	<milestone description> Overview of the project.	Document reviewed.	12/4/2018

1.5. Software Deliverable

The project's main results are the complete system and the system document which includes:

- Software Requirement and Specification
- Software Design Document
- Project Report
- Code

Chapter-2

Software Requirement Specification

2. Software Requirement Specification

The whole requirement specification is defined in this unit.

2.1. Functional Requirements

- Admin Registration
- Admin Login
- Admin can store diseases
- Admin can register patient information
- Admin can view patient information
- Admin can search patient
- Automatic generate graph based on diseases
- Generate also a Pdf report based on diseases
- Management Login
- Admin and Management can view the graph
- Admin and Management search disease
- Admin and Management can view the Pdf report

Table-3: Functional Requirements

FRQ_ID	FRQ_Name	Description	Priority
FRQ001	Registration(Admin)	This module will provided the reports of the registered Admin.	High
FRQ002	Login(Admin)	This module will provide the reports of the logged in Admin. Without Login Admin can't enter the software.	High
FRQ003	Store Diseases	This module will provide the reports of the diseases' name that are store in database.	High
FRQ004	Registration(Patient)	This module will provide all the reports of the patient who has come for treatment.	High
FRQ005	View Patient Information	Using this module admin view all registered patient information.	Moderate
FRQ006	Search Patient	Using this module Admin search the patient easily.	Moderate
FRQ007	Generate Graph	Based on patient diseases automatic generate graph.	High
FRQ008	Generate PDF Report	Based on patient diseases also generate a pdf report.	High
FRQ009	Login(Management)	This module will provide the reports of all the logged in Management.	High
FRQ010	View Graph	This module will provide the graphical view of generated graph. Based on this graph Management make a decision.	High
FRQ011	Search Disease	Admin and Management easily search disease in a Weekly and Monthly Graph.	High
FRQ012	View Pdf Report	Admin and Management can view the Pdf report.	Moderate

2.2. Data Requirements

- Admin Data
- Disease Data
- Patient Data

Table-4: Data Requirement for Admin

Admin Data		
Data Field Name	Description	Example
id	The unique id	1
Name	The name of the admin	Smrity
Email	The unique email of the admin	smrity@gmail.com
Password	The password of the admin	Smrity123456789

Table-5: Data Requirement for Disease

Diseases Data		
Data Field Name	Description	Example
id	The unique disease id	3
Name	The name of the diseases	Dengue

Table-6: Data Requirement for Patient

Patient Data		
Data Field Name	Description	Example
id	The unique patient id	10
Name	The name of the patient	Smith
Age	The age of the patient	29
Gender	The gender of the patient	Male
Diseases	The name of the disease that has been diagnosed for the patient	Dengue
Date	The date when patient has come	20.10.2018

2.3. Dependability Requirements

2.3.1. Reliability Requirements

RR-01	Our system is more reliable.
Description	The system is able to behave consistently active in Hospital admin and Management.
Stakeholders	Admin, Management

2.3.2. Availability Requirements

AR-01	24 hours accessible.
Description	This system is available for 24 hours,7 days a week. It is always available for the stakeholders.
Stakeholders	Admin, Management

2.3.3. Robustness or Fault-Tolerance Requirements

This system will very nearly confirm 0% crush in any minor error.

DR-01	This system handles over entree.
Description	If there any problem with this system user, then admin will solve the problem.
Stakeholders	Admin

2.3.4. Safety Critical Requirements

This system has no specific safety critical requirements.

2.4. Security Requirements

To get entered into this system or exact module the system must provide an authentication mechanism. To prevent any unauthorized access. Here user's password must be encrypted.

2.4.1. Access Requirements

SR-01	This system provide authentication for safety.
Description	No one can access to the admin or management panel without valid email & password.
Stakeholders	Admin, Management

2.4.2. Integrity Requirements

All passwords are encrypted so it's not easy to taken. Also it's not easy to decrypt.

2.4.3. Privacy Requirements

The confidentiality of the user is determined by the limited access that the log in process will give to the database.

2.5. Usability and Human Interaction Requirements

2.5.1. Ease of Use Requirements

This system is easy to use and understandable.

UH-01	This system usable for any hospital management.
Description	This system has good graphical user interface. It is user friendly. So user feel easy to use this system.
Stakeholders	Admin, management

2.5.2. Understand-ability and Politeness Requirements

UH-02	This feature of management system
Description	This system has the ability so that a user can easily understand this system policy easily and learn to operate and interpret the system.
Stakeholders	Admin, management

2.5.3. Accessibility Requirements

This requirement for prevent unauthorized access.

AR-1: Login as a Admin

AR-2: Login as a Management

Those requirements are necessary for enter the system.

2.5.4. User Document Requirements

UH-03	System documentation
Description	For developing this system, we have to specified requirement of user documentation. And terms are also included in this documentation.
Stakeholders	System Developer

2.6. Look and Feel Requirements

Look and feel of a website is how the site looks to the user and how it feels when he or she is interacting with it. Look define color, images, layout, styling etc. And feel define the movement and response of dynamic modules.

2.6.1. Appearance Requirements

LF-01	Mandatory fields are required
Description	Mandatory fields are different from other fields so easily clear for user. In this way they can un understand which filed can be left blank
Stakeholders	Admin

2.6.2. Style Requirements

LF-02	The look and feel must be manageable using style sheet.
Description	Here we use JQuery, CSS and bootstrap.
Stakeholders	System Developer

2.7. Operational and Environment Requirements

These requirements establish how well and below what conditions the system must perform.

2.7.1.Expected Physical Environment

There are no specific expected physical requirements.

Chapter-3
System Analysis

3. System Analysis

3.1. Use Case Diagram

Use case diagram to graphically describe the system's activities. How many actors and how many activities how to work that represent in one diagram that is a use case. This view of user perspective of this system. Graphically represent all activities and all actors.

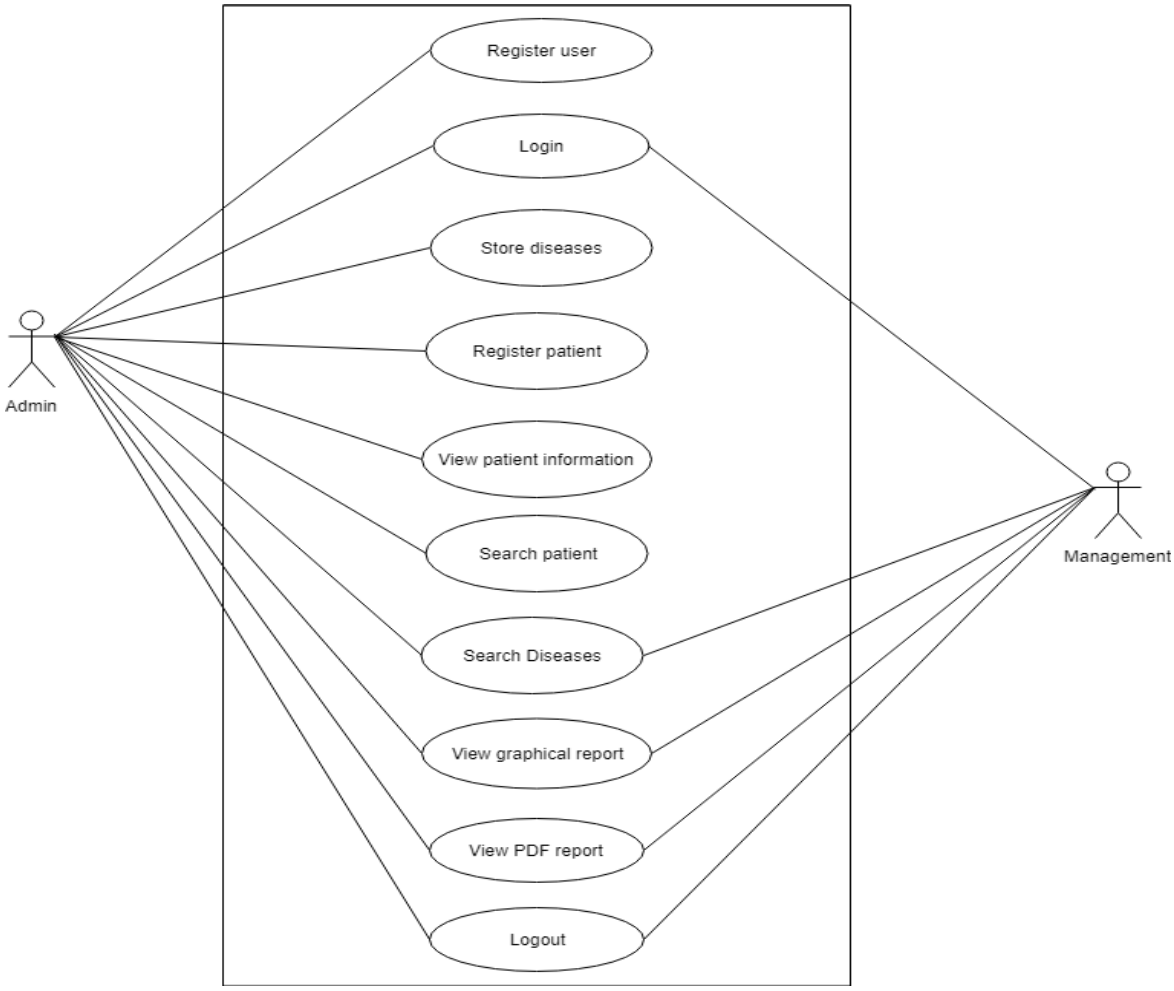


Figure-1.1: Use Case Diagram

3.2. Use Case Description

3.1.1. Admin Registration

Table-3.1.1: Register User

Use Case Name	Register User
Actor	Admin
Description	It is an important functionality for storing Admin information
Goal	Without registration nobody enter the system.
Priority	Essential
Trigger	Selecting Register
Pre-Condition	The system has supported with a Database to store data
Basic Path	Admin enters personal information
Post-Condition	Personal information is stored & admin can login
Possible Enhancement	None

3.1.2. Login

Table-3.1.2: Login

Use Case Name	Login
Actor	Admin, Management
Description	It is an important functionality for accessing the system
Goal	Authorized user can easily access
Priority	Essential
Trigger	Selecting Login
Pre-Condition	Admin and Management must be registered
Basic Path	Admin and Management enters email and password
Alternative Path	None
Post-Condition	Login and view dashboard
Possible Enhancement	None

3.1.3. Store Diseases

Table-3.1.3: Store Diseases

Use Case Name	Store Diseases
Actor	Admin
Description	It is an important functionality for storing diseases
Goal	Diseases must be successfully store in database
Priority	Essential
Trigger	Selecting diseases registration
Pre-Condition	Admin must be Logged In
Basic Path	Admin enters Diseases Name
Alternative Path	None
Post-Condition	Diseases stored in database
Possible Enhancement	None

3.1.4. Register Patient

Table-3.1.4: Register Patient

Use Case Name	Register Patient
Actor	Admin
Description	It is an important functionality for storing all patient information
Goal	Patient information must be successfully store in database
Priority	Essential
Trigger	Selecting patient registration
Pre-Condition	Admin must be Logged In
Basic Path	Admin enters Patient's all information
Alternative Path	None
Post-Condition	Patient stored in database
Possible Enhancement	None

3.1.5. View Patient Information

Table-3.1.5: View Patient Information

Use Case Name	View Patient Information
Actor	Admin
Description	It is an easy functionality for seeing all patient information
Goal	How many patient are store in database Admin easily view this
Priority	Optional
Trigger	Selecting Patient Information
Pre-Condition	Admin must be Logged In
Basic Path	Admin Click patient information
Alternative Path	None
Post-Condition	View all patient information
Possible Enhancement	None

3.1.6. Search Patient

Table-3.1.6: Search Patient

Use Case Name	Search Patient
Actor	Admin
Description	It is an easy functionality for searching patient information
Goal	Admin easily find out a patient
Priority	Optional
Trigger	Selecting Patient Information
Pre-Condition	Admin must be Logged In
Basic Path	Admin enter any word, name or key word
Alternative Path	None
Post-Condition	View the matching patient information
Possible Enhancement	None

3.1.7. Search Disease

Table-3.1.7: Search Disease

Use Case Name	Search Disease
Actor	Admin, Management
Description	It is an easy functionality for searching patient diseases
Goal	Admin and Management easily find out patient diseases using Weekly and Monthly Graph
Priority	Optional
Trigger	Selecting Chart
Pre-Condition	Admin and Management must be Logged In
Basic Path	Admin and Management select a disease
Alternative Path	None
Post-Condition	View the Weekly and Monthly disease
Possible Enhancement	None

3.1.8. View Graphical Report

Table-3.1.8: View Graphical Report

Use Case Name	View Graphical Report
Actor	Management, Admin
Description	It is an important functionality for managing patient diseases
Goal	Using the patient disease automatic generate a graphical report
Priority	Essential
Trigger	Selecting Chart
Pre-Condition	Admin and Management must be Logged In
Basic Path	Admin and Management Select monthly, weekly or yearly
Alternative Path	None
Post-Condition	View the graph
Possible Enhancement	None

3.1.9. View PDF Report

Table-3.1.9: View PDF Report

Use Case Name	View PDF Report
Actor	Management, Admin
Description	It is important functionality for managing the patient and disease information
Goal	Using the patient information and disease generate a PDF report
Priority	Essential
Trigger	Selecting Chart
Pre-Condition	Admin and Management must be Logged In
Basic Path	Admin and Management Select monthly, weekly or yearly and print any information which are make the graph
Alternative Path	None
Post-Condition	PDF Report Generate
Possible Enhancement	None

3.1.10. Logout

Table-3.1.10: Logout

Use Case Name	Logout
Actor	Admin, Management
Description	It is a functionality for finishing the work
Goal	Finish the work both are must be logout
Priority	Essential
Trigger	Selecting dashboard
Pre-Condition	Admin and Management must be Logged In
Basic Path	Admin and Management Click Logout
Alternative Path	None
Post-Condition	Logout Successfully Done
Possible Enhancement	None

3.3. Activity Diagram

Activity diagram is the process of representations of all work flow of step by step activity and option. Activity diagram is a flowchart for representing one activity to another activity. Its show all operation of this system.

3.3.1. Activity Diagram of Admin Registration

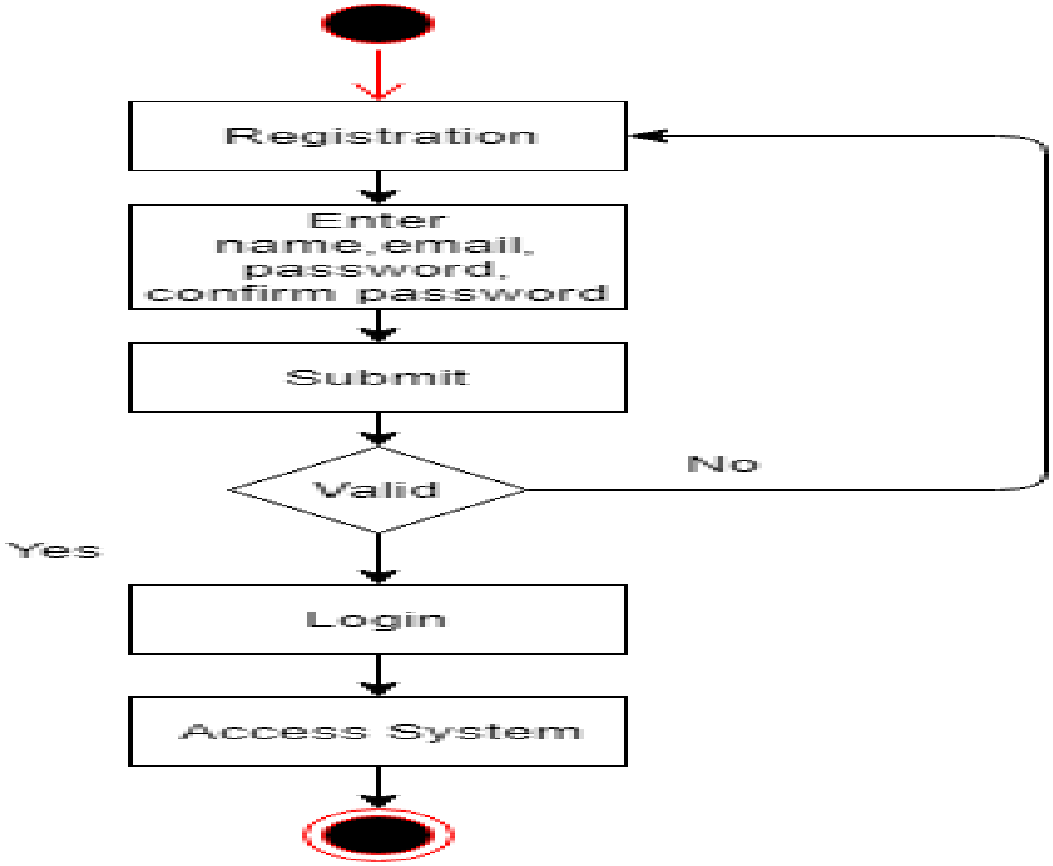


Figure-1.2: Activity Diagram of Admin Registration

3.3.2. Login Activity Diagram (Admin, Management)

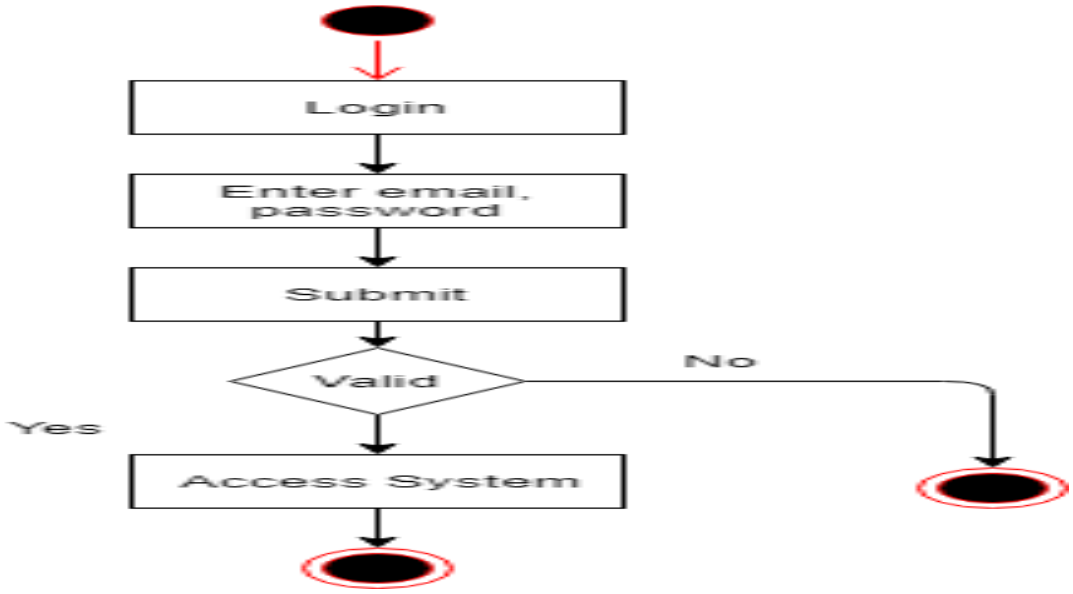


Figure-1.3: Login Activity Diagram (Admin, Management)

