B.Sc. Engg. Project

A project on E-Healthcare Management System using Java and PHP

Submitted to

Department of Computer Science & Engineering

(In partial fulfillment of the requirements for the degree of
Bachelor of Science in Computer Science & Engineering)

Department of Computer Science & Engineering

Bangladesh University of Business & Technology (BUBT)

Dhaka 1216

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Acknowledgment

We would like to pay our gratitude to the Almighty Creator who created us with all the abilities to understand analysis and develop the process with patience. We are thankful to our project supervisor Badhan Chandra Dash, Lecturer, Computer Science and Engineering Department, Bangladesh University of Business and Technology for his professional guidance and motivation during the work of this project which is a major part of it. Without his valuable support and guidance, this project could not reach this level of development from our point of view.

We would like to thank all the Faculty members, Department of CSE, Bangladesh University of Business and Technology for their valuable time spend in requirements analysis and evaluation of the project work. We would like to express our sincere and warm gratitude to all those who have encouraged us directly, provided mental encouragement and criticized our work in several phases during the development of this project and for preparing this project indirectly.

Abstract

We are about to build a system where we can manage the important data that is related to the E-Healthcare service. So we named it e-healthcare management system using HTML and PHP. In such system we will create two part advised by our honorable course Supervisor. 1. User panel and 2. Admin panel. We will make a propose model to submit to our Supervisor to have permission to work further on it. We will keep the interface clean and simple, easy to use for the sake of all user. No user will find it difficult to use. In user section, we will add important things like info,view doctor,book appointment,manage appointment ,view preecriptrion , view pharmacist ,doctor details,pharmacist details,doctor record etc. these information will be served from a central server and an admin will handle the server. Admin can edit and delete any information .When a officer wanted know about the internal data then he or she will able to see the data by login in in the database user server. After finishing the coding part, we will make a report based on the project. We will overview the whole project in the project report which will contain 6 chapters. In those chapter we will describe one by one about the key parts of the project. We will compare the manual system and the modern technology of healthcare management system with e-healthcare management. We will be using windows machine with XAMPP server. Firstly we will make a propose model to convenes our course Supervisor to work on it and will hardly try to describe the whole idea through the propose model. We will add the propose model in the report in a certain chapter. With the help of our course Supervisor, we are about to implement the whole plan and we wish to have a good experience doing this project.

Declaration

We here by declare that the Project on E-Healthcare Management System using JAVA and PHP Language submitted in partial fulfillment of the requirements for the degree of Bachelor of Science in Computer Science and Engineering of Bangladesh University of Business and Technology (BUBT) is our own work and that it contains no material which has been accepted for the award to the candidate(s) of any other degree or diploma, except where due reference is made in the text of the project. To the best of our knowledge, it contains no materials previously published or written by any other person except where due reference is made in the project.

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Dedication

Dedicated to our parents, teachers, friends and who loved us for all their love and inspiration.

Approval

A Project on E-Healthcare Management System using Java Programming Languese is submitted by Md Siam Hossian (19202103228), Dipta Saha Kumar (19202103216), Samiul Alim(19202103211), Shuva Chowdhury (19202103215), Habiba Rahman (19202103232) under the department of Computer Science and Engineering of Bangladesh University of Business and Technology is accepted in partial fulfillment of the requirements for the degree of Bachelor of Science in Computer Science and Engineering

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Acronyms List

Doc= Doctor

Pat= Patient

Pha= Pharmacist

Med= Medicine

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Chapter 1

Introduction

1.1 Introduction

This project deals with the Corporate Medicare Management. This project is very helpful to both Medicare staff as well as to the public. It is having mainly Administration and Client modules. The growing quality demand in the hospital sector makes it necessary to exploit the whole potential of stored data efficiently, not only the clinical data, in order to improve diagnoses and treatments, but also on management, in order to minimize costs and improve the care given to the patients. In this sense, Data Mining (DM) can contribute with important benefits to the health sector, as a fundamental tool to analyze the data gathered by hospital information systems (HIS) and obtain models and patterns which can improve patient assistance and a better use of resources and pharmaceutical expense.

1.2 Purpose

In Medicare management situations we are dealing with Data Mining objectives such as:
1.To optimize bed occupation.
2.To improve the use of operating theatres, avoiding the cancellation of operations.
3.To know how emergencies affect to the administration of the hospital departments. or services (cancellation of operations, etc).

4.To optimize the allocation of human and material resources towards and shifts.

5.To detect the influence of certain diseases in the hospital's services.

6.To find clusters of patients.

1.3 Scope

The different areas where we can use this application are : Any medical institute can make use of it for providing information about author,content of the available medical service. It can be used in offices and modifications can be easily done according to requirements.

1.4 Statement Of Problem

The problem is that the client usually does not understand software or the software development process, and the developer often does not understand the clients problem and application area. This causes a communication gap between the parties involved in the development project. A basic purpose of software requirement specification is to bridge this communication gap. SRS is the medium through which the client and the user need are accurately specified; indeed SRS forms the basis of software development. A good SRS should satisfy all the parties-something very hard to achieve and involves trade-offs and persuasion. [**?**]

1.5 Existing System Features

Integration of Corporate Medicare centers is very difficult while it is having different branches. In most of the cases the database is similar from one hospital to another hospital. In those cases also we can't easily adapt a new technology in the new hospital.

It is very difficult to analyze the usage percentage of hospital resources, Bed occupation Ratio, Administration, Laboratory information even in a single center. Then we can expect the complexity while integrating multi multi- specialty Medicare Centers.

Room Reservations, Doctor Appointment Schedules, Operation Schedules, and Medicine in-

dentation information is very difficult to maintain and share among the different Medicare Centers.

Lack of generic and unique model we have to implement the same set of data model for every newly established Medicare Center.

1.6 Proposed System Features

In this project we are trying to implement which parts of a data-mining project for hospital management are equal or highly similar across different hospitals (at least in the same national healthcare system). This allows us to design several data mining modules, which can be portable across several hospitals, thus dramatically reducing the time to implement a data-mining program in a new hospital.

