



Hospital Management System for Norris Clinic (pvt) Ltd

Group:TW2

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Background



The Norris Hospital (pvt) Ltd



Over 50 employees present hospital



Operating in the Colombo district



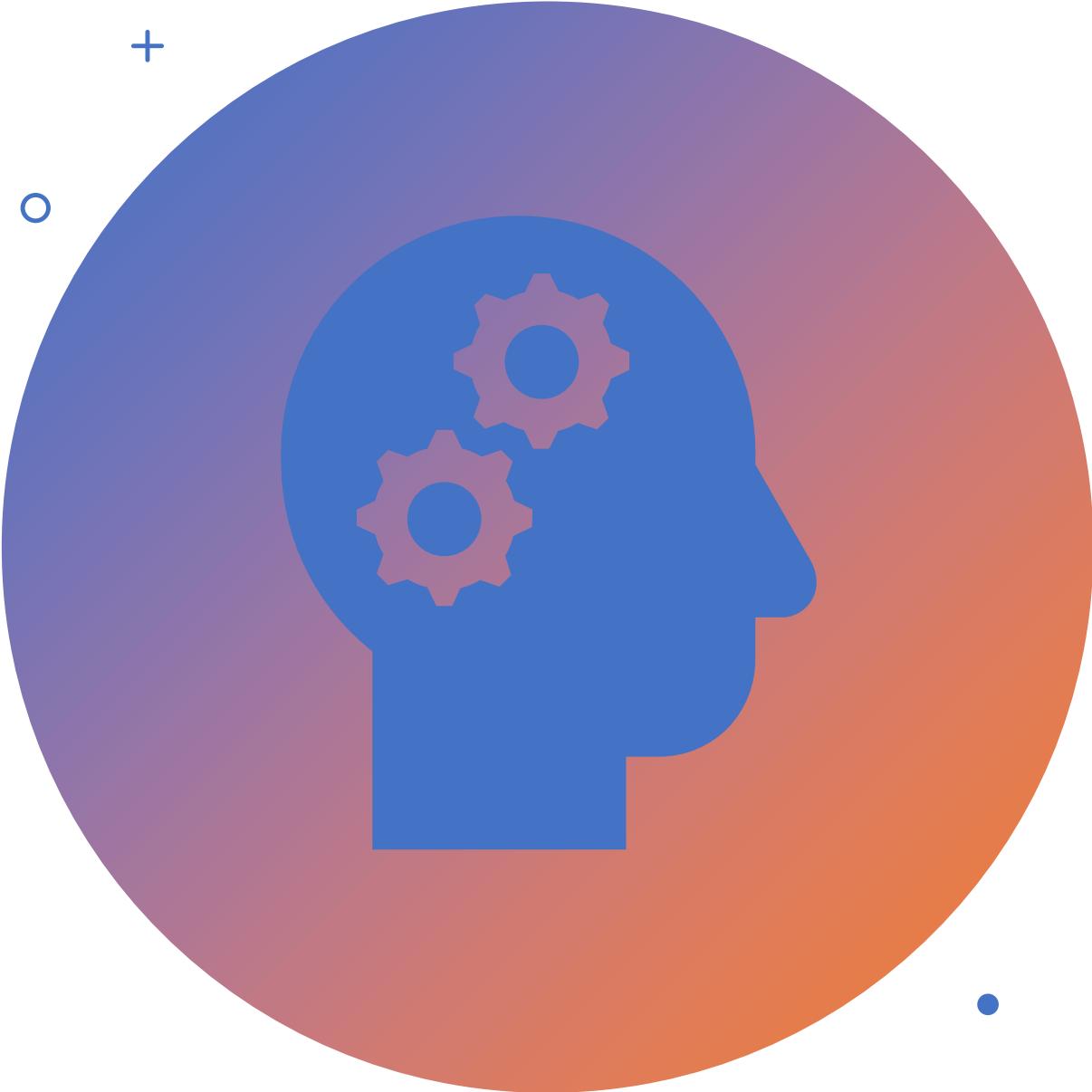
The owner of the hospital Dr.A.I.Ruwan



➤ Problems and Motivations

Problems

- Inefficient Management of patient records
- Poor inventory management
- Limited communication & collaboration
- Low data security and privacy



➤ Problems and Motivations

Motivation

- Improve patient care and operational efficiency
- Enhance security and privacy
- Improve communication & Collaborations
- Modernize administrative task

Aims

- Enhancing patient care
- Improving operational efficiency
- Increasing accuracy and reducing errors
- Enhancing communication and collaboration



Objectives

- To Improved patient care
- To Improved efficiency of hospital operations
- To minimize hospital operating costs.
- To improve the engagement of patients
- To better communication among the hospital departments.



System Overview



Inventory Management System (IMS)



Patients Medical Records Management System (PMRMS)



Billing & Invoicing System



User Registration And Login Management System



Communicating System



Minor Staff



Appointment Scheduling Management System(Patients)



Payroll Management System

Literature Review

Topic In Discussion

Healthcare Industry :

1. Why this topic was selected.
2. Contrast between SL and other developed countries.
3. Available systems and their loopholes

Importance of the proposed solution

Addressing major loopholes currently identified in Sri Lanka

Addressing the current loopholes

Providing solutions :

1. Coding Standards (ICD 10)
2. Paper-free medical records structure
3. Security for patient bio data and medical records.
4. Payment structure for each service.

Referred articles and papers

The impact of ICD-11 implementation on data quality in Sri Lanka.

Journal of Health Informatics in Developing Countries, 12(1), 1-11.

Healthcare transparency and accountability in Sri Lanka: An analysis of policy and practice.

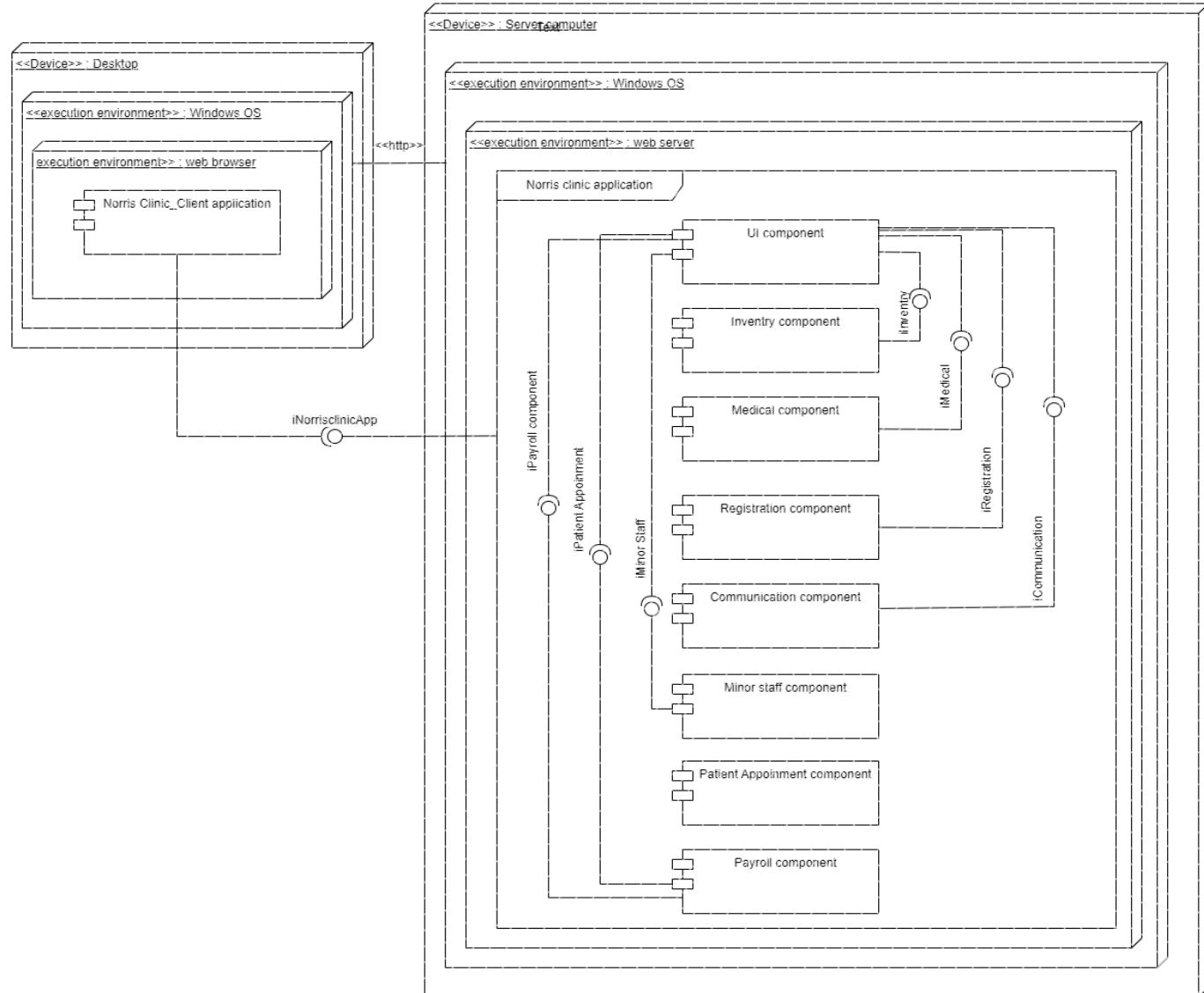
Methodology

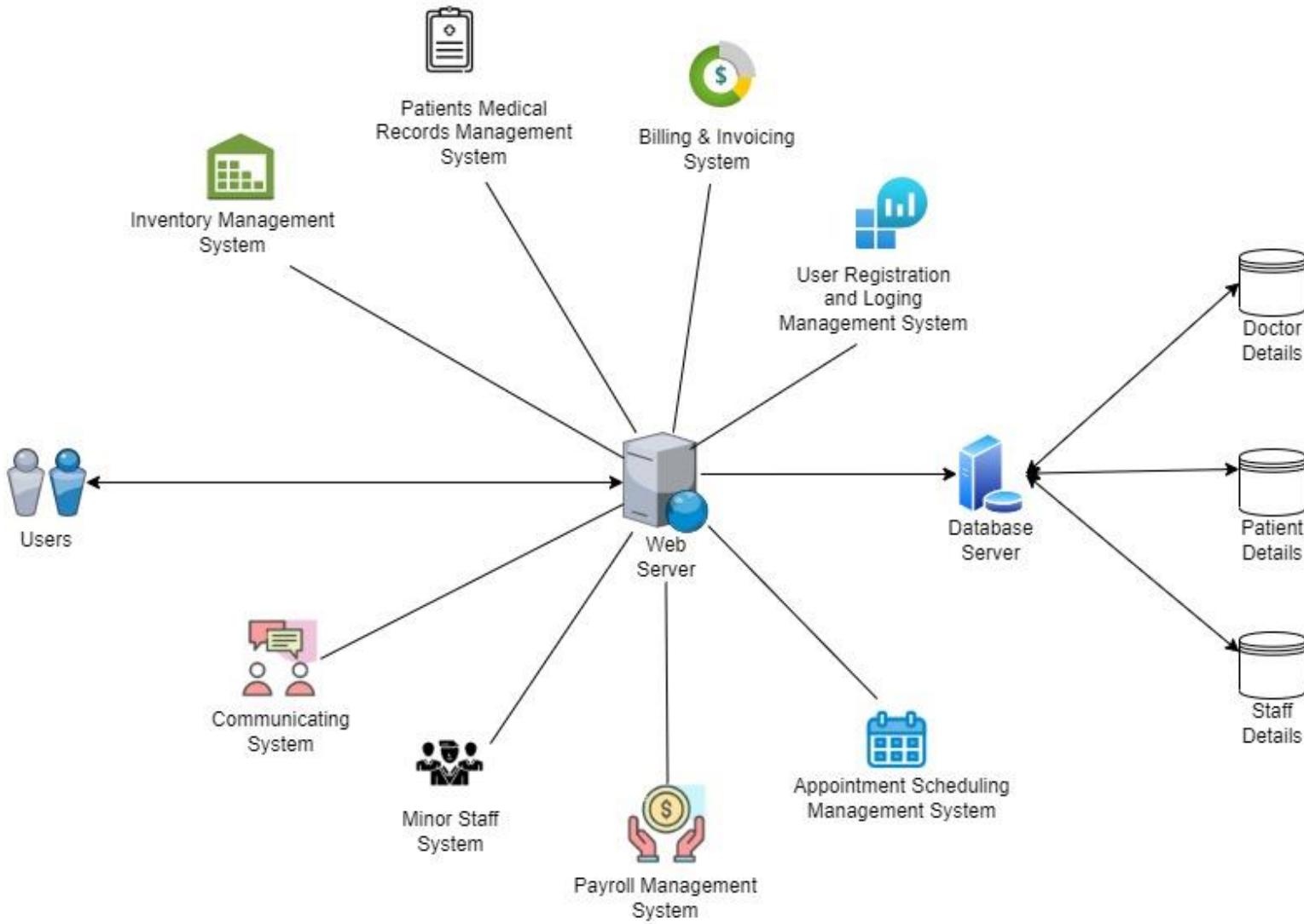
- **M** MongoDB — document database
- **E** Express(.js) — Node.js web framework
- **R** React(.js) — a client-side JavaScript framework
- **N** Node(.js) — the premier JavaScript web server
- **Requirements Engineering Tools** -StarUML
Draw.io Microsoft office
- **Integration Method** – GitHub
- **Testing Methods** – Unit testing