3.3.3. Activity Diagram of Store Disease

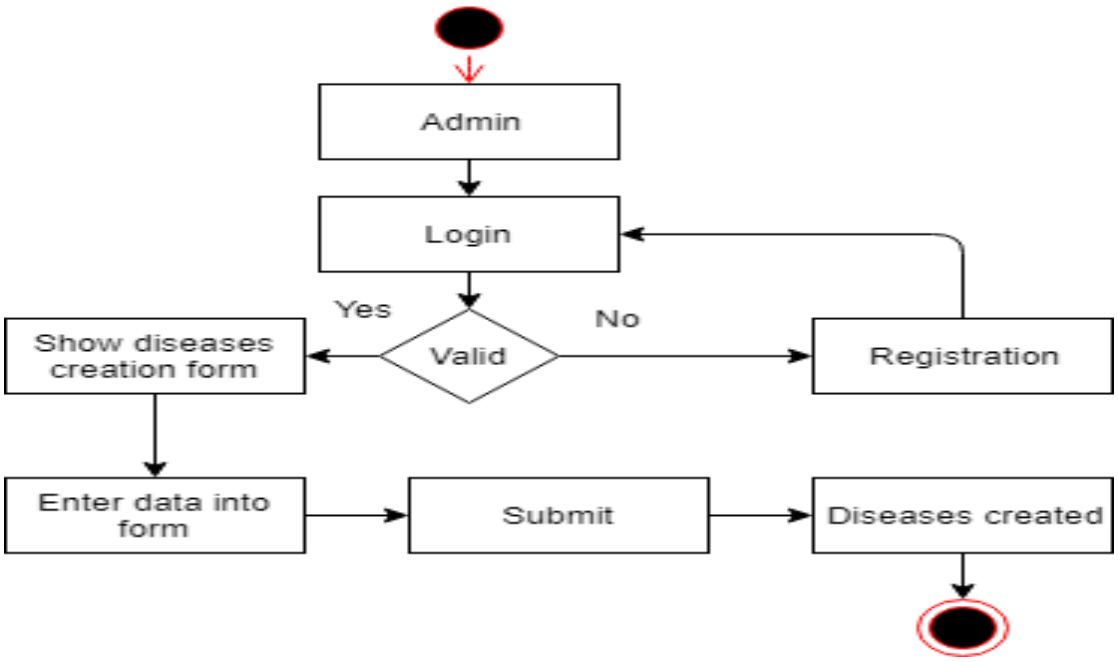


Figure-1.4: Activity Diagram of Store Disease

3.3.4. Activity Diagram of Patient Registration

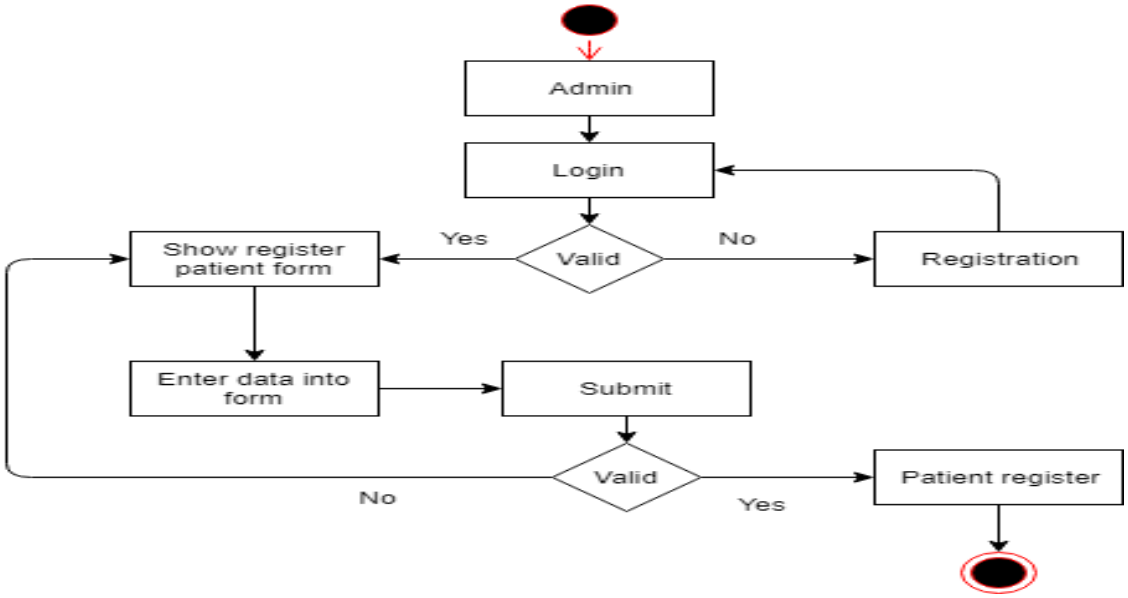


Figure-1.5: Activity Diagram of Patient Registration

3.3.5. Activity Diagram of View Patient Information

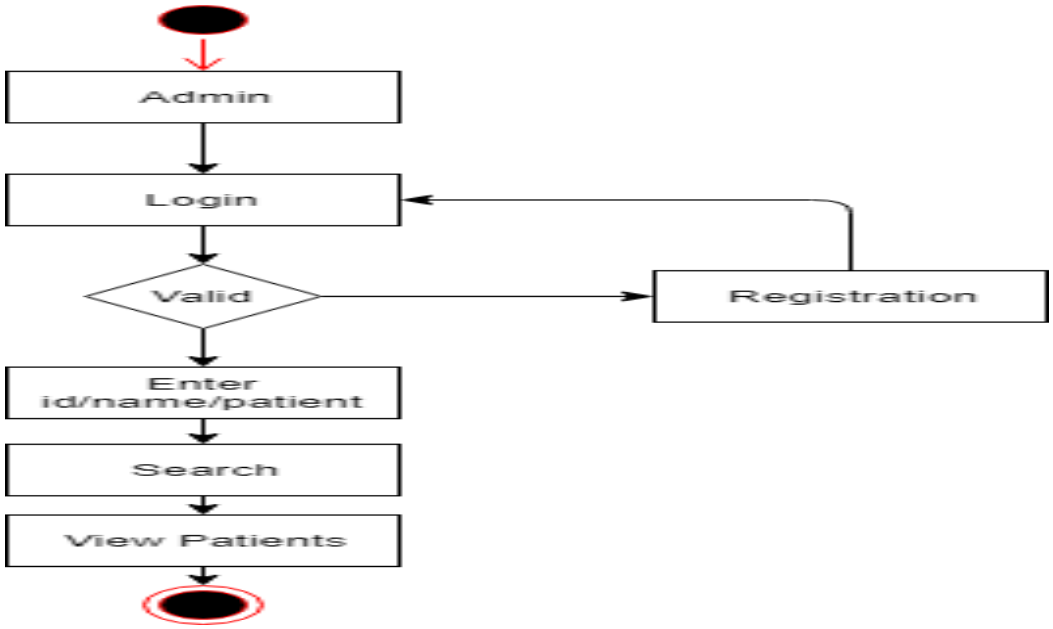


Figure-1.6: Activity Diagram of View Patient Information

3.3.6. Activity Diagram of Search Disease

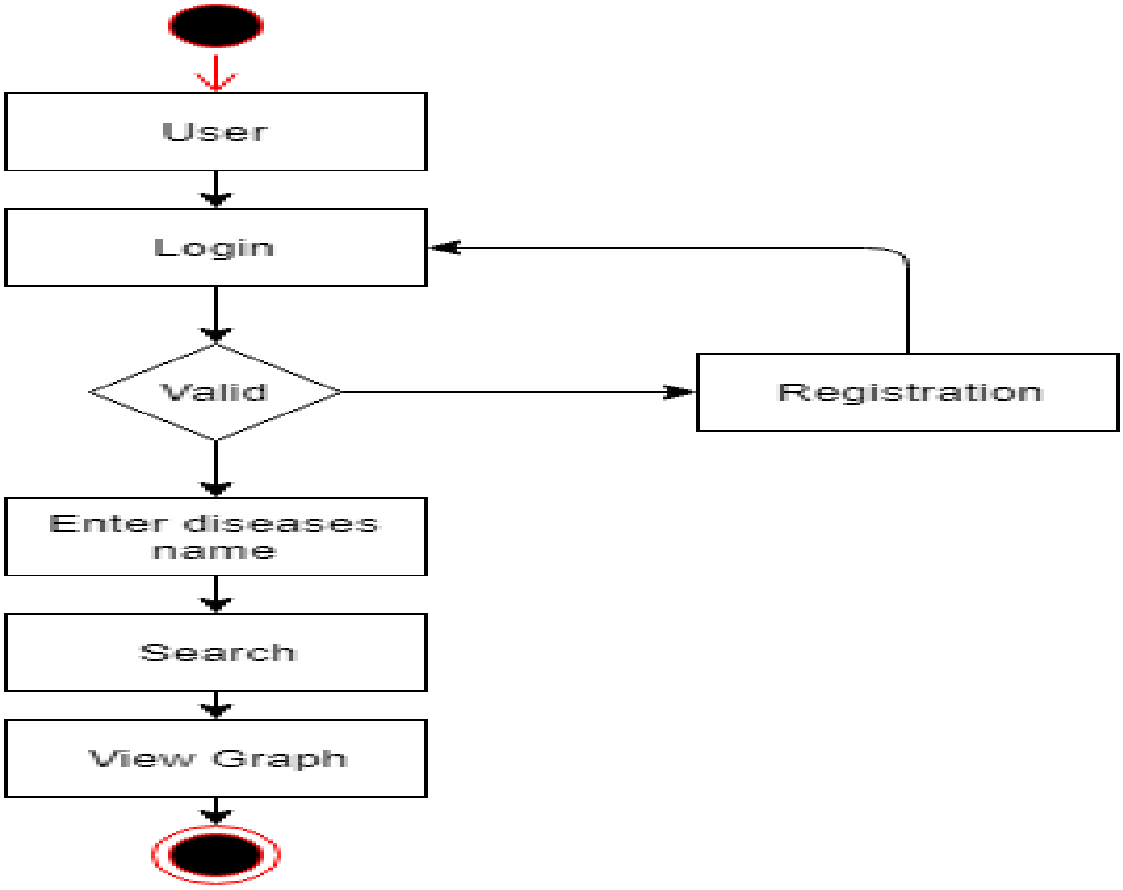


Figure-1.7: Activity Diagram of Search Disease

3.3.7. Activity Diagram of View PDF Report

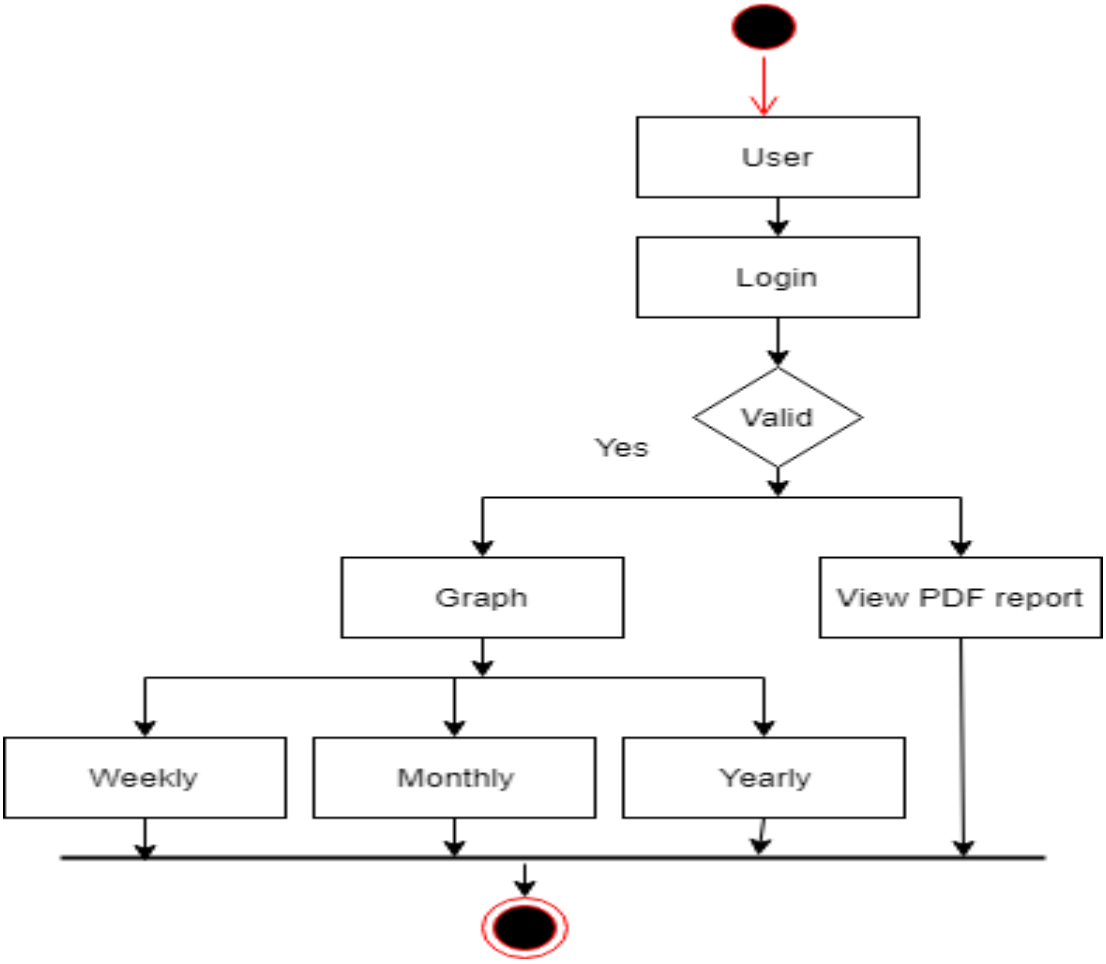


Figure-1.8: Activity Diagram of View PDF Report

3.4. Sequence Diagram

3.4.1. Sequence Diagram of Admin Registration

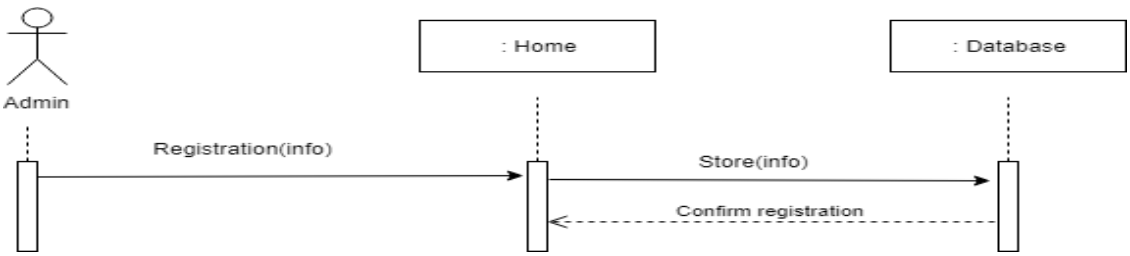


Figure-1.9: Admin Registration of Sequence Diagram

3.4.2. Admin and Management Login of Sequence Diagram

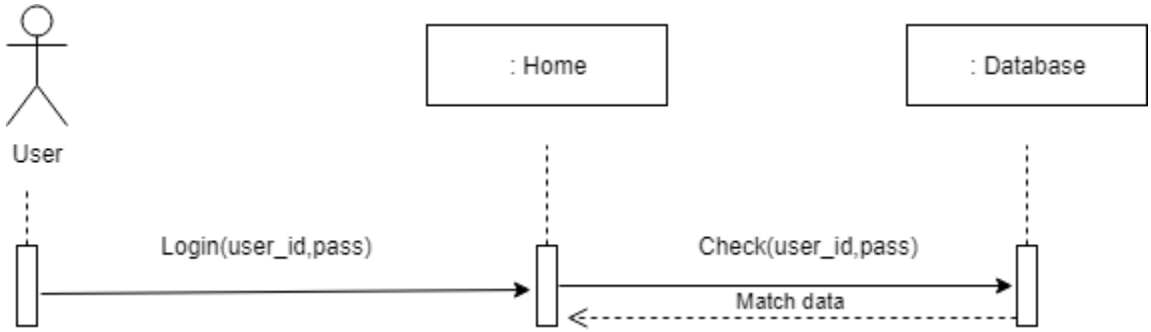


Figure-1.10: Sequence Diagram of Admin and Management Login

3.4.3. Sequence Diagram of Store Disease

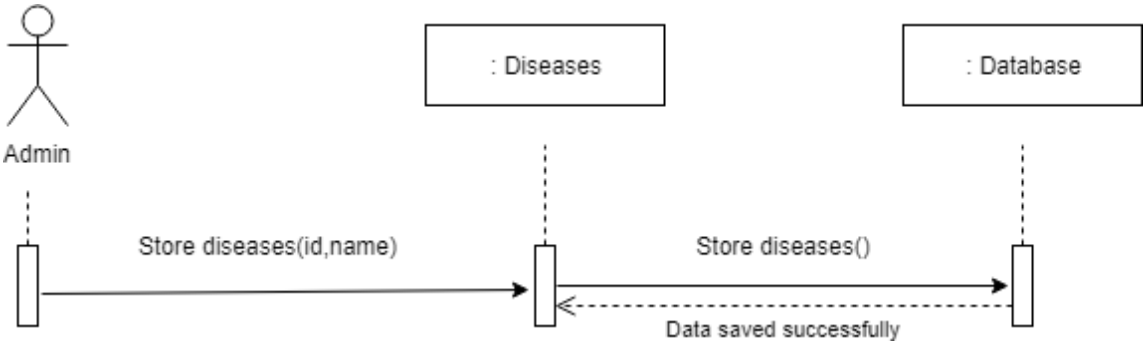


Figure-2.1: Sequence Diagram of Store Disease

3.4.4. Sequence Diagram of Patient Registration

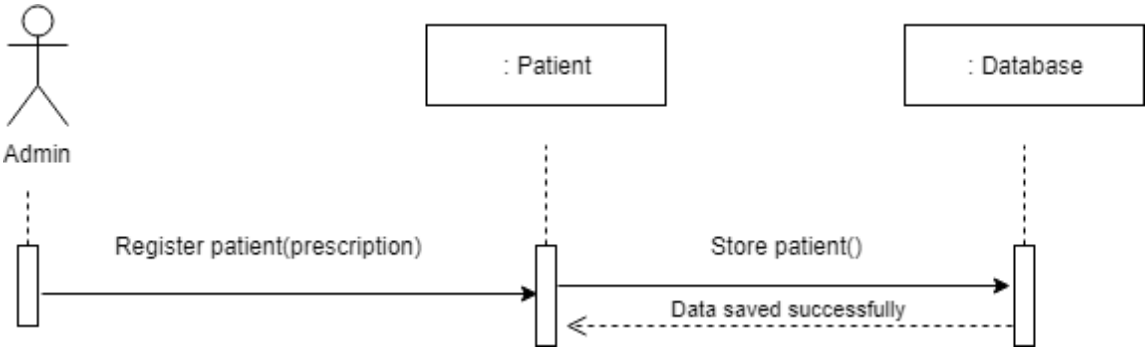


Figure-2.2: Sequence Diagram of Patient Registration

3.4.5. Sequence Diagram of Search Patient

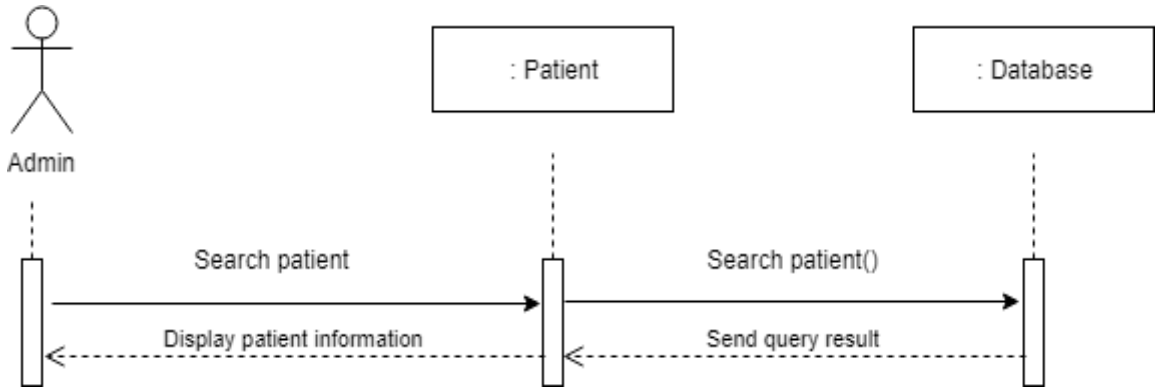


Figure-2.3: Sequence Diagram of Search Patient

3.4.6. Sequence Diagram of Search Disease

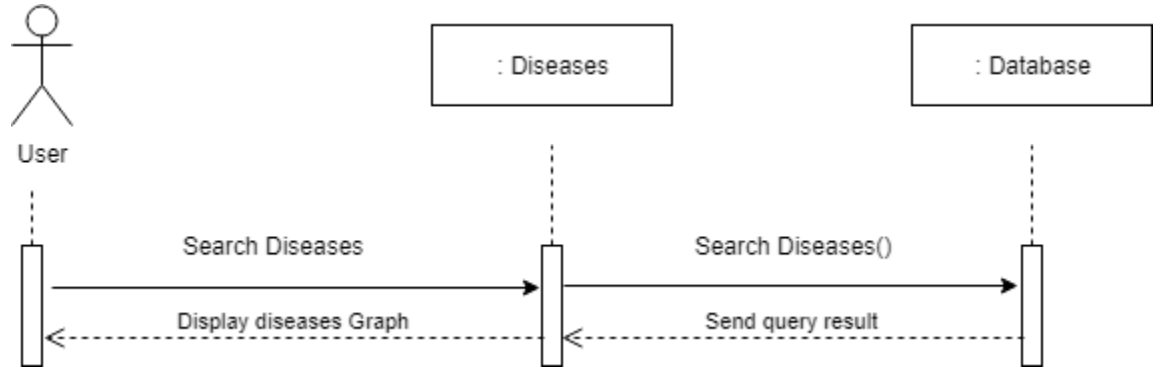


Figure-2.4: Sequence Diagram of Search Disease

3.1.1. Sequence Diagram of View Graphical Report

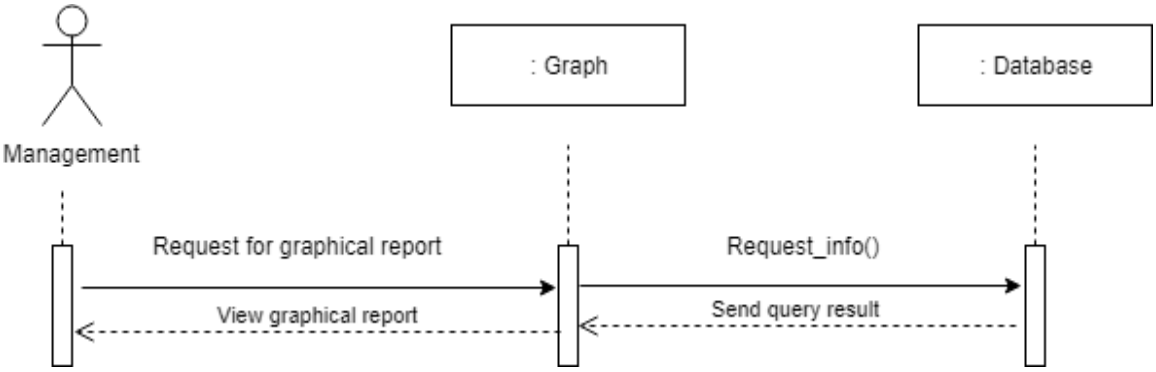


Figure-2.5: Sequence Diagram of View Graphical Report

3.1.1. Sequence Diagram of View PDF Report

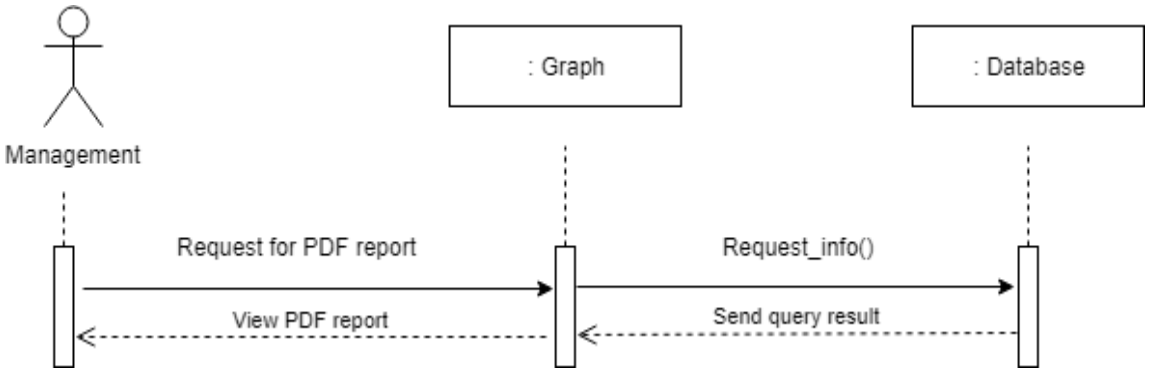


Figure-2.6: Sequence Diagram of View PDF Report

Chapter-4
