Shift Handover Application for Nurses

Submitted in partial fulfillment of the requirements of the degree

BACHELOR OF ENGINEERING IN INFORMATION TECHNOLOGY

By

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(AY 2020-21)

CERTIFICATE

This is to certify that the Project entitled "Shift Handover Application for Nurses" is a bonafide work of **Nipane Aryan Sanjay (42), Pawar Herschel Pravin (54), Raj Aditya Krishna (69), Rathod Chandan Sudhir (72)** submitted to the University of Mumbai in partial fulfillment of the requirement for the award of the degree of "Bachelor of Engineering" in "Information Technology".

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PROJECT APPROVAL

This Project entitled "Shift Handover Application for Nurses" by **Nipane Aryan Sanjay (42), Pawar Herschel Pravin (54), Raj Aditya Krishna (69), Rathod Chandan Sudhir (72)** is approved for the degree of Bachelor of Engineering in Information Technology.

Examiners

1) _____
(Internal Examiner Name & Sign)

2) _____
(External Examiner Name & Sign)

Date:
Place: MGMCET, Kamothe

CONTENTS

LETTER OF TRANSMITTAL

This report is about our SHAN: Shift Handover Application for Nurses project. It contains all of the project's necessary data.

The article was written to give all of the necessary facts and information for anyone to rebuild or improve our product on their own. It provides critical information about the project's essential structure as well as sufficient information to alter the project to whatever demands may arise. The primary goal of the project was to assist nurses in rapidly passing information to the next nurse that arrived and to have a dependable source of information should the need arise.

Please contact us if you have any more queries or would want me to give additional analysis. Thank you for reading the study and making recommendations. We look forward to hearing from you.

Sincerely,

SHAN Team

ACKNOWLEDGEMENT

The success and final outcome of this project required a lot of guidance and assistance from many people and we are extremely fortunate to have got this all along the completion of our project work. Whatever we have done is only due to such guidance and assistance and we would not forget to thank them.

It is matter of great pleasure for us to submit the project report on “Shift Handover Application for Nurses”, as a part of our curriculum.

We would like to thank our HOD, Dr. Swati Sinha, for allowing us to work on this paper. We would like to express our gratitude to our Director, Dr. Geeta Lathkar, who has significantly inspired and encouraged us. It was a pleasure to collaborate on the report with our Vice Principal, Dr. V.G. Sayagavi.

Last but not least, a special thanks goes to my team members, who assisted me in gathering material and making recommendations to help us finish our project.

ABSTRACT

Shift Handover Application for Nurses is a JavaScript-based tool. This project divides its user types primarily into two groups: nurses and administrators. This initiative will assist nurses in saving energy and time when changing shifts. The data is automatically saved and retrieved, eliminating the need for nurses to spend extra time discussing patient changes.

LIST OF TABLES

Introduction

Nurses have a difficult task in treating patients. They frequently supervise 30 or more patients. They must remember all of the medications they supplied to the patients, as well as all of the processes they performed, such as changing saline, measuring blood pressure and temperature, and several other jobs, in addition to always recording them so they do not give out incorrect information.

There is a need to digitize this procedure and employ new technologies to reduce their workload. The project intends to do the same thing.

Feasibility Study

The following feasibility studies were conducted

1) Technical feasibility
   a) Technical: Hardware and software
   b) Existing or new technology
   c) Manpower
   d) Site analysis
   e) Transportation
2) Financial feasibility
   a) Initial investment
   b) Resources to procure capital: Banks, investors, venture capitalists
   c) Return on investment
3) Market feasibility
   a) Type of industry
   b) Prevailing market
   c) Future market growth
   d) Competitors and potential customers
   e) Projection of sales
4) Organizational feasibility
   a) The organizational structure of the business
   b) Legal structure of the business or the specific project
   c) Management team's competency, professional skills, and experience

It was discovered that the project is technically possible, financially viable, has a market, and the program is simple to use.

Hardware And Software Requirements

- Hardware Requirement:
  - CPU
    - Intel Xeon E3-1245 v2 (4c/8t, 3.40GHz)
  - RAM
    - 8GB
  - Storage
    - At least 30GB
  - Networking
    - At least 100mbps up and down
- Software requirement:
  - OS
    - Linux or Windows
  - Node.JS and NPM
  - The whole software stack
  - Version control
    - Git

System Purpose

Our software's objective is to save data (for example, patient details, vital signs, rhythm, and so on) and then provide it to the nurse and doctor. This not only saves time by not having to perform all of the work manually, but it also makes it easier because the data is saved with timestamps and the nurse's details. Instead of keeping notes, nurses may focus on working hard and providing excellent care to their patients. Our program reduces the amount of communication required while changing shifts.

Scope

This project's scope is fairly broad since a similar system may be utilized for other wards and data recording as well. Among them are:

- It is simple to use in prosthetics training for measuring progress.
- It employs safe techniques of storing and retrieving passwords and is faster than spoken communication.
- It is more precise since it uses timestamps.

Features

- safe
- simple to use
- dependable
- data exportable

Overview

The following user kinds and functionalities are accessible in the software.

- Superadmin
  - Administrators are added by the Superadmin
- Admin
  - Administrators add nurses
- Nurse
  - Enter patient information
  - Access patient details
  - Edit patient details

Technologies Used

- backend
  - bcryptjs
    - storing and retrieving passwords
  - cookie-parser
    - Parsing cookies
  - cors
    - Cross-Origin Resource Sharing
  - dotenv
    - load environment variables from `.env` file
  - express
    - node js web application framework that provides broad features for building web and mobile applications
  - mongoose
    - manipulates the documents of the collection of the MongoDB database
  - swagger-ui-express
    - generate API docs
  - yamljs
    - YAML parser and encoder
- frontend
  - react
    - component-based front-end library responsible for the view layer of the application
  - react-bootstrap
    - CSS styling library used for react
  - react-router-dom
    - routing pages properly
  - react-redux
    - used for building the user interface
  - axios

        - promise based HTTP client for the browser and Node.js
- MongoDB
    - Database for storing all the information

EXISTING SYSTEM

You may do it the old-fashioned way with paper and ink, or you can create specialized software for each facility. Some large hospitals are already in the process of digitizing their systems.