1.7 Motivation

In this project we can manage the database system. Here user can collect the information and an admin can manage the system. User know that getting doctor appointment by is very difficult, sometimes not possible. And here comes this system, because by using this, user will able to get information's in time by knowing the information from our website.

1.8 Conclusions

Our whole website is based on a concept to manage appointment for the user from the doctor .Here , as the program is executed , there is a login system then the user has to choose which doctor they want to have appointment .Here user has to enter the Name, email,password and choose by which doctor according to their diseases .User can also view full list of all the doctors available. Our whole project is designed in Java and PHP language and different variables and strings have been used for the development .It is easy to operate and understandable for user.

Chapter 2

Requirment

2.1 Introduction

To be used efficiently, all computer software needs certain hardware components or the other software resources to be present on a computer. These pre-requisites are known as(computer) system requirements and are often used as a guideline as opposed to an absolute rule. Most software defines two sets of system requirements: minimum and recommended. With increasing demand for higher processing power and resources in newer versions of software, system requirements tend to increase over time. Industry analysts suggest that this trend plays a bigger part in driving upgrades to existing computer systems than technological advancements.

2.2 Requirement Analysis

A requirement is a feature that must be included in the system. Before the actual design and implementation start, getting to know the system to be implemented is of prime importance. Main emphasis should be on:

1. Inputs enter into the system.
2. Standard Encryption of Input on submit.
3. The outputs expected from the system.
4. The people involved in the working of the system.

5.The volume of DATA (INPUT) and the amount of Information (OUTPUT) that will be involved with respect to the system itself, the following facts should be taking into consideration.

The Major process involved:

1. The main points of the application.
2. The processing rules fort he collected data.
3. The exceptions that may be present.
4. That checks that should be in place in order to avoid wrong entries.

2.3 Software Requirement Specification

Software Requirements deal with defining software resource requirements and pre-requisites that need to be installed on a computer to provide optimal functioning of an application. These requirements or pre-requisites are generally not included in the software installation package and need to be installed separately before the software is installed.

1.OPERATING SYSTEM : WINDOWS-10

2.DATA BASE : MYSQL/XAMPP SEVER

3.SOFTWARE : Apache NetBeans

4.LANGUAGE : JAVA

5.SCRIPTING LANGUAGE : JAVA SCRIPT

2.4 Hardware Requirements Specification

The most common set of requirements defined by any operating system or software application is the physical computer resources, also known as hardware. A hardware requirements list is often accompanied by a hardware compatibility list (HCL), especially in case of operating systems. An HCL lists tested, compatibility and sometimes incompatible hardware devices for a particular operating system or application. The following sub-sections discuss the various aspects of hardware requirements.

1.PROCESSOR : Intel(R) Core(TM) i5-3210M

2.PROCESSOR SPEED : 2.50 GHZ

3.MONITOR : COLOR MONITOR

4.HARD DISK : 500GB

5.RAM : 8GB

6.MOUSE : SCROLLING MOUSE

7.KEY BOARD : MM KEY BOARD

2.5 Requirement Study

The origin of most software systems is in the need of a client, who either wants to automate and existing manual system or desires a new software system. The software system itself is created by the developer finally the completed system will be used by the end user.Thus, there are three major parties interested in a new system: the client, the users, and the developer. The requirements for the system that will satisfy the need of the clients and the concerns of the user have to communicate to the developer.

2.6 Feasibility Study

Feasibility is an important phase in software development process. It enables the developers to have an assessment of the product being developed. It refers to the feasibility study of product in terms of outcomes of the product, operational use and technical support required for implementation it.

Feasibility study should be performed on the basis of various criteria and parameters. The various feasibility studies are:

1. Economic Feasibility
2. Operational Feasibility
3. Technical Feasibility

2.6.1 Economic Feasibility

This study is carried out to check the economic impact will have on the system will have on the organization. The amount of fund that the company can pour into the research and development of the system is limited. The expenditures must be justified. Thus the developed system as well within the budget and this was achieved because most of the technologies used are freely available. Only the customised products have to be purchased.

2.6.2 Operational Feasibility

The aspect of study is to check the level of acceptance of the system by the user. This includes the process of training the user to use the system efficiently. The user must not feel threatened by the system, instead must accept it as a necessity. The level of acceptance by the users solely depends on the methods that are employed to educate the user about the system and to make him familiar with it. His level of confidence must be raised so that he is also able to make some constructive criticism, which is welcomed, as he is the final user of the system.

2.6.3 Technical feasibility

This study is carried out to check the technical feasibility, that is,the technical requirements of the system. Any system developed must not have a high demand on the available available technical resources. This will lead to high demands being placed on the client. The developed system must have a modest requirement, as only minimal or null changes for the implementing this system.

Chapter 3

SYSTEM DESIGN

3.1 Introduction

This chapter our fundamentally focus on the procedure of roll upping and forming information's related to our survey and putting out a basic rhythm on the procedure of developing the system with the usage of a system development flow chart and a clear definition of all the phases involved in the development procedure.

3.2 Module Description:

It's an online Health Care Management service. It's convenient, it gives you the widest choice possible and it can be done sitting in the privacy of one's cubicle. Today when professionals across the world are spending 10-12 hours at work every day, Online Health Care Management project reduce the time and complex. Number of Modules The system after careful analysis has been identified to be presented with the following modules:

The modules involved are:

1. ADMIN MODULE
2. DOCTOR MODULE
3. MODULE

1. ADMIN MODULE In this module admin maintains the Patient records and Doctors schedule and only had the permission to delete or modify the patient or doctors records.
2. DOCTOR MODULE This will hold the details of the patient problem and amp; the related doctors who have taken care of particular patient. He has to follow the schedules given by head of the department. He has to notify regularly according to schedule.
3. PATIENT MODULE Consultation holds the details of the patient's history and amp; family history. Details of the physical exam, the investigation diagnostic, medication details and amp; the details of the diet exercise the patients have to follow. This gives the records in detail of patient medical history visit wise. This helps to go through easily the patients' medical history. In this module user can register and edit his/her profiles.