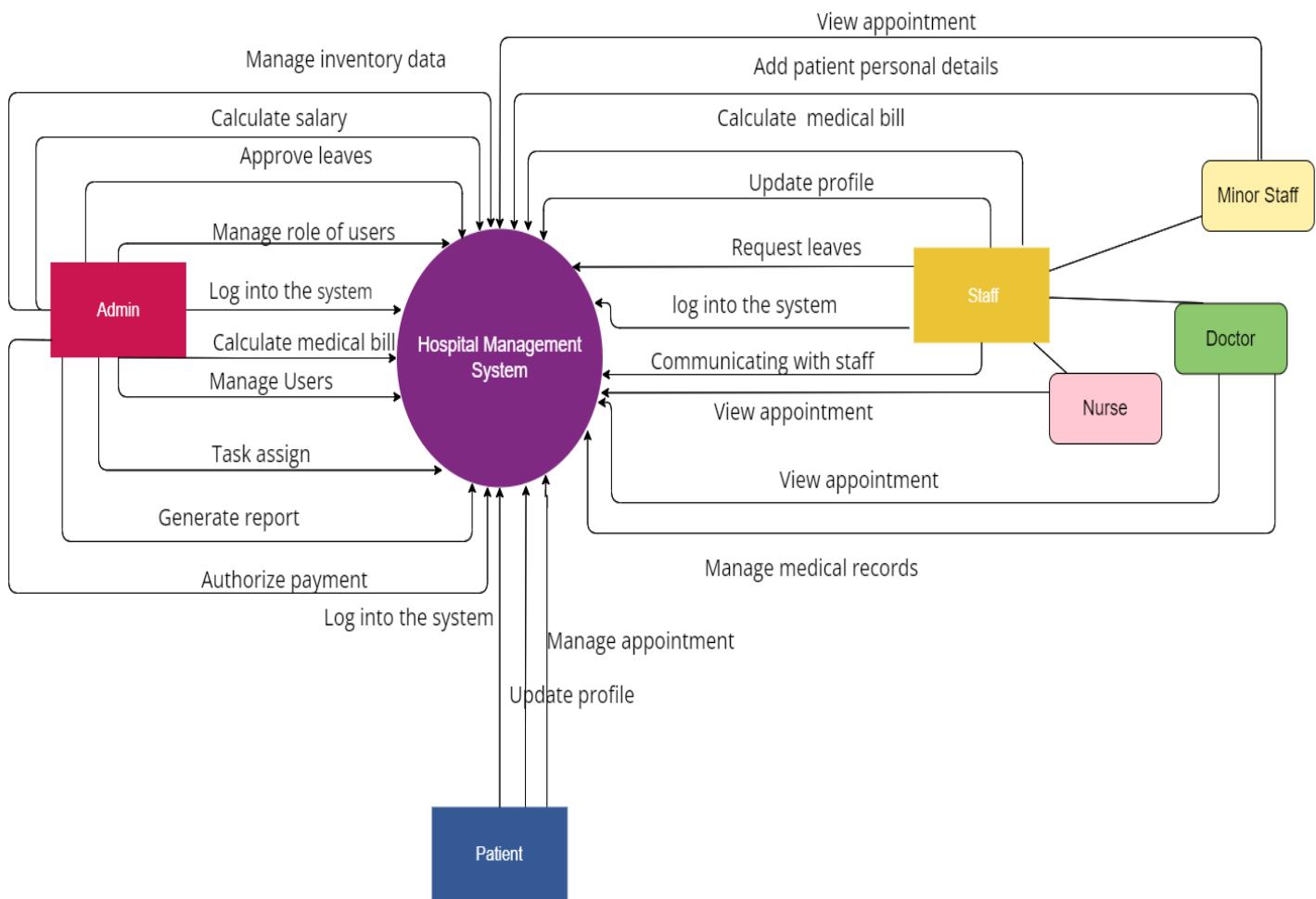
Physical diagram

Physical diagram for Norris Clinic

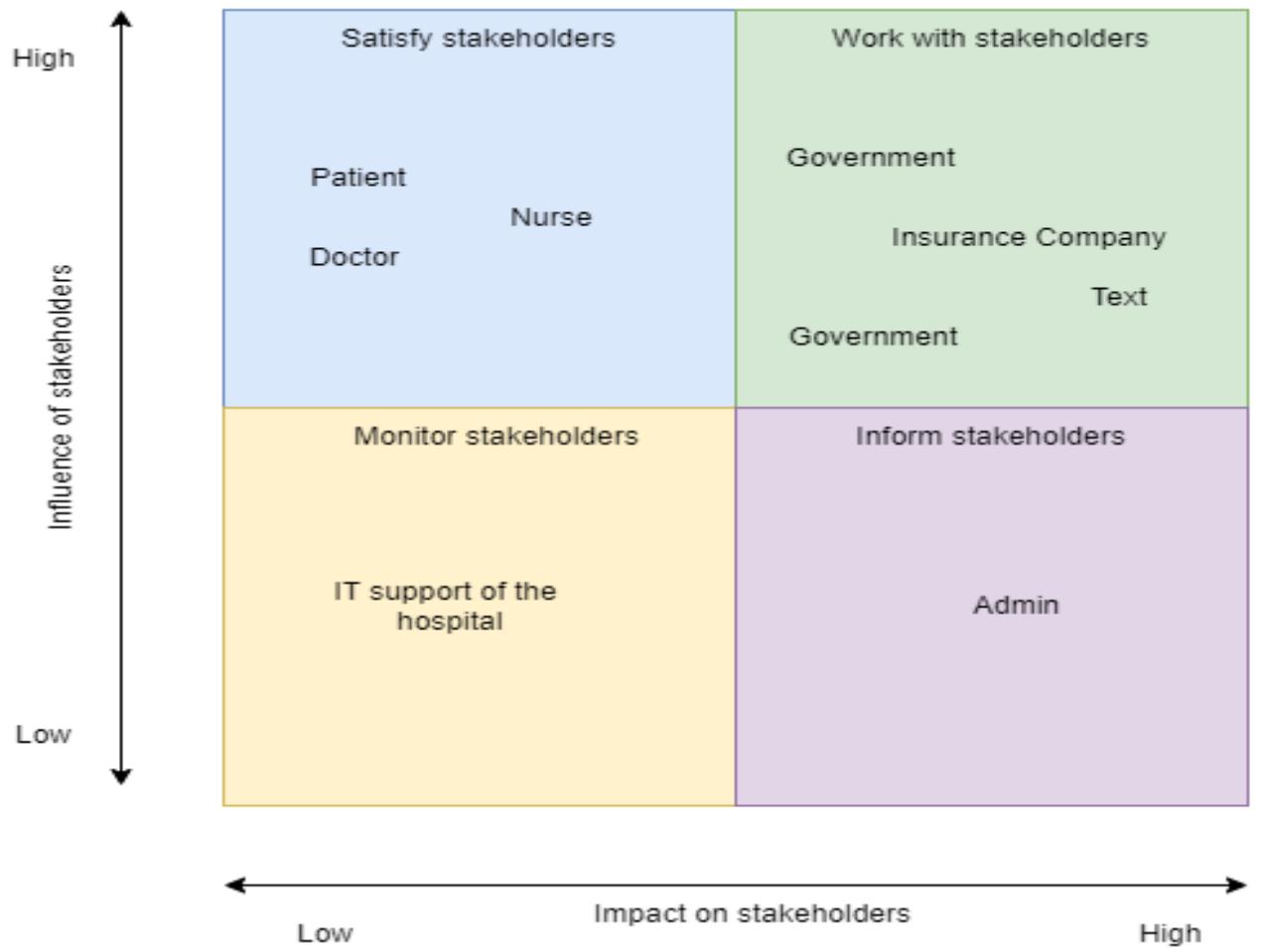




High-level Architecture Diagram



System Diagram



System Diagram

Onion Diagram





Inventory Management System

Functional Requirement



Stock
Management



Reporting &
analytics



Add/Edit/Delete
Items



Order
management



Low Stock Alerts



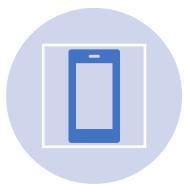
Non – Functional Requirements

- Performance
- Usability
- Reliability
- Maintainability
- Cost-effectiveness





Technical Requirement



User Interface



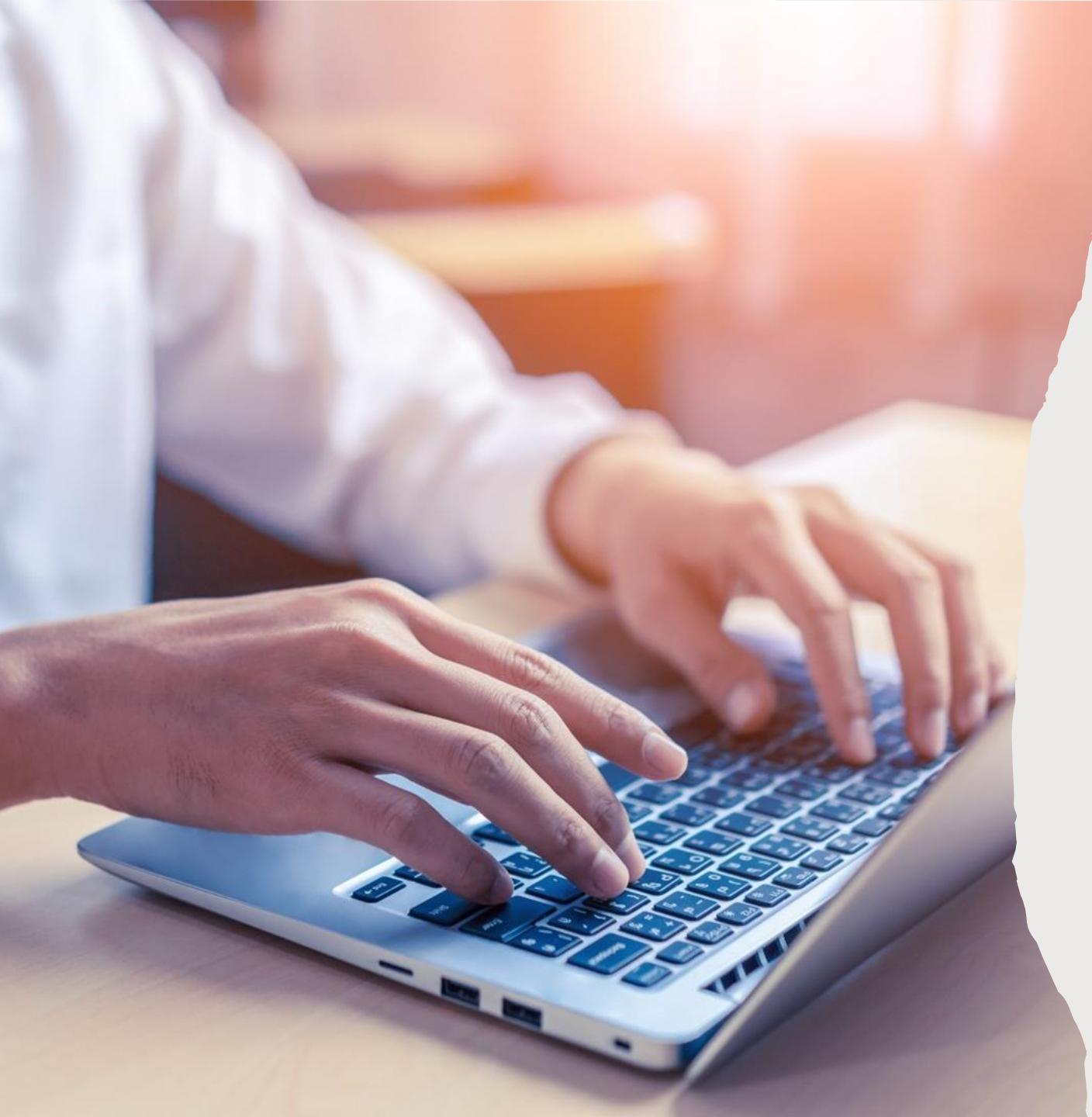
Back-End



Database



Application



Users & their features

➤ System Admin

- ❑ Perform CRUD operations
- ❑ Generate Reports
- ❑ Search Inventory Details
- ❑ Receiving Low stock notification

➤ Stock Manager

- ❑ Generate reports
- ❑ Search Inventory Details
- ❑ Receiving Low stock notification

Complete Features

- All inventory

Noris Clinicals
Hospital Management System

Logout

Admin Doctor

Patients' Details

Doctors' Details

Staff Details

Admin Details

Inventory Details

My profile

Setting

Chats

All Products

| # | Name | company_Name | Address | Qty | price | MFG | EXP | Action |
|---|-------------|--------------|-------------|-------|-------|------------|------------|---|
| 1 | vitamin A | HSS | UK | 2000 | 5 | 2023.02.27 | 2025.02.27 | <button>Edit</button> <button>Delete</button> |
| 2 | vitamin B | HSS | UK | 20000 | 12.23 | 2023-05-01 | 2023-04-22 | <button>Edit</button> <button>Delete</button> |
| 3 | vitamin C | AAI | USA | 3000 | 12 | 2023-04-24 | 2025-12-30 | <button>Edit</button> <button>Delete</button> |
| 4 | vitamin D | AAA | UK | 6000 | 18 | 2023-04-02 | 2025-10-22 | <button>Edit</button> <button>Delete</button> |
| 5 | vitamin E | KDD | Indian | 4500 | 8.25 | 2023-03-27 | 2025-10-15 | <button>Edit</button> <button>Delete</button> |
| 6 | Pandol | RRT | Sri Lanka | 6000 | 5.5 | 2022-12-26 | 2025-01-22 | <button>Edit</button> <button>Delete</button> |
| 7 | soframycin | HSS | Indian | 2000 | 90 | 2023-03-27 | 2026-06-17 | <button>Edit</button> <button>Delete</button> |
| 8 | cetirizine | DGJ | Switzerland | 450 | 23 | 2023-01-22 | 2023-04-06 | <button>Edit</button> <button>Delete</button> |
| 9 | Amoxicillin | EWS | Japan | 2300 | 41.25 | 2023-03-30 | 2026-09-15 | <button>Edit</button> <button>Delete</button> |

Create new post Print

❖ Crud Operation

➤ Create New Product

- Only admin can create a new product.

The screenshot shows the 'Noris Clinicals Hospital Management System' interface. The left sidebar contains navigation links: Admin Doctor, Patients' Details, Doctors' Details, Staff Details, Admin Details, Inventory Details, My profile, Setting, and Chats. The main content area has a teal header 'Create new product'. The form fields are:

- Name :
- Company Name :
- Address :
- Qty :
- price (Rs.):
- MFG [D/M/Y] EXP [D/M/Y]
- Save

A green box highlights the 'Save' button. A small green circle with a white 'E' icon is located near the bottom right of the form area.

➤ Read Operation

- When admin navigates to the product details, he can read details by clicking product name
- Admin can get the product details use with QR code also.

The screenshot shows a web-based hospital management system interface. The top navigation bar includes the logo 'Noris Clinicals Hospital Management System', the user name 'Hansamal Thennakon Admin', and a 'Logout' button. On the left, a vertical sidebar menu lists various administrative functions: Admin Doctor, Patients' Details, Doctors' Details, Staff Details, Admin Details, Inventory Details, My profile, Setting, and Chats. The main content area displays product details for 'vitamin A'. The product information includes:
Name : vitamin A
Company Name : HSS
Address : UK
Qty : 2000
price : 5
MFG : 2023.02.27
EXP : 2025.02.27
Below the details is a large QR code. At the bottom right of the content area is a green 'Print' button. In the bottom right corner of the entire page, there are two small icons: a red square with a white 'X' and a green square with a white 'E'.

➤ Update Operation

- Admin can update existing product details.

The screenshot shows the 'Noris Clinicals Hospital Management System' interface. The left sidebar contains navigation links: Admin Doctor, Patients' Details, Doctors' Details, Staff Details, Admin Details, Inventory Details, My profile, Setting, and Chats. The main content area is titled 'Update Product Details'. It includes fields for Name (vitamin A), Company Name (HSS), Address (UK), Qty (2000), price (Rs.) (5), MFG [D/M/Y] (dd/mm/yyyy), and EXP [D/M/Y] (dd/mm/yyyy). A red 'Back' button is located at the top right of the form. The top right corner of the screen shows the user 'Hansamal Thennakon Admin' and a 'LogOut' button. A vertical scroll bar is visible on the right side of the main content area.

Name :
vitamin A

Company Name :
HSS

Address :
UK

Qty :
2000

price (Rs.):
5

MFG [D/M/Y]
dd/mm/yyyy

EXP [D/M/Y]
dd/mm/yyyy

➤ Delete Operation

- Admin can delete product by clicking delete button.

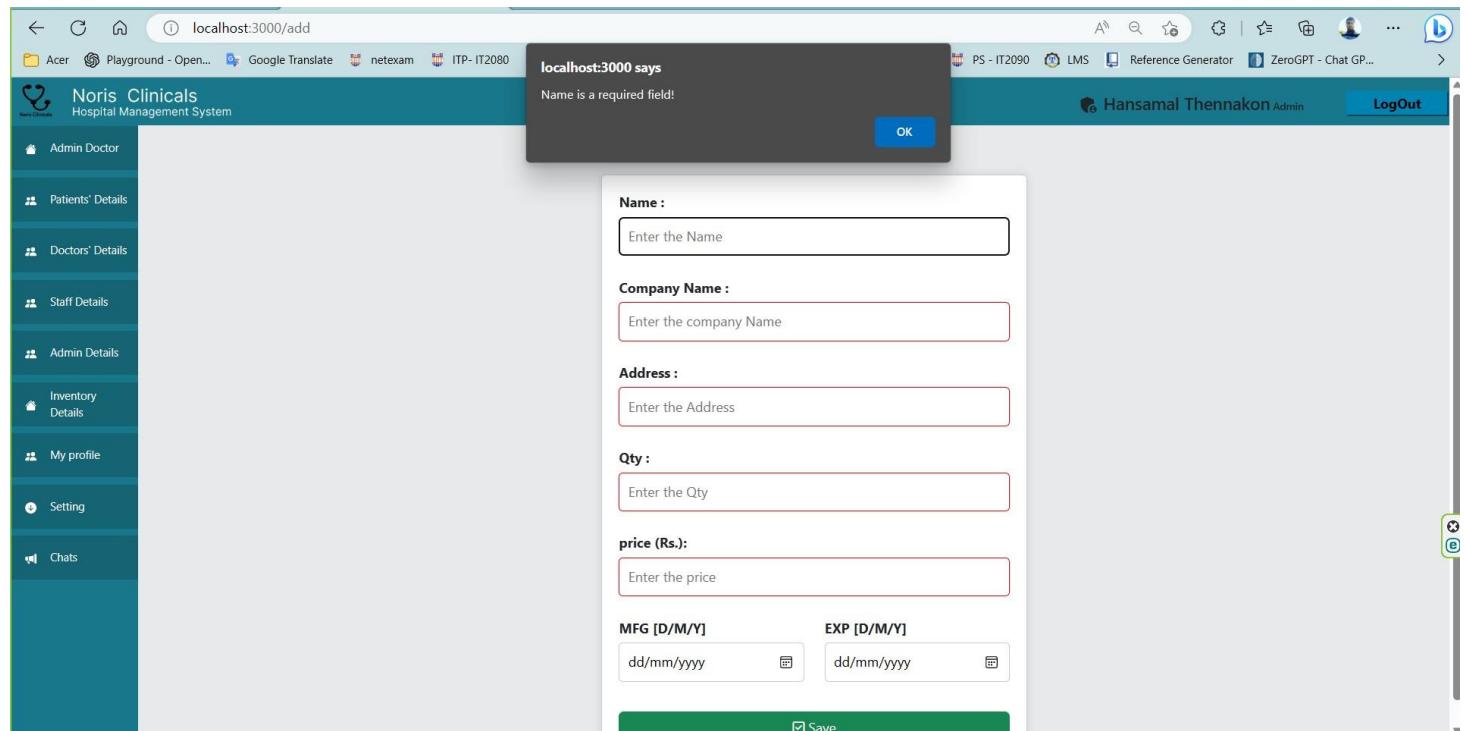
The screenshot shows a web application interface for 'Noris Clinicals Hospital Management System'. On the left, a sidebar menu includes options like 'Admin Doctor', 'Patients' Details', 'Doctors' Details', 'Staff Details', 'Admin Details', 'Inventory Details', 'My profile', 'Setting', and 'Chats'. The main content area is titled 'All Products' and displays a table with the following data:

| # | Name | company_Name | Address | Qty | price | MFG | EXP | Action |
|---|-------------|--------------|-------------|-------|-------|------------|------------|---|
| 1 | vitamin A | HSS | UK | 2000 | 5 | 2023.02.27 | 2025.02.27 | <button>Edit</button> <button>Delete</button> |
| 2 | vitamin B | HSS | UK | 20000 | 12.23 | 2023-05-01 | 2023-04-22 | <button>Edit</button> <button>Delete</button> |
| 3 | vitamin C | AAI | USA | 3000 | 12 | 2023-04-24 | 2025-12-30 | <button>Edit</button> <button>Delete</button> |
| 4 | vitamin D | AAA | UK | 6000 | 18 | 2023-04-02 | 2025-10-22 | <button>Edit</button> <button>Delete</button> |
| 5 | vitamin E | KDD | Indian | 4500 | 8.25 | 2023-03-27 | 2025-10-15 | <button>Edit</button> <button>Delete</button> |
| 6 | Pandol | RRT | Sri Lanka | 6000 | 5.5 | 2022-12-26 | 2025-01-22 | <button>Edit</button> <button>Delete</button> |
| 7 | soframycin | HSS | Indian | 2000 | 90 | 2023-03-27 | 2026-06-17 | <button>Edit</button> <button>Delete</button> |
| 8 | cetirizine | DGJ | Switzerland | 450 | 23 | 2023-01-22 | 2023-04-06 | <button>Edit</button> <button>Delete</button> |
| 9 | Amoxicillin | EWS | Japan | 2300 | 41.25 | 2023-03-30 | 2026-09-15 | <button>Edit</button> <button>Delete</button> |

A modal dialog box in the center says 'localhost:3000 says' and 'Delete Successfully' with an 'OK' button. At the bottom of the page are buttons for 'Create new post' and 'Print'.

Validation

- The name, company name, address, quantity, and price fields should be required to add new product.



Search Product

- Admin can search any product by typing the product name.

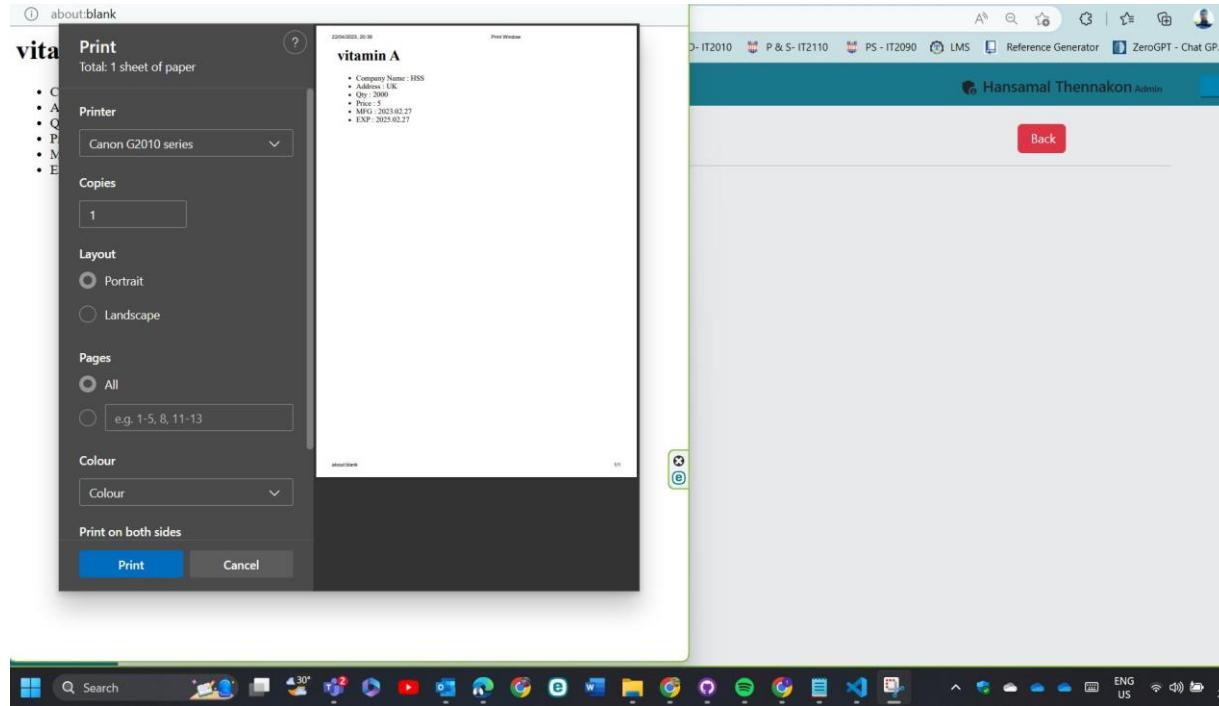
The screenshot shows the 'All Products' page of the Noris Clinicals Hospital Management System. The page has a teal header with the logo 'Noris Clinicals Hospital Management System'. On the left, there is a vertical sidebar with icons and labels: Admin Doctor, Patients' Details, Doctors' Details, Staff Details, Admin Details, Inventory Details, My profile, Setting, and Chats. The main content area is titled 'All Products' and contains a table with the following data:

| # | Name | company_Name | Address | Qty | price | MFG | EXP | Action |
|---|------------|--------------|-------------|-----|-------|------------|------------|---|
| 1 | cetirizine | DGJ | Switzerland | 450 | 23 | 2023-01-22 | 2023-04-06 | <button>Edit</button> <button>Delete</button> |

Below the table are two buttons: 'Create new post' and 'Print'. There is also a search bar at the top right containing the text 'ce'. A green vertical bar highlights the search bar and the table. In the bottom right corner of the main content area, there are two small green icons: a white 'X' inside a circle and a white 'E' inside a circle.