System Design Specification

4. System Design Specification

4.1. Class Responsibilities Collaboration(CRC) Cards

Class located at the top of the card. And left side represented responsibilities. Responsibility contains maintainable information. For fulfilling a task, we have to use another class which is collaboration part. And collaboration part is right of the card.

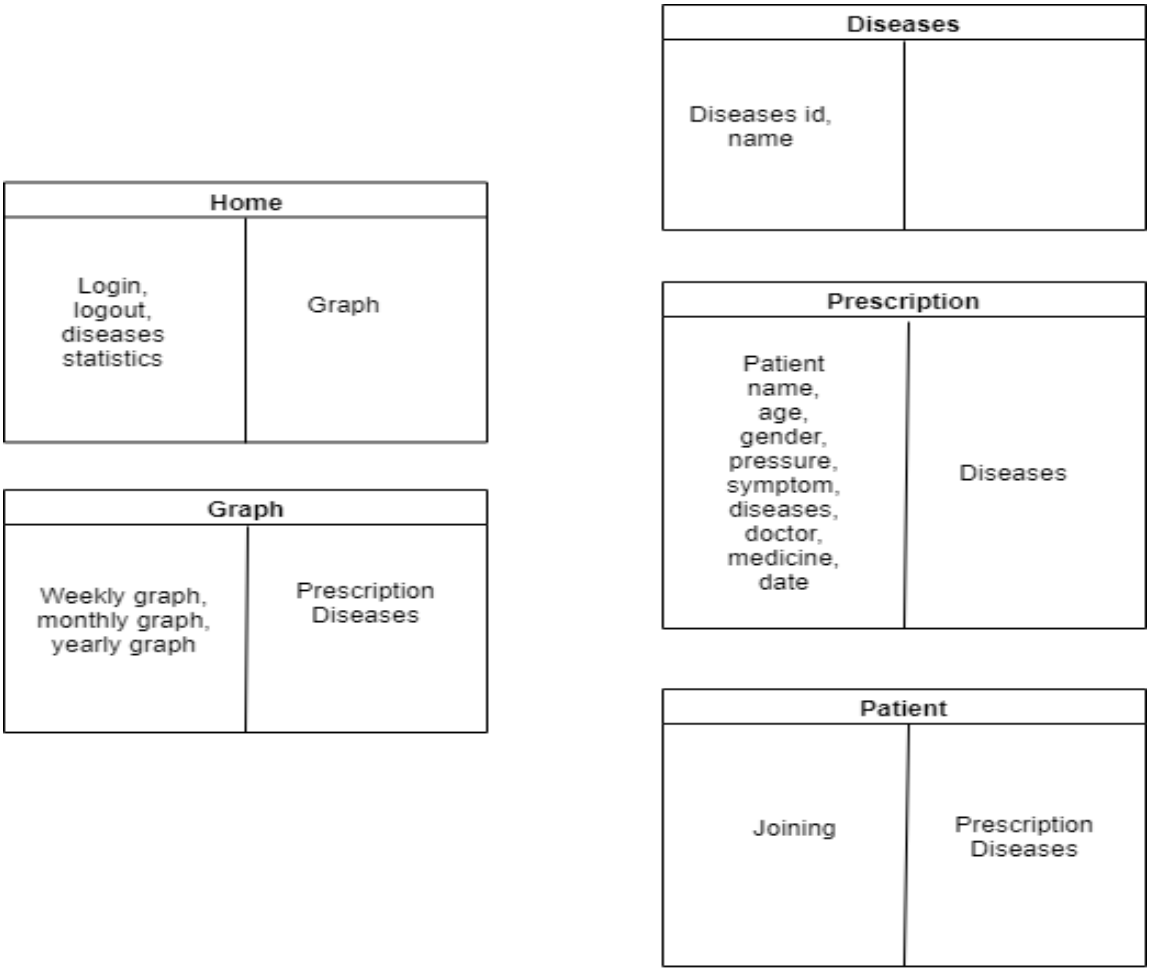


Figure-2.7: Class Responsibilities Collaboration

4.2. Class Diagram

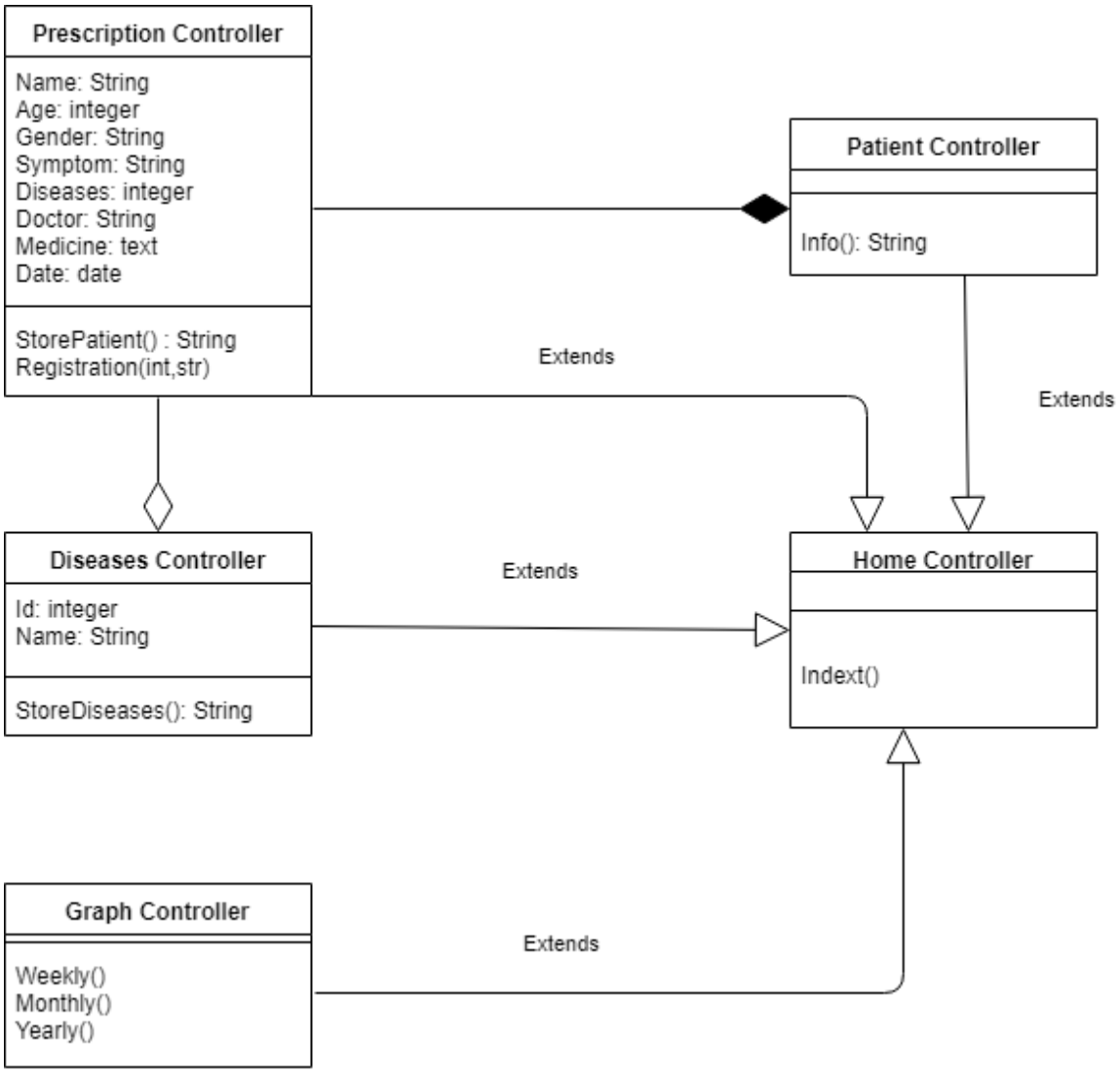


Figure-2.8: Class Diagram

4.3. Database Design Diagram

Admin register both Patient and Disease. Admin, Patient, Diseases have many attribute. Admin have Id, Name, Password, Email. Patient have Id, Name, Age, Gender, Symptom, Doctor, Medicine, Date. Diseases have Id, Name. All entity relates to each other with many kind of relationship. Between Patient and Diseases there are many to many relationships. Between Admin and Patient there are one to many relationships. Between Admin and Diseases there are one to many relationships.

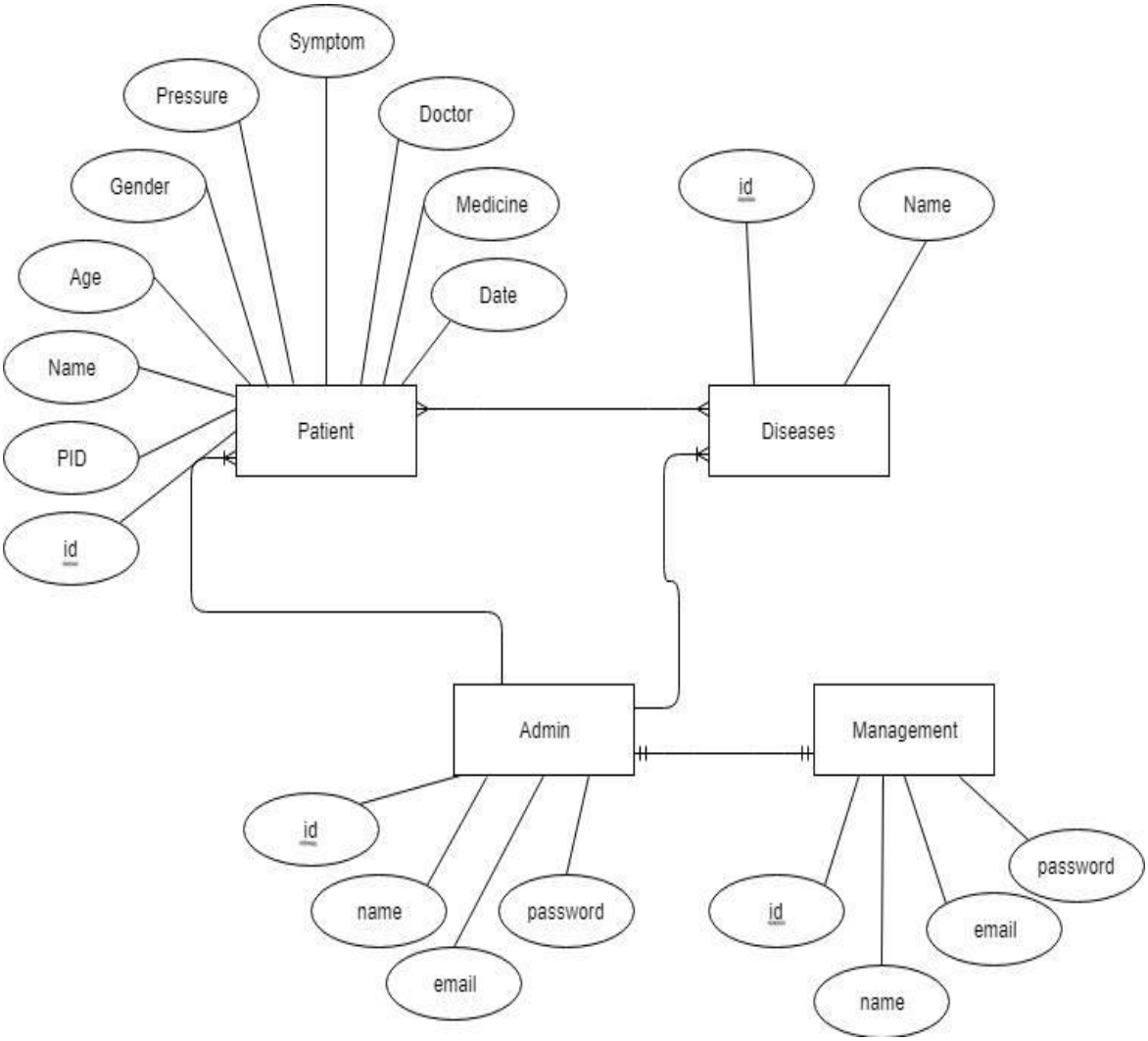


Figure-2.9: Database Design Diagram

4.4. Development Tools and Technology

4.4.1. User Interface Technology

4.4.1.1. Laravel 5.6
Using for developing backend for this web application

4.4.1.2. JQuery
Using for frontend design and form validation

4.4.1.3. CSS3 and Bootstrap
Using for frontend design

4.4.1.4. Font Awesome
Using for various Icon for this web application

4.4.2. Implement Tools and Platform

4.4.2.1. Sublime Text 3
Using for text editor

4.4.2.2. Xampp
To build up a local server for this web application

4.4.2.3. Preferred Database MySQL
Using for various query

4.4.2.4. Apache
Apache is the most widely used web server programming. It is an open source software that is freely available. Apache is fast, safe and reliable.