DISADVANTAGES OF CURRENT SYSTEM

1) The existing system is time-consuming and inefficient.
2) It necessitates the nurse physically recalling all of the patients' information and relaying it to the other nurse.
3) They can forget some little facts, which could lead to issues later on.

CHARACTERISTICS OF THE PROPOSED SYSTEM

Our program outperforms the present system in the following ways.

1) It takes less time.
2) The nurses merely need to enter the information by phone or computer.
3) It is quite effective.
4) If you use the website, you do not need to install anything.

FLOWCHART

Figure 1: Main Process

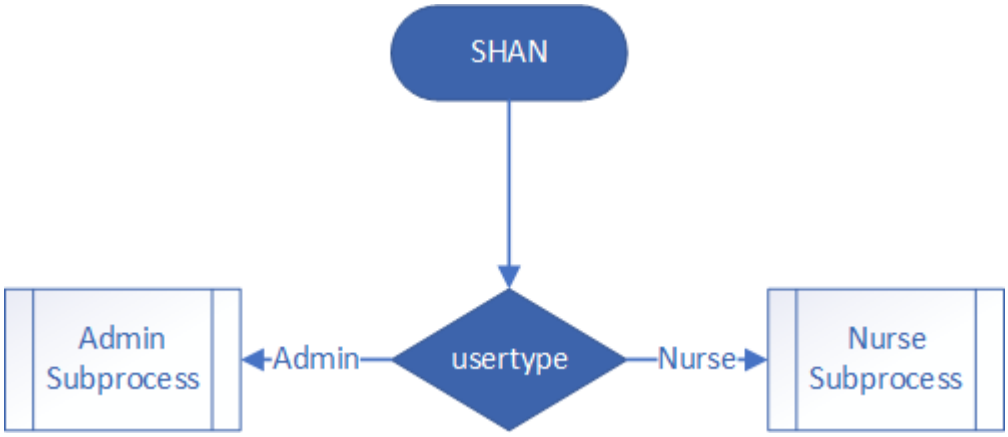


Figure 2: Admin Subprocess

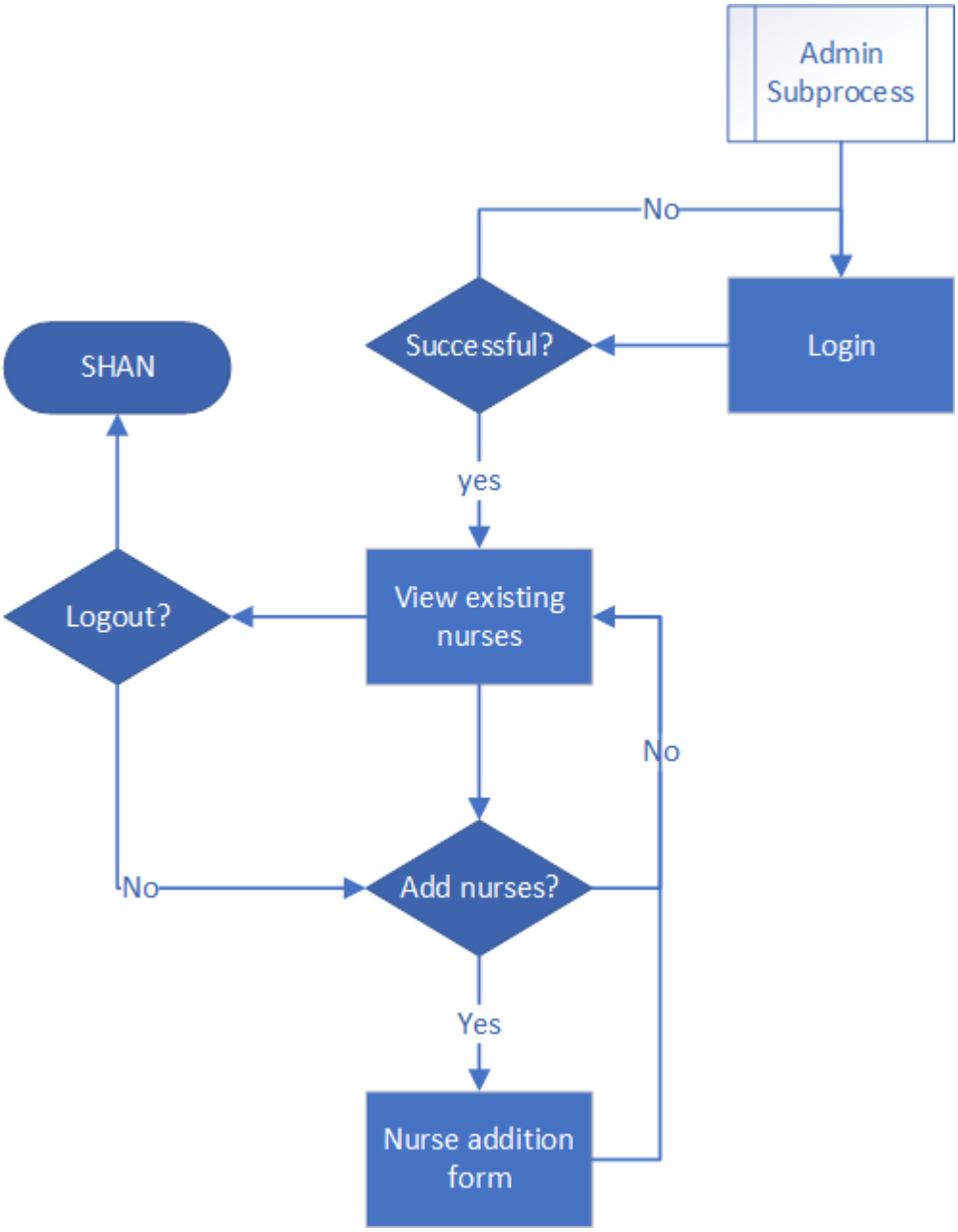
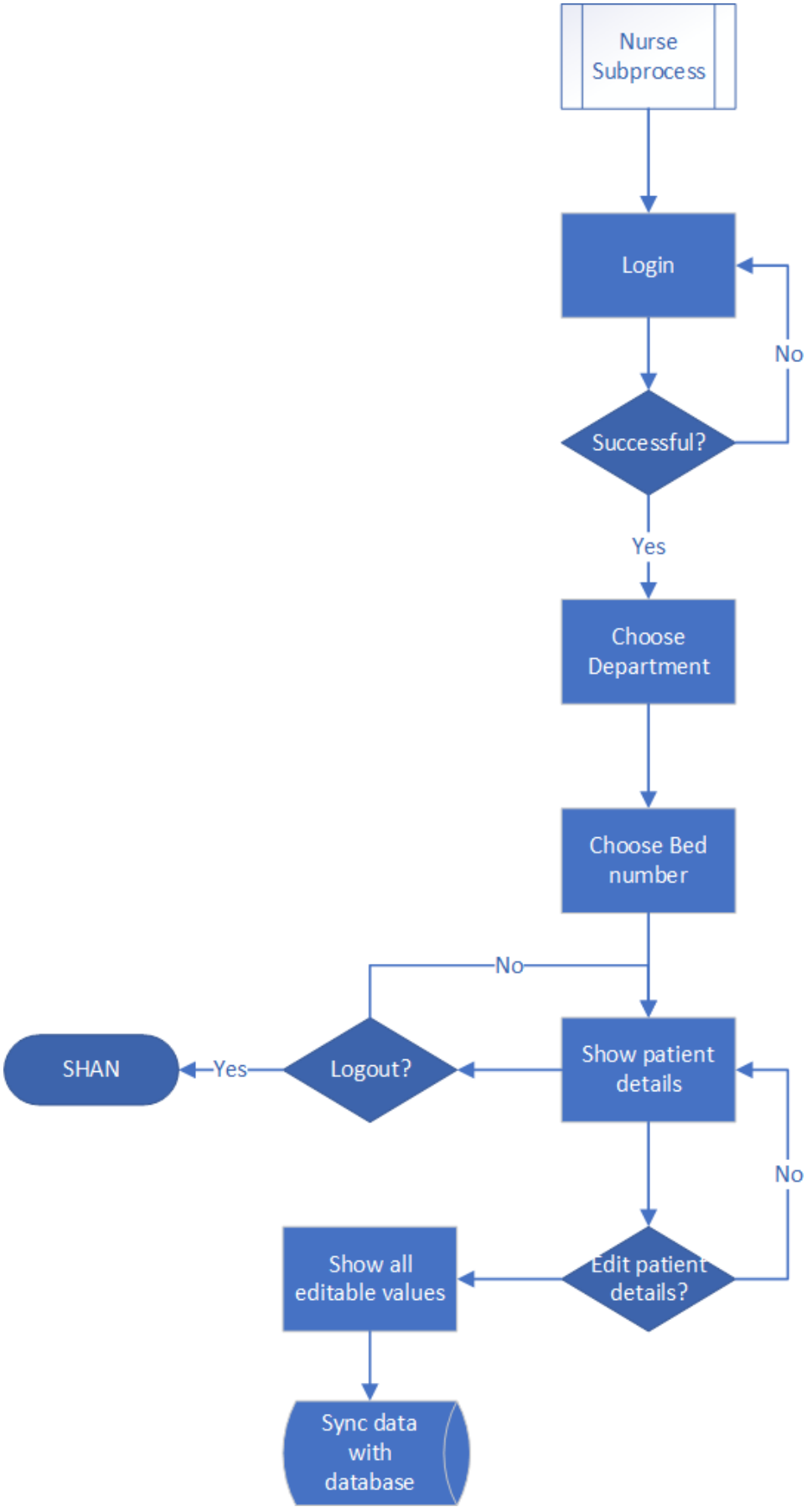
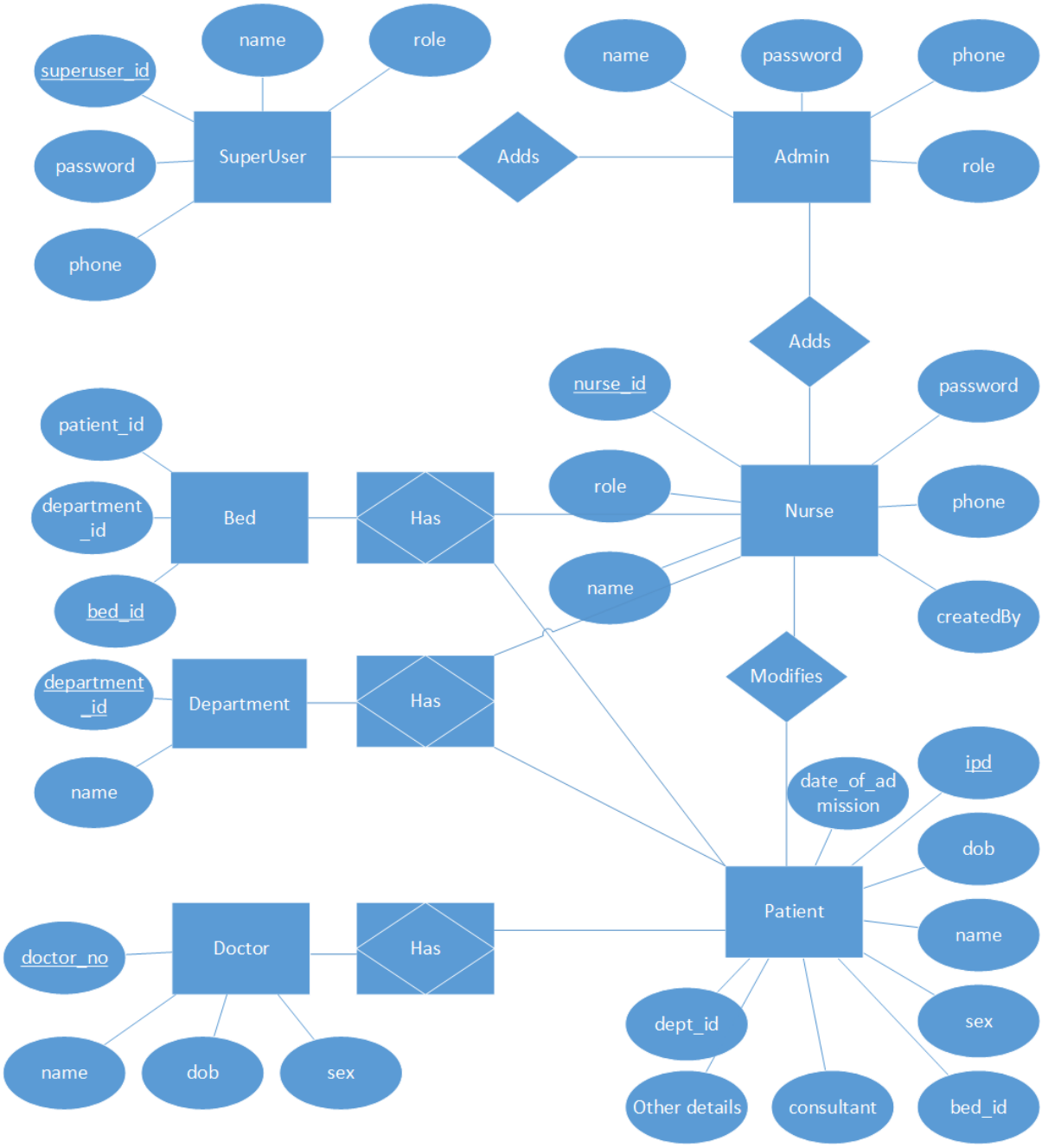