Generate Report

Clicking print button admin can generate product details report.



| # | Name | Company Name | Address | Qty | Price | MFG | EXP | Action |
|---|---------------|--------------|-------------|-------|-------|-------------|------------|---|
| 1 | vitamin A | HSS | UK | 2000 | 5 | 2023.02.27 | 2025.02.27 | <button>Edit</button> <button>Delete</button> |
| 2 | vitamin B | HSS | UK | 20000 | 12.23 | 2023.05-06- | 2025.12-22 | <button>Edit</button> <button>Delete</button> |
| 3 | vitamin C | AAI | USA | 3000 | 12 | 2023.04-05- | 2025.12-30 | <button>Edit</button> <button>Delete</button> |
| 4 | vitamin D | AAA | UK | 6000 | 18 | 2023.04-05- | 2025.10-22 | <button>Edit</button> <button>Delete</button> |
| 5 | vitamin E | KDD | India | 4500 | 8.25 | 2023.05-06- | 2025.10-22 | <button>Edit</button> <button>Delete</button> |
| 6 | Panadol | IRT | Sri Lanka | 6000 | 5.5 | 2022.12-26 | 2025.01-22 | <button>Edit</button> <button>Delete</button> |
| 7 | sofamycin HSS | HSS | India | 2000 | 90 | 2023.03-04- | 2026.06-06 | <button>Edit</button> <button>Delete</button> |
| 8 | cetirizine | DGI | Switzerland | 450 | 23 | 2023.01-02- | 2023.04-06 | <button>Edit</button> <button>Delete</button> |
| 9 | Amoxillin EWS | | Japan | 2300 | 41.25 | 2023.03-04- | 2026.09-15 | <button>Edit</button> <button>Delete</button> |

Street Name, 1
70000 City Name
Tel: 0000 555555
E-Mail: emailname@server.com

| |
|-------------|
| Invoice-Nr. |
| 2011042401 |
| Date |
| 24.04.2011 |

Clerk name/-in:
Your Name

Invoice

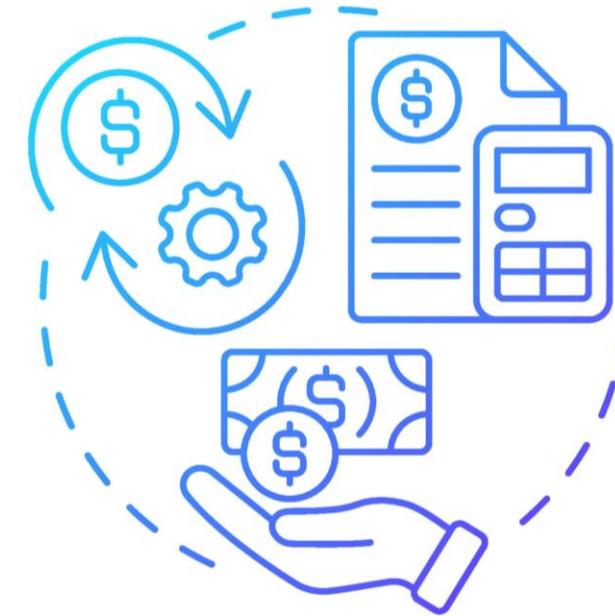
Dear Ms Current Name,
I authorize myself to make following Invoice:

| Num | Qty | Units | Article Nr. | Goods, Service | Unit Price | Price |
|----------------------|-----|-------|-------------|--|------------|----------|
| 1 | 1 | pcs | | Food photography for summer menu. Menu design and printing on glossy cardboard DIN A5 double sided 50 pieces | 273,11 € | 273,11 € |
| 1 | 33 | pcs | | Single product photo on white background | 2,52 € | 83,16 € |
| 1 | 1 | pcs | | Photo Licenses for Certificates | 16,80 € | 20,00 € |
| Total | | | | | | 325,00 € |
| VAT 19% | | | | | | |
| Total Amount Payable | | | | | | |

Billing And Invoicing System

Functional Requirement

- Keep record of treatment medicine, equipment issued to the customer
- Calculate the total/individual cost of above elements
- Processing payments made by patients, including credit card, cash and check payments.



**BILLING AND
INVOICING**

Non – Functional Requirements

Security

Performance

Reliability

Availability

Usability

Technical Requirement

- Security
- Database
- Backup and recovery



Users & their features

➤ Billing And Invoicing Admin

- Perform CRUD operations
- Generate Reports
- Search Payment Details

➤ Billing Manager

- Generate reports
- Search Payment Details
- Authorize transactions of high value



Complete Features

- All billing records

The screenshot shows the 'Billing Invoice' page of the Noris Clinicals Hospital Management System. The page has a dark teal header with the logo 'Noris Clinicals Hospital Management System'. On the left, there is a vertical sidebar with icons for Home, Profile, Setting, and Help Center. A search bar is located at the top center. The main content area displays a table of billing invoice data with columns: #, First Name, Last Name, Phone, Email, Appointment Date, and Action. Each row contains five entries. The 'Action' column for each row has two buttons: 'Edit' (yellow) and 'Delete' (red).

| # | First Name | Last Name | Phone | Email | Appointment Date | Action |
|---|------------|------------|------------|------------------|------------------|---|
| 1 | osh2 | sena2 | 011225544 | oshi@gmail.com | 2023/04/20 | <button>Edit</button> <button>Delete</button> |
| 2 | osh3 | sena3 | 01199885 | oshi3@gmail.com | 2023/04/20 | <button>Edit</button> <button>Delete</button> |
| 3 | kani | Perera | 0554789964 | malith@gmail.com | 2023/04/20 | <button>Edit</button> <button>Delete</button> |
| 4 | Malith | Sudusinghe | 0554789964 | malith@gmail.com | 2023/04/20 | <button>Edit</button> <button>Delete</button> |
| 5 | thabse | jdsknlvkj | 5161 | iojd@gmail.com | 2023-04-27 | <button>Edit</button> <button>Delete</button> |

Add Function

Noris Clinicals Hospital Management System

localhost:3000 says
Success

OK

Norris Clinicals

First Name: thabse

Last Name: jdsknlvkj

Phone Number: 5161

E mail: iojd@gmail.com

Appointment Date: 04/27/2023

Add Bill

| # | CPT | CPT Description | Price |
|---|-------|---|-------|
| 1 | 99212 | Established patient office visit, 10-19 minutes | 800 |
| 2 | 99214 | Established patient office visit, 30-39 minutes | 1500 |

❖Crud Operation

➤Create New bill

Noris Clinicals Hospital Management System

Logout

Billing Invoice

Norris Clinicals

| # | CPT | CPT Description | Price |
|---|-------|---|-------|
| 1 | 99212 | Established patient office visit, 10-19 minutes | 800 |
| 2 | 99214 | Established patient office visit, 30-39 minutes | 1500 |

Add Bill

Home

Profile

Setting

Help Center

➤ Read Operation

The screenshot shows the Noris Clinicals Hospital Management System interface. The top navigation bar includes the logo, the title "Noris Clinicals Hospital Management System", and a "LogOut" button. On the left, a vertical sidebar lists "Home", "Profile", "Setting", and "Help Center". The main content area is titled "Billing Invoice" and features a search bar. Below it is a table with the following data:

| # | First Name | Last Name | Phone | Email | Appointment Date | Action |
|---|------------|------------|------------|------------------|------------------|--|
| 1 | osh2 | sena2 | 011225544 | oshi@gmail.com | 2023/04/20 | <input checked="" type="button"/> Edit <input type="button"/> Delete |
| 2 | osh3 | sena3 | 01199885 | oshi3@gmail.com | 2023/04/20 | <input checked="" type="button"/> Edit <input type="button"/> Delete |
| 3 | kani | Perera | 0554789964 | malith@gmail.com | 2023/04/20 | <input checked="" type="button"/> Edit <input type="button"/> Delete |
| 4 | Malith | Sudusinghe | 0554789964 | malith@gmail.com | 2023/04/20 | <input checked="" type="button"/> Edit <input type="button"/> Delete |
| 5 | thabse | jdsknlvkj | 5161 | iojd@gmail.com | 2023-04-27 | <input checked="" type="button"/> Edit <input type="button"/> Delete |

➤ Update Operation

- Admin can update existing product details.

The screenshot shows the Noris Clinicals Hospital Management System interface. The top navigation bar is teal with the logo 'Noris Clinicals' and the text 'Noris Clinicals Hospital Management System'. On the right of the top bar is a 'LogOut' button. The left sidebar has five menu items: 'Home', 'Profile', 'Setting', and 'Help Center'. The main content area is titled 'Billing Invoice'. It displays a form with fields for First Name ('githma'), Last Name ('sena2'), Phone Number ('011225544'), E mail ('oshi@gmail.com'), and Appointment Date ('mm/dd/yyyy'). A green 'Update Bill' button is at the bottom right of the form. The background of the main content area is light gray.

➤ Delete Operation

- Admin can delete bill by clicking delete button.

The screenshot shows a web application interface for 'Noris Clinicals Hospital Management System'. The left sidebar contains navigation links: Home, Profile, Setting, and Help Center. The main content area displays a table of patient information with columns: #, First Name, Last Name, Phone, Email, and Appointment Date. The table has three rows of data. To the right of the table, there is a modal dialog box with the message 'localhost:3000 says deleted' and an 'OK' button. The top right corner of the page has a 'LogOut' button.

| # | First Name | Last Name | Phone | Email | Appointment Date | Action |
|---|------------|-----------|------------|------------------|------------------|---|
| 1 | githma | sena2 | 011225544 | oshi@gmail.com | 2023/04/20 | <button>Edit</button> <button>Delete</button> |
| 2 | osh3 | sena3 | 01199885 | oshi3@gmail.com | 2023/04/20 | <button>Edit</button> <button>Delete</button> |
| 3 | kani | Perera | 0554789964 | malith@gmail.com | 2023/04/20 | <button>Edit</button> <button>Delete</button> |

Search Product

Admin can search any product by typing the product name.

Noris Clinicals
Hospital Management System

LogOut

Home

Profile

Setting

Help Center

Billing Invoice

| # | First Name | Last Name | Phone | Email | Appointment Date | Action |
|---|------------|-----------|-----------|-----------------|------------------|---|
| 1 | osh2 | sena2 | 011225544 | oshi@gmail.com | 2023/04/20 | <button>Edit</button> <button>Delete</button> |
| 2 | osh3 | sena3 | 01199885 | oshi3@gmail.com | 2023/04/20 | <button>Edit</button> <button>Delete</button> |

Validation

The fields are required to add new bill.

The screenshot shows the Noris Clinicals Hospital Management System interface. On the left is a sidebar with icons for Home, Profile, Setting, and Help Center. The main area has a teal header with the title 'Noris Clinicals Hospital Management System' and a 'LogOut' button. A modal dialog box is centered over the page, displaying the message 'localhost:3000 says' followed by 'Error' and an 'OK' button. Below the dialog, the page content is visible, including a form for adding a new bill with fields for First Name, Last Name, Phone Number, E mail, and Appointment Date. At the bottom, there is a table listing CPT codes, descriptions, and prices.

| # | CPT | CPT Description | Price |
|---|-------|---|-------|
| 1 | 99212 | Established patient office visit, 10-19 minutes | 800 |
| 2 | 99214 | Established patient office visit, 30-39 minutes | 1500 |



Patient Medical Records Management System

Functional Requirement

- Generate patient personal information
- Record all Patient treatment plan
- Medical history management
- Manage Database



A photograph of a female doctor in a white coat and blue plaid shirt using a stethoscope to listen to the heart and lungs of an elderly woman with dark hair. The doctor is smiling. The background shows a hospital room with medical equipment.

Non – Functional Requirements



SECURITY



MAINTAINABILITY



PERFORMANCE

Technical Requirement

Response time

Capacity

Backend

Frontend

Users & their features

Doctor

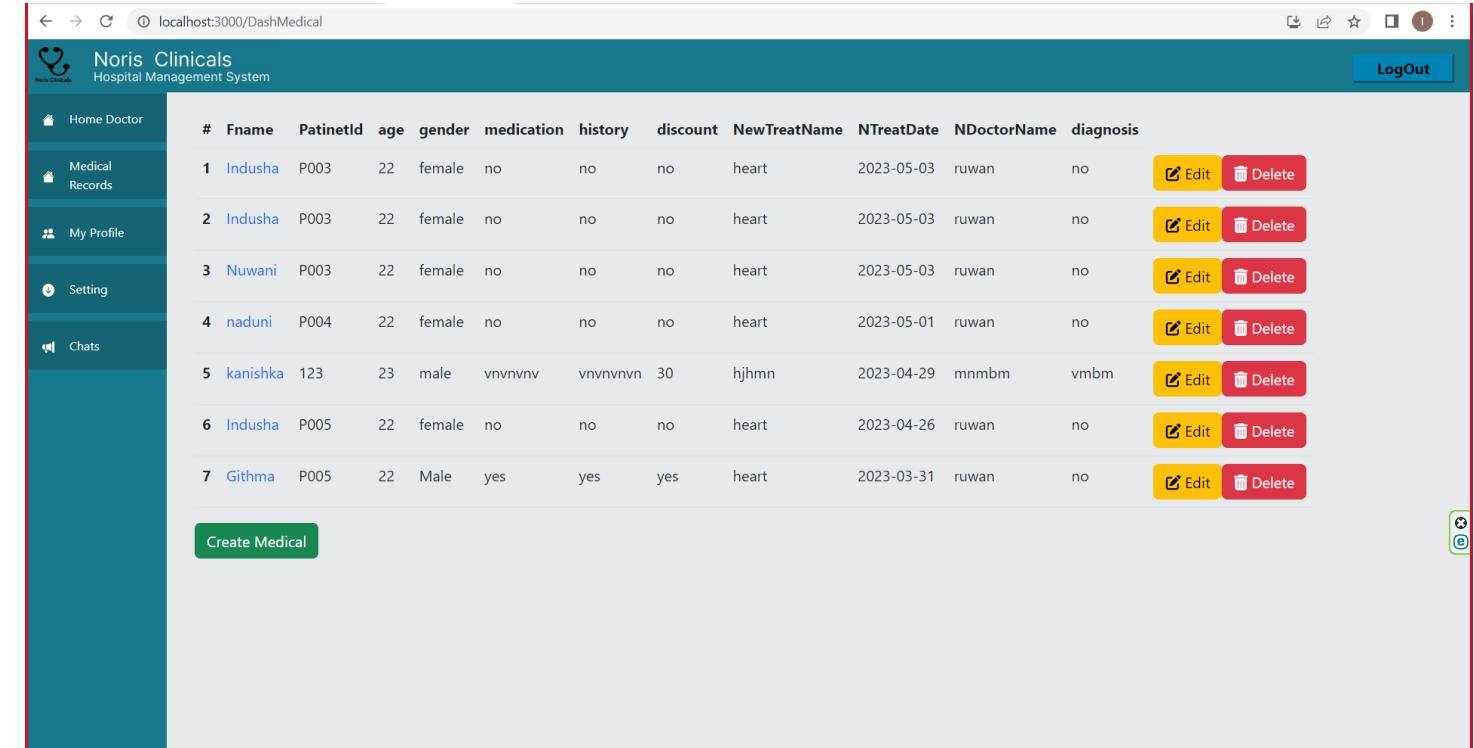
- Create-After examine the patient add new medical records
- Read – View the patient's medical record during the examination time of the patient
- Update- Update the existing record after examine the patient
- Delete – Delete unwanted record of patients

Admin

- Create- Add new personal information of patients
- Read – View the patient's personal information
- Update- Update the existing details in the report/form
- Delete – Delete unwanted information of patients



Complete Features



The screenshot shows a web-based hospital management system interface. The top navigation bar includes a back arrow, forward arrow, refresh button, and a search bar with the URL "localhost:3000/DashMedical". The title "Noris Clinicals" and "Hospital Management System" is displayed above the main content area. On the left, a vertical sidebar menu lists "Home Doctor", "Medical Records", "My Profile", "Setting", and "Chats". The main content area is titled "All Medical Records" and displays a table of patient medical records. The table has columns for #, Fname, PatinetId, age, gender, medication, history, discount, NewTreatName, NTreatDate, NDoctorName, and diagnosis. The data is as follows:

| # | Fname | PatinetId | age | gender | medication | history | discount | NewTreatName | NTreatDate | NDoctorName | diagnosis |
|---|----------|-----------|-----|--------|------------|----------|----------|--------------|------------|-------------|-----------|
| 1 | Indusha | P003 | 22 | female | no | no | no | heart | 2023-05-03 | ruwan | no |
| 2 | Indusha | P003 | 22 | female | no | no | no | heart | 2023-05-03 | ruwan | no |
| 3 | Nuwani | P003 | 22 | female | no | no | no | heart | 2023-05-03 | ruwan | no |
| 4 | naduni | P004 | 22 | female | no | no | no | heart | 2023-05-01 | ruwan | no |
| 5 | kanishka | 123 | 23 | male | vnnvnnv | vnnvnnvn | 30 | hjhmn | 2023-04-29 | mnmbm | vmbm |
| 6 | Indusha | P005 | 22 | female | no | no | no | heart | 2023-04-26 | ruwan | no |
| 7 | Githma | P005 | 22 | Male | yes | yes | yes | heart | 2023-03-31 | ruwan | no |

[Create Medical](#)

➤ All Medical Records

- This page is for display all the medical records details.

➤ Crud Operation

- Doctor can add medical history and treatment details by clicking Add details button.
- Can add personal details also.

This screenshot shows the 'Patient Medical Records' page. At the top, there's a header with the Noris Clinics logo and 'Hospital Management System'. On the left is a vertical sidebar with icons for Home Doctor, Medical Records (which is selected), My Profile, Setting, and Chats. The main content area is titled 'Patient Medical Records' and contains two sections: 'Personal Details:' and 'Medical Records:'. The 'Personal Details:' section includes fields for First Name, Last Name, Patient ID, Date of Birth, Patient Age, Patient Gender, and Contact Number. The 'Medical Records:' section includes fields for adding medication and medical history.

This screenshot shows a page for managing treatment plans and diagnosis. At the top, it says 'localhost:3000/Medical' and has a 'LogOut' button. The left sidebar is identical to the previous screenshot. The main content area is titled 'Treatment Plans' and contains sections for 'Past Treatment Plans:', 'Treatment Result', 'Arrange Treatment Plans:', and 'Add Diagnosis'. Each section has input fields for Treatment, Treat Date, Doctor's Name, and other relevant details. A large green button at the bottom right is labeled 'Add Details'.

➤ Read operation

- This page display the all-medical record of a patient.

The screenshot shows a web-based hospital management system interface. The top navigation bar includes links for Home Doctor, Medical Records, My Profile, Setting, and Chats. On the right side, there is a 'Logout' button. The main content area displays a patient's profile for 'Indusha Jayasinghe'. The profile includes the following information:

| Patient Id : | P003 |
|----------------------------------|------------|
| Patient Birth Date : | 2023-03-30 |
| Patient Age : | 22 |
| Patient Gender : | female |
| Patient Contact Number : | 0771893910 |
| Medication of Patient : | no |
| History of Patient : | no |
| Description of Patient : | no |
| Discount of Patient : | no |
| Past treatment Name of Patient : | heart |
| Past Treatment Date of Patient : | 2023-04-04 |
| Past Doctor Name of Patient : | ruwan |
| Diagnosis of Patient : | no |

A blue 'Print' button is located at the bottom left of the profile section.