Chapter-5

System Testing

5. System Testing

5.1. Testing Features

5.1.1. Features to be tested

FRQ001- Admin Registration

FRQ002- Admin Login

FRQ003- Store Diseases

FRQ004- Patient Registration

FRQ009- Management Login

5.1.2. Features can not to be tested

FRQ005- View Patient Information

FRQ006- Search Patient

FRQ010- View Graph

FRQ011- Search Disease

FRQ012- View PDF Report

5.2. Testing Strategies

A testing strategy is a general approach to the testing process rather than a method of devising particular system or component tests. Different testing strategies may be adopted depending on the type of system to be tested and the development process used.

5.3. Testing Environment (Hardware/Software Requirement)

- Test Data
- Web Application
- Database Server
- Operating System
- Browser

5.4. Test Case

5.4.1. Test Case Module-1: Admin Registration

Admin Registration

Table07: Test Case Module-1

Test Case ID: DSSTC1	Test Design By: Sumaiya Rahman Smrity
Test Priority: High	Test Design Date:26.11.2018
Module Name: Admin Registration	Test Executed By: Sumaiya Rahman Smrity
Description: This Section covers the functionality of registering new Admin.	Test Executed Date: 26.11.2018

Precondition: Admin has no precondition.
Dependencies: Enter input required information.

Step	Test Cases	Test Data	Expected result	P/F	Actual result
01	Enter empty value for any required field		Display error Message	Pass	Display error Message
02	Enter numeric value in Name field	56789	Display error message “Enter valid Name”	Pass	Display error message ”Enter valid Name”
03	Enter different email format instead of aaa@aaa.aaa	gmail.com.or	Display error message “Enter valid email”	Pass	Display error message “Enter valid email”
04	Enter password minimum 6 characters or more	1234	Display error message “Enter must 6 characters or more”	Pass	Display error message “Enter must 6 characters or more”
05	New Admin Registration		Display message “Submit Successfully”	Pass	Display message “Submit Successfully”

5.4.2. Test Case Module-2: Admin Login

Admin Login

Table08: Test Case Module-2

Test Case ID: DSSTC2	Test Design By: Sumaiya Rahman Smrity
Test Priority: High	Test Design Date:26.11.2018
Module Name: Admin Login	Test Executed By: Sumaiya Rahman Smrity
Description: Test Login process of Admin.	Test Executed Date: 26.11.2018

Precondition: Admin must be registered already.
Dependencies: Input correct email & password.

Step	Test Cases	Test Data	Expected result	P/F	Actual result
01	Enter empty value for Email & Password		Display error Message	Pass	Display error Message
02	Enter correct value for Email & Password	Email & Password	Accept	Pass	Accept
03	Enter wrong value for Email & Password	Email & Password	Display error message	Pass	Display error message
04	After giving input click Login button		Clicking on Login button directed on Dashboard.	Pass	Clicking on Login button directed on Dashboard page

5.4.3.Test Case Module-3: Store Diseases

Store Diseases:

Table09: Test Case Module-3

Test Case ID: DSSTC3	Test Design By: Afia Hasan
Test Priority: High	Test Design Date:27.11.2018
Module Name: Store Diseases	Test Executed By: Afia Hasan
Description: Test the diseases store process.	Test Executed Date: 27.11.2018

Step	Test Cases	Test Data	Expected result	P/F	Actual result
01	Enter empty value for required field		Display error Message “Enter Diseases Name”	Pass	Display error Message “Enter Diseases Name”
02	New Disease Store		Display message “Save Successfully Done”	Pass	Display message “Save Successfully Done”

Precondition: Admin must be logged in already.
Dependencies: Enter input required information.

5.4.4.Test Case Module-4: Patient Registration

Patient Registration

Table10: Test Case Module-4

Test Case ID: DSSTC4	Test Design By: Afia Hasan
Test Priority: High	Test Design Date:27.11.2018
Module Name: Patient Registration	Test Executed By: Afia Hasan
Description: Test the patient registration process.	Test Executed Date: 27.11.2018

Precondition: Admin must be logged in.
Dependencies: Enter input required information.

Step	Test Cases	Test Data	Expected result	P/F	Actual result
01	Enter empty value for any required field		Display error Message	Pass	Display error Message
02	Enter numeric value in Name field	12789	Display error message “Enter valid Name”	Pass	Display error message ”Enter valid Name”
03	Enter non-numeric value in Age field	abcd	Display error message “Age must be numeric value”	Pass	Display error message “Age must be numeric value”
04	Without click radio button in Gender field		Display error message “Select patient gender”	Pass	Display error message “Select patient gender”
05	Without click dropdown button and select disease		Display error message “Select diseases”	Pass	Display error message “Select diseases”
06	Enter current date (Admin enter the date day by day when patient has come)		Display error message “Enter current date”	Pass	Display error message “Enter current date”
07	New Patient Registration		Display message “Save Successfully Done”	Pass	Display message “Save Successfully Done”

5.4.5. Test Case Module-5: Management Login

Management Login

Table11: Test Case Module-5

Test Case ID: DSSTC5	Test Design By: Sumaiya Rahman Smrity
Test Priority: High	Test Design Date:26.11.2018
Module Name: Management Login	Test Executed By: Sumaiya Rahman Smrity
Description: Test Login process of Management.	Test Executed Date: 26.11.2018

Precondition: Management has no precondition.
Dependencies: Enter input correct email & password.

Step	Test Cases	Test Data	Expected result	P/F	Actual result
01	Enter empty value for Email & Password		Display error Message	Pass	Display error Message
02	Enter correct value for Email & Password	Email & Password	Accept	Pass	Accept
03	Enter wrong value for Email & Password	Email & Password	Display error message	Pass	Display error message
04	After giving input click Login button		Clicking on Login button and see the Graph page.	Pass	Clicking on Login button and see the Graph page.

5.5. Testing Deliverables

5.5.1. Project Status Report

Requirement id	Feature	Test Case	Pass	Fail
FRQ001	Admin Registration	05	05	00
FRQ002	Admin Login	04	04	00
FRQ003	Store Diseases	02	02	00
FRQ004	Patient Registration	07	07	00
FRQ009	Management Login	04	04	00

Chapter-6

User Manual

6. User Manual

6.1. User Manual A (Admin)

6.1.1. Admin Registration

If the admin wants to access the system, then they must register first.

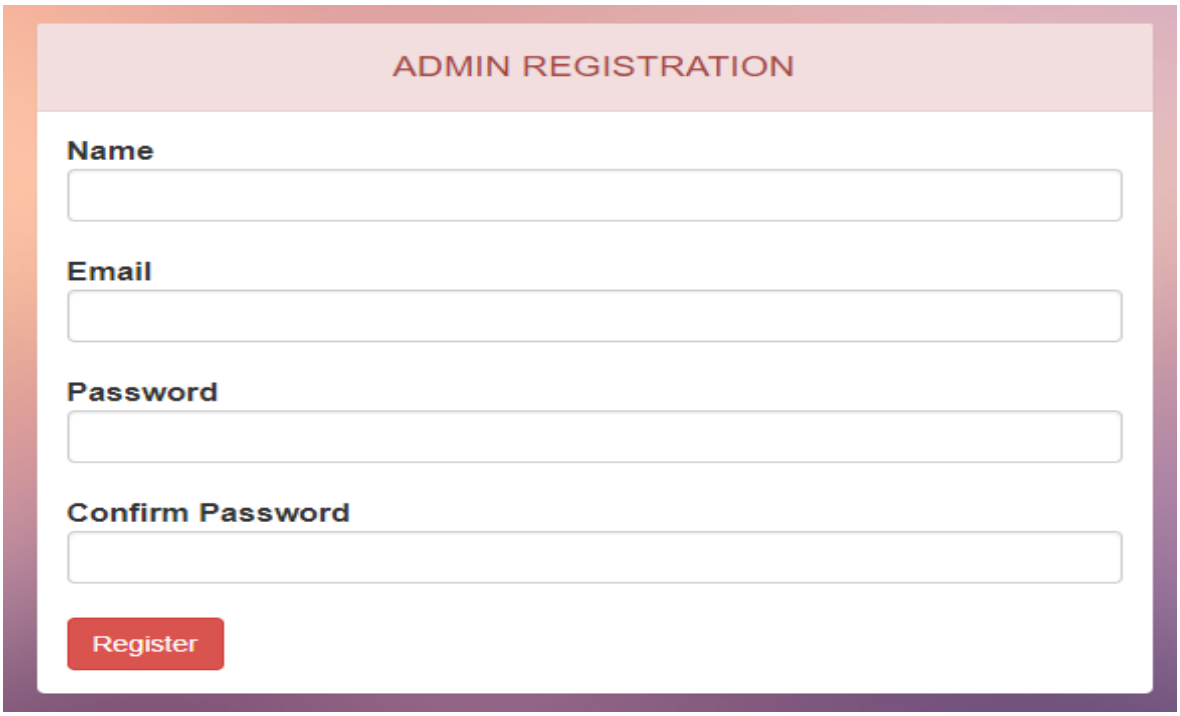


Figure-2.10: Admin Registration

6.1.2. Admin Login

After registration Admin can easily access the system. Here we use multiple login system. Enter valid data in Email and Password and click the login button. Then Admin login in the system.

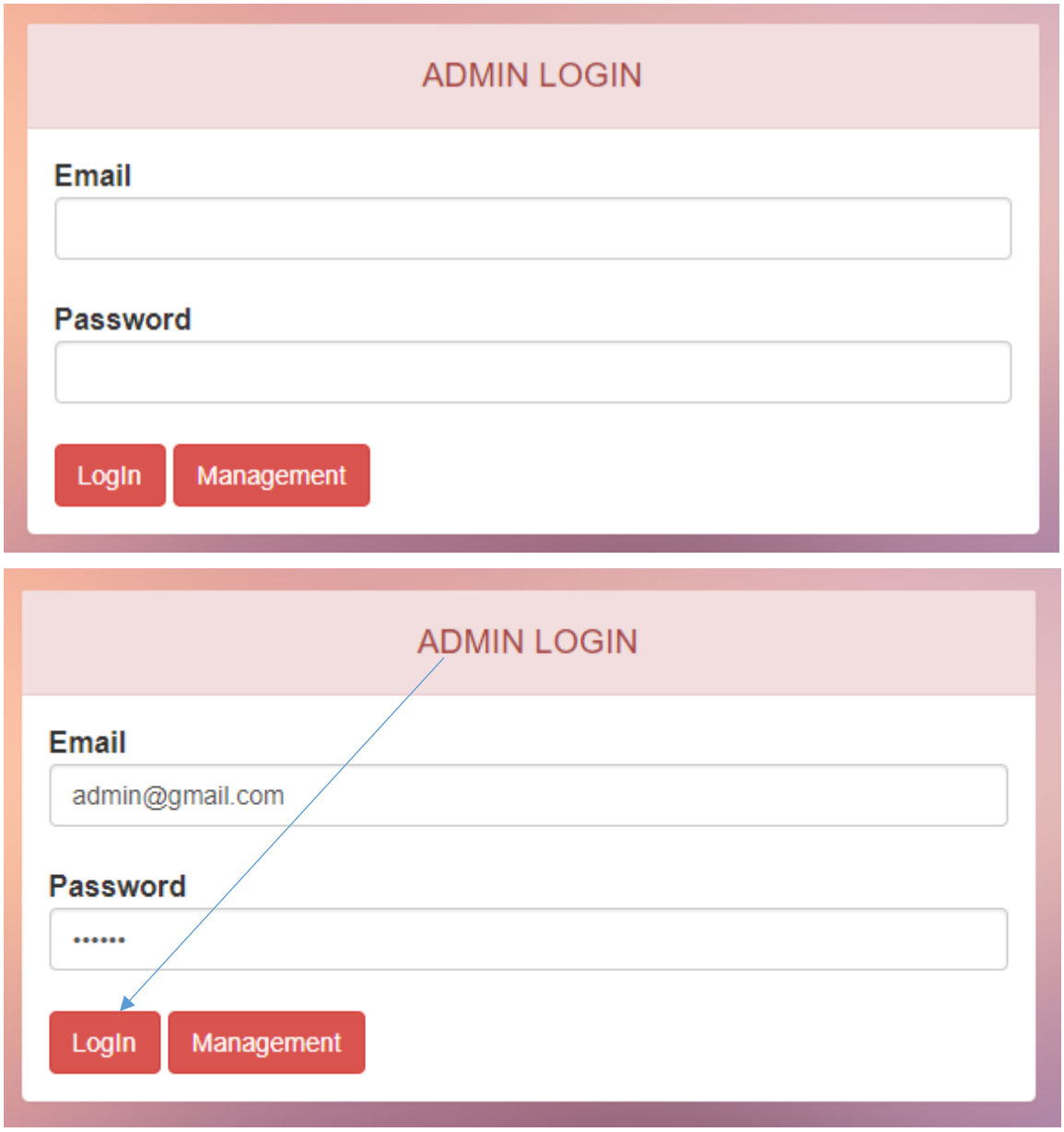


Figure-3.1: Admin Login

6.1.3. Admin Dashboard

After Login Admin see the Dashboard page. In this page there is a side bar, header, footer and some information.

Current Week: In the Current Week how many patients are come that we define in Current Week. There are 1 patient is come in the current week.

Current Month: In the Current Month how many patients are come that we define in Current Month. There are 14 patients are come in the current month.

Current Year: In the Current Year how many patients are come that we define in Current Year. There are 40 patients are come in the current year.

Figure-3.2: Admin Dashboard

6.1.4. Store Diseases

After login Admin click the Registration. Then click the Disease and see the Disease Registration page. If Admin submit this page means this form without any kind of data, then see the error message. If Admin fill the form with valid information and click the submit button, then Disease store into a database and give a successful message.

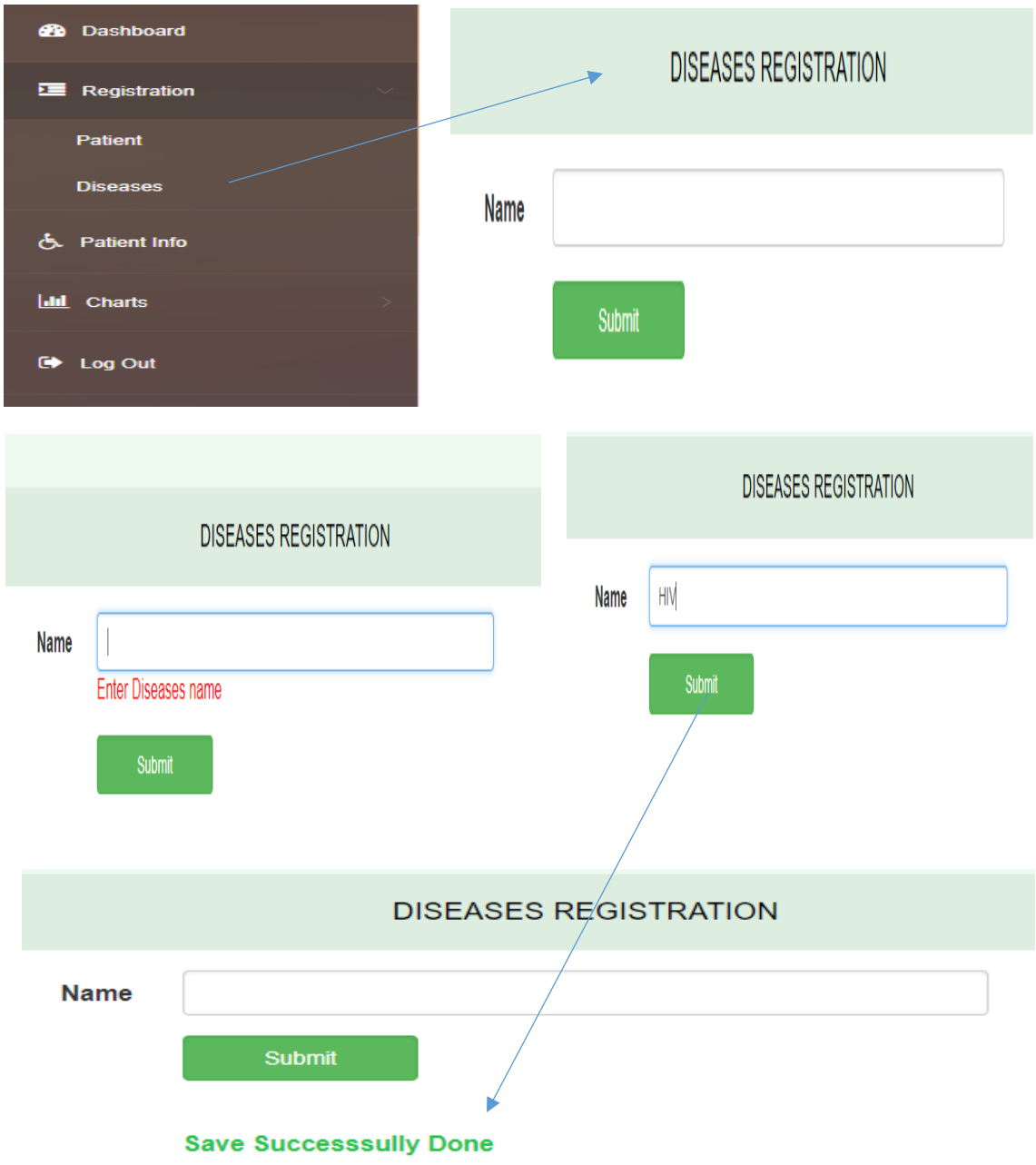
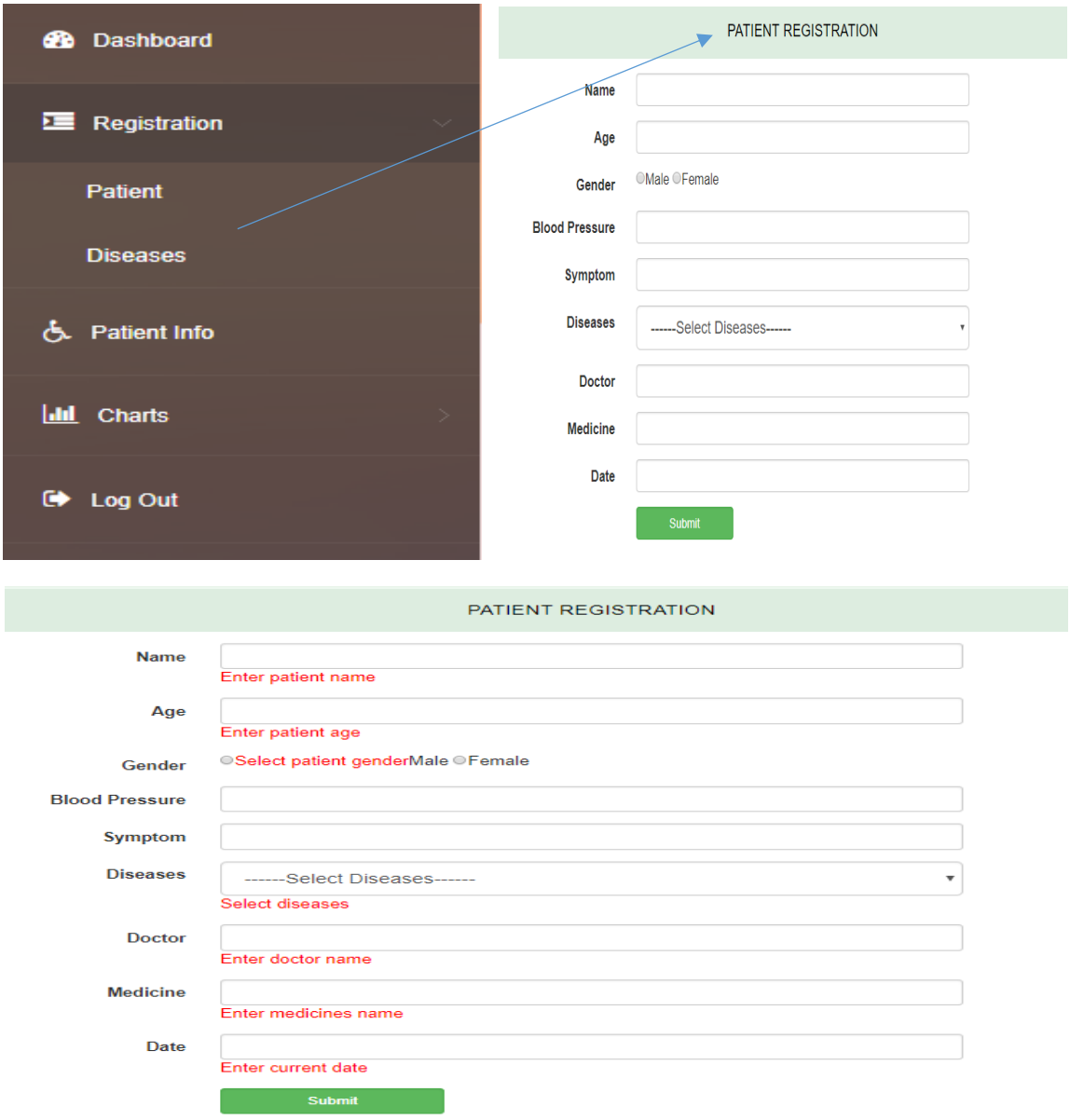


Figure-3.3: Store Diseases

6.1.5. Patient Registration

After login Admin click the Registration. Then click the Patient and see the Patient Registration page. If Admin submit this page means this form without any kind of data, then see the error message. If Admin fill the form with valid information and click the submit button, then Patient information register and give a successful message.