Figure 3: Nurse Subprocess



ER DIAGRAM


superuser_id
name
role
password
SuperUser
phone
Adds
name
password
phone
Admin
role
Adds
nurse_id
password
patient_id
role
department_id
Bed
Has
Nurse
phone
name
bed_id
createdBy
department_id
Department
Has
Modifies
name
ipd
date_of_admission
dob
Patient
name
doctor_no
Doctor
Has
dept_id
sex
name
dob
sex
Other details
consultant
bed_id

SCREENSHOTS

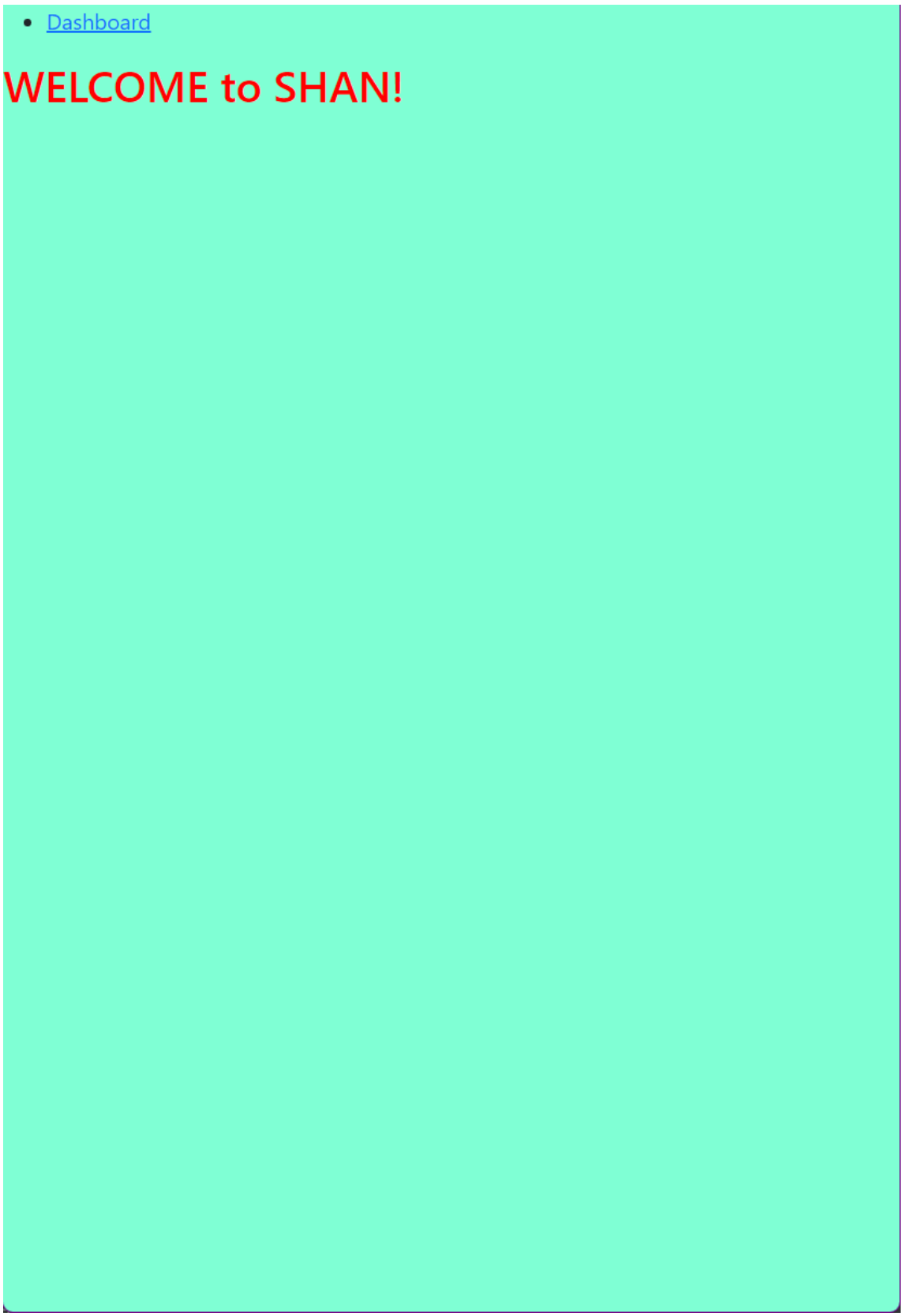


Figure 4: Front page

Figure 5: Dashboard

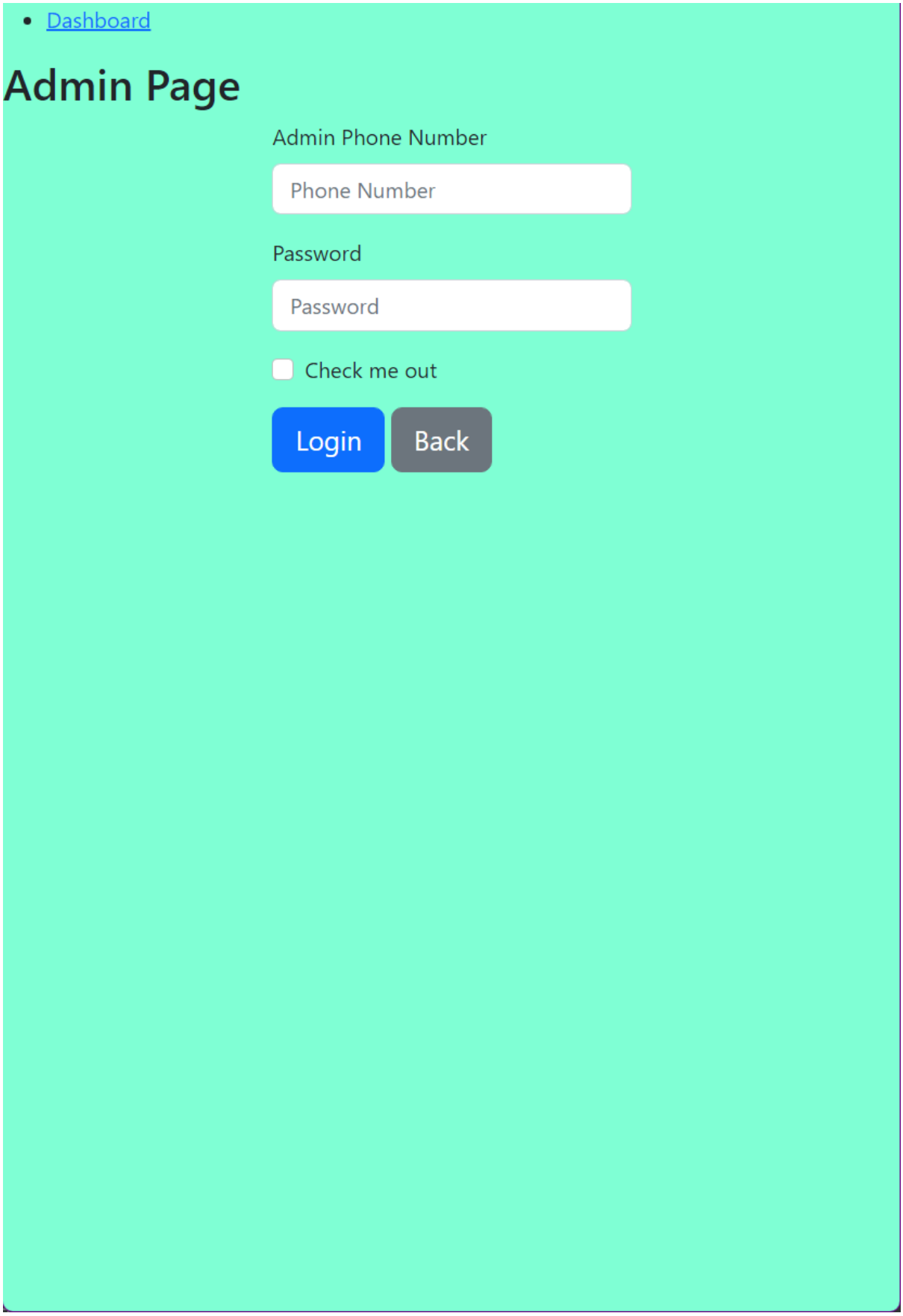


Figure 6: Admin Login

- Dashboard

#	First Name	Last Name	Username
1	Mark	Otto	@mdo
2	Jacob	Thornton	@fat
3	Larry the Bird		@twitter

Figure 7: All Nurses

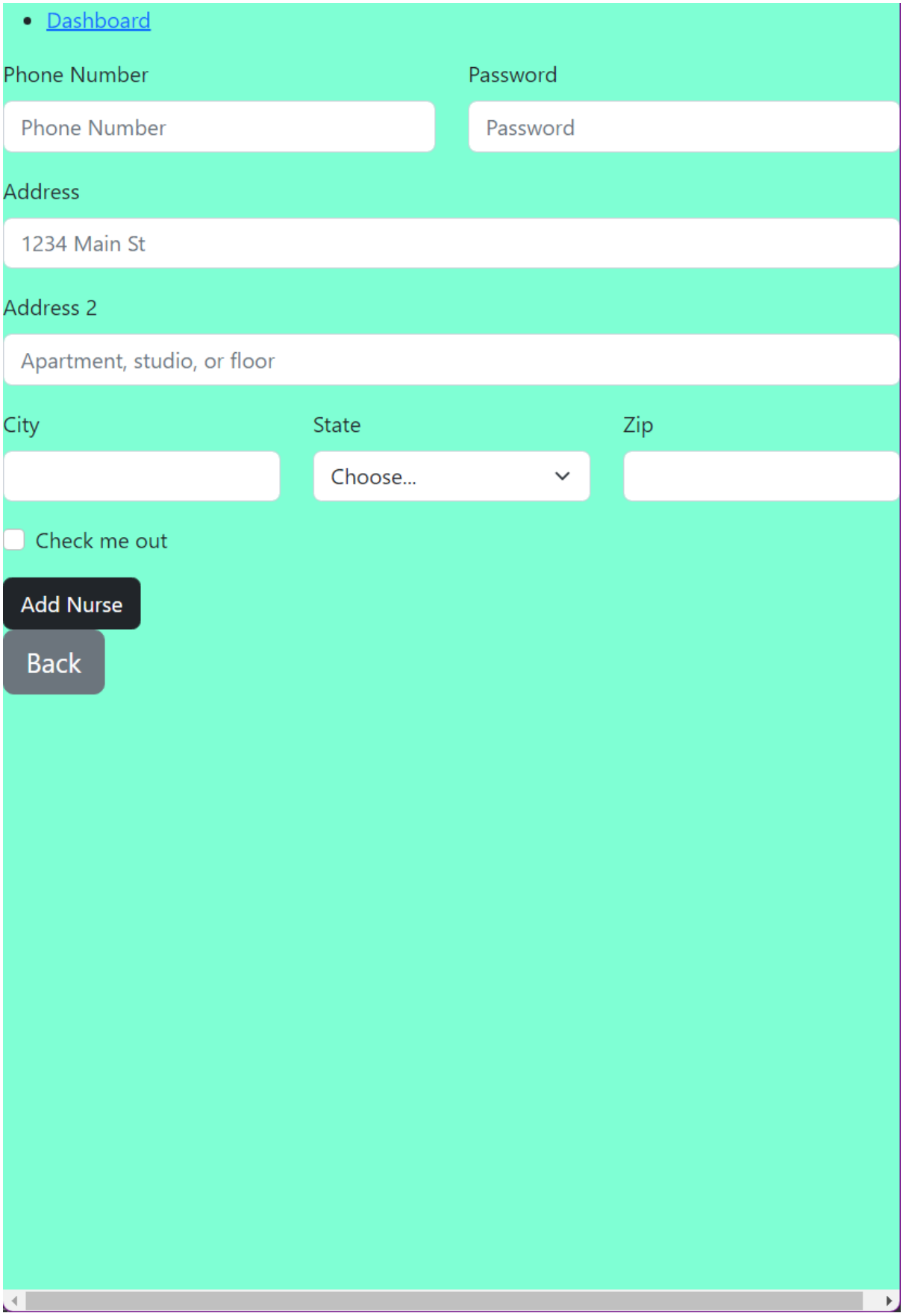


Figure 8: Add nurses