➤ Update Operation

- Doctor can update existing medical records of patient.

Personal Details :

| | |
|------------|------------|
| First Name | Last Name |
| Indusha | Jayasinghe |

Patient ID

| | |
|------------|---------------|
| P003 | Date of Birth |
| 03/30/2023 | |

Patient Age Patient Gender Contact Number

| | | |
|----|--------|------------|
| 22 | female | 0771893910 |
|----|--------|------------|

Medical Records :

Add Medication of the Patient

Add Medical History of the Patient

Add More Details Add Discount

| | |
|----|----|
| no | no |
|----|----|

Past Treatment Plans :

| | | |
|-----------|------------|---------------|
| Treatment | Date | Doctor's Name |
| heart | 04/04/2023 | ruwan |

Treatment Result

good

Arrange Treatment Plans :

| | | |
|-----------|------------|---------------|
| Treatment | Date | Doctor's Name |
| heart | 05/03/2023 | ruwan |

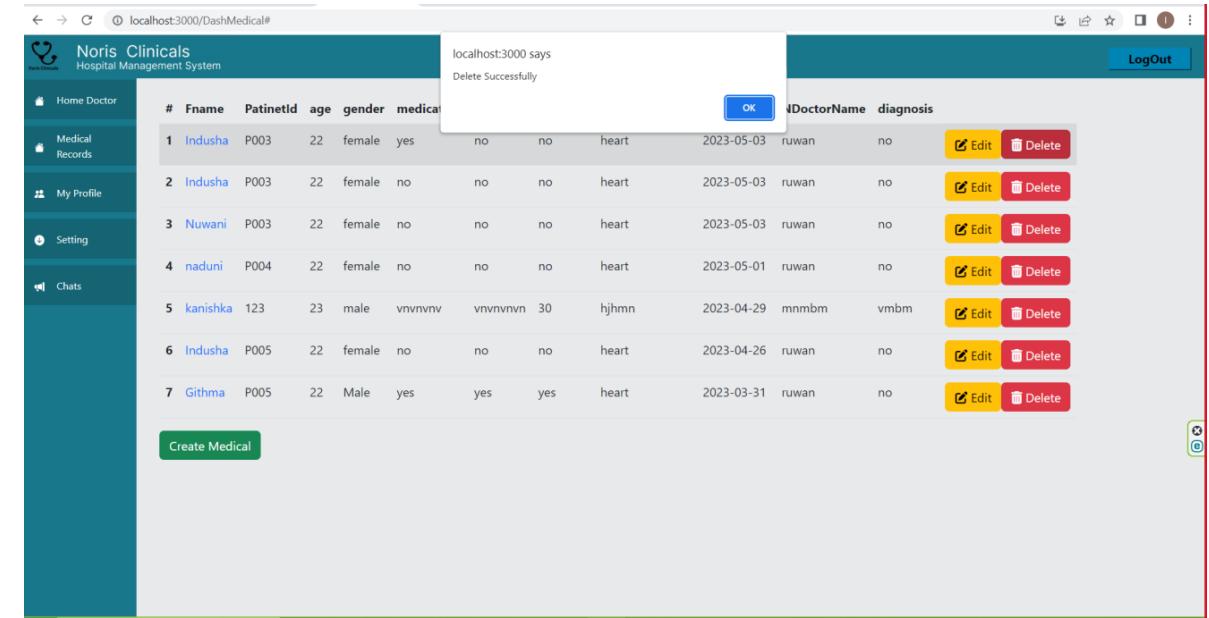
Add Diagnosis

no

Update

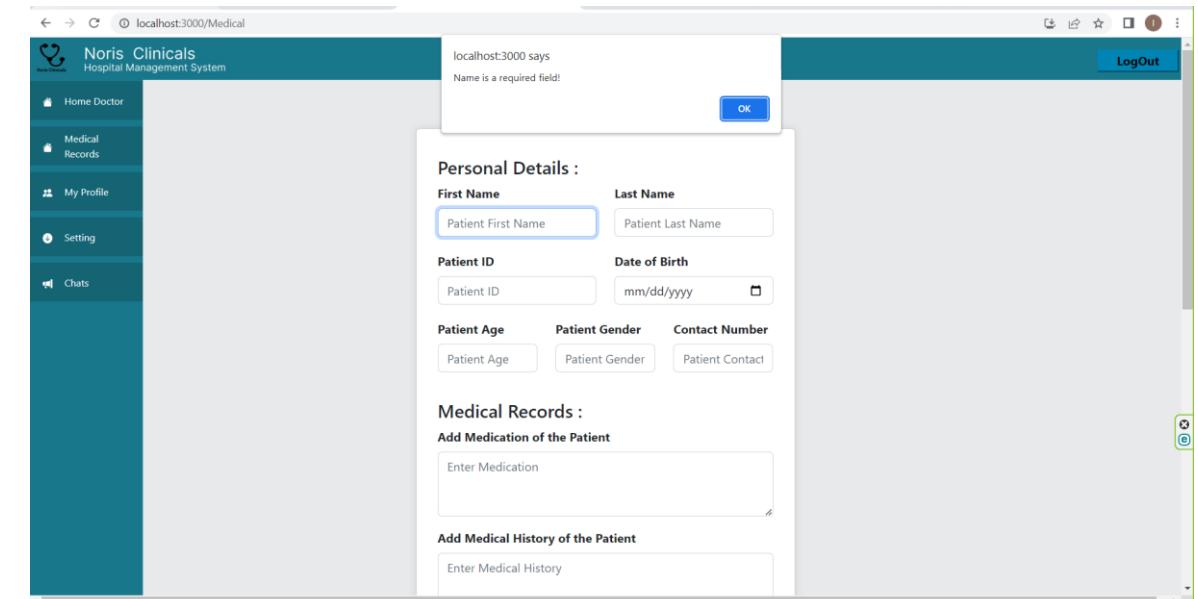
➤ Delete Operation

- Doctor can delete the unwanted medical records by clicking delete button.
- Then system display the "successful delete" message.



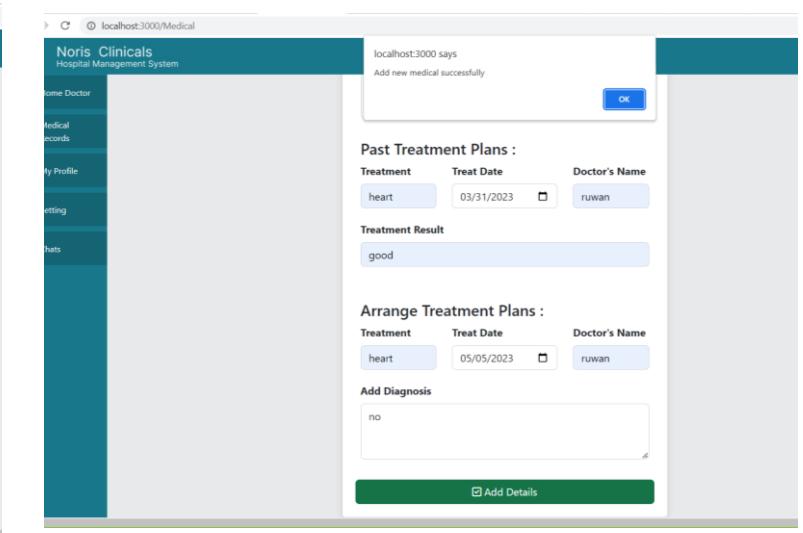
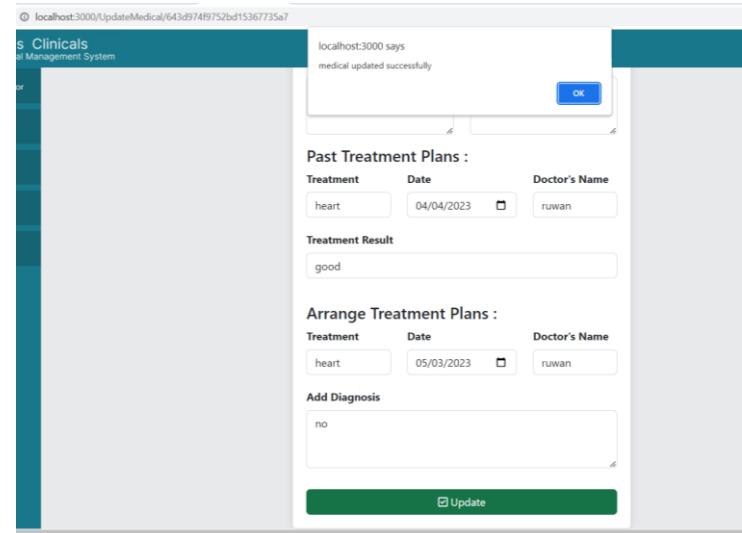
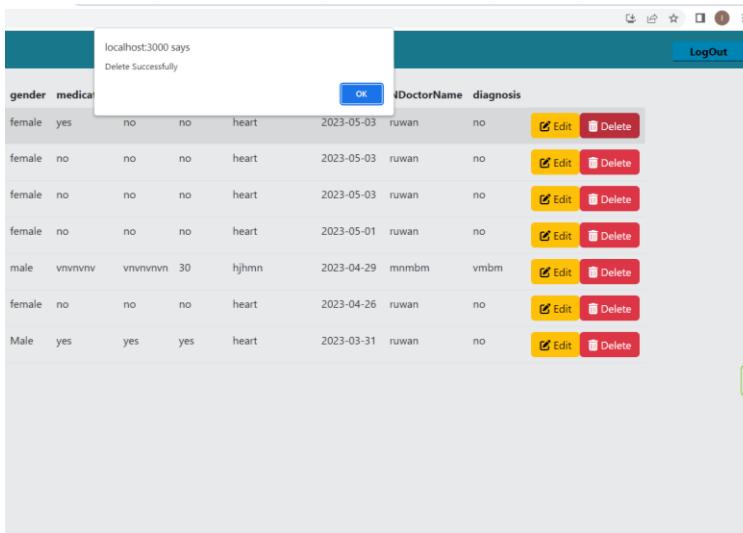
- Doctor should be required to fill all the fields for add new medical records to the system.

Validation



Alert Message

- Give Alert message when it successfully added, updated and deleted to the database.



Search Function

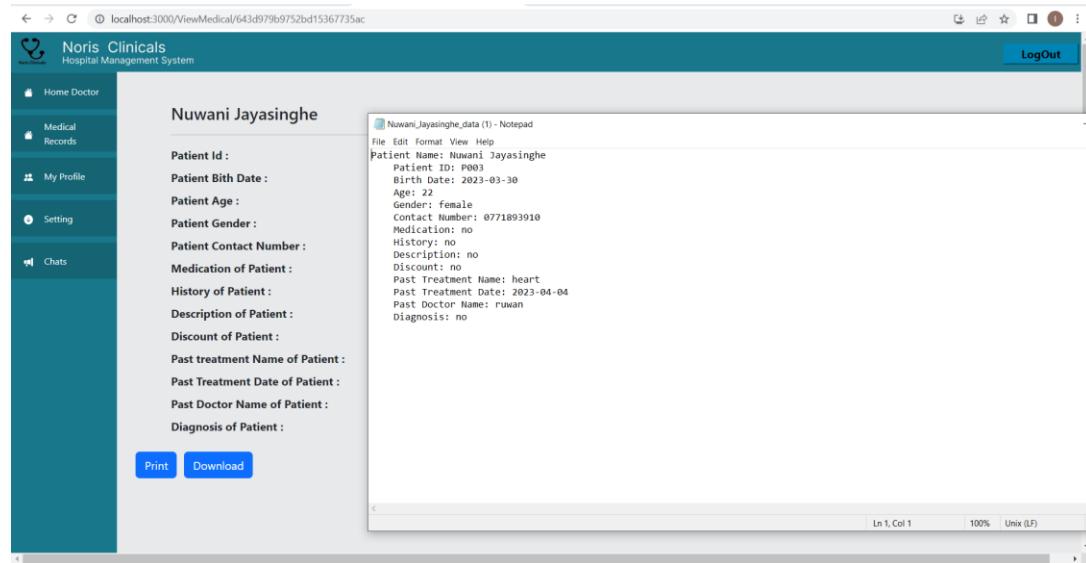
The screenshot shows a web-based application interface for a hospital management system. The top navigation bar is teal with the title "Noris Clinicals Hospital Management System". On the right side of the bar are "LogOut" and a user icon. The left sidebar has icons for "Home Doctor", "Medical Records", "My Profile", "Setting", and "Chats", with "Create Medical" being the active button. The main content area has a header "All Medical" and a search bar containing "nuwa". Below the search bar is a table with the following data:

| # | Fname | PatinetId | age | gender | medication | history | discount | NewTreatName | NTreatDate | NDoctorName | diagnosis |
|---|--------|-----------|-----|--------|------------|---------|----------|--------------|------------|-------------|-----------|
| 1 | Nuwani | P003 | 22 | female | no | no | no | heart | 2023-05-03 | ruwan | no |

At the bottom of the table are two buttons: "Edit" (yellow) and "Delete" (red).

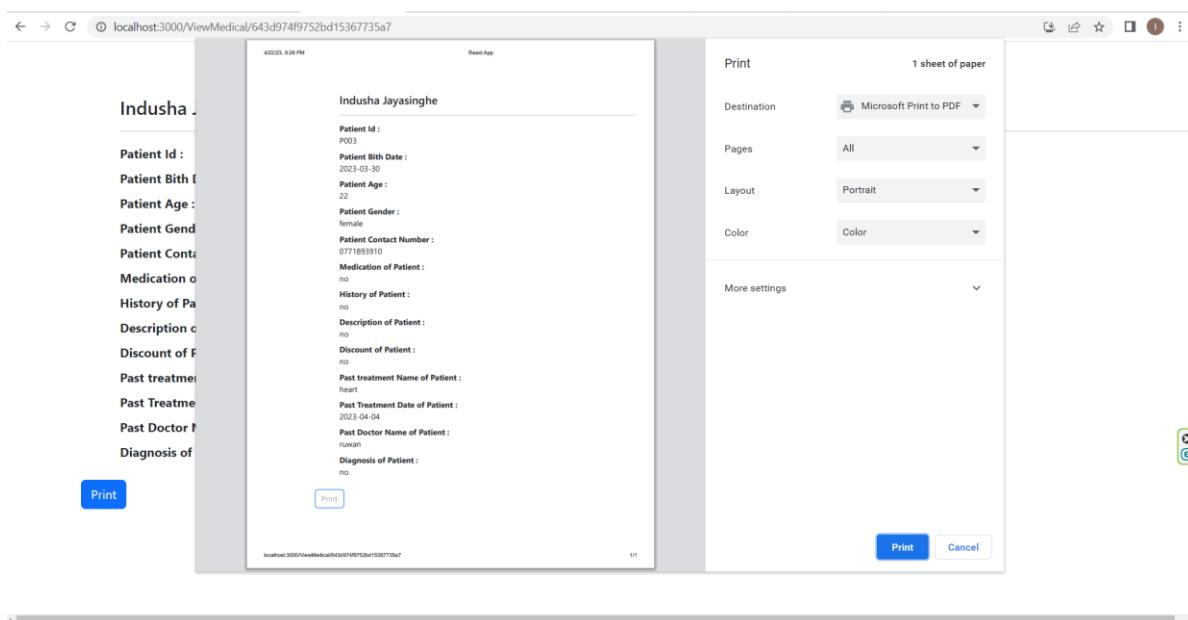
- Doctor can search any medical report of a specific patient by typing the first name of the patient.

Generate Report



- Doctor can download the medical report of each patient by clicking download button.
- Then it's generated text document of patient details.

Print Function



- By clicking print button doctor can print medical report of the patient.

The background image is a composite of two photographs. On the left, a woman with dark hair tied back is smiling broadly, showing her teeth. She is wearing a white collared shirt. On the right, a person's profile is visible; they are wearing a blue scrub top and a white mask, and appear to be working at a computer with a monitor showing some graphical interface. The overall theme suggests a healthcare or medical environment.

User Registration And Login Management System

Functional Requirement

- User registration
- User authentication
- User profile management
- Manage database
- Each user has unique user interface



Non – Functional Requirements



Security



Reliability



Availability



Maintainability



Technical Requirement

- Database
- Web technologies
- Backend
- Front end
- Memory
- Hardware requirements



Users & their features

- Doctor
 - Create – Create medical records
 - Read – view all their patients
 - Update- update patient's medical details
 - Delete – delete medical records
- Admin
 - Create-add new user
 - Read – View all users
 - Update- Update the user information
 - Delete – Delete users



Signup



- Only admin can signup, he or she can signup by themself providing required details

Login



- Admin, patient, doctor, staff can login to the system providing their username ,password and usertype.
- Patients, doctors, staff members are registered by admin

Dashboard

The screenshot shows the 'Patient Details' page of the Noris Clinicals Hospital Management System. The page has a dark teal header with the system name and a navigation menu on the left. The main content area displays a table of patient information with columns for ID, First Name, Last Name, NIC, Email, and Mobile. Each row includes edit and delete buttons. The patients listed are:

| ID | First Name | Last Name | NIC | Email | Mobile |
|----|------------|-----------|--------------|------------------|-----------|
| 1 | Bhanu | Aselaar | 19967825315 | bhanu@gmail.com | 712176306 |
| 2 | Sumana | Arachchi | 199420011235 | sumana@gmail.com | 718077997 |
| 3 | Amal | Pereira | 1996185624 | amal@gmail.com | 118961475 |
| 4 | Minosha | Silva | 200171101753 | mino@gmail.com | 71536549 |

- When admin Hansamal navigates to the "patient details" page, it shows all patients that registered to the hospital.
- He can get print by clicking print button.
- He can search patient by using search bar.

Create

The screenshot shows a web-based application interface for 'Noris Clinicals Hospital Management System'. The top navigation bar includes the logo, the system name, the user 'Hansamal Thennakon Admin', and a 'LogOut' button. On the left, a vertical sidebar lists various menu items: Admin Doctor, Patients' Details, Doctors' Details, Staff Details, Admin Details, Inventory Details, My profile, Setting, and Chats. The main content area is a registration form with fields for Company Id (PA1682164450527), First Name, Last Name, email, Date Of Birth (mm/dd/yyyy), Mobile, NIC, Address, and Password. A 'Submit' button is at the bottom of the form. A watermark 'Activate Windows Go to Settings to activate Windows.' is visible in the bottom right corner.

- Admin, patient, doctor, staff can login to the system providing their username ,password and usertype.
- Patients, doctors, staff members are registered by admin

Read

The screenshot shows the Noris Clinicals Hospital Management System interface. The top navigation bar includes the logo, 'Noris Clinicals Hospital Management System', the user name 'Hansamal Thennakon Admin', and a 'LogOut' button. On the left, a vertical sidebar lists various administrative functions: Admin Doctor, Patients' Details, Doctors' Details, Staff Details, Admin Details, Inventory Details, My profile, Setting, and Chats. The main content area displays the following patient information:

- Patient's email:** nikinivandana01@gmail.com
- Patient's DOB:** 2023-03-30
- Patient's contact No:** 7127630
- Patient's NIC:** 200171101758
- Address of Patient:** Kandy

At the bottom right of the main content area, there is a watermark that says 'Activate Windows' and 'Go to Settings to activate Windows.'