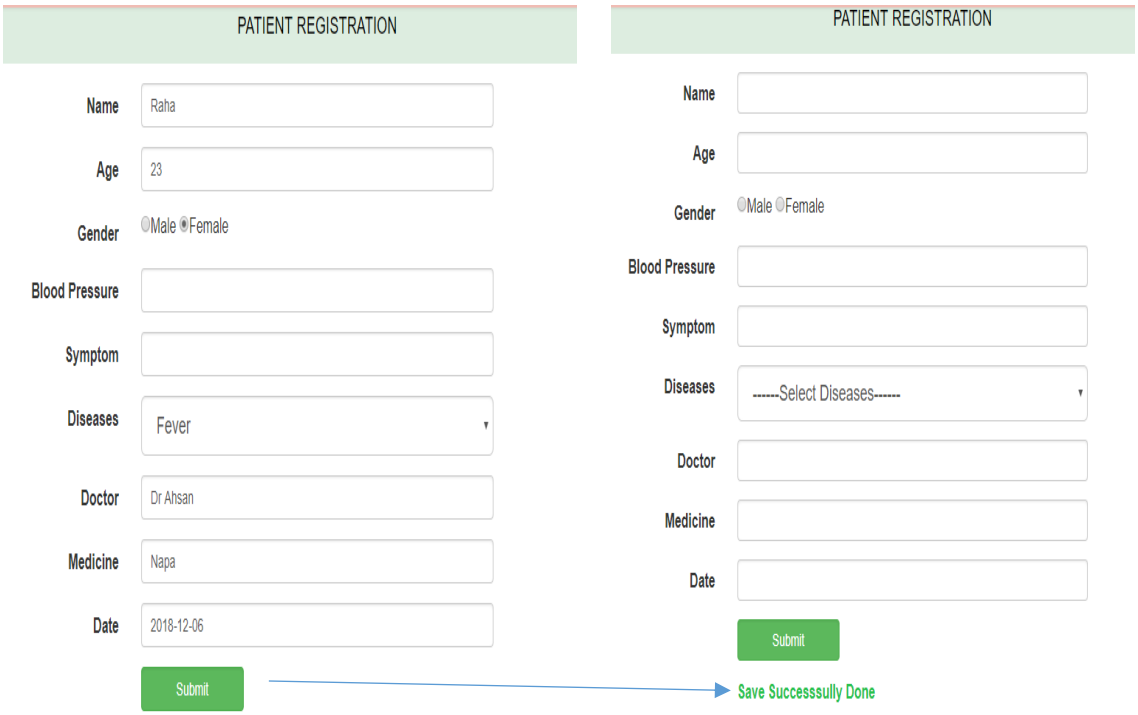
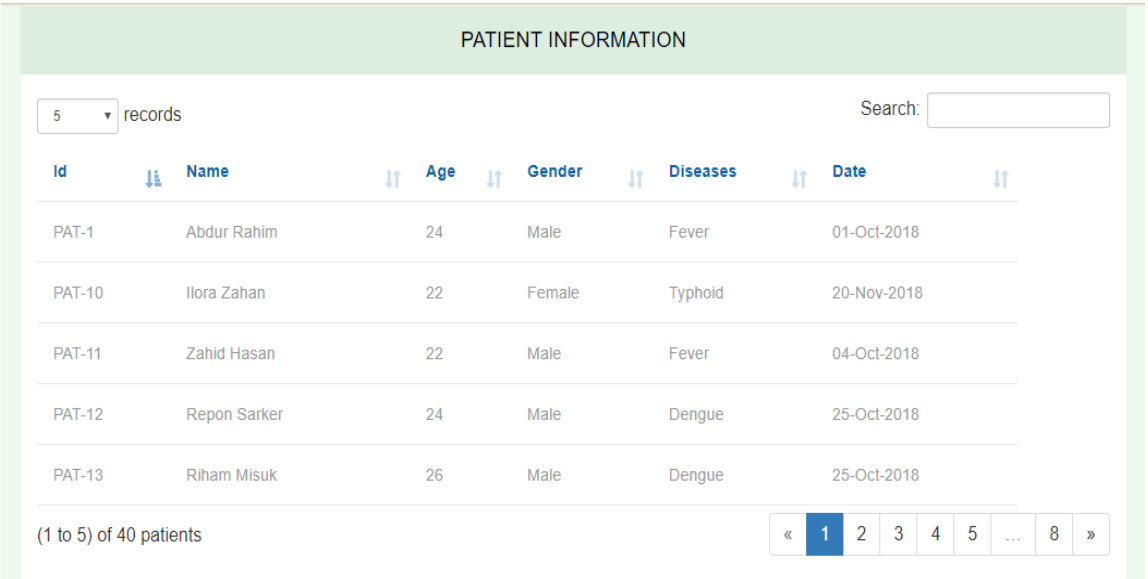


Figure-3.4: Patient Registration

6.1.6. View Patient Information

After Patient Registration Admin can see Patient information. For viewing patient information, we use data table. We also use pagination. In one-page Admin can view 5 patient information at a time.



PATIENT INFORMATION

5 records

Search:

Id	Name	Age	Gender	Diseases	Date
PAT-14	Abdur Razzak	30	Male	Fever	05-Oct-2018
PAT-15	Nipa Hossain	26	Female	Fever	05-Oct-2018
PAT-16	Alpona Alpin	25	Female	Fever	05-Oct-2018
PAT-17	Karnis Faria	22	Female	Fever	07-Oct-2018
PAT-18	Hujaifa Zaman	19	Male	Fever	07-Oct-2018

(6 to 10) of 40 patients

« 1 2 3 4 5 ... 8 »

PATIENT INFORMATION

5 records

Search:

Id	Name	Age	Gender	Diseases	Date
PAT-19	Azim Hossain	15	Male	Fever	08-Oct-2018
PAT-2	Abdul Karim	25	Male	Dengue	23-Oct-2018
PAT-20	Sayem Rajon	27	Male	Dengue	25-Oct-2018
PAT-21	Md Lingkon	27	Male	Dengue	29-Oct-2018
PAT-22	Tamim Iqbal	29	Male	Dengue	29-Oct-2018

(11 to 15) of 40 patients

« 1 2 3 4 5 ... 8 »

PATIENT INFORMATION

5 records

Search:

Id	Name	Age	Gender	Diseases	Date
PAT-23	Md Sohag	32	Male	Dengue	29-Oct-2018
PAT-24	Anika Haque	7	Female	Dengue	04-Nov-2018
PAT-25	Sadman Wasif	4	Male	Fever	09-Oct-2018
PAT-26	Sabiha Rahman	30	Female	Dengue	04-Nov-2018
PAT-27	Sabir Rahman	8	Male	Fever	14-Oct-2018

(16 to 20) of 40 patients

« 1 2 3 4 5 ... 8 »

PATIENT INFORMATION

5 records

Search:

Id	Name	Age	Gender	Diseases	Date
PAT-28	Ahsan Bakul	22	Male	Fever	14-Oct-2018
PAT-29	Sadia Era	20	Female	Fever	13-Oct-2018
PAT-3	Ahsan Habib	23	Male	Fever	01-Oct-2018
PAT-30	Sohel Tanvir	34	Male	Dengue	11-Nov-2018
PAT-31	Tawsif Mahbub	28	Male	Typhoid	20-Nov-2018

(21 to 25) of 40 patients

« 1 … 4 5 6 7 8 »

PATIENT INFORMATION

5 records

Search:

Id	Name	Age	Gender	Diseases	Date
PAT-32	Md Rasel	5	Male	Typhoid	20-Nov-2018
PAT-33	Smrity Rahman	22	Female	Typhoid	20-Nov-2018
PAT-34	Sumaiya Zaman	27	Female	Typhoid	28-Nov-2018
PAT-35	Farhan Ahmed	29	Male	Typhoid	28-Nov-2018
PAT-36	Sara Khan	23	Female	Typhoid	28-Nov-2018

(26 to 30) of 40 patients

« 1 … 4 5 6 7 8 »

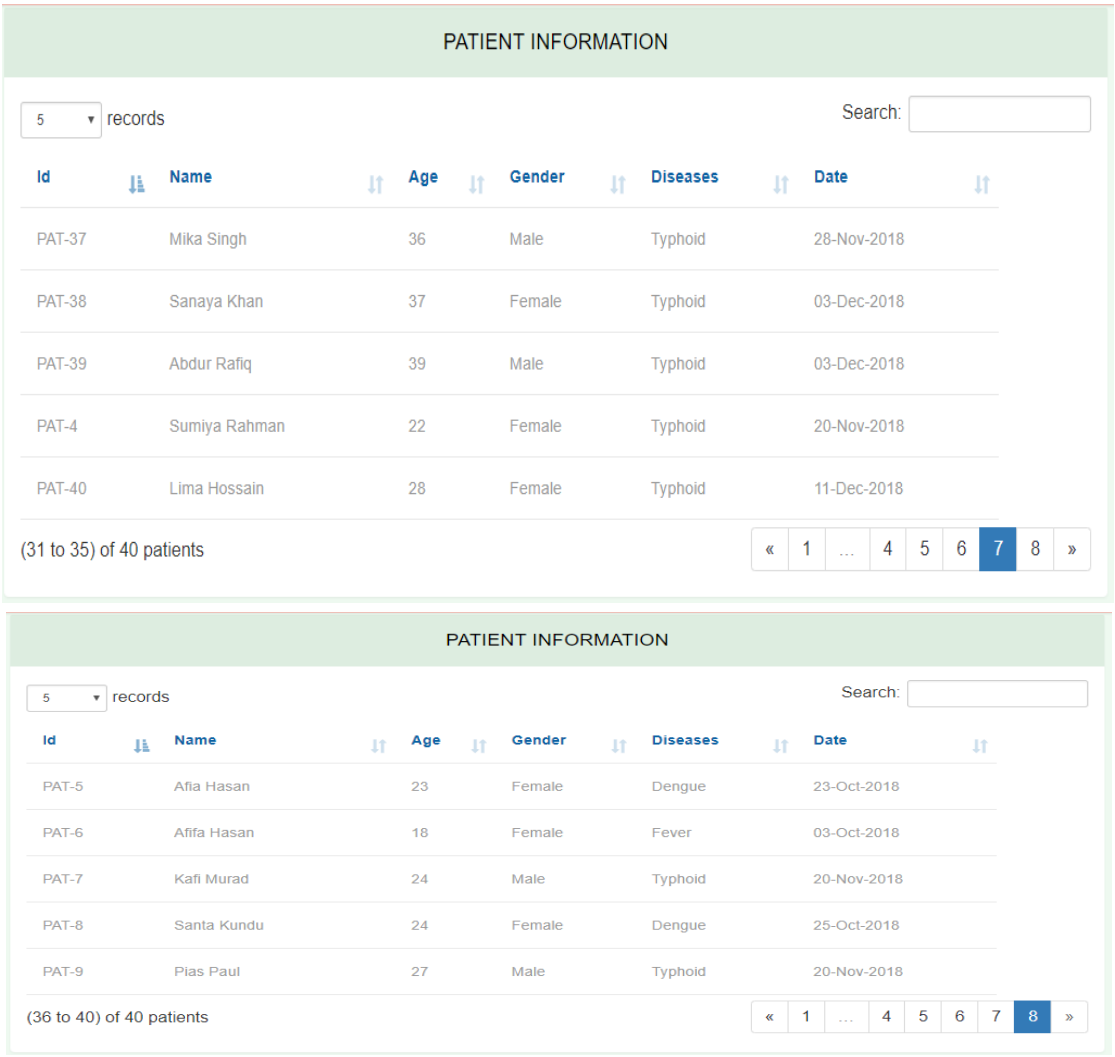


Figure-3.5: View Patient Information

6.1.7. Search Patient

After Login Admin also search the patient information by Patient Id, Disease Name, Gender, Date.