3.3 Work flow

These are our projects diagram design that will give everyone an idea about how our project works.

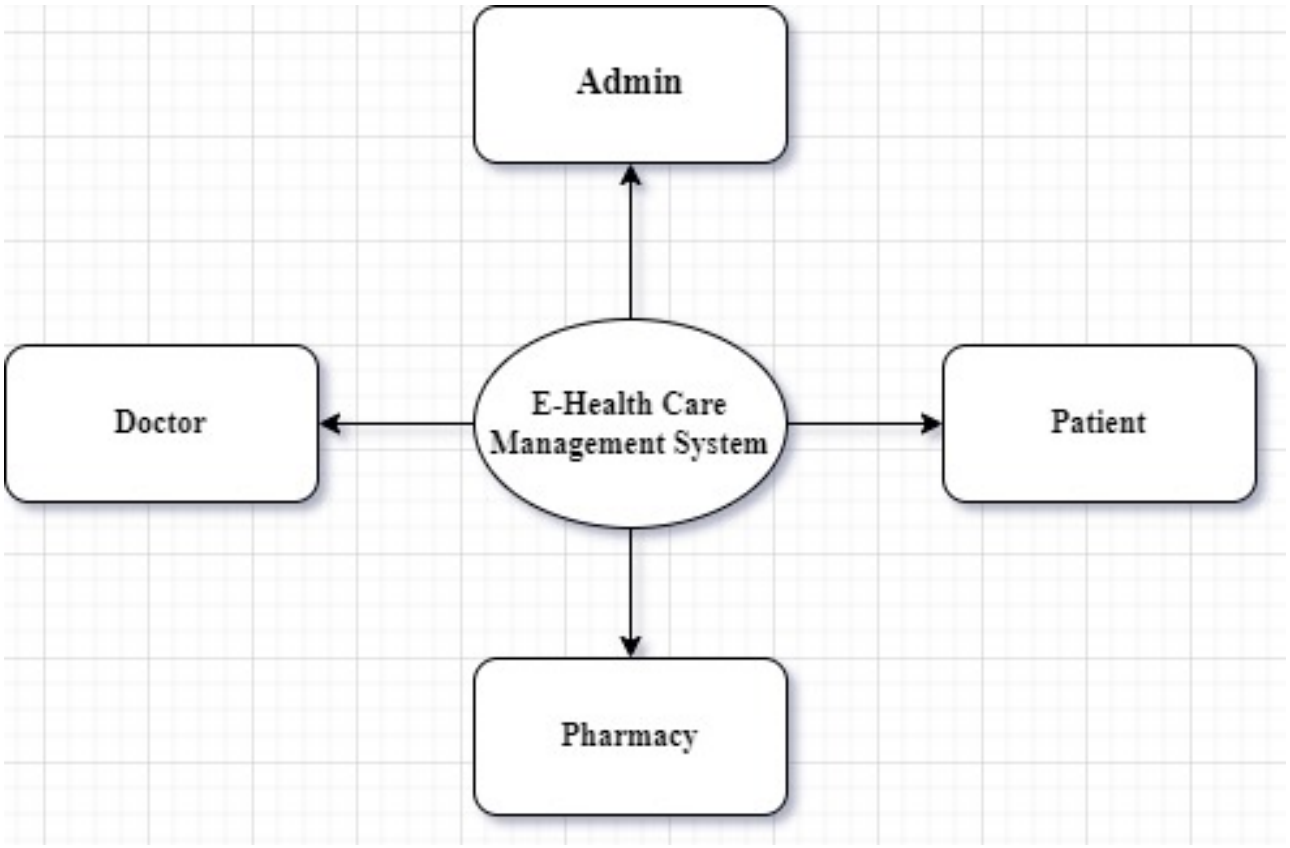

Figure 3.1: Starting Diagram

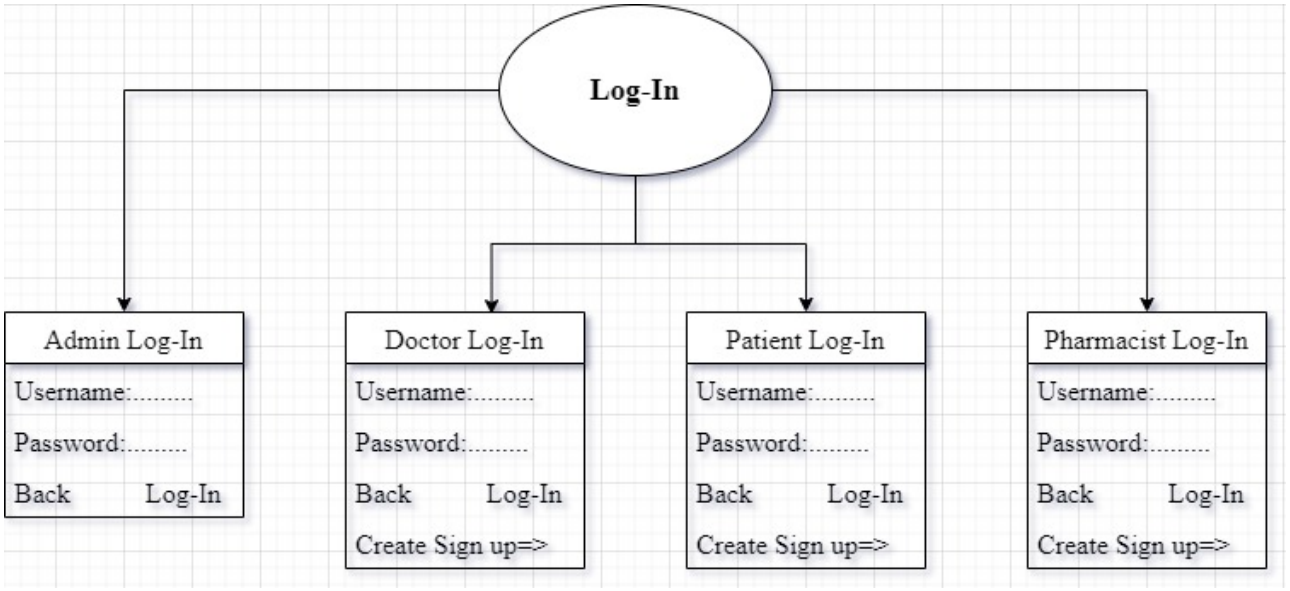

Figure 3.2: Log-In Page Diagram

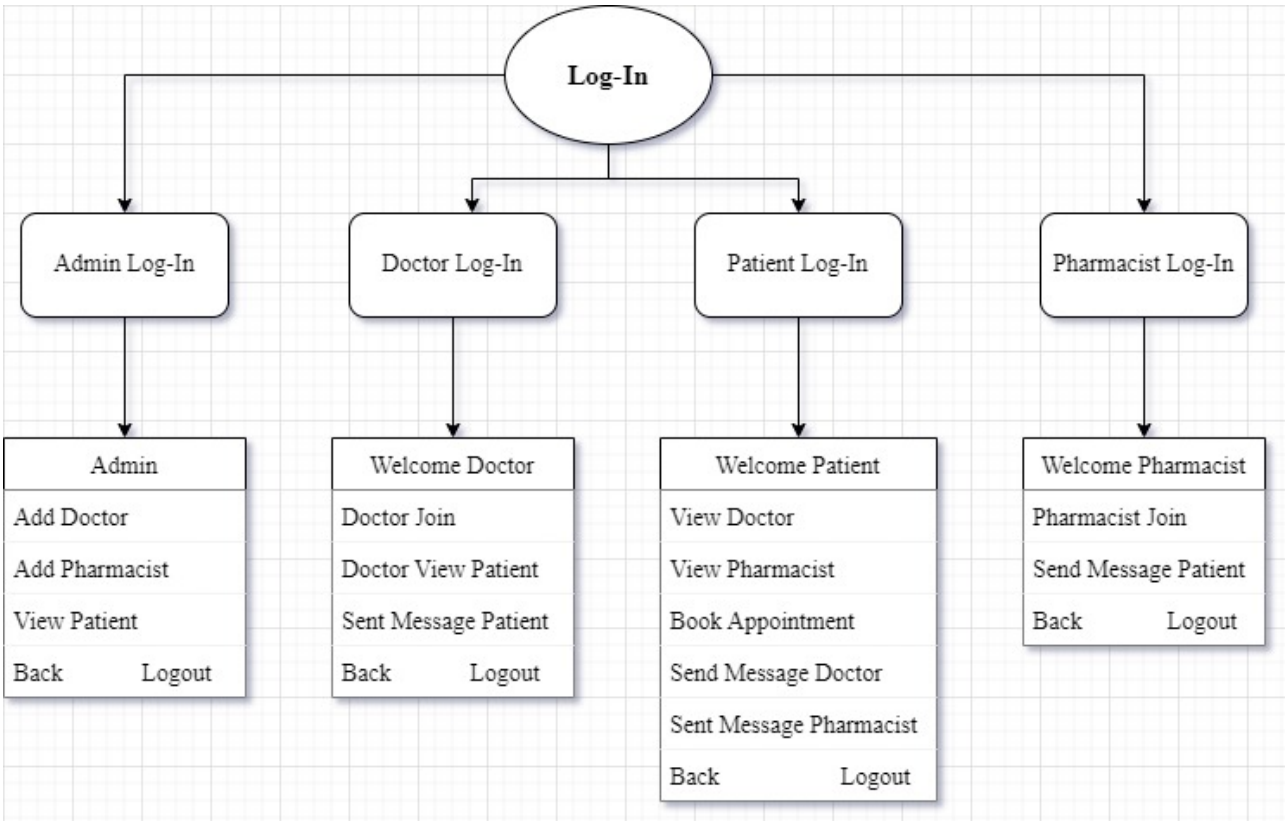

Figure 3.3: Process Diagram

3.4 System Description

This system has two part admin and user. But both have to registration first to enter in the system. Once they registered, then they can enter in the system by login with there user id and password. Admin part is for the maintaining system and here admin can add, update and delete any information like doctor information,pharmacist details , doctor records ,cancel the appointment etc.In this module admin maintains the Patient records and Doctors schedule and only had the permission to delete or modify the patient or doctors records. Admin can see the user's complain and answer them.

Here we have three different type of user .Doctor, patient and pharmacist.doctor,patient,pharmacist everyone have have access in the system and have different options to work.Everyone have to login in our system. For login they need a user name and password, after login they will have options to work.For sing in every doctor have to give there name , username ,gender,specialization ,and a password.After login doctor has access to see the patient.What is patients problems and give them message according to

the patients issues. After creating a account in the system they will get access to view the doctors and the pharmacists ,book appointment ,send messages to the doctor and pharmacists according to their needs. The pharmacist can send massages to the patients according to their needs.Everyone will get a logout option and a back option in their own page.

3.5 Conclusion

In this chapter we explain our procedure of roll upping and forming information related to our survey and putting out a basic rhythm on the procedure of developing the system with the usage of a system development flow chart and a clear definition of all the phases involved in our project.

Chapter 4

Feature of the project

4.1 Introduction

In this chapter we explain our features in the project E-health care management system . Our project has admin plane and three other plane.They are doctor,pharmacy,patient where they can register there account in our system and they can login there later.

4.2 Features

Admin,doctor,patient,pharmacist everyone have have access in the system and have different options to work.Everyone have to login in our system. For login they need a user name and password, after login they will have options to work.

4.2.1 Admin Login

After login admin has the access to add a doctor or delete it .he can add a pharmacist or delete him from the system. he can view all the records of a patients. He will manage all doctor ,patient ,pharmacists information and also insert and delete anyone .admin will be check the complains of the user and reply them .

4.2.2 Doctor login

For sing in every doctor have to give there name , username ,gender,specialization ,and a password.After login doctor has access to see the patient.What is patients problems and give them message according to the patients issues. every doctor get a unique id for the system which will help them get patients according to their specialization.that will be help them to treat the patient and sent them the best treatments by using message options.