- When admin navigates to the patient details, he can read details by clicking read button

Update

The screenshot shows the Noris Clinicals Hospital Management System interface. The top navigation bar includes the logo, 'Noris Clinicals Hospital Management System', the user name 'Hansamal Thennakon Admin', and a 'Logout' button. On the left, a vertical sidebar lists various menu items: Admin Doctor, Patients' Details, Doctors' Details, Staff Details, Admin Details, Inventory Details, My profile, Setting, and Chats. The main content area displays a form for updating patient details. The form fields are: First Name (input field), Last Name (input field), email (input field), Date Of Birth (input field with a calendar icon), Mobile (input field), NIC (input field), Address (input field), and an 'Update' button at the bottom. At the bottom right of the page, there is a watermark that says 'Activate Windows' and 'Go to Settings to activate Windows.'

- When admin navigates to the patient details, he can update details by clicking delete button

Delete

The screenshot shows a web application for managing patient details. At the top, there's a navigation bar with links for Translate, LinkedIn, WhatsApp, Home, and a user profile for Hansamal Thennakon (Admin). Below the navigation, a modal window is displayed with the message "localhost:3000 says Delete Successfully" and an "OK" button. The main content area is titled "Clinicals Management System" and features a table of patient data. The table has columns for id, First Name, Last Name, NIC, Email, and Mobile. Two rows of data are shown:

| id | First Name | Last Name | NIC | Email | Mobile |
|----|------------|--------------|--------------|---------------------------|-----------|
| 1 | Nikini | Abeywickrama | 200171101758 | nikinivandana01@gmail.com | 7127630 |
| 2 | Prabu | Dilhani | 200871101758 | prabu@gmail.com | 712176306 |

For each row, there are three buttons: READ (green), EDIT (blue), and DELETE (red). At the bottom right of the page, there's a watermark that says "Activate Windows Go to Settings to activate".

- When admin navigates to the patient details page, he can delete patient by clicking delete button



Communicating System

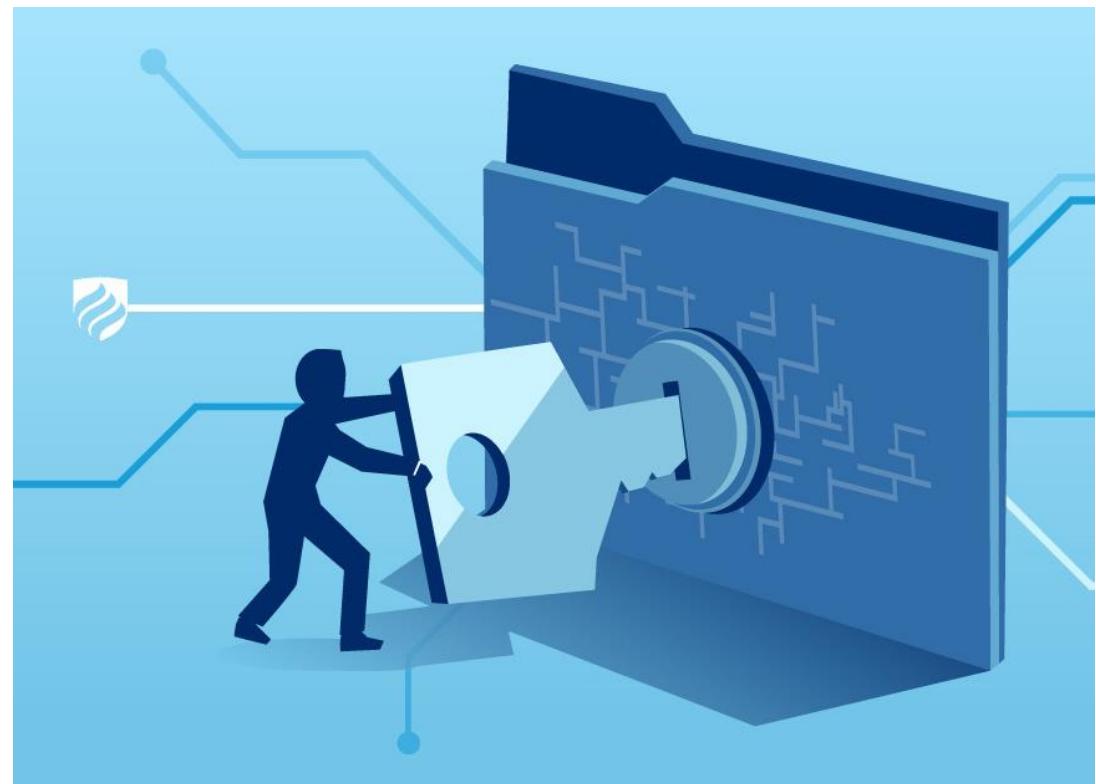
Functional Requirement

- Should be able to send the messages
- Should be able to reply the messages
- Generate the history



Non – Functional Requirements

- Performance
- Security
- Usability
- Scalability
- Reliability





Technical Requirement



Front End



Database



Back End

Users & their features

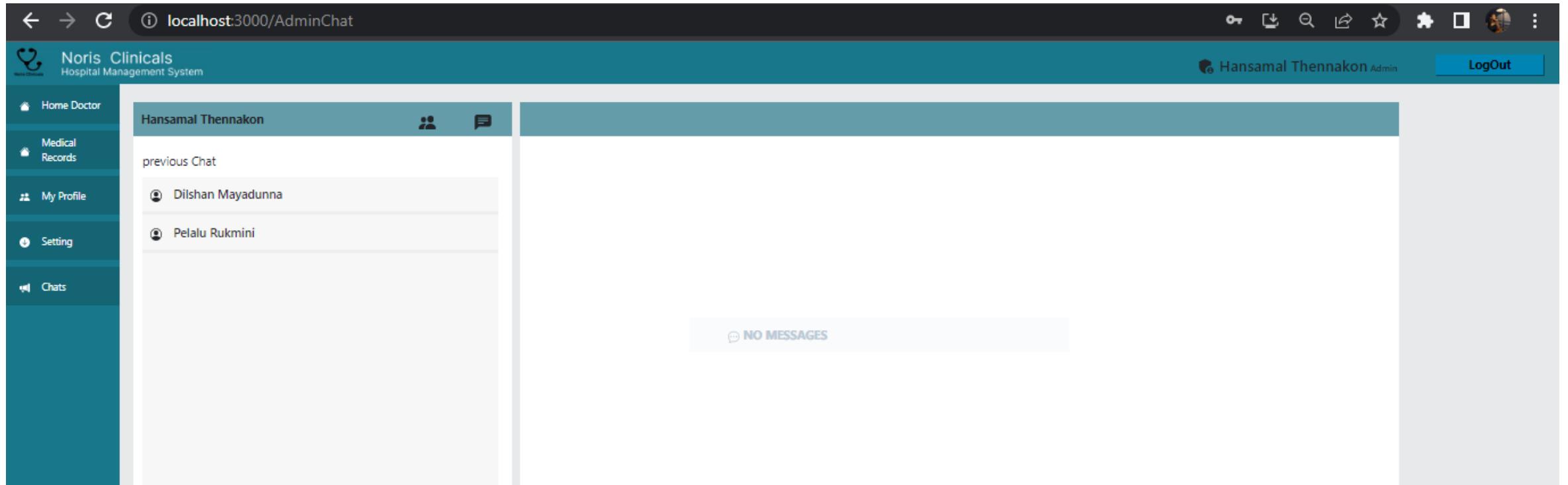
Doctor/Admin/Nurse

- Create – Send the message
- Read – View the chat history
- Update- Update the existing chat
- Delete – Delete unwanted messages

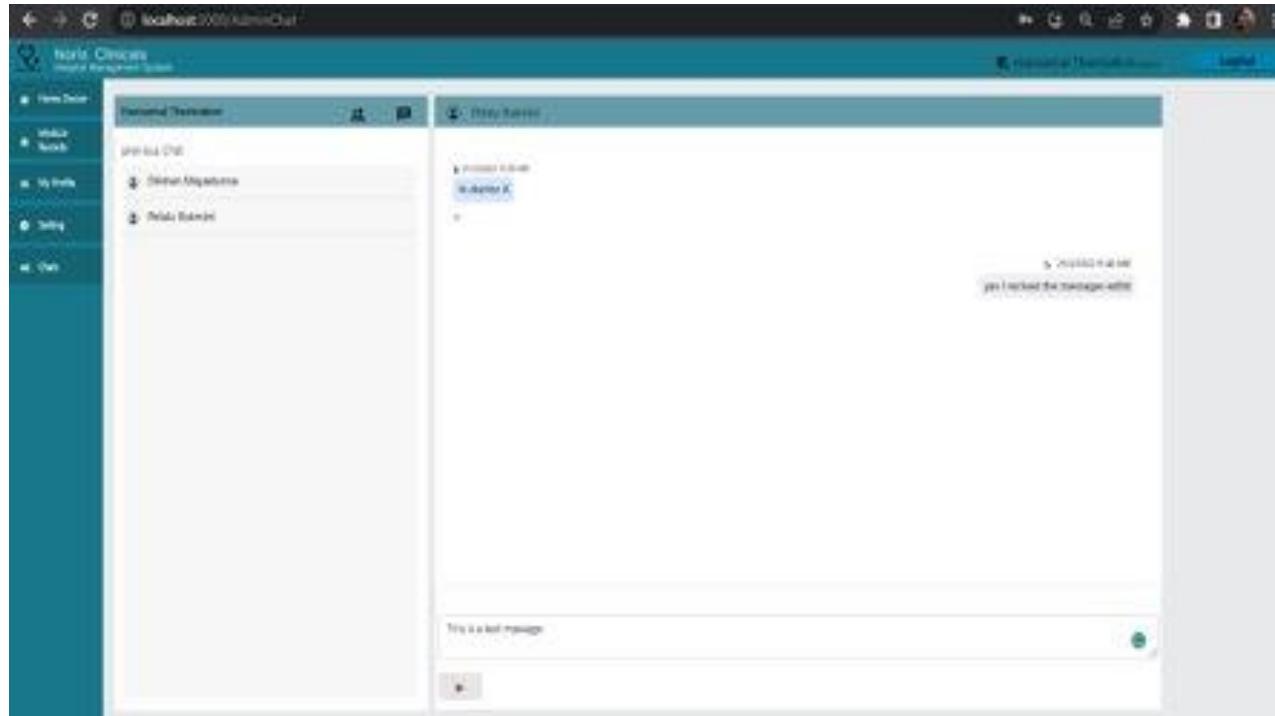


Complete features

- User interface with for the chat

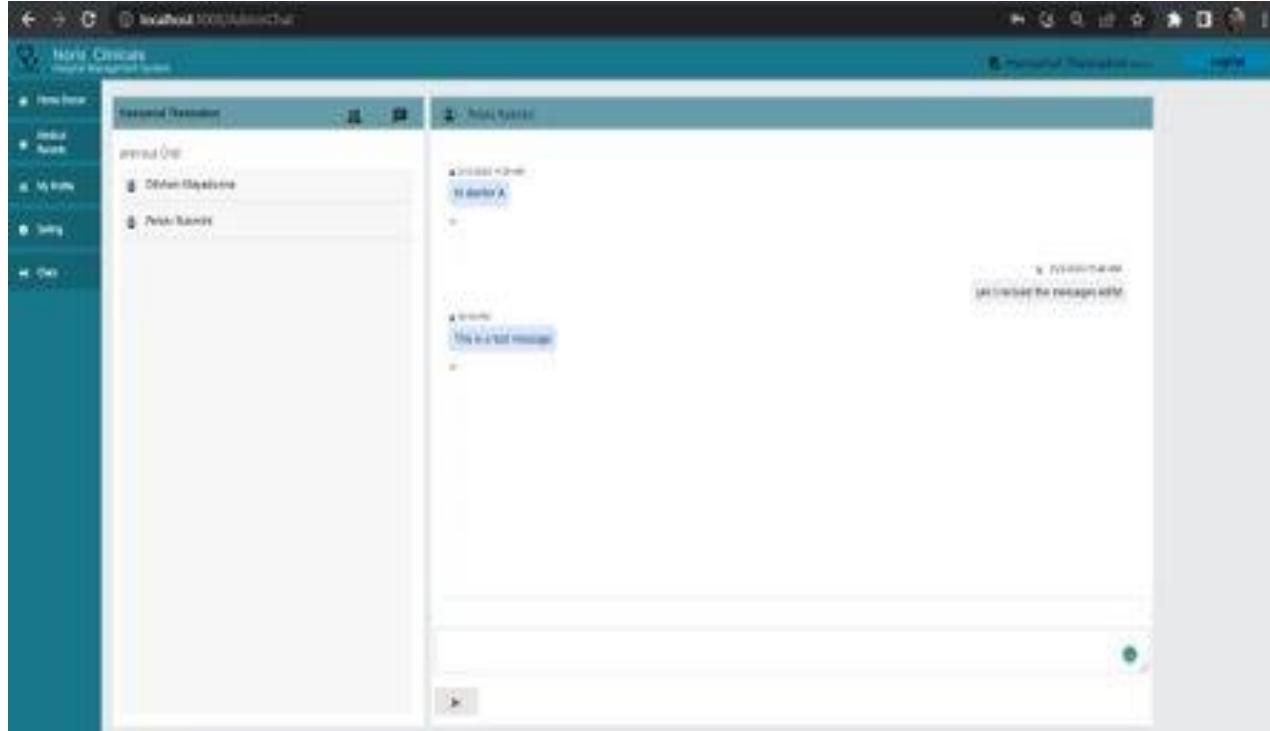


Crud Operation



Create

- When admin Hansamal Thennak on send a message it will send to the Dr. Pelalu Rukmini

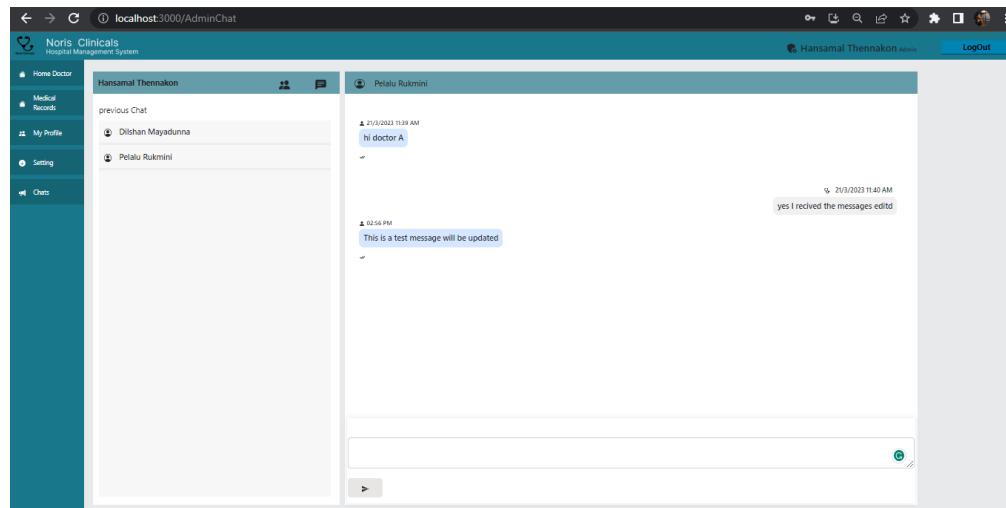
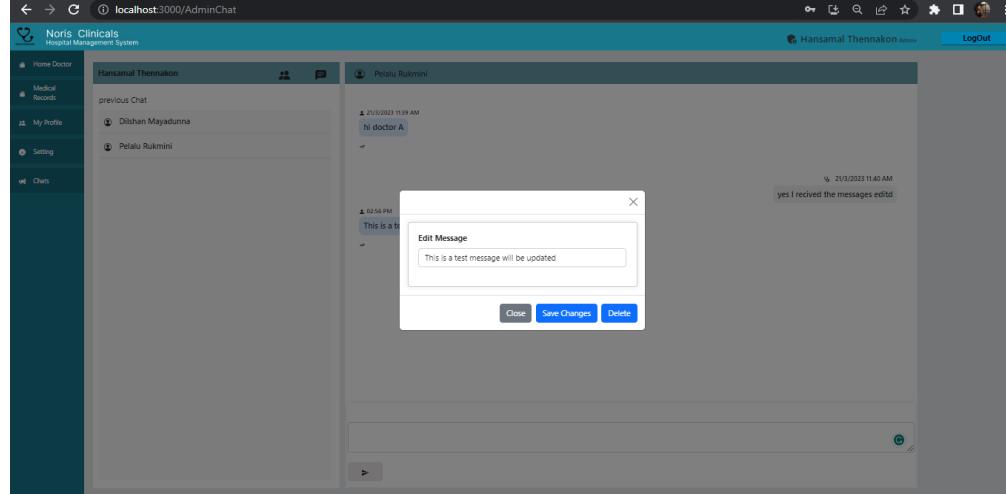


Read

- When admin Hansamal Thennakon send a message it will send to the Dr. Pelalu Rukmini and both users will be able to read the message

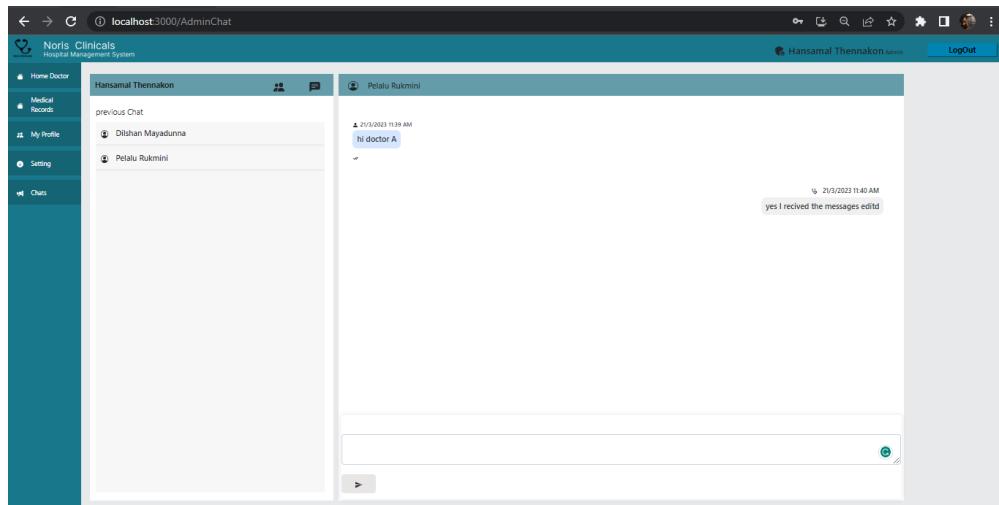
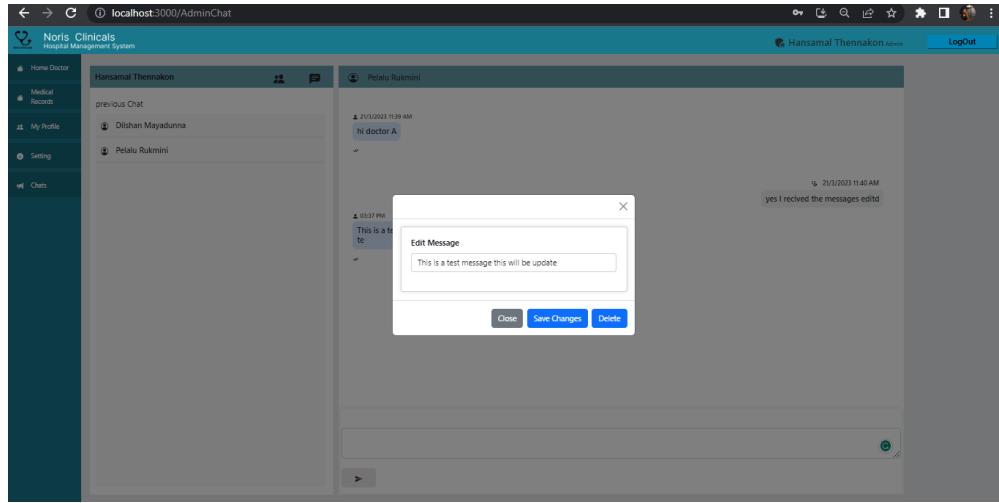
Update