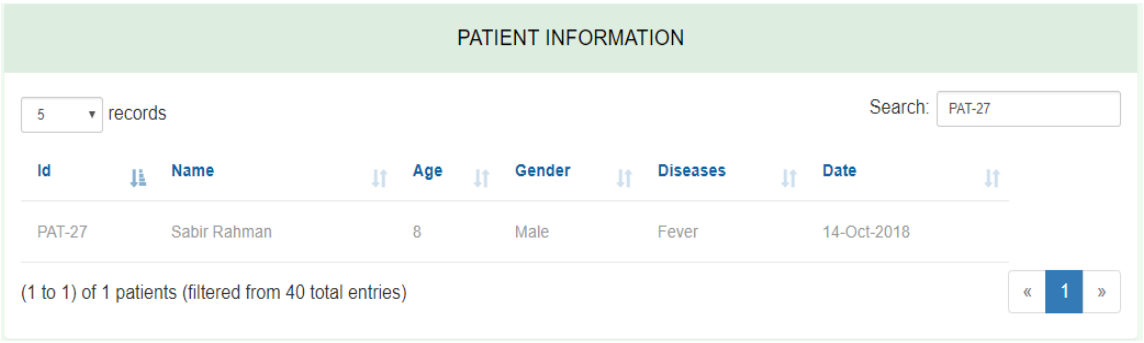


Figure-3.6: Search Patient by Patient Id

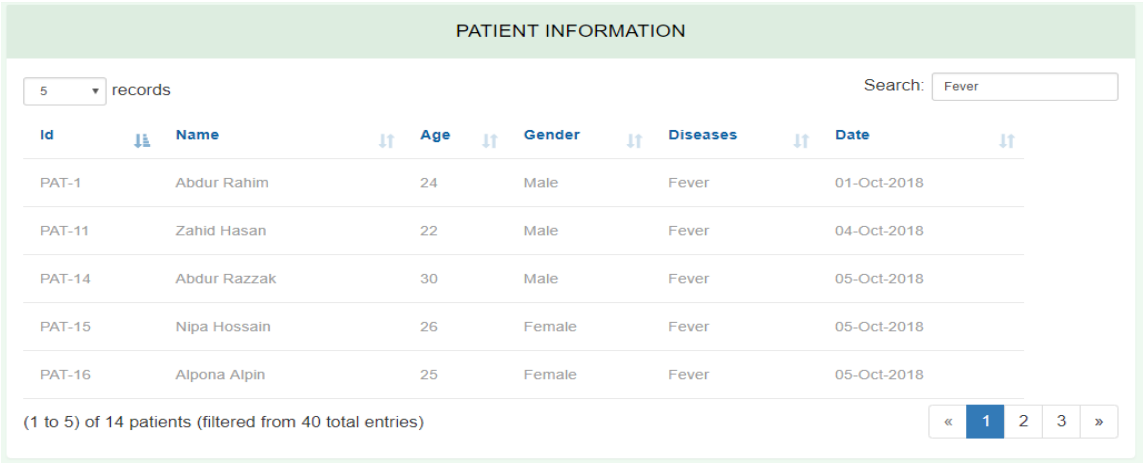


Figure-3.7: Search Patient by Disease Name

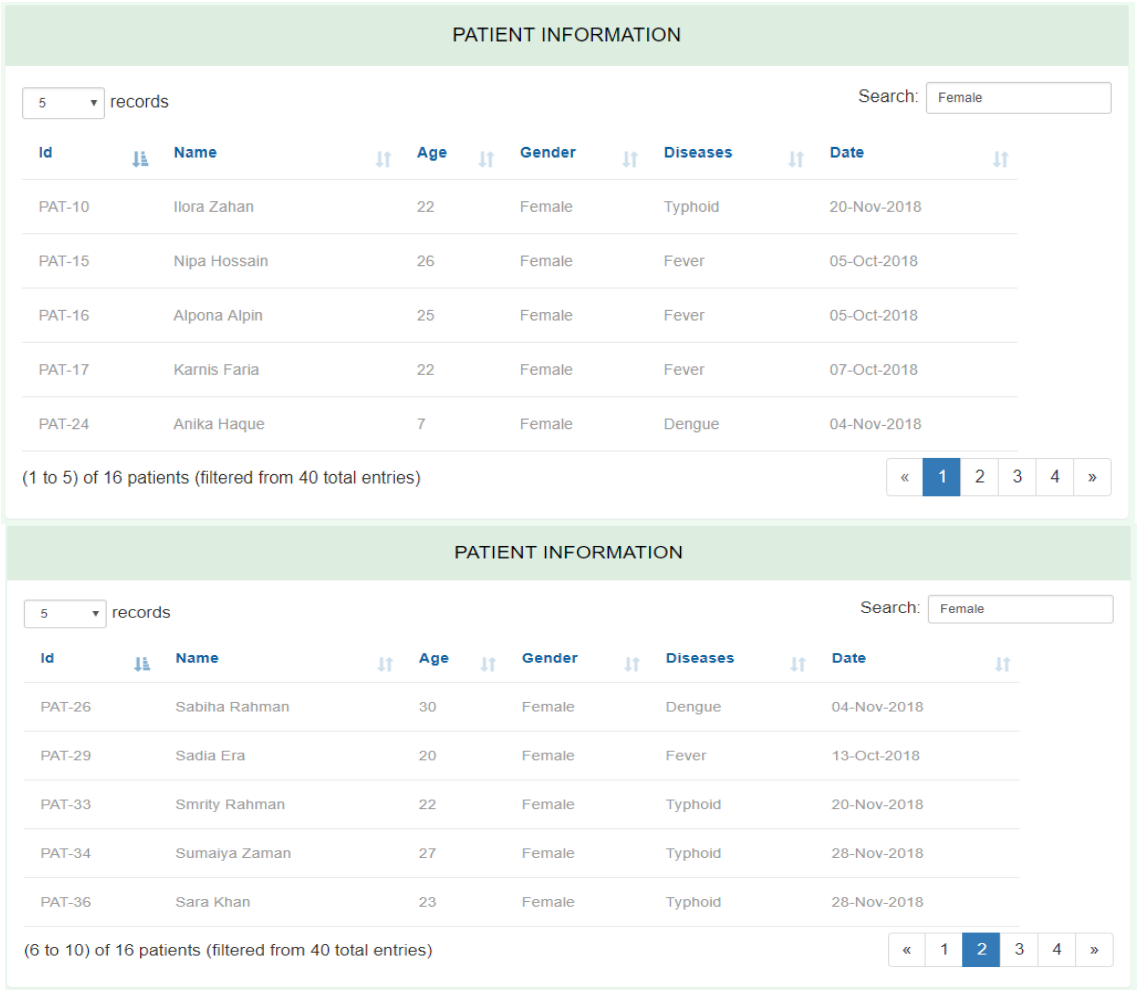


Figure-3.8: Search Patient by Gender

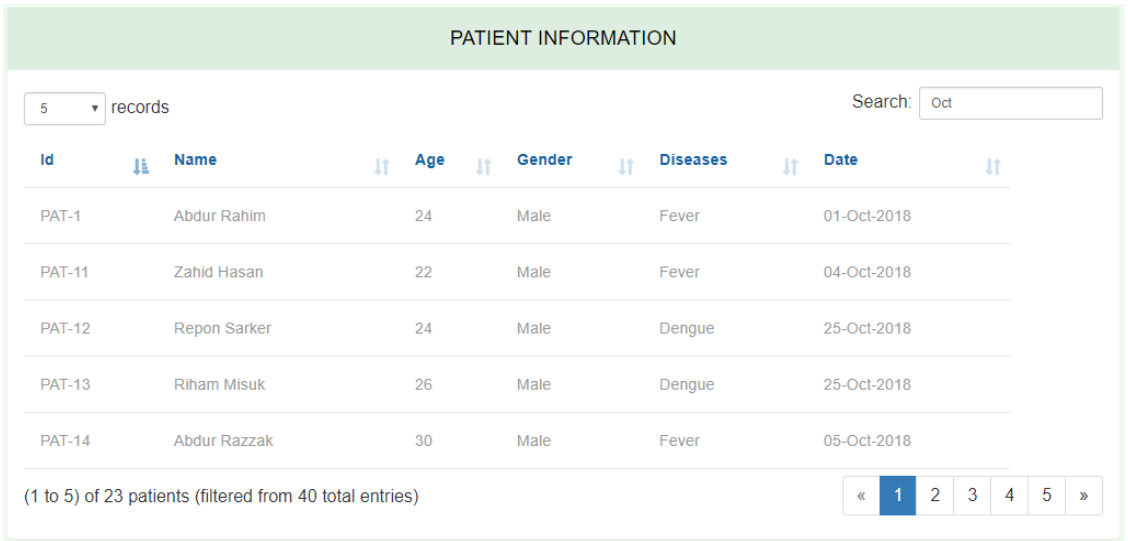


Figure-3.9: Search Patient by Date

6.1.8. View Graph (Weekly, Monthly, Yearly)

6.1.8.1. View Weekly Graph

After Login Admin click the Charts. Then click Weekly and see the Weekly Graph that is automatic generate by giving the patients disease input.

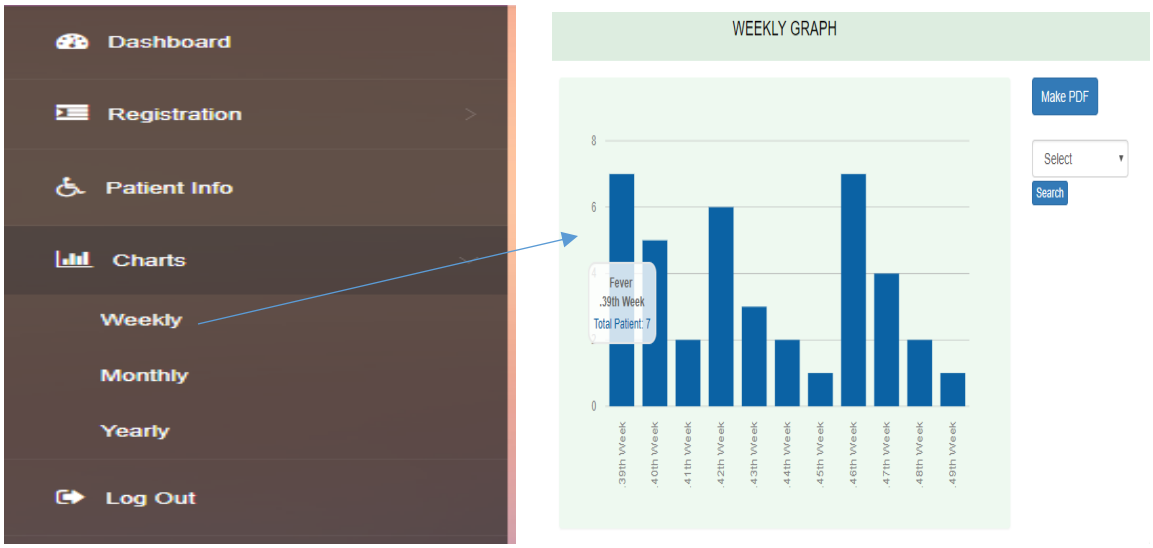


Figure-3.10: View Weekly Graph

6.1.8.2. View Monthly Graph

After Login Admin click the Charts. Then click Monthly and see the Monthly Graph that is automatic generate by giving the patients disease input.

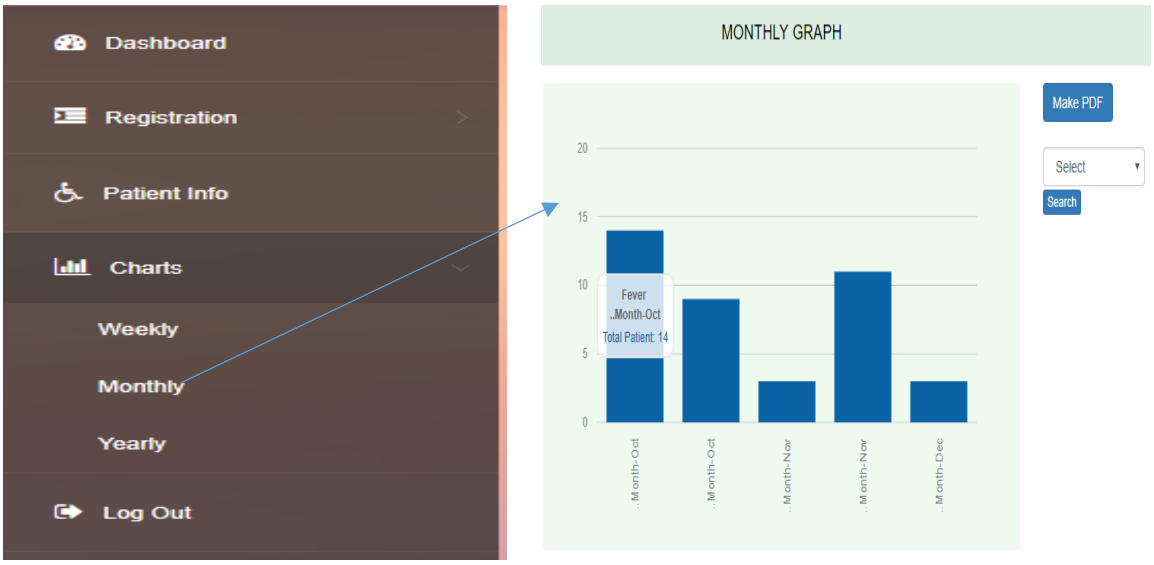


Figure-4.1: View Monthly Graph

6.1.8.3. View Yearly Graph

After Login Admin click the Charts. Then click Yearly and see the Monthly Graph that is automatic generate by giving the patients disease input.

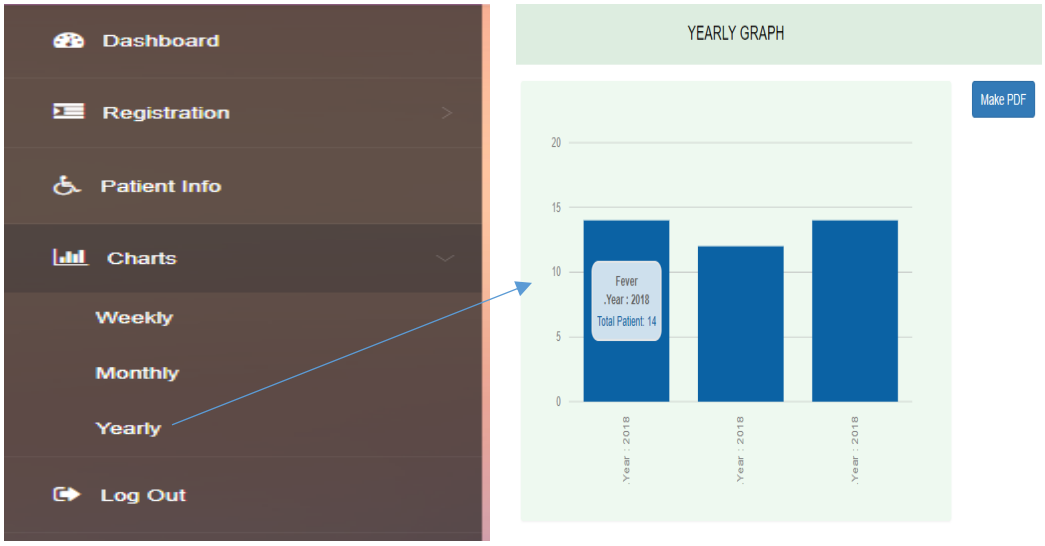


Figure-4.2: View Yearly Graph

6.1.9. Search Diseases

6.1.9.1.Search Weekly Diseases

After Login Admin click the Weekly then see the Weekly Graph. At this time if Admin want to see what kind of diseases are more happened in a week. Then Admin select a disease and click the Search button and see a Graph. If Admin click, Make PDF and see a PDF Report.

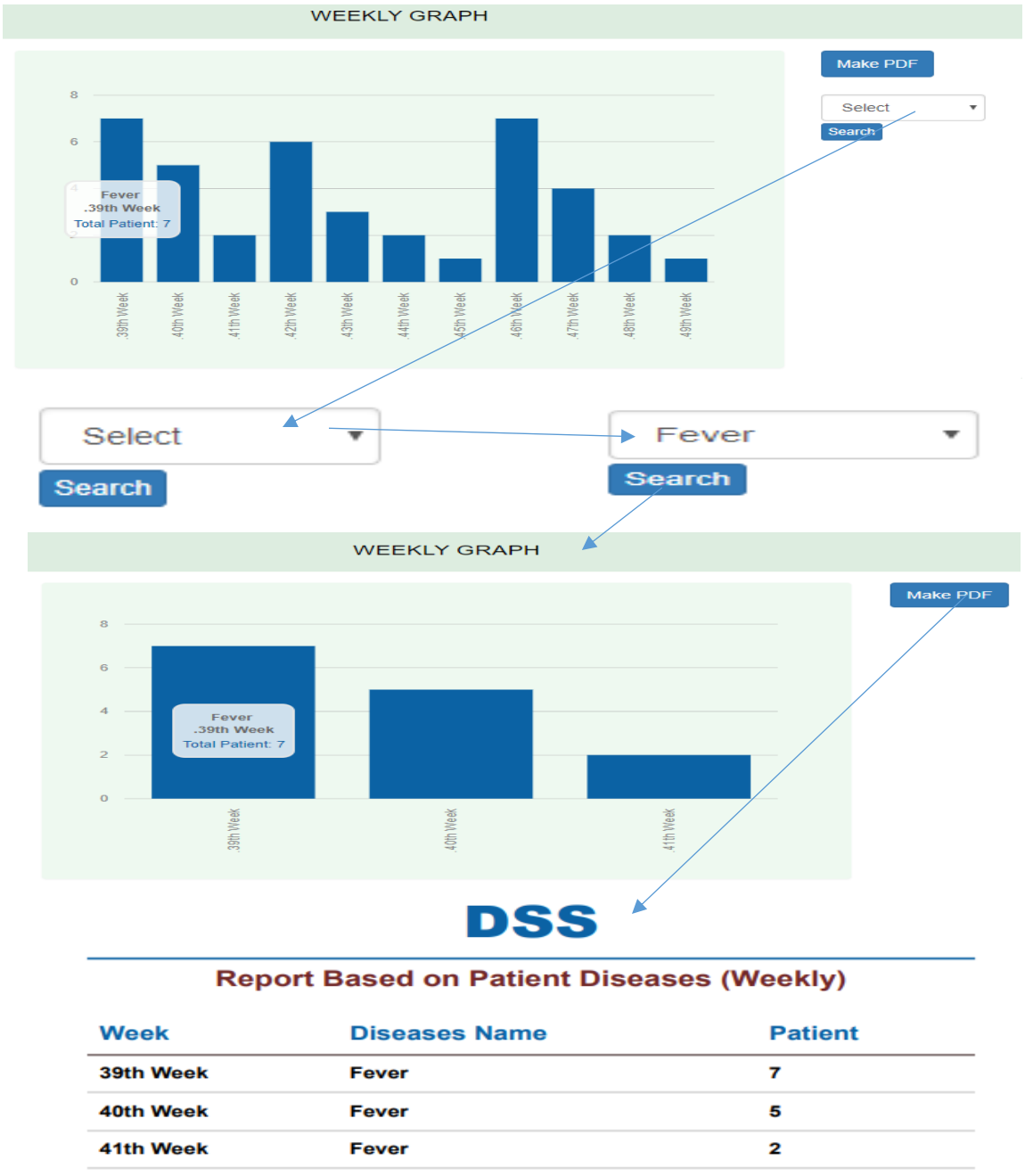


Figure-4.3: Search Weekly Disease

6.1.9.2.Search Monthly Disease

After Login Admin click the Monthly then see the Monthly Graph. At this time if Admin want to see what kind of diseases are more happened in a Month. Then Admin select a disease and click the Search button and see a Graph. If Admin click, Make PDF and see a PDF Report.

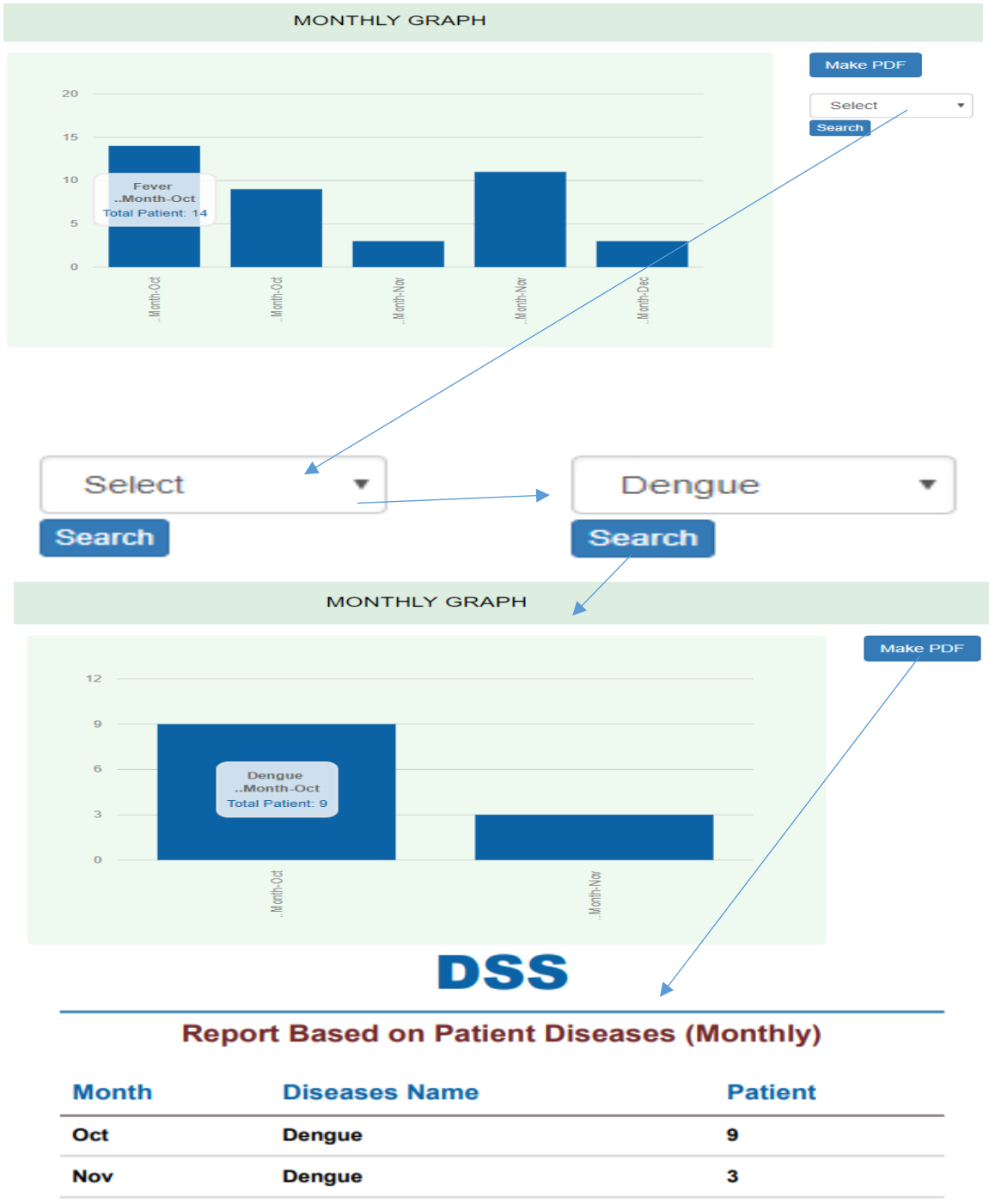
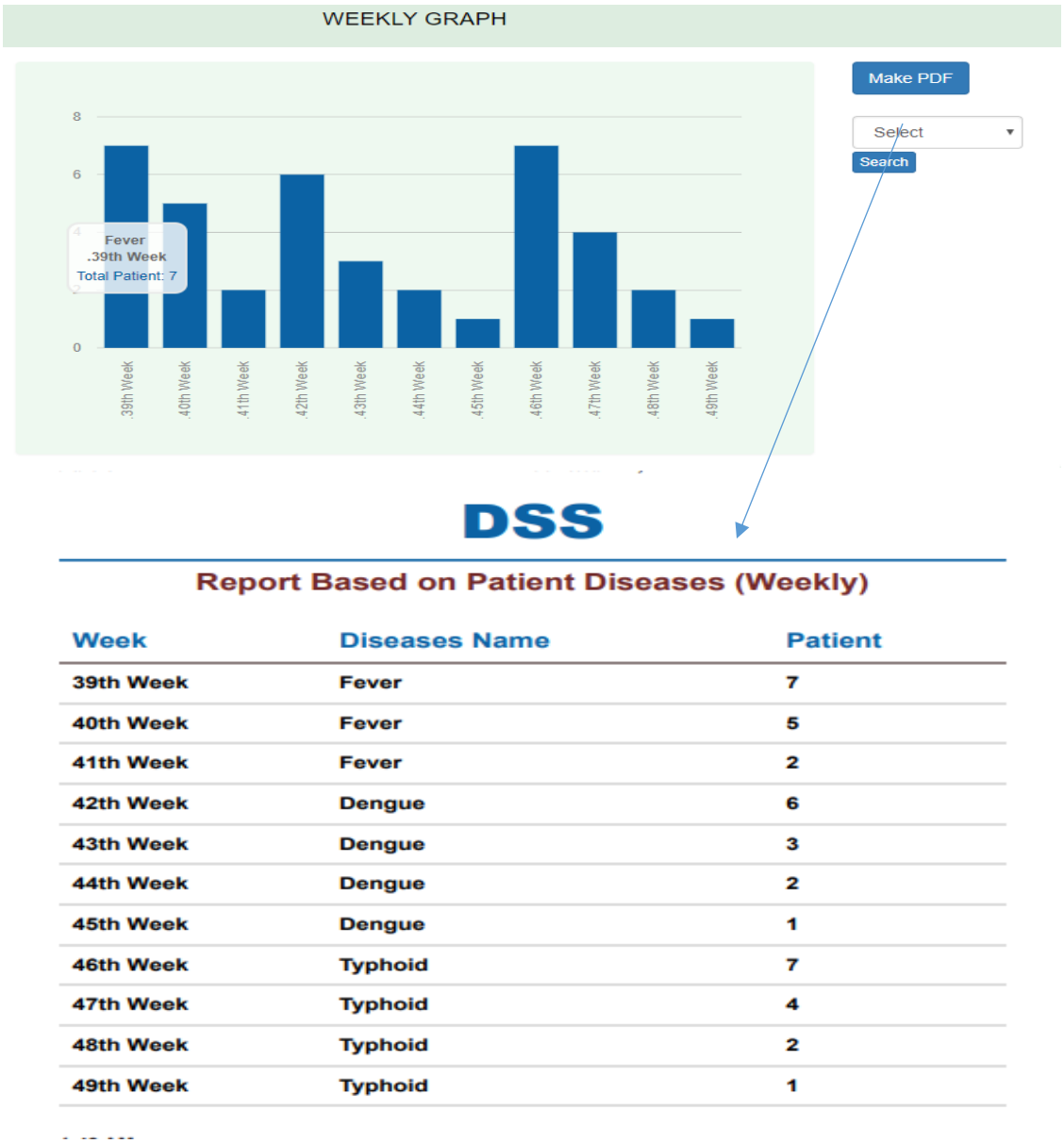