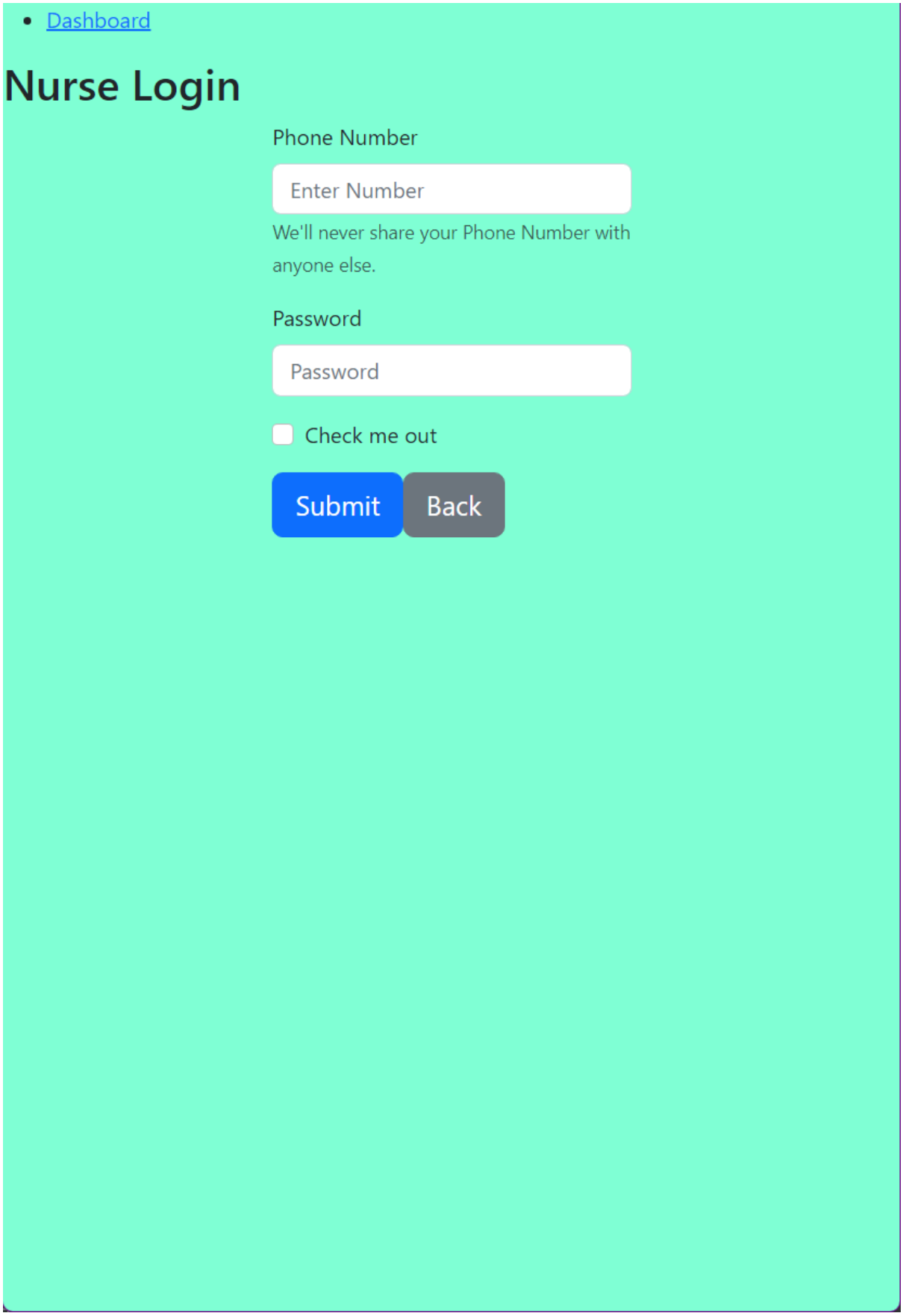


Figure 9: Nurse Login

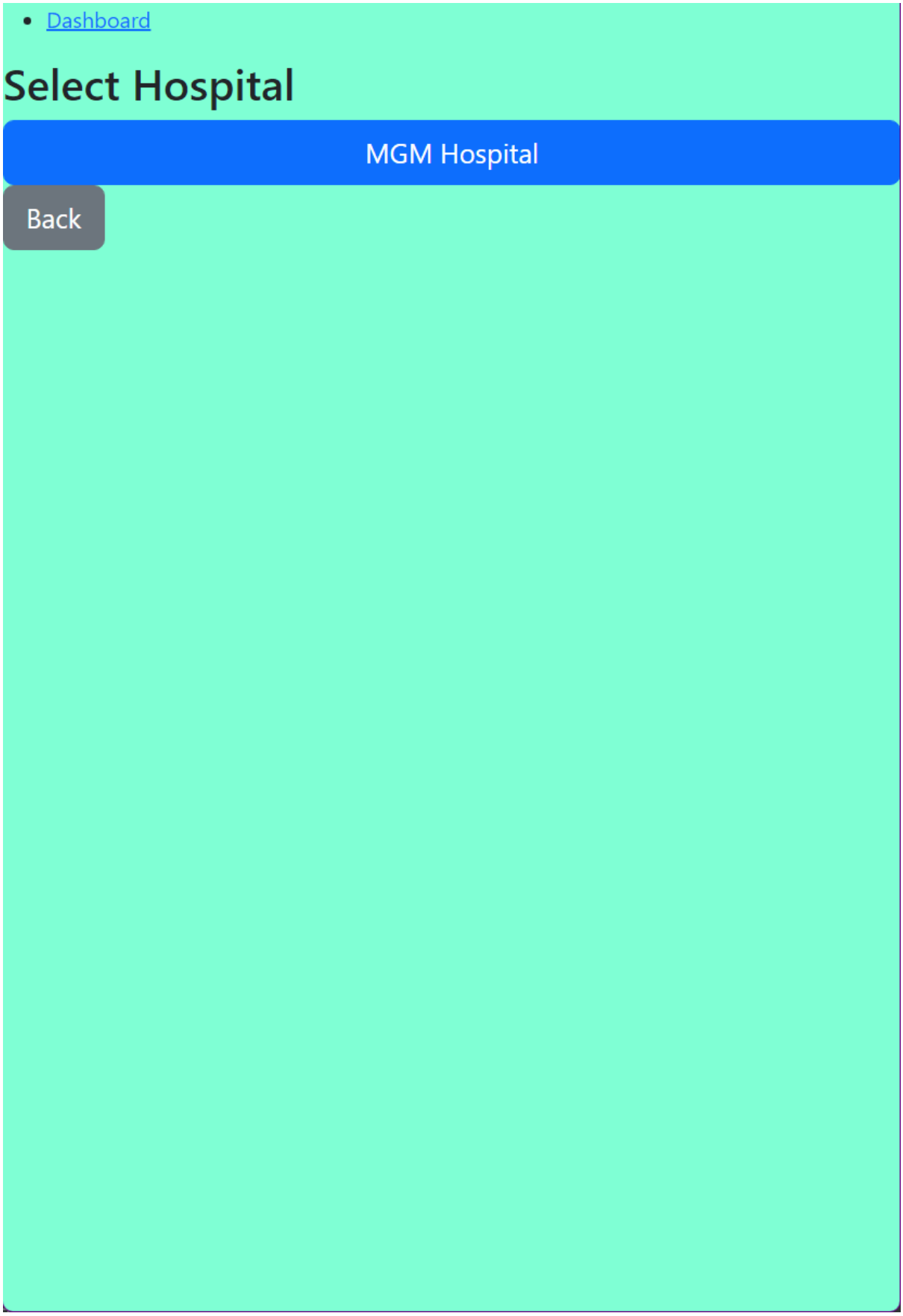


Figure 10: Select Hospital

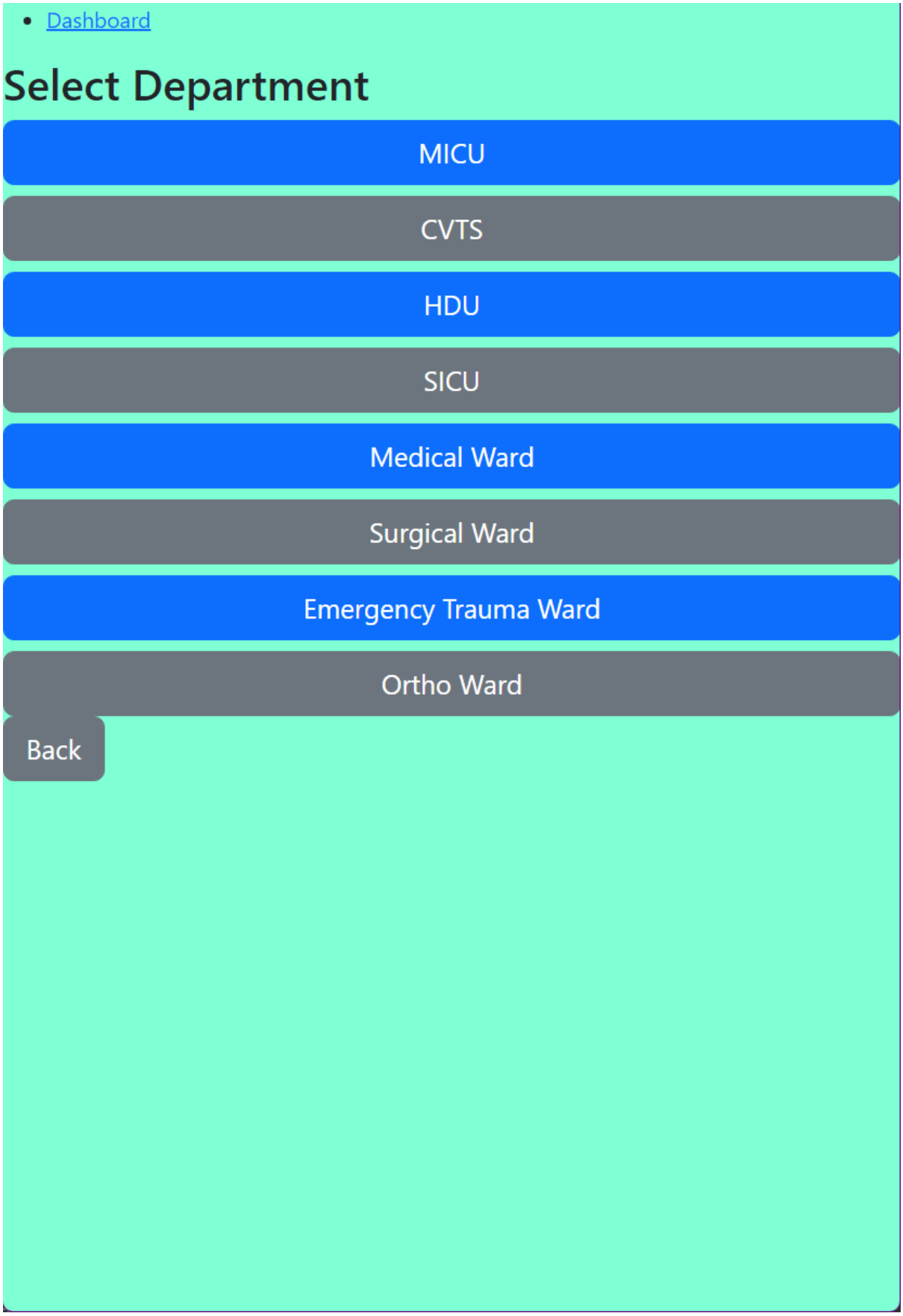


Figure 11: Select Department

Figure 12: Select Bed

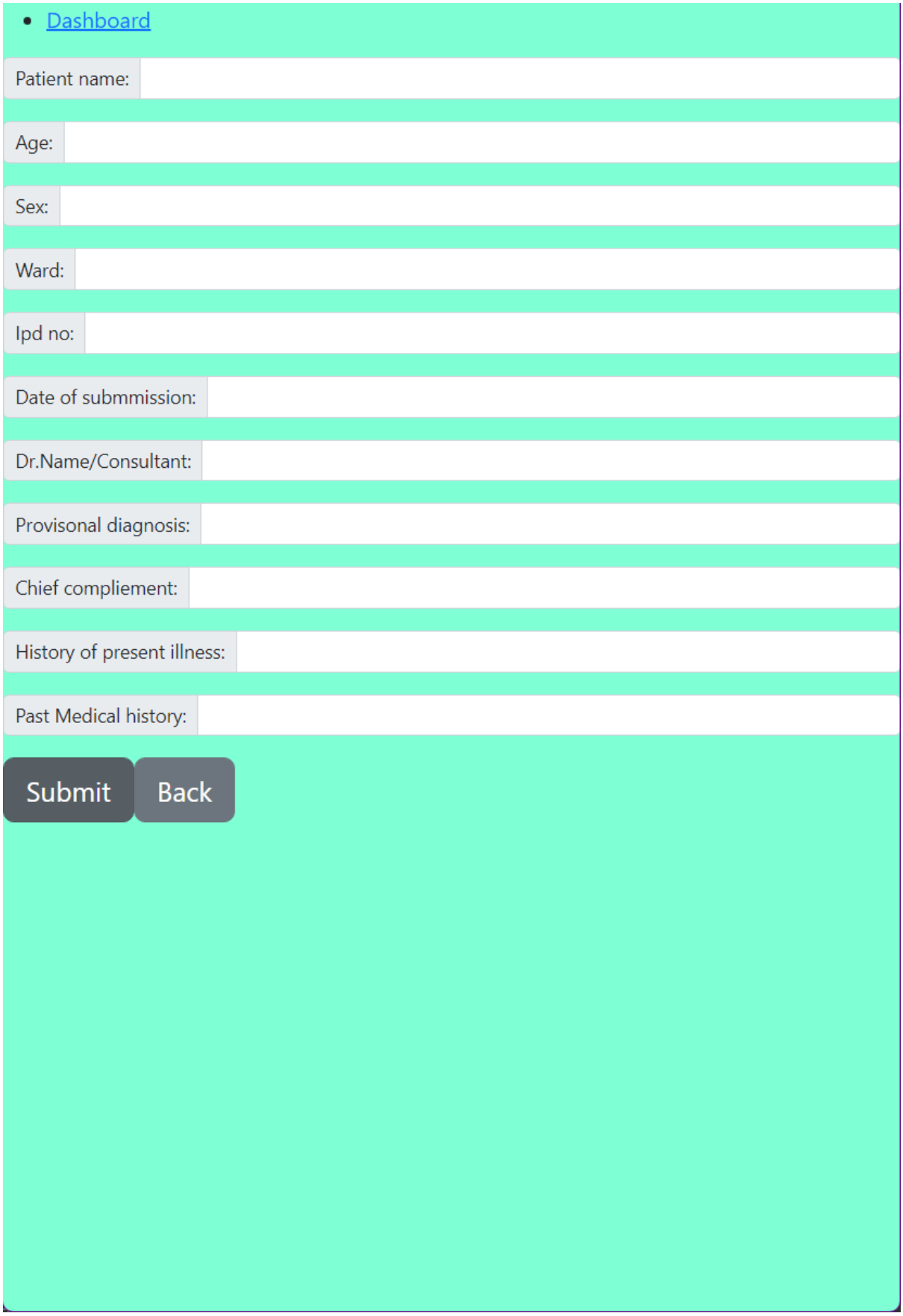


Figure 13: Edit Patient Details

CONCLUSION

The Shift Handover Application for Nurses is written in JavaScript and fits the requirements of the system for which it was designed. The system has achieved a stable state in which all bugs have been eliminated. The system runs at a high degree of efficiency, and all teachers and users are aware of its benefits. The system addresses the challenges it was designed to solve for the needed specification.

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TABLE OF FIGURES

FUTURE SCOPE

Our project may be enhanced in a variety of ways, including

1. The addition of readily editable hierarchy.
2. Improved and more user-friendly interface.
3. Displaying the most current 24-hour data.
4. Displaying historical data.
5. Allowing nurses to amend critical data more quickly.
6. Image server for image storage.