- Admin can update the sent message



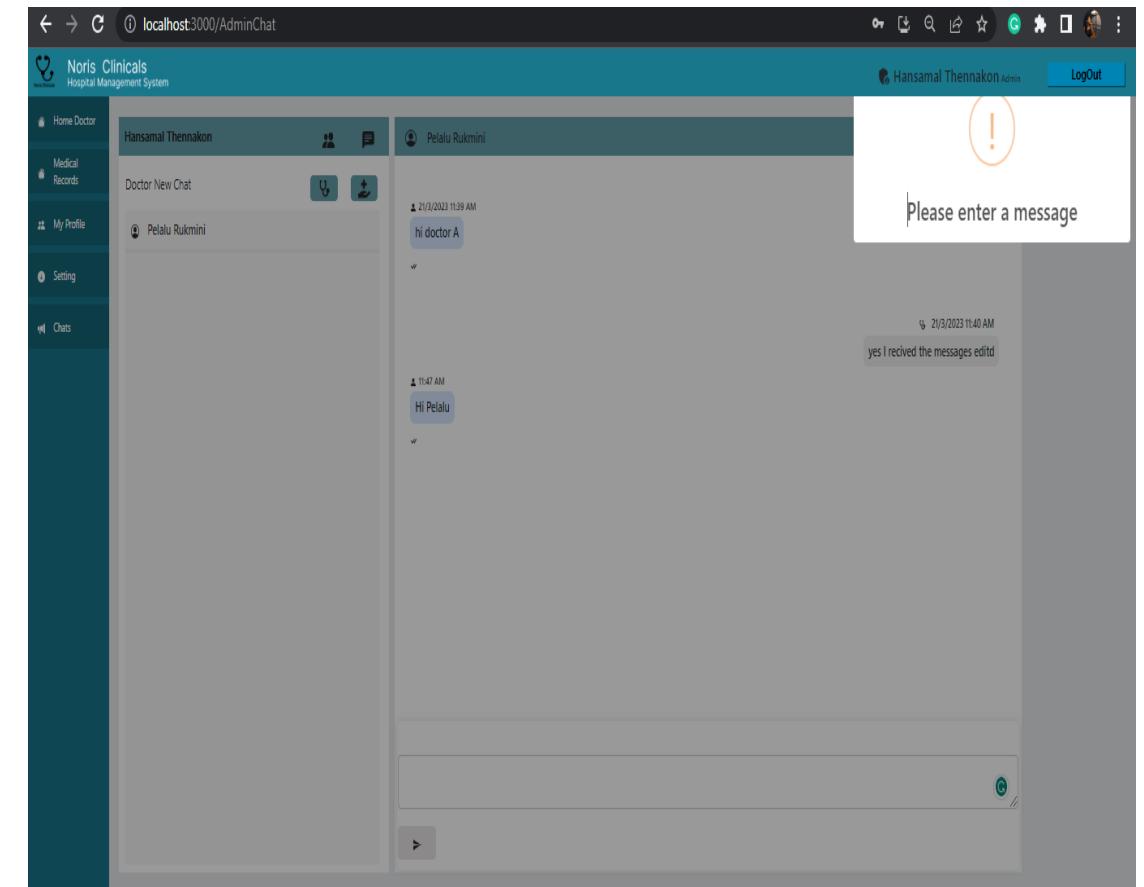
Delete

- Admin can delete the send messages



Validation

- Empty message will not be sent





Minor Staff



Functional Requirement



Assign Task



Leave apply



Non – Functional Requirements



Reliability



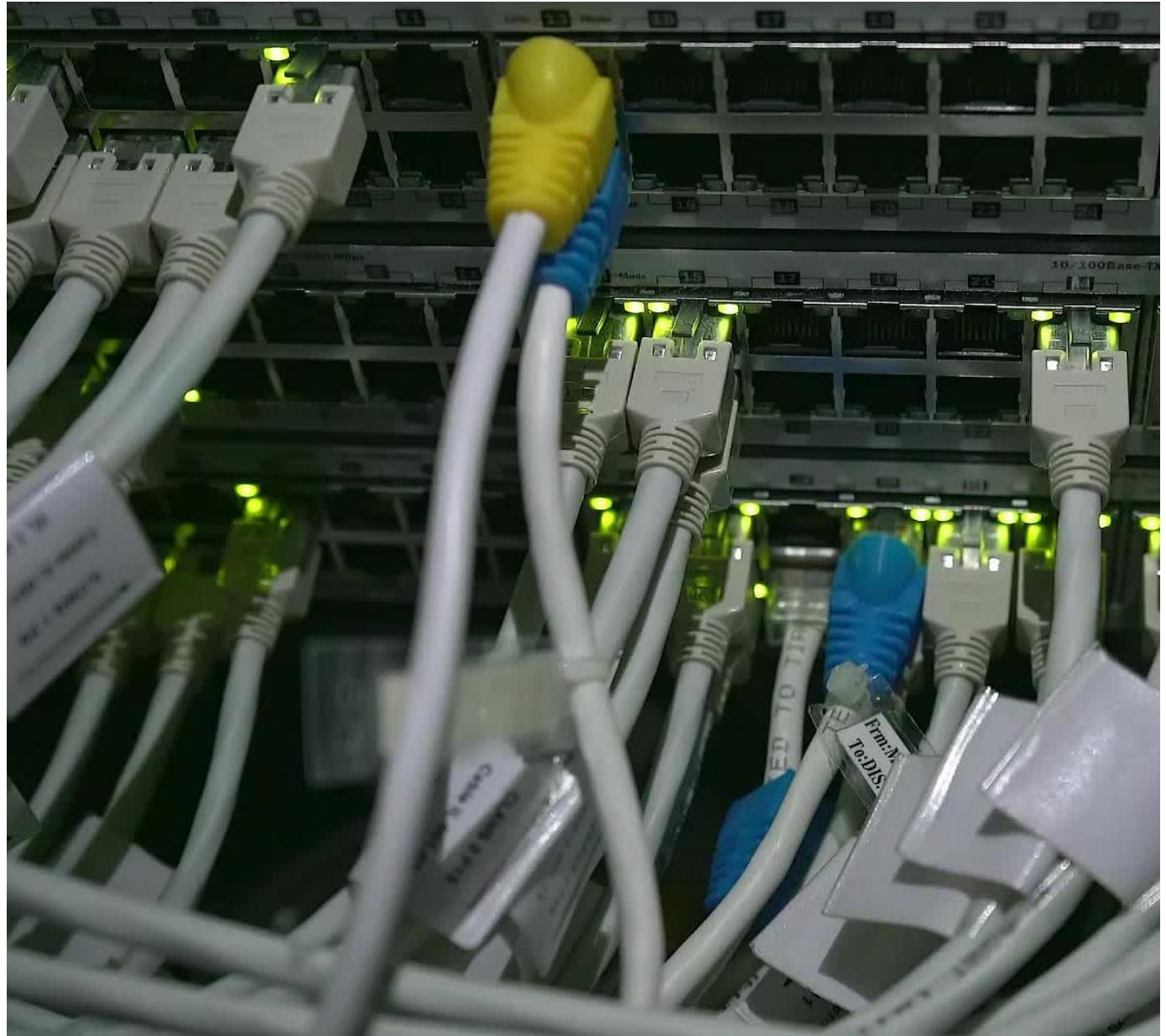
Security



Performance

Technical Requirement

- Data Backup and Recovery
- Performance
- secure



Users & their features

- Create : Create leave request and assign task records
- Read : view leave details, and staff information
- Update : update leave information
- Delete: Delete unnecessary data from the staff



Complete Features

- All Leaves

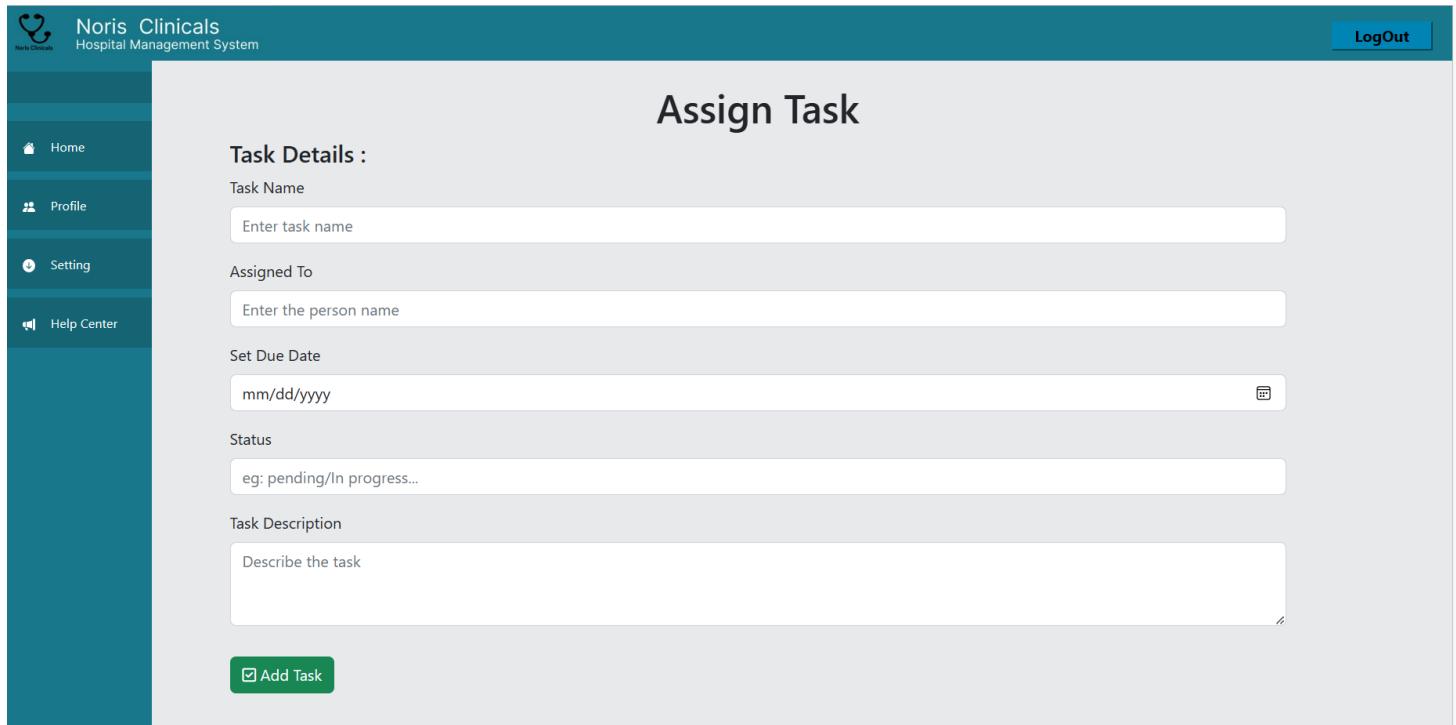
The screenshot shows the 'All Leaves' page of the Noris Clinicals Hospital Management System. The page has a dark teal header with the system name and a user profile. A sidebar on the left includes links for Home, Leave, Profile, Setting, and Chats. The main content area is titled 'All Leaves' and contains a table of leave requests. The table columns are: #, First Name, Email, Phone, Position, Department, Leave Date, Request For, Leave Type, and Action. There are four entries in the table:

| # | First Name | Email | Phone | Position | Department | Leave Date | Request For | Leave Type | Action |
|---|------------|---------------------------|--------------|--------------------|-----------------------------|------------|-------------|----------------|---|
| 1 | Sandunika | sanducamarakoon@gmail.com | 076 343 5633 | Physical Therapist | Physical Therapy Department | 2023-04-12 | Days | Vacation | <button>Update</button> <button>Delete</button> |
| 2 | Kanishka | kani@gmail.com | 072 456 5245 | doctor | Operation Theater | 2023-04-14 | Hours | Other | <button>Update</button> <button>Delete</button> |
| 3 | Nipuni | nipuni@gmail.com | 075 346 8719 | Surgeon | Emergency Department | 2023-04-28 | Hours | Personal Leave | <button>Update</button> <button>Delete</button> |
| 4 | Nikini | nikini@gmail.com | 075 347 5433 | doctor | ICU | 2023-04-17 | Hours | other | <button>Update</button> <button>Delete</button> |

At the bottom of the page are two green buttons: 'Create new Leave' and 'Print'.

Task UI

- Assign task form



The screenshot shows the 'Assign Task' form within the Noris Clinicals Hospital Management System. The interface has a dark teal header bar with the system name and a 'Logout' button. On the left is a vertical sidebar with icons for Home, Profile, Setting, and Help Center. The main content area is titled 'Assign Task' and contains a 'Task Details:' section with fields for Task Name, Assigned To, Set Due Date, Status, and Task Description. A green 'Add Task' button is at the bottom.

Noris Clinicals
Hospital Management System

Logout

Home

Profile

Setting

Help Center

Assign Task

Task Details :

Task Name

Assigned To

Set Due Date
 CALENDAR

Status

Task Description

Add Task

CRUD Operation

➤create

- ✓ Create leave request form
 - As a staff member he/she can fill this form

The screenshot shows the 'Request For Leave' page. At the top, there's a header with the Noris Clinicals logo and 'Hospital Management System'. On the left, a sidebar menu includes 'Home', 'Profile', 'Setting', and 'Help Center'. The main content area has a title 'Request For Leave' and a sub-instruction 'Request your leave details down below.' Below this, there are four sets of input fields with placeholder text and examples:

- * First Name: your first name / ex: name@gmail.com
- * Last Name: your last name / ex: doctor/nurse
- * Email: ex: name@gmail.com / ex: Operation theater
- * Phone No: 000 000 0000 / ex: Operation theater

Below these, there's a section titled 'Details of Leave' with three more input fields:

- * Leave Request For: ex: Days or Hours
- * Leave Type: Sick/Vacation...
- * Reason: Enter your reason

The screenshot shows the 'Details of Leave' page. At the top, there's a header with the Noris Clinicals logo and 'Hospital Management System'. On the left, a sidebar menu includes 'Home', 'Profile', 'Setting', and 'Help Center'. The main content area has a title 'Details of Leave' and several input fields:

- * First Name: your first name / ex: name@gmail.com
- * Last Name: your last name / ex: doctor/nurse
- * Email: ex: name@gmail.com / ex: Operation theater
- * Phone No: 000 000 0000 / ex: doctor/nurse
- * Position: ex: doctor/nurse / ex: Operation theater
- * Department: ex: Operation theater
- * Leave Date: mm/dd/yyyy

Below these, there are three more input fields:

- * Leave Request For: ex: Days or Hours
- * Leave Type: Sick/Vacation...
- * Reason: Enter your reason

A green 'Request Leave' button is located at the bottom right.

Add

- Staff members can add leave details successfully.

The screenshot shows a web application interface for 'Noris Clinicals Hospital Management System'. The left sidebar has links for Home, Profile, Setting, and Help Center. The main content area is titled 'Details of Leave' and contains fields for 'Leave Request For' (Hours), 'Leave Type' (Personal Leave), and 'Reason' (I have a personal medical appointment). A success message 'Add new leave successfully' is displayed in a modal window at the top right. The bottom right of the main area has a green 'Request Leave' button.

Noris Clinicals
Hospital Management System

localhost:3000 says
Add new leave successfully

* First Name: Nipun

* Phone No: 075 346 8719

* Position: Surgeon

* Department: Emergency Department

* Leave Date: 04/28/2023

Details of Leave

* Leave Request For: Hours

* Leave Type: Personal Leave

* Reason: I have a personal medical appointment

Request Leave

LogOut

Read Operation

- This dashboard displays all the data entered by the user

The screenshot shows a web-based application interface for a hospital management system. The top navigation bar is teal and features the logo 'Noris Clinicals' and 'Hospital Management System'. On the right side of the top bar, there is a profile icon with the name 'Supun Madhushanka Staff' and a 'LogOut' button. The main content area has a light gray background. On the left, there is a vertical sidebar with a dark teal header containing icons for 'Home', 'Leave', 'Profile', 'Setting', and 'Chats'. The main content area starts with the title 'Sandunika Samarakoon'. Below the title, there is a table-like structure displaying various details of a leave application:

| | |
|--------------------------|-----------------------------|
| Applicant's Email : | sanducsamarakoon@gmail.com |
| Applicant's Contact No : | 076 343 5633 |
| Applicant's Position : | Physical Therapist |
| Applicant's Department : | Physical Therapy Department |
| Date of Leave : | 2023-04-12 |
| Request For : | Days |
| Type of Leave : | Vacation |
| Reason for the Leave : | leave for a family vacation |

At the bottom of the content area, there are two blue buttons labeled 'Print' and 'Download'.

Update Operation

- User can update existing leave details.

The screenshot shows a user interface for a hospital management system. On the left is a sidebar with icons for Home, Profile, Setting, and Help Center. The main area has a teal header bar with the text "Noris Clinicals Hospital Management System". In the center, there's a form for updating leave details. The fields include "Phone No :" with the value "076 343 5633", "Position :" with the value "Physical Therapist", "Department :" with the value "Physical Therapy Department", "Leave Date:" with the value "04/12/2023", "Leave Request For :" with the value "Days", "Leave Type :" with the value "Vacation", and "Reason :" with the value "leave for a family vacation". At the bottom is a green button labeled "Update". A white modal window is displayed in the upper right, containing the text "localhost:3000 says" and "Leave Updated Successfully", with an "OK" button.

Delete Operation

- User can delete leave by clicking delete button.

The screenshot shows the 'All Leaves' page of the Noris Clinicals Hospital Management System. The page has a teal header with the logo and title. On the left is a sidebar with 'Home', 'Profile', 'Setting', and 'Help Center'. The main content area has a table titled 'All Leaves' with columns: First #, Name, Email, Phone, Position, Department, Leave Date, Request For, Leave Type, and Action. There are four rows of data:

| First # | Name | Email | Phone | Position | Department | Leave Date | Request For | Leave Type | Action |
|---------|-----------|----------------------------|--------------|--------------------|-----------------------------|------------|-------------|----------------|---|
| 1 | Buwani | sanducsamarakoon@gmail.com | 0865536546 | doctor | icu | 2023-04-13 | Days | Sick | <button>Update</button> <button>Delete</button> |
| 2 | Sandunika | sanducsamarakoon@gmail.com | 076 343 5633 | Physical Therapist | Physical Therapy Department | 2023-04-12 | Days | Vacation | <button>Update</button> <button>Delete</button> |
| 3 | Kanishka | kani@gmail.com | 072 456 5245 | doctor | Operation Theater | 2023-04-14 | Hours | Other | <button>Update</button> <button>Delete</button> |
| 4 | Nipuni | nipuni@gmail.com | 075 346 8719 | Surgeon | Emergency Department | 2023-04-28 | Hours | Personal Leave | <button>Update</button> <button>Delete</button> |

A modal dialog box is overlaid on the page, displaying the message "localhost:3000 says Delete Successfully" with an "OK" button.

Validate

- User should be required to fill in all the fields for add leave records to the system.