Figure-4.4: Search Monthly Disease

6.1.10. View PDF Report (Weekly, Monthly, Yearly)

6.1.10.1. View Weekly PDF Report

After Login Admin click the Charts. Then click Weekly and see the Weekly Graph. In this page also a Make PDF and a Search button. If Admin want to see the Weekly report into a PDF version, then click the "Make PDF" and see the Weekly PDF Report based on patients' diseases.

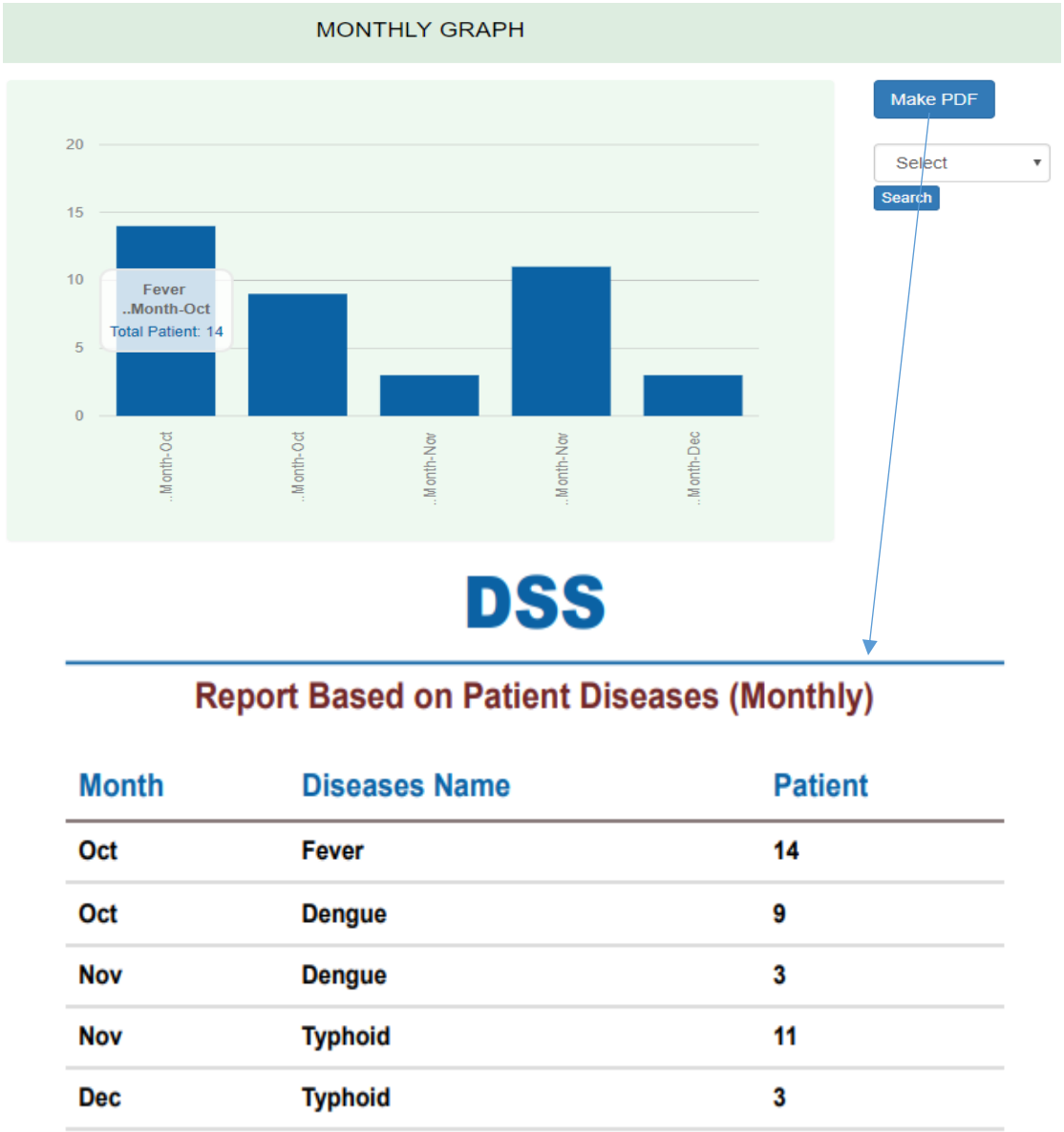


Week	Diseases Name	Patient
39th Week	Fever	7
40th Week	Fever	5
41th Week	Fever	2
42th Week	Dengue	6
43th Week	Dengue	3
44th Week	Dengue	2
45th Week	Dengue	1
46th Week	Typhoid	7
47th Week	Typhoid	4
48th Week	Typhoid	2
49th Week	Typhoid	1

Figure-4.5: View Weekly PDF Report

6.1.10.2. View Monthly PDF Report

After Login Admin click the Charts. Then click Monthly and see the Monthly Graph. In this page also a Make PDF and a Search button. If Admin want to see the Monthly report into a PDF version, then click the Make PDF and see the Monthly PDF Report based on patients' diseases.



Month	Diseases Name	Patient
Oct	Fever	14
Oct	Dengue	9
Nov	Dengue	3
Nov	Typhoid	11
Dec	Typhoid	3

Figure-4.6: View Monthly PDF Report

6.1.10.3. View Yearly PDF Report

After Login Admin click the Charts. Then click Yearly and see the Yearly Graph. In this page also a Make PDF button. If Admin want to see the Yearly report into a PDF version, then click the Make PDF and see the Yearly PDF Report based on patients' diseases.

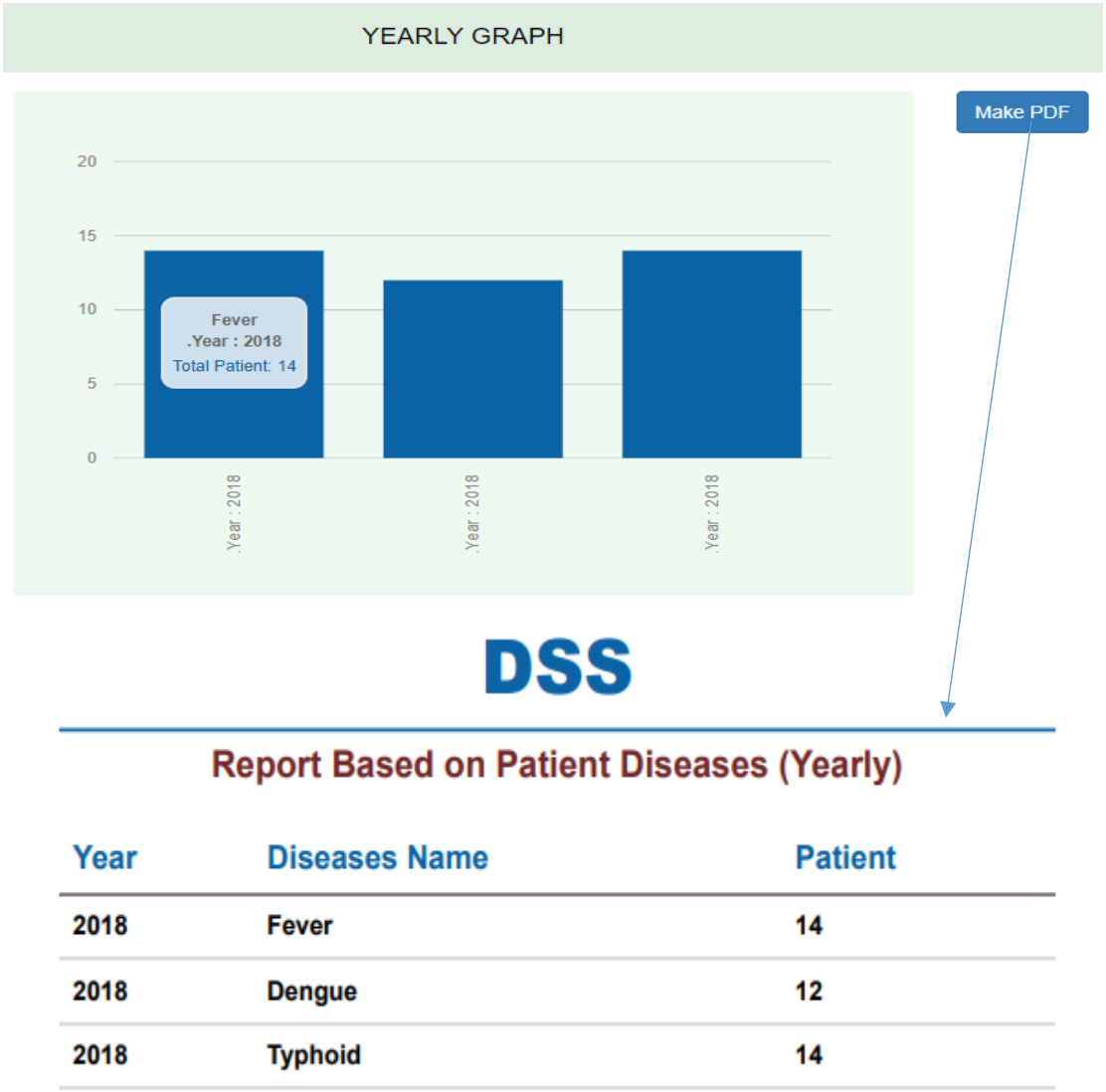


Figure-4.7: View Yearly PDF Report

6.1.11. Admin Logout

Click the Logout button and Admin can easily Logout. Admin can use two types of logout process like side bar logout or header. In header Admin click the Admin button and see Log Out then click the Log Out and finally Admin can logout. In side bar Admin click Log Out button and finally Admin can logout.

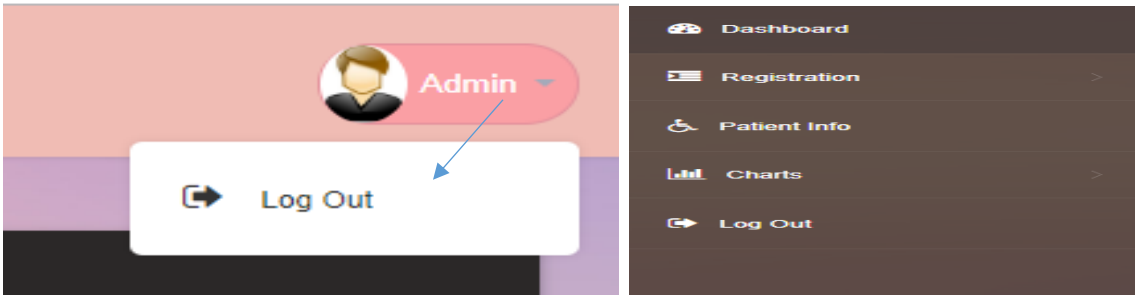


Figure-4.8: Admin Logout

6.2. User Manual B (Management)

6.2.1. Management Login

Admin create Management account. Admin register Management information and create an account. Using this account Management can easily Login and access into this system. First of all, if Management want to access the system then see multiple login page. Then Management click the Management button and see Management Login page. Without enter the data Management cannot access. Enter the valid email and password Management click the Login Button and access into the system.

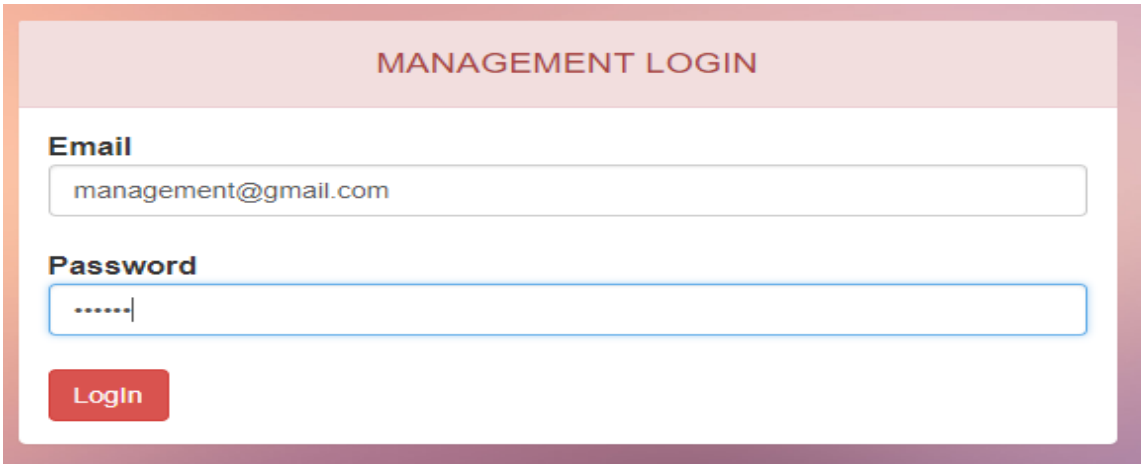


Figure-4.9: Management Login

6.2.2. Management Dashboard

After login Management see this page. Management just see the dashboard, see Graph, see PDF report and logout.

Figure-4.10: Management Dashboard

6.2.3. View Graph (Weekly, Monthly, Yearly)

6.2.3.1.View Weekly Graph

After Login Management click the Charts. Then click Weekly and see the Weekly Graph. Using this graph Management can easily find out what kinds of diseases are happening more in a week. Using this graph Management can provide proper treatment and medicine in proper time.

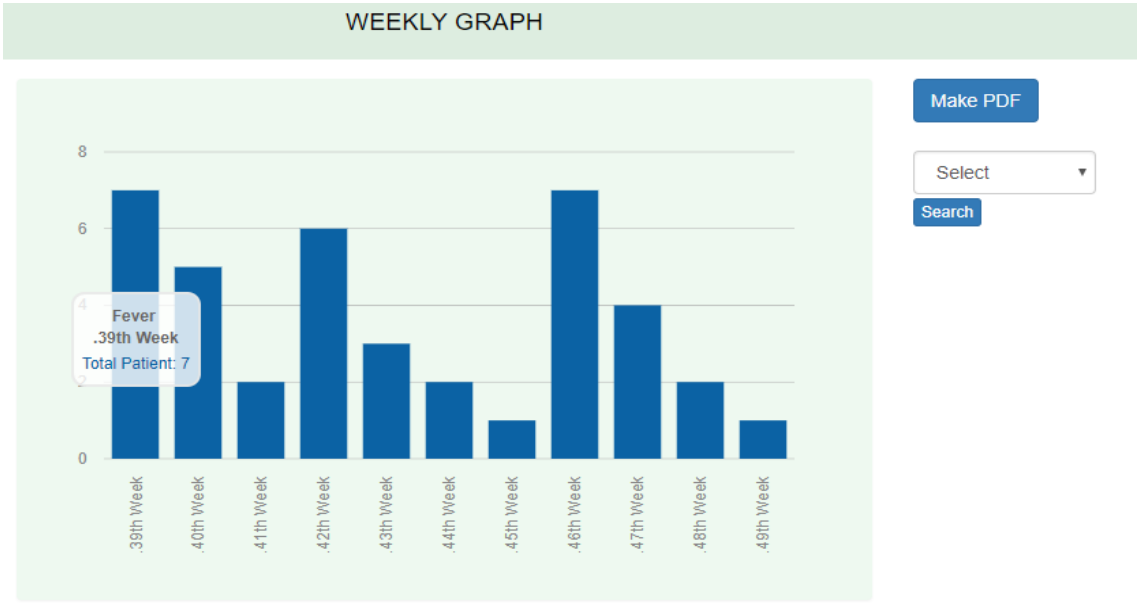


Figure-5.1: View Weekly Graph

6.2.3.2. View Monthly Graph

After Login Management click the Charts. Then click Monthly and see the Monthly Graph. Using this graph Management can easily find out what kinds of diseases are happening more in a Month. Using this graph Management can provide proper treatment and medicine in proper time.