The screenshot shows the 'Request For Leave' page of the Noris Clinicals Hospital Management System. The page has a teal header with the logo and name 'Noris Clinicals Hospital Management System'. On the right side of the header is a 'LogOut' button. The main content area has a title 'Request For Leave' and a subtitle 'Request your leave details down below.' Below the subtitle are three input fields for 'First Name', 'Last Name', and 'Email', each with a placeholder and a red error message indicating it is required. There are also fields for 'Phone No.', 'Position', and 'Department', each with a placeholder and a red error message. A 'Leave Date' field contains the value '04/19/2023'. Below this is a section titled 'Details of Leave' with fields for 'Leave Request For' (placeholder 'ex: Days or Hours', error message 'requestfor' is required), 'Leave Type' (placeholder 'Sick'), and 'Reason' (placeholder 'medical problem').

Search Leave

- Staff members can search for any leave by typing the leave name

The screenshot shows the 'All Leaves' page of the Noris Clinicals Hospital Management System. The page has a teal header bar with the system name and a user profile. A sidebar on the left contains links for Home, Leave, Profile, Setting, and Chats. The main content area is titled 'All Leaves' and displays a table of leave requests. The table columns are: #, First Name, Email, Phone, Position, Department, Leave Date, Request For, Leave Type, and Action. One row is visible for Sandunika, a Physical Therapist in the Physical Therapy Department, requesting vacation on 2023-04-12. Buttons for 'Create new Leave' and 'Print' are at the bottom.

| # | First Name | Email | Phone | Position | Department | Leave Date | Request For | Leave Type | Action |
|---|------------|----------------------------|--------------|--------------------|-----------------------------|------------|-------------|------------|---|
| 1 | Sandunika | sanducsamarakoon@gmail.com | 076 343 5633 | Physical Therapist | Physical Therapy Department | 2023-04-12 | Days | Vacation | <button>Update</button> <button>Delete</button> |

Print

- By clicking the print button user can print leave details

The screenshot shows a leave application form for Sandunika Samarakoon. The form includes fields for applicant details, leave dates, and reason. A print dialog box is overlaid on the page, showing settings like 'AnyDesk Printer' and '1 copy'. The print button in the dialog is highlighted.

Sandunika Samarakoon

Applicant's Email : sanducsamarakoon@gmail.com
Applicant's Contact No : 076 343 5633
Applicant's Position : Physical Therapist
Applicant's Department : Physical Therapy Department
Date of Leave : 2023-04-12
Request For : Days
Type of Leave : Vacation
Reason for the Leave : leave for a family vacation

Print **Download**

Print **Total: 1 sheet of paper**

Printer: AnyDesk Printer

Copies: 1

Layout:
Portrait (radio button)
Landscape (radio button, selected)

Pages:
All (radio button)
e.g. 1-5, 8, 11-13 (text input)

Color: Color

More settings ▾

Print **Cancel**

Generate Report

- Clicking the download button user can download the leave details.

The screenshot shows a web-based hospital management system interface. The top navigation bar is teal with the title "Noris Clinicals Hospital Management System". On the left, there is a vertical sidebar with icons for Home, Leave, Profile, Setting, and Chats. The main content area displays a leave application for "Sandunika Samarakoon". The application details are as follows:

| Field | Value |
|--------------------------|-----------------------------|
| Applicant's Email : | sanducsamarakoon@gmail.com |
| Applicant's Contact No : | 076 343 5633 |
| Applicant's Position : | Physical Therapist |
| Applicant's Department : | Physical Therapy Department |
| Date of Leave : | 2023-04-12 |
| Request For : | Days |
| Type of Leave : | Vacation |
| Reason for the Leave : | leave for a family vacation |

At the bottom of the application form, there are two buttons: "Print" and "Download". A mouse cursor is hovering over the "Download" button. In the top right corner of the main window, there is a "Downloads" panel. This panel shows a single file entry: "Sandunika_Samarakoon_data.txt" with an "Open file" link. There is also a "See more" link in the panel.



Appointment Scheduling Management System(Patients)

Functional Requirement

- Login to the system
- User interface
- Appointment management



Non- Functional Requirements



Security



Usability



Accuracy



Performance

Technical Requirement

- Frontend
- Backend
- Database management
- Programming language and platform





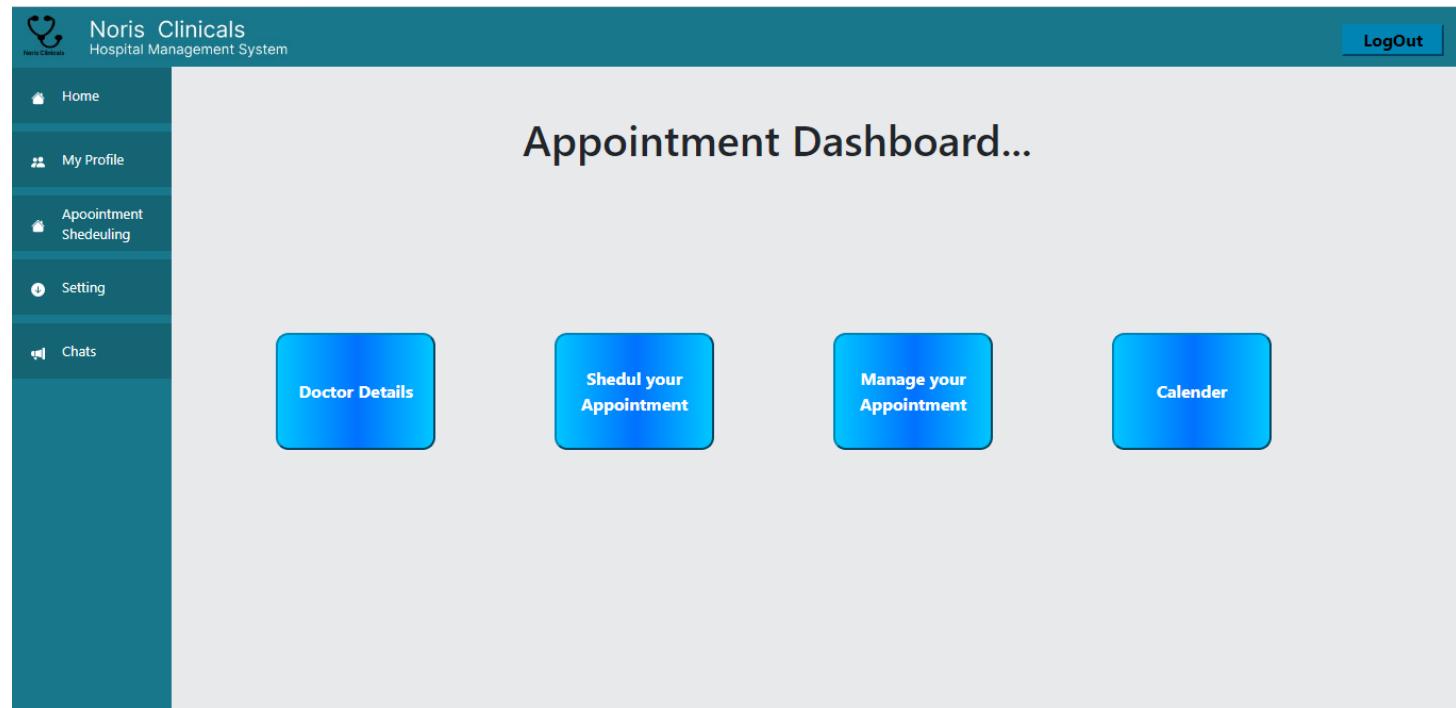
Users & their features

- Create : Patients create appointment.
- Read : View patients' information.
- Update : Patients update their appointment.
- Delete : Patients Delete their appointment.

Complete Features

➤ Appointment Dashboard

- When patient login to the system can navigates to doctor details, appointment scheduling, manage appointment and calendar by clicking those buttons



Noris Clinicals
Hospital Management System

Logout

Home Profile Setting Help Center

| | | | |
|---|--|---|--|
| Name: Dr.Sandunika Samarakoon | Mobile: 0763435633 Email: sandunika@gmail.com | Name: Dr.Nikini Abeywikkrama | Mobile: 0701539773 Email: nikini@gmail.com |
| ID: D005 Gender: Female NIC: IT21072888 | PID: D006 Gender: Female NIC: IT21473524 | Specialized: Cardiologists Specialized: Endocrinologists | |
| Name: Dr.K.S.PERERA | Mobile: 0773087693 Email: kanishka@gmail.com | Name: Dr.Tharani De silva | Mobile: 0701539773 Email: tharani@gmail.com |
| ID: D007 Gender: Male NIC: IT21202254 | PID: D008 Gender: Female NIC: IT21219702 | Specialized: Gastroenterologists Specialized: Endocrinologists | |

Noris Clinicals
Hospital Management System

Logout Back

Home My Profile Apointment Schedueling Setting Chats

Doctor Details :

| | | | |
|---|--|---|--|
| Name: Dr.Githma Kulasekara | Mobile: 0766481411 Email: githma@gmail.com | Name: Dr.Oshitha Senarathna | Mobile: 0701739381 Email: oshitha@gmail.com |
| ID: D001 Gender: Male NIC: IT21279898 | Specialized: Allergists | ID: D002 Gender: Male NIC: IT21196706 | Specialized: Dermatologists |
| Name: Dr.Indusha Jayasinha | Mobile: 0771893910 Email: indusha@gmail.com | Name: Dr.Nipuni Harishchandra | Mobile: 0715235925 Email: nipuni@gmail.com |
| ID: D003 Gender: Female | Specialized: gynecologists | ID: D004 Gender: Female | Specialized: gynecologists |

➤ Doctor Details Page

- Patient can get the doctor details for schedule their appointment.

❖Crud Operation

➤Create Operation

- Patient can fill their own details and create appointment.

The screenshot shows the 'Appointment Scheduling' page of the Noris Clinicals Hospital Management System. The page has a teal header with the logo and name 'Noris Clinicals Hospital Management System'. On the right side of the header is a 'LogOut' button. The main content area has a light gray background. At the top center, it says 'Appointment Scheduling.' Below that, there are two sections: 'Personal Details:' and 'About Appointment:'. The 'Personal Details:' section contains fields for First Name, Last Name, Phone No, Age, Gender, and Email, each with a placeholder text like 'your first name' or 'your email address'. The 'About Appointment:' section contains fields for Doctor Name, Appointment Date, Appointment Time, and Description about diagnosis, with placeholders like 'doctor name' and 'mm/dd/yyyy'. At the bottom right is a blue 'submit' button.

➤ Read Operation

- Patient can view all appointments details that they scheduled.

The screenshot shows a user interface for a hospital management system. At the top, there is a header bar with the logo 'Noris Clinicals' and the text 'Hospital Management System'. On the right side of the header is a 'Logout' button. Below the header is a sidebar with the following menu items: 'Home' (with a house icon), 'My Profile' (with a person icon), 'Apointment Schedueling' (with a calendar icon), 'Setting' (with a gear icon), and 'Chats' (with a speech bubble icon). The main content area displays a patient profile for 'kanishka perera'. The profile information includes:

- Patient Contact : 0773087693
- Patient Age : 23
- Patient Gender : gender
- Patient Email : kanishka@gmail.com
- Address : 535/3 delgaha watta road wanwasala kelaniya
- Doctor's Name : githma
- Appointment Date of Patient : 2023-04-29
- Appointment time of Patient : 15:14
- Description of Diagnosis : sick

A blue 'Print' button is located at the bottom left of the profile section.



➤ Update Operation

- Patient can update existing appointment details by clicking edit button.

The screenshot shows the 'Update Appointment Details' page of the Noris Clinicals Hospital Management System. The top navigation bar includes the logo 'Noris Clinicals Hospital Management System' and a 'LogOut' button. On the left is a vertical sidebar with icons for Home, Profile, Setting, and Help Center. The main content area is titled 'Update Appointment Details' and contains five input fields: 'First Name' (placeholder 'your first name'), 'Last Name' (placeholder 'your last name'), 'Phone No.' (placeholder 'your contact no'), 'Age' (placeholder 'your age'), and 'Gender' (placeholder 'Male/female'). A 'Back' button is located in the top right corner of the content area.

The screenshot shows the 'Update Appointment Details' page with various fields populated. The 'Gender' field contains 'male', the 'Email' field contains 'kanishkashemalperera@gmail.com', the 'Address' field contains '535/3 delgawaththa road', the 'Doctor Name' field contains 'githma', the 'Appointment Date' field contains '29/04/2023', the 'Appointment Time' field contains '21:59', and the 'Description about diagnosis' field contains 'sick'. At the bottom right is a green 'Update' button.

➤ Delete Operation

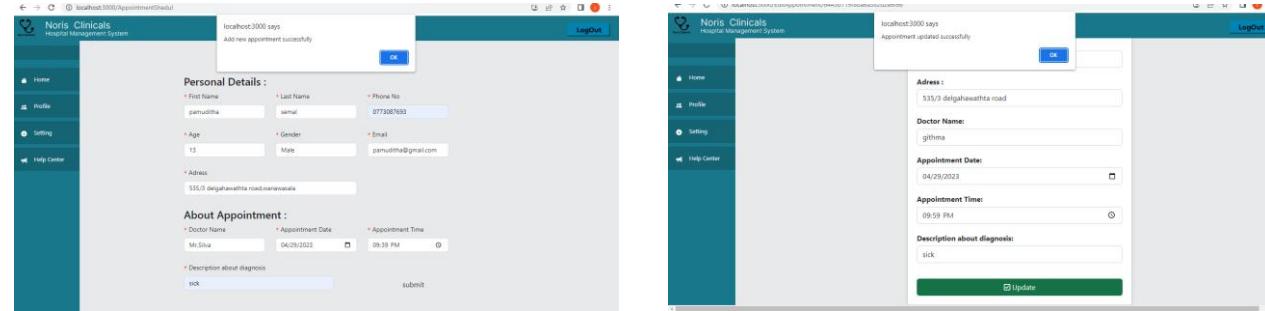
- Patient can delete unwanted appointment.

The screenshot shows the 'Noris Clinicals Hospital Management System' interface. On the left, a sidebar menu includes Home, My Profile, Appointment Scheduling, Setting, and Chats. The main content area is titled 'All Appointments...'. A search bar is at the top. Below it is a table with columns: #, Name, Phone, Email, Doctor, Date, Time, and Action. The table contains five rows of appointment data. Each row has 'Update' and 'Delete' buttons. A success message box is overlaid on the page, stating 'localhost:3000 says Delete Successfully' with an 'OK' button. In the top right corner of the main content area, there is a 'LogOut' link.

| # | Name | Phone | Email | Doctor | Date | Time | Action |
|---|----------|------------|--------------------|----------|------------|-------|---|
| 1 | kanishka | 0773087693 | kanishka@gmail.com | githma | 2023-04-29 | 15:14 | <button>Update</button> <button>Delete</button> |
| 2 | kanishka | 0773087693 | kanishka@gmail.com | githma | 2023-04-29 | 15:27 | <button>Update</button> <button>Delete</button> |
| 3 | kanishka | 0773087693 | kanishka@gmail.com | githma | 2023-04-29 | 07:25 | <button>Update</button> <button>Delete</button> |
| 4 | jasintha | 0773087693 | jasintha@gmail.com | kanishka | 2023-04-29 | 18:12 | <button>Update</button> <button>Delete</button> |
| 5 | kanishka | 0773087693 | kanishka@gmail.com | githma | 2023-04-29 | 17:08 | <button>Update</button> <button>Delete</button> |

Validation

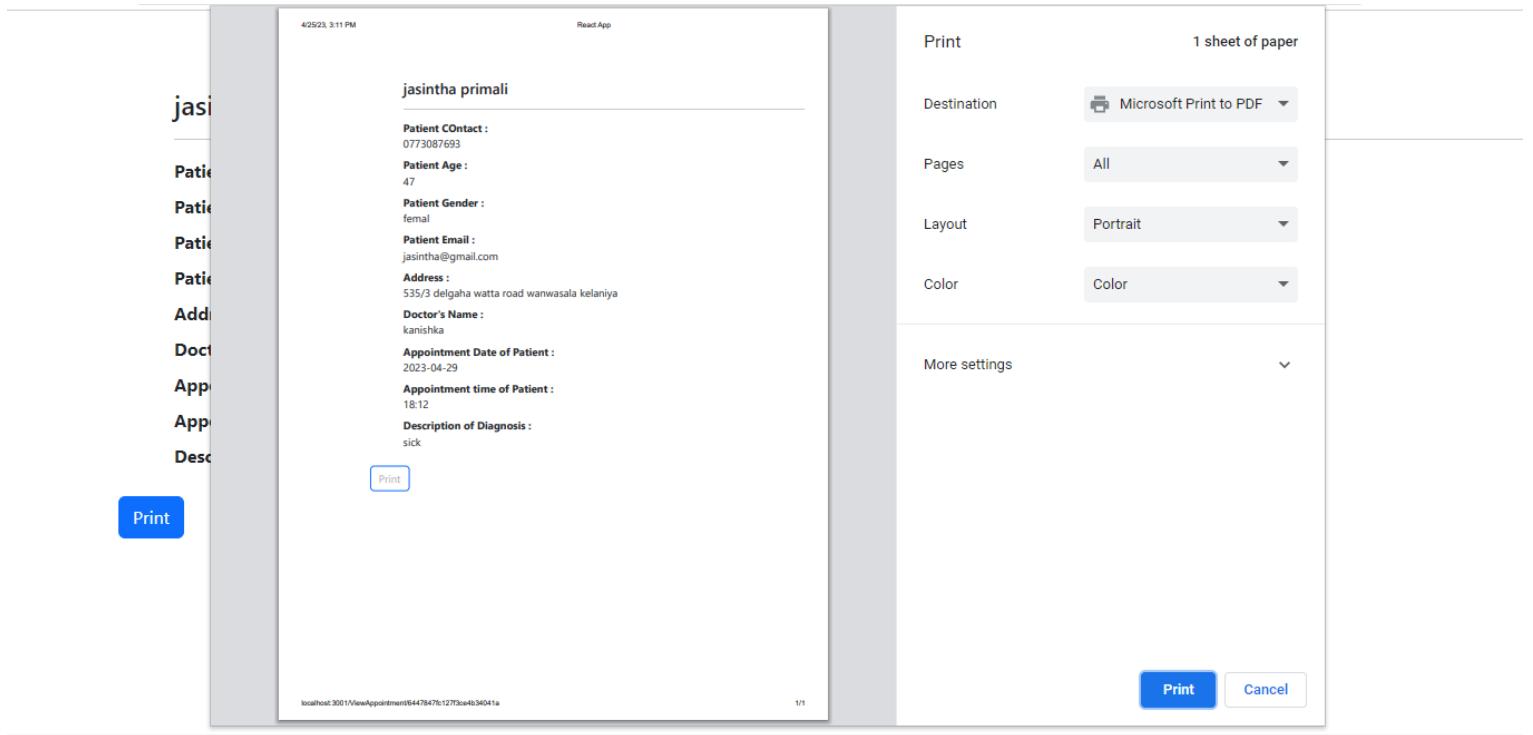
- Patient should be required to fill all the details for successfully create an appointment.
- System generate alert message for successfully adding, updating and deleting.



This screenshot shows the 'Appointment Scheduling' page with validation errors. The 'First Name' field is highlighted in red with the error message "'firstName' is required". The 'Last Name' field is also highlighted in red with the error message "'lastName' is required". The 'Phone No' field is highlighted in red with the error message "'phone' is required". Other fields like 'Address' and 'About Appointment' have their own validation messages.

Generate Report

Patient can generate scheduled appointment report by clicking print button.



Payroll Management System



Functional Requirement

- Calculate the salary and tax
- Expense Management and Processing
- Generate monthly reports



Non – Functional Requirements

- Scalability
- Integration
- Security
- Compliance





Technical Requirement

- Data backup
- Database
- Automation

Users & their features

- Create – Add a new employee to the system
- Read – View an employee's payroll information
- Update – Modify payroll information
- Delete – To remove an employee from the system

Complete Features

- Crud Operations
 - Create function
 - Admin can enter salary details click the add salary button to submit.

Noris Clinics Hospital Management System

Hansamal Thennakon Admin LogOut

Manage Salary

Add employee details down below.

* Full name
Name with initials

* Position ex: doctor/nurse Year Month

Earnings

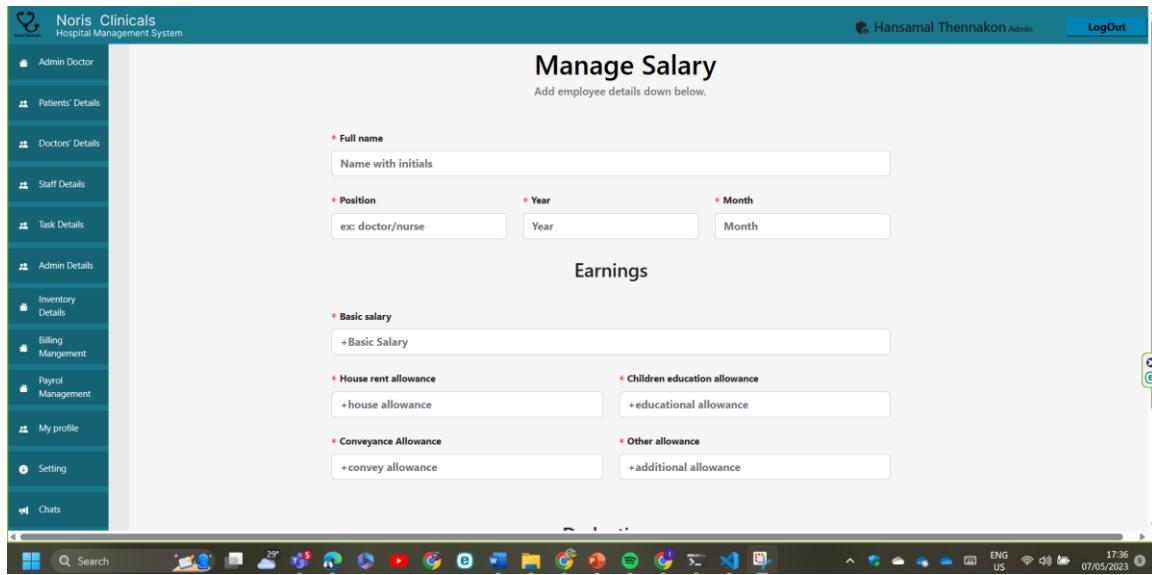
* Basic salary +Basic Salary

* House rent allowance +house allowance Children education allowance +educational allowance

* Conveyance Allowance +convey allowance Other allowance +additional allowance

Admin Doctor Patients' Details Doctors' Details Staff Details Task Details Admin Details Inventory Details Billing Management Payrol Management My profile Setting Chats

Search



Noris Clinics Hospital Management System

Hansamal Thennakon Admin LogOut

Earnings

* Position ex: doctor/nurse Year Month

* Basic salary +Basic Salary

* House rent allowance +house allowance Children education allowance +educational allowance

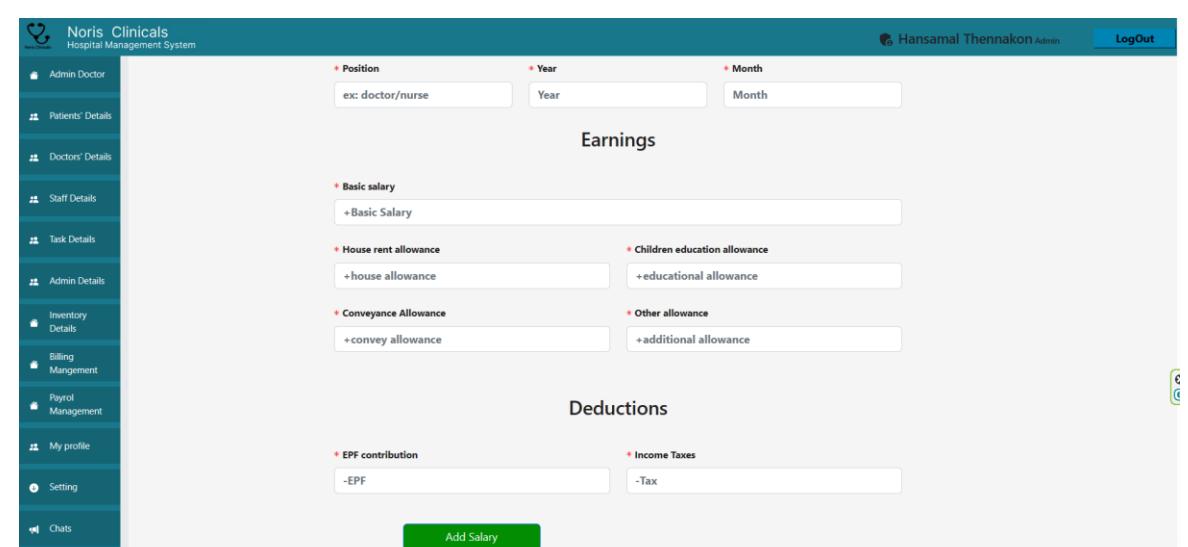
* Conveyance Allowance +convey allowance Other allowance +additional allowance

Deductions

* EPF contribution -EPF Income Taxes -Tax

Add Salary

Admin Doctor Patients' Details Doctors' Details Staff Details Task Details Admin Details Inventory Details Billing Management Payrol Management My profile Setting Chats



- Read function
 - This page is to admin can read the all salary details

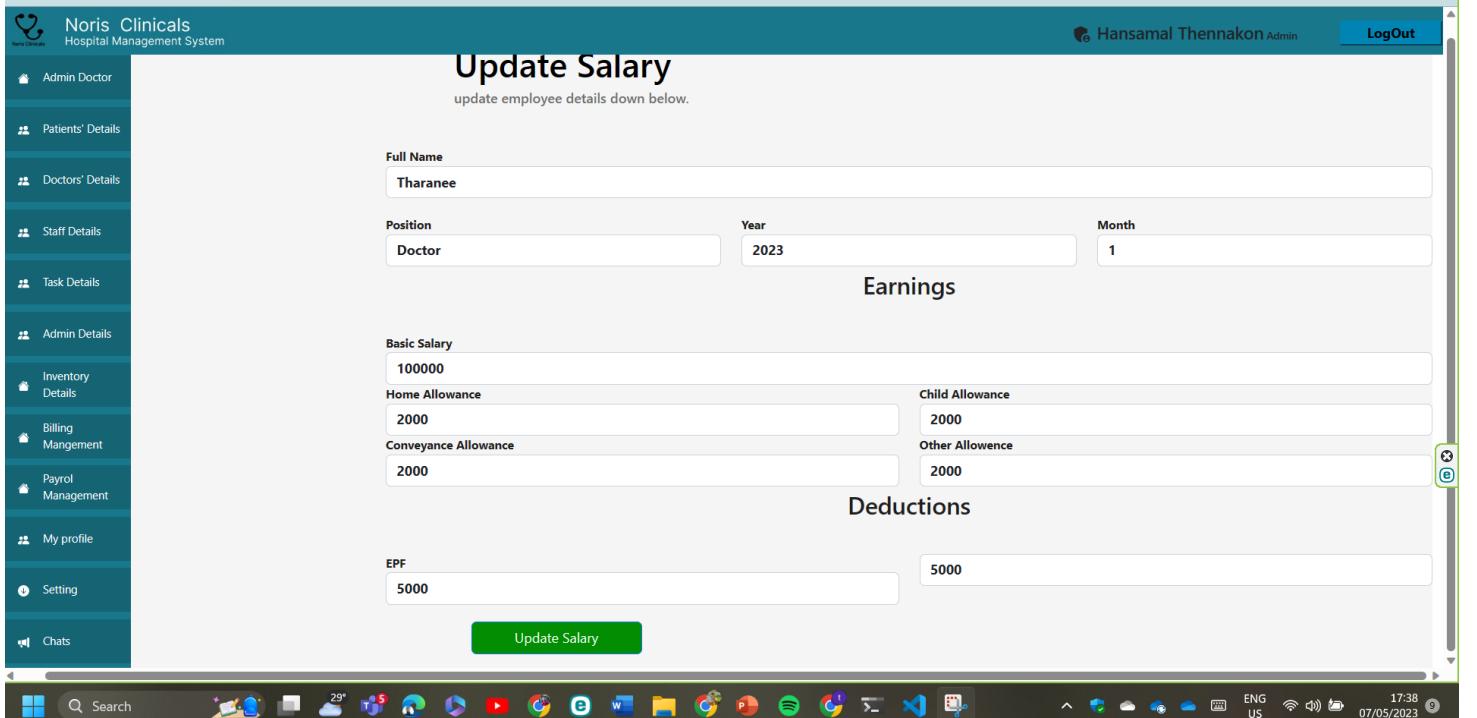
The screenshot shows a web browser window for the 'Noris Clinics Hospital Management System'. The title bar indicates the URL is 'localhost:3000/SalaryDashboard'. The top navigation bar includes links for Acer, Playground - Open..., Google Translate, netexam, ITP- IT2080, DSA - IT2070, ESD- IT2100, MAD- IT2010, P & S- IT2110, PS - IT2090, LMS, Reference Generator, ZeroGPT - Chat GP..., and a user profile for 'Hansamal Thennakon Admin' with a 'LogOut' button.

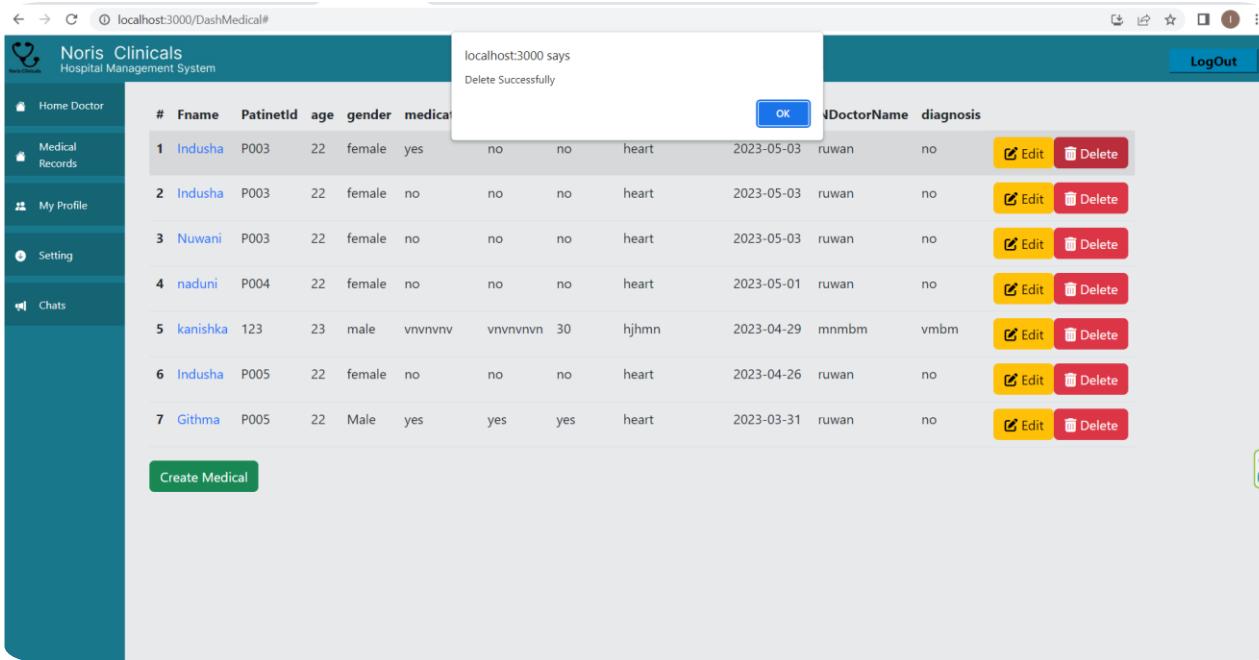
The main content area is titled 'All Salary Details' and features a search bar. Below it is a table with a green header titled 'Add Salary'. The table has columns for #, Name, position, month, year, BasicSal, Rent Alw, Education Alw, Conveye Alw, Other Alw, EPF, Tax, Net Sal, and Action. There are four rows of data:

| # | Name | position | month | year | BasicSal | Rent Alw | Education Alw | Conveye Alw | Other Alw | EPF | Tax | Net Sal | Action |
|---|-----------|----------|-------|------|----------|----------|---------------|-------------|-----------|-------|------|---------|---|
| 1 | Tharanee | Doctor | 1 | 2023 | 100000 | 2000 | 2000 | 2000 | 2000 | 5000 | 5000 | 98000 | <button>Edit</button> <button>Delete</button> |
| 2 | Buwani | Nurse | 2 | 2023 | 50000 | 20000 | 20000 | 30000 | 13200 | 5000 | 6000 | 122200 | <button>Edit</button> <button>Delete</button> |
| 3 | Sandunika | Doctor | 3 | 2023 | 100000 | 12000 | 45000 | 54000 | 20000 | 10000 | 3000 | 218000 | <button>Edit</button> <button>Delete</button> |
| 4 | Nipuni | Nurse | 4 | 2023 | 90000 | 45000 | 45000 | 65000 | 12000 | 450 | 8500 | 248050 | <button>Edit</button> <button>Delete</button> |

At the bottom left of the table area is a blue 'Download Report' button.

- Update function
 - Admin can update salary details by clicking edit button.
 - And update salary button used to new salary details to the system.





- Delete function
 - Admin can Delete expired details and retired employee salary details.

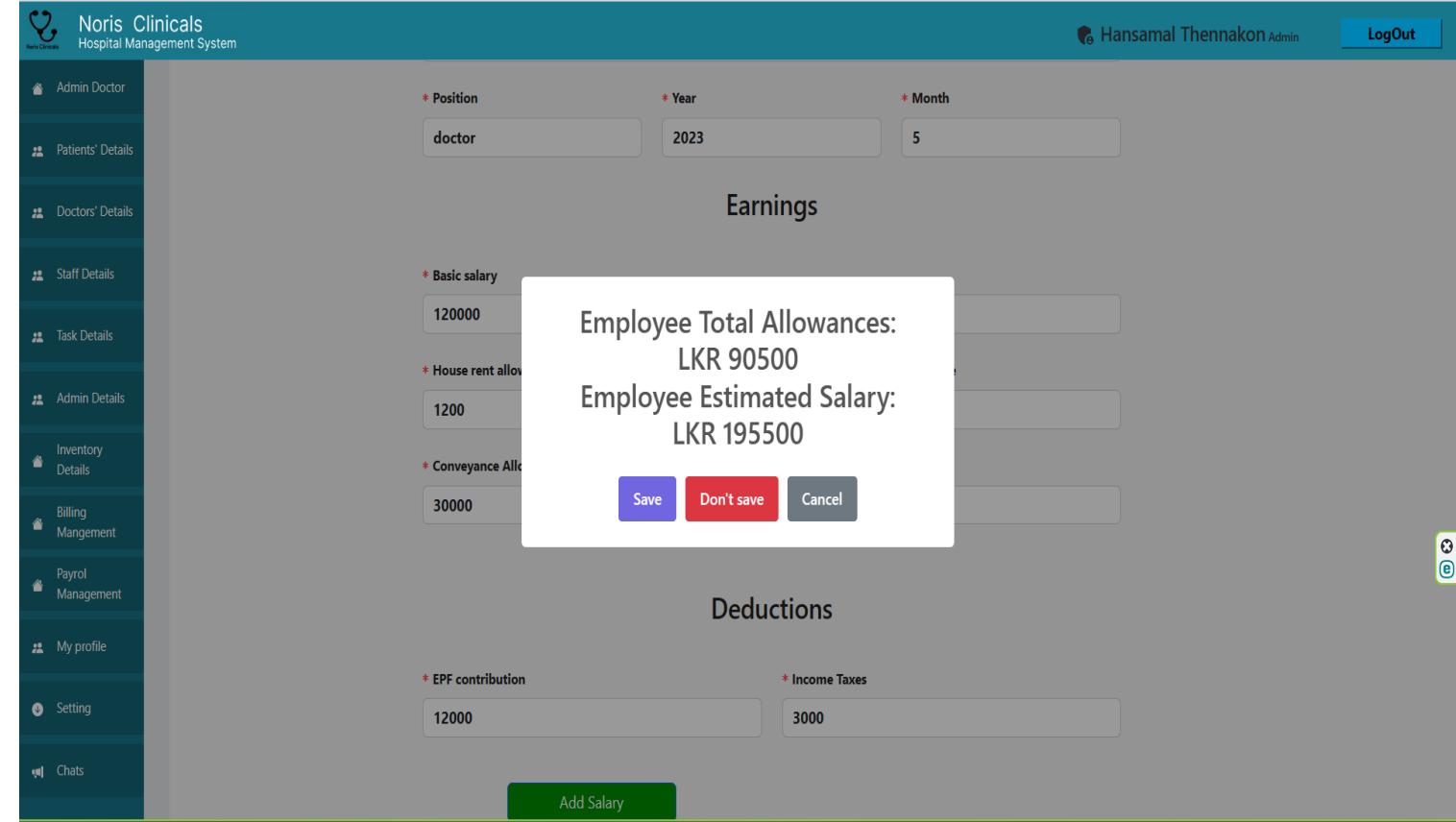
- Search function
 - Admin can search specific employee salary details by using search bar function.

The screenshot shows the 'All Salary Details' page of the Noris Clinicals Hospital Management System. The page has a teal header with the logo 'Noris Clinicals Hospital Management System' and a user menu on the right. The main content area has a title 'All Salary Details' and a search bar containing the letter 'b'. Below the search bar is a green button labeled 'Add Salary'. A table displays salary details for one employee:

| # | Name | position | month | year | BasicSal | Rent Alw | Education Alw | Conveye Alw | Other Alw | EPF | Tax | Net Sal | Action |
|---|--------|----------|-------|------|----------|----------|---------------|-------------|-----------|------|------|---------|---|
| 1 | Buwani | Nurse | 2 | 2023 | 50000 | 20000 | 20000 | 30000 | 13200 | 5000 | 6000 | 122200 | <button>Edit</button> <button>Delete</button> |

Below the table is a blue button labeled 'Download Report'. On the far right of the page, there are two small circular icons with 'X' and 'E' symbols.

- **Salary Calculation**
- Calculate the net salary adding the allowances and deducting the taxes to the basic salary.



Reference

- Technology, T.C.S. (2020) The functional and nonfunctional requirement for HMS, Hospital Management Software in Pune - 9765311999. Available at: <https://hospitalmanagementsoftwareinpune.wordpress.com/2020/11/27/the-functional-and-nonfunctional-requirement-for-hms/> (Accessed: February 24, 2023).
- Behara, G. (2014) Hospital Management System a project report submitted in partial fulfillment of the requirements for the award of the, Academia.edu. Available at: https://www.academia.edu/7149341/HOSPITAL_MANAGEMENT_SYSTEM_A_PROJECT_REPORT_Submitted_in_Partial_Fulfillment_of_the_requirements_for_the_Award_of_the (Accessed: February 24, 2023).



Thank you !