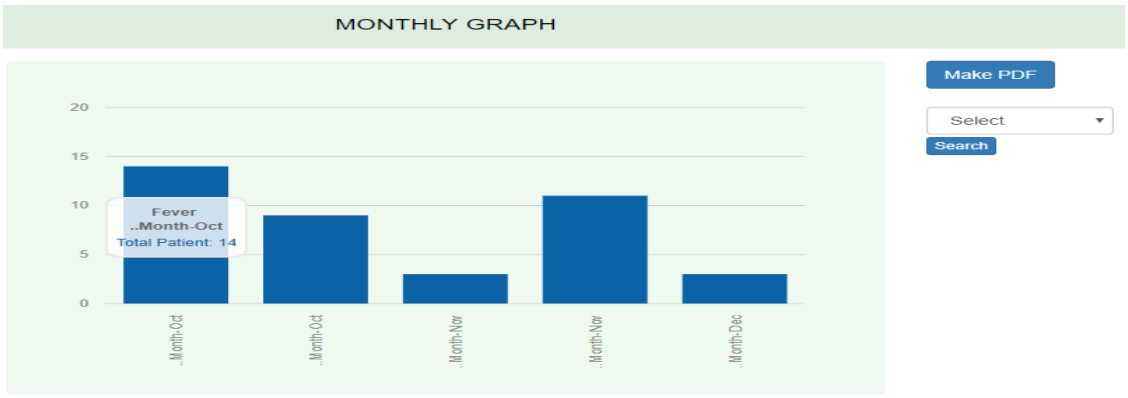


Figure-5.2: View Monthly Graph

6.2.3.3. View Yearly Graph

After Login Management click the Charts. Then click Yearly and see the Yearly Graph. Using this graph Management can easily find out what kinds of diseases are happening more in a Year. Using this graph Management can provide proper treatment and medicine in proper time and also can prepare for a next year using the previous data.

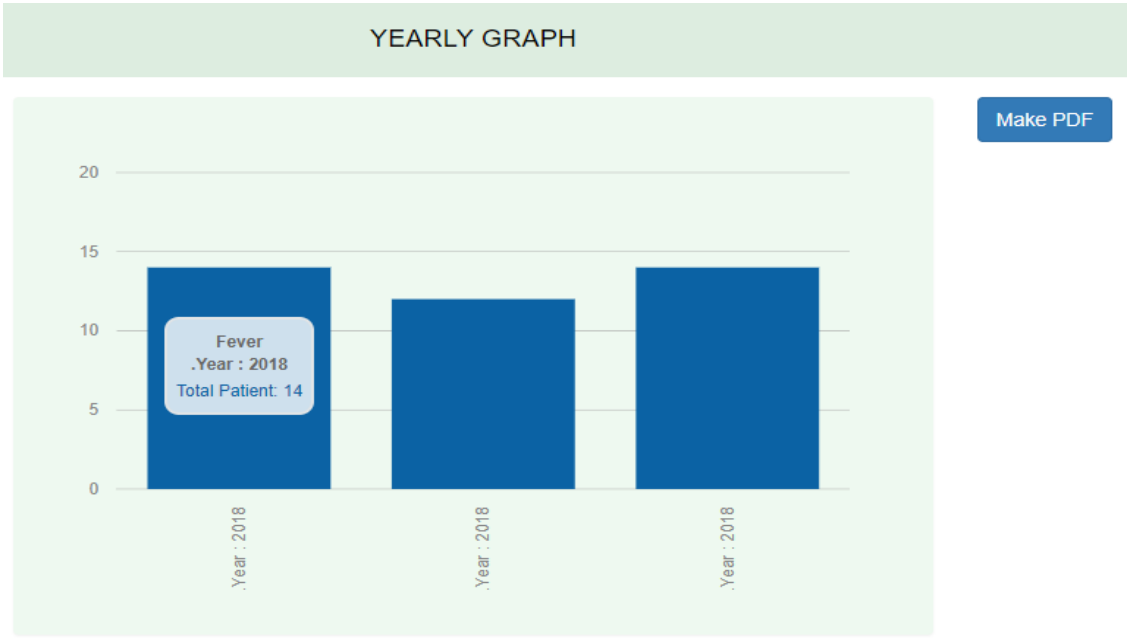
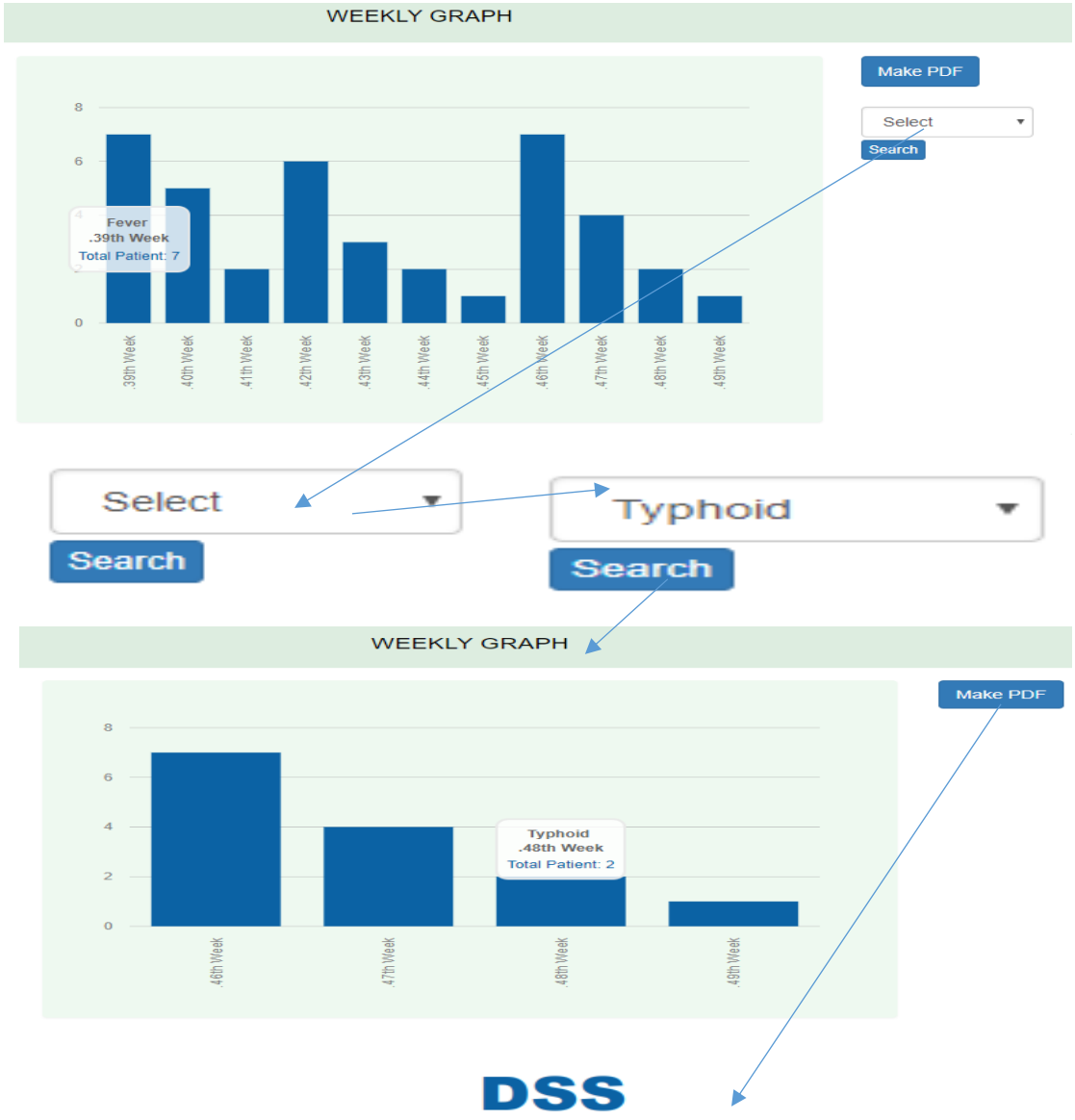


Figure-5.3: View Yearly Graph

6.2.4. Search Disease

6.2.4.1. Search Weekly Disease

After Login Management Search Disease.



Week	Diseases Name	Patient
46th Week	Typhoid	7
47th Week	Typhoid	4
48th Week	Typhoid	2
49th Week	Typhoid	1

Figure-5.4: Search Weekly Disease

6.2.4.2. Search Monthly Disease

After Login Management Search Disease.

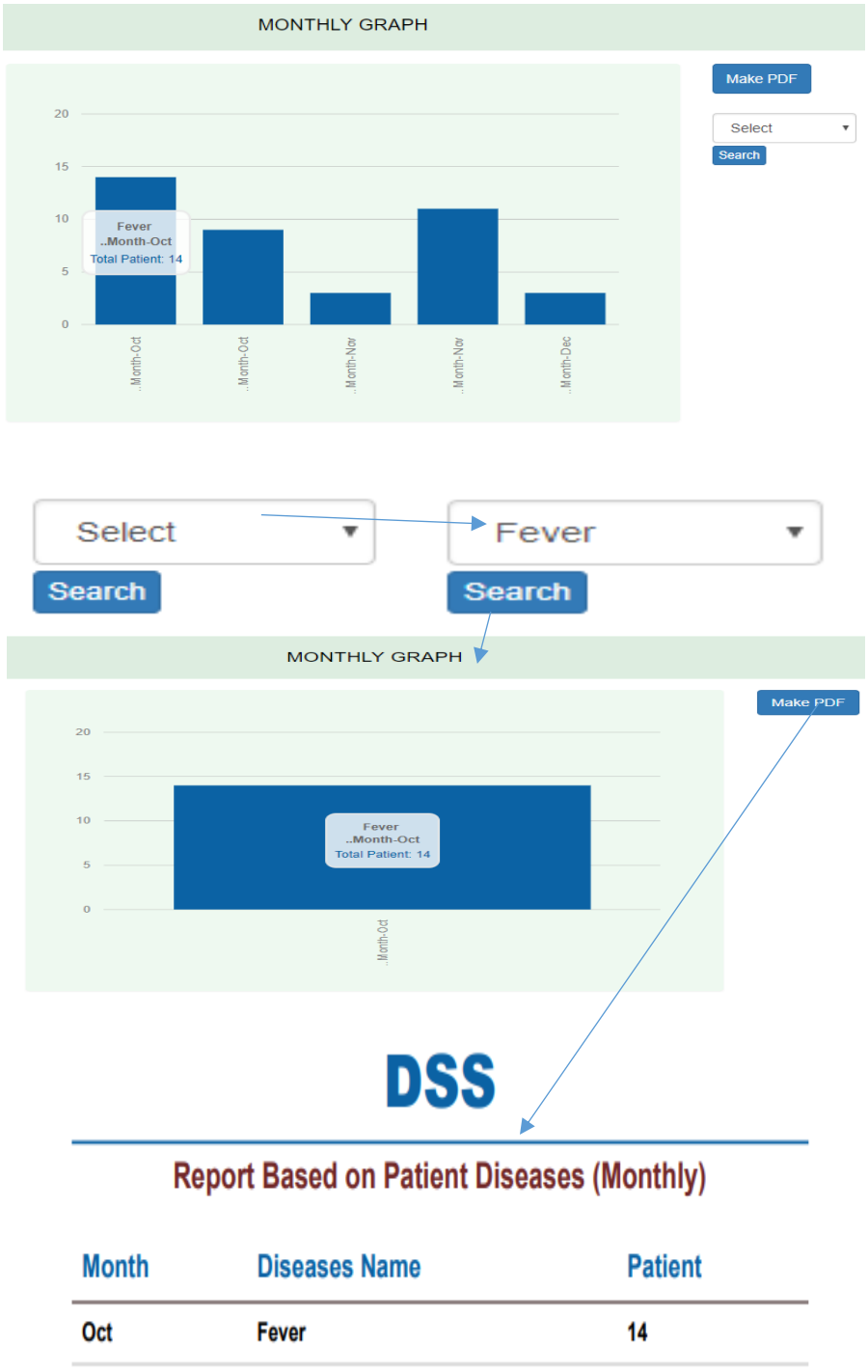
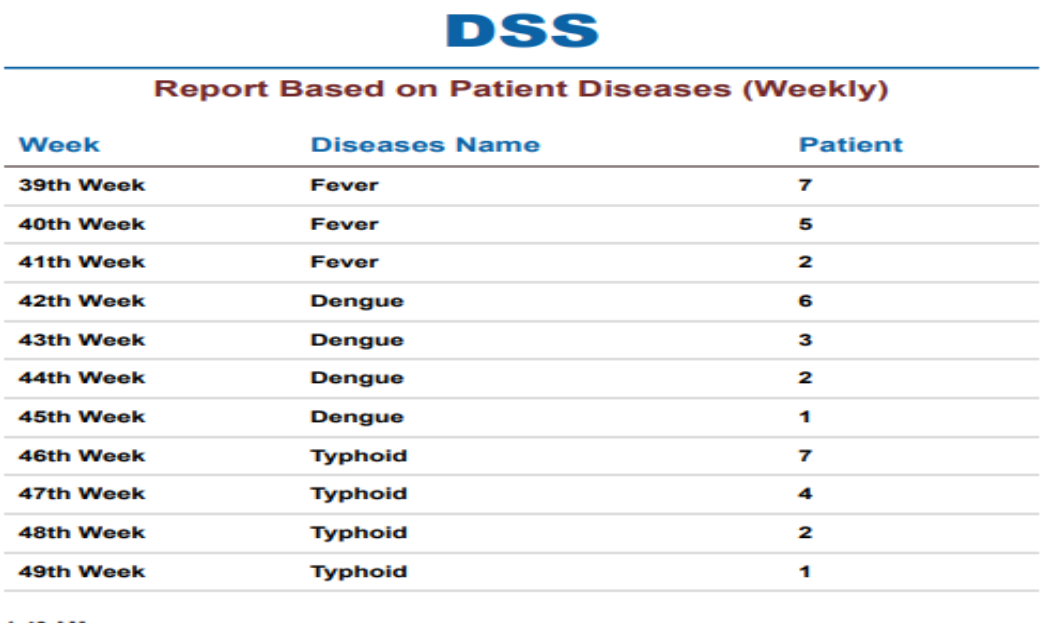


Figure-5.5: Search Monthly Disease

6.2.5. View PDF Report (Weekly, Monthly, Yearly)

6.2.5.1. View Weekly PDF Report

After Login Management also view the Weekly PDF report.



DSS

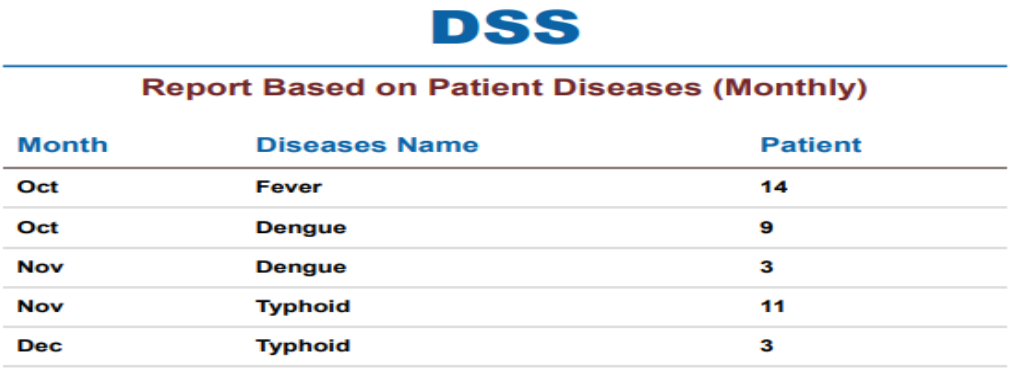
Report Based on Patient Diseases (Weekly)

Week	Diseases Name	Patient
39th Week	Fever	7
40th Week	Fever	5
41th Week	Fever	2
42th Week	Dengue	6
43th Week	Dengue	3
44th Week	Dengue	2
45th Week	Dengue	1
46th Week	Typhoid	7
47th Week	Typhoid	4
48th Week	Typhoid	2
49th Week	Typhoid	1

Figure-5.6: View Weekly PDF Report

6.2.5.2. View Monthly PDF Report

After login Management can easily view the Monthly PDF report.



DSS

Report Based on Patient Diseases (Monthly)

Month	Diseases Name	Patient
Oct	Fever	14
Oct	Dengue	9
Nov	Dengue	3
Nov	Typhoid	11
Dec	Typhoid	3

Figure-5.7: View Monthly PDF Report

6.2.5.3. View Yearly PDF Report

After login Management can easily view the Yearly PDF report.

DSS

Report Based on Patient Diseases (Yearly)

Year	Diseases Name	Patient
2018	Fever	14
2018	Dengue	12
2018	Typhoid	14

Figure-5.8: View Yearly PDF Report

6.2.6. Management Logout

Here is a logout process. Management click the Management and see the Log Out button. Then click the Log Out Button Management can logout. Management also logout using the side bar Log Out option.

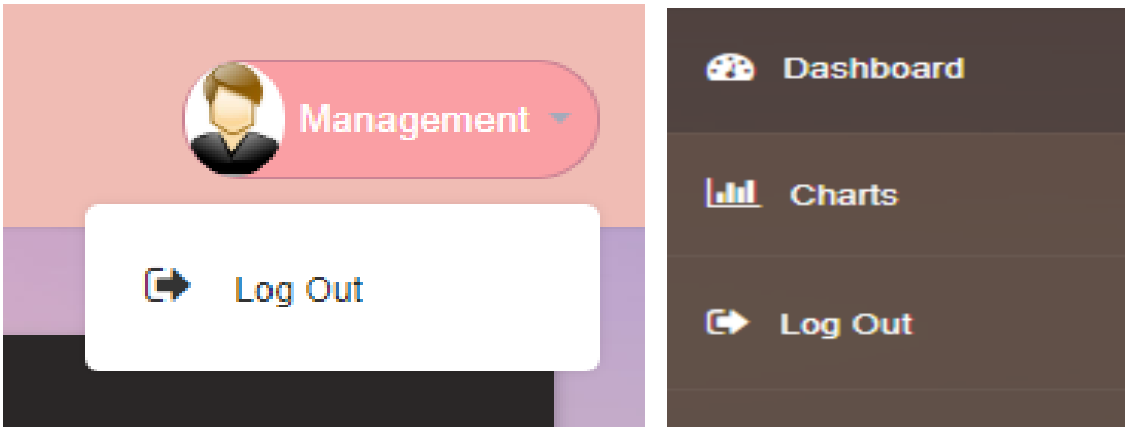


Figure-5.9: Management Logout

Chapter-7

Project Summery

7. Project Summery

This project developed for management of a hospital. Here we convert their manual work into a computerized system. This system is advantageous for a management to handle their data. In this system first of all admin must register their information and after that login admin access into the system. After login admin can store diseases and also register patient's information. Admin also view the patient information and search patient using various attribute like id, name, gender or diseases. When admin register patient information then automatically generate a graphical report and PDF report based on diseases. Admin can view the graph and PDF report like weekly, monthly, yearly. Admin also search disease. Management can view the graph and PDF Report and make a decision like what kind of treatment and medicine they can provide based on patient diseases. This system is really helpful for patients. Using this system, Management can provide better treatment at the right time.

7.1.GitHub Link

"Uploaded in GitHub". "https://github.com/smrity1095/DSS".

"8 December, 2018"

7.2.Limitation

- Patient cannot see any kind of data
- Cannot suggest any treatment.

7.3.Future Scope

- Suggest Treatment
- Patient can see some information
- Implement Artificial Intelligence.

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