4.2.3 Patient Login

To get the access in the system patients have to register their information in the system. After creating a account in the system they will get access to view the doctors and the pharmacists ,book appointment ,send messages to the doctor and pharmacists according to their needs.to book a appointment a patient have to give us his id , name, age,gender,address,mobile number, disease name and which doctor they want to appoint.

4.2.4 Pharmacist Login

The pharmacist can send massages to the patients according to their needs. They will get a unique id from the system.to join the system they have to give their name username and password.

Everyone will get a logout option and a back option in their own page.Mainly our features in the project E-health care management system are described here in this chapter .

Chapter 5

Results

5.1 Introduction

In this chapter our fundamentally focus on result of the procedure of roll upping and forming information's related to our survey and putting out a basic rhythm on the procedure of developing the system .

5.2 Screenshots

Here we are attaching some outputs screenshot to make a clear view of our work procedure.

All the test cases mentioned above passed successfully. No defects encountered.

Figure 5.1: Log-In Page

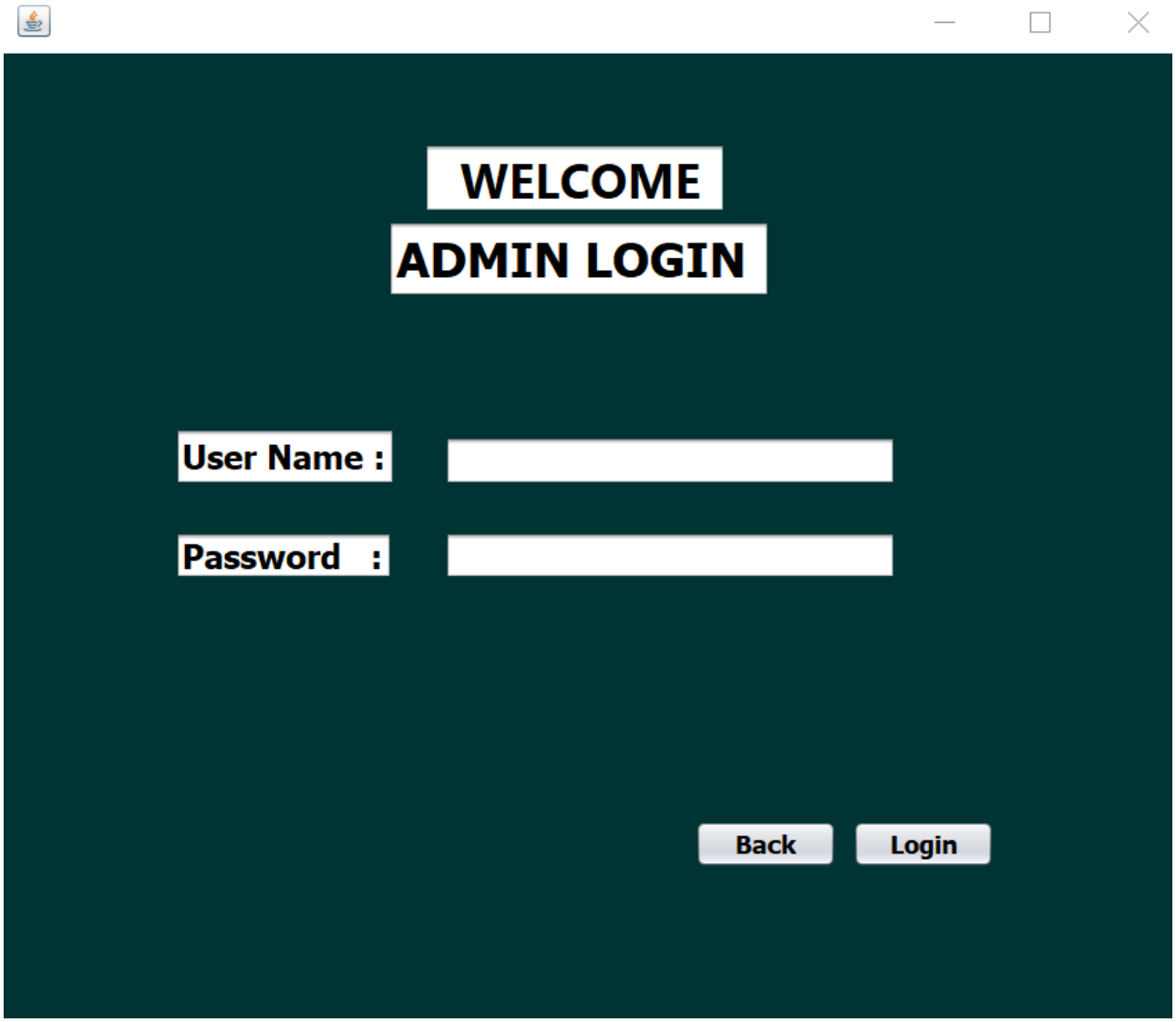

Figure 5.2: Admin Log-In

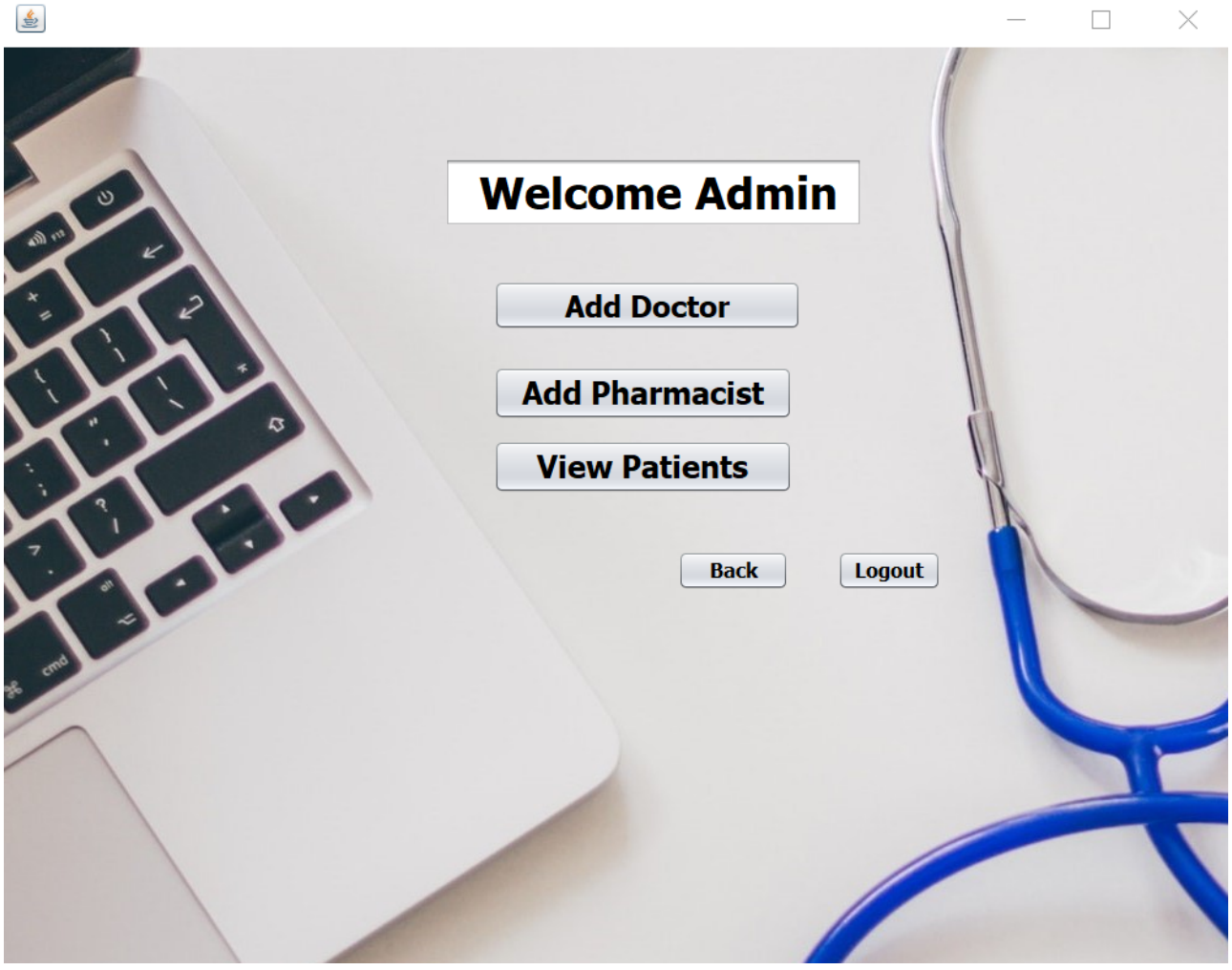

Figure 5.3: Admin Page

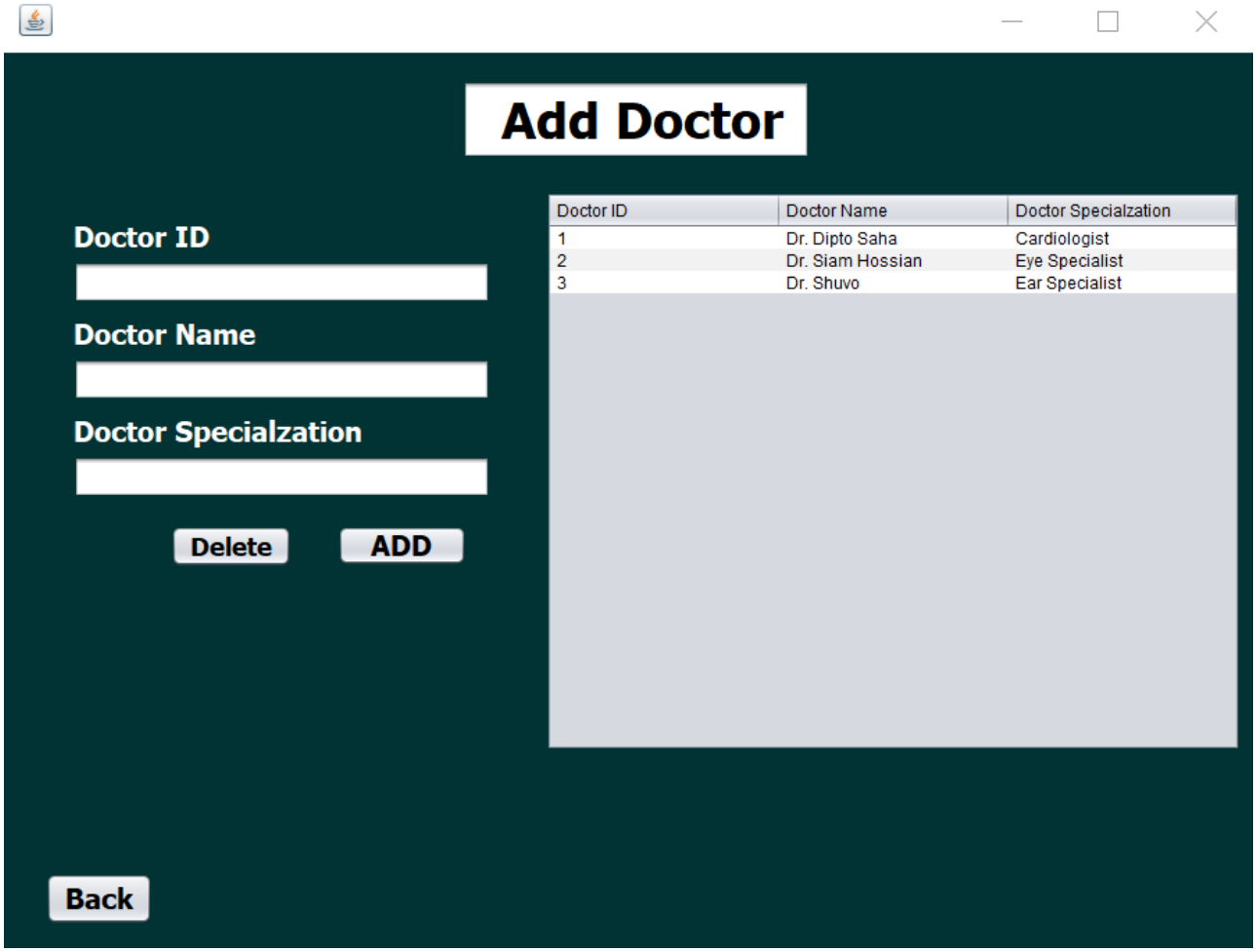

Figure 5.4: Doctor Registration

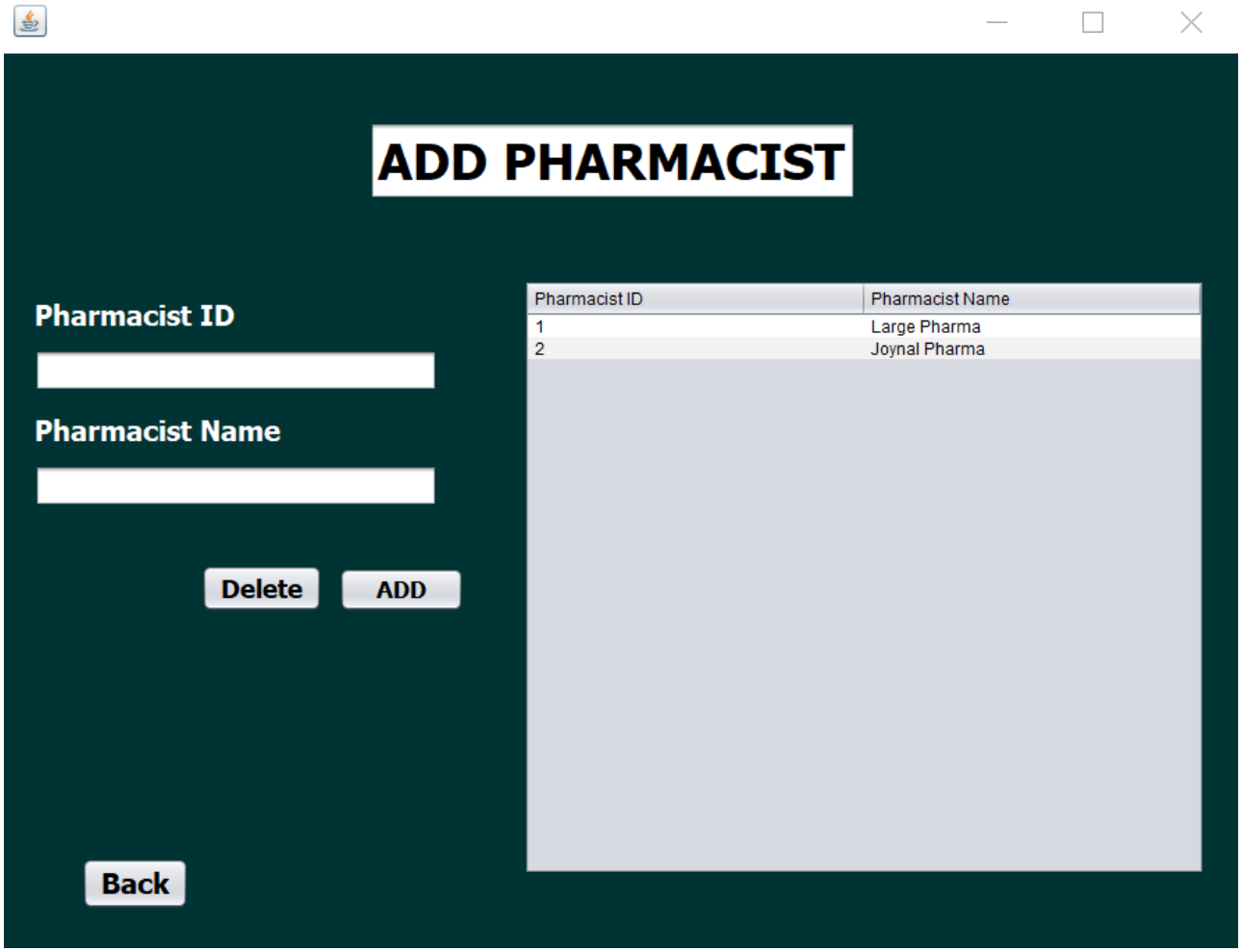

Figure 5.5: Pharmacist Registration

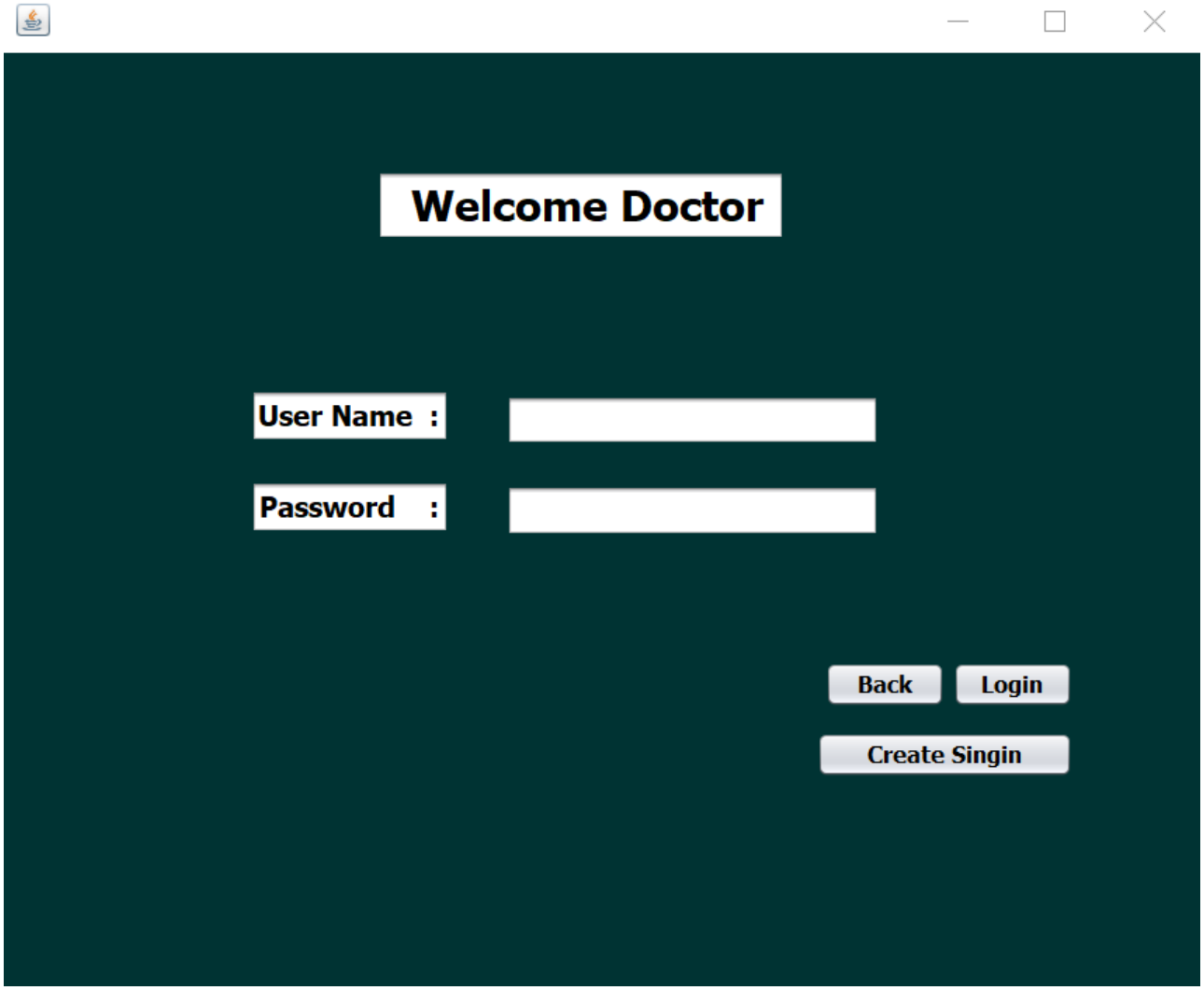

Figure 5.6: Doctor Log-in

Figure 5.7: Doctor Sign up

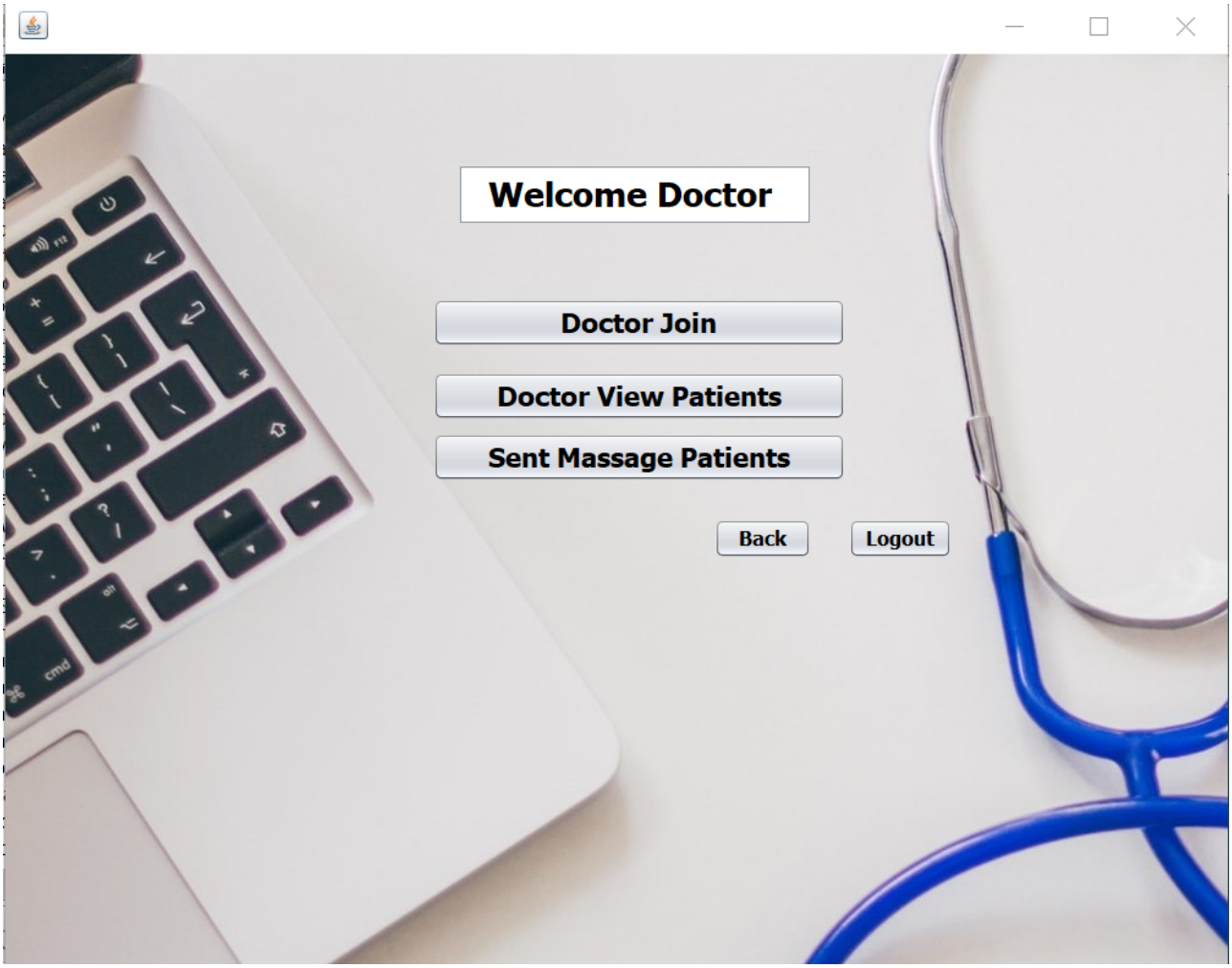

Figure 5.8: Doctor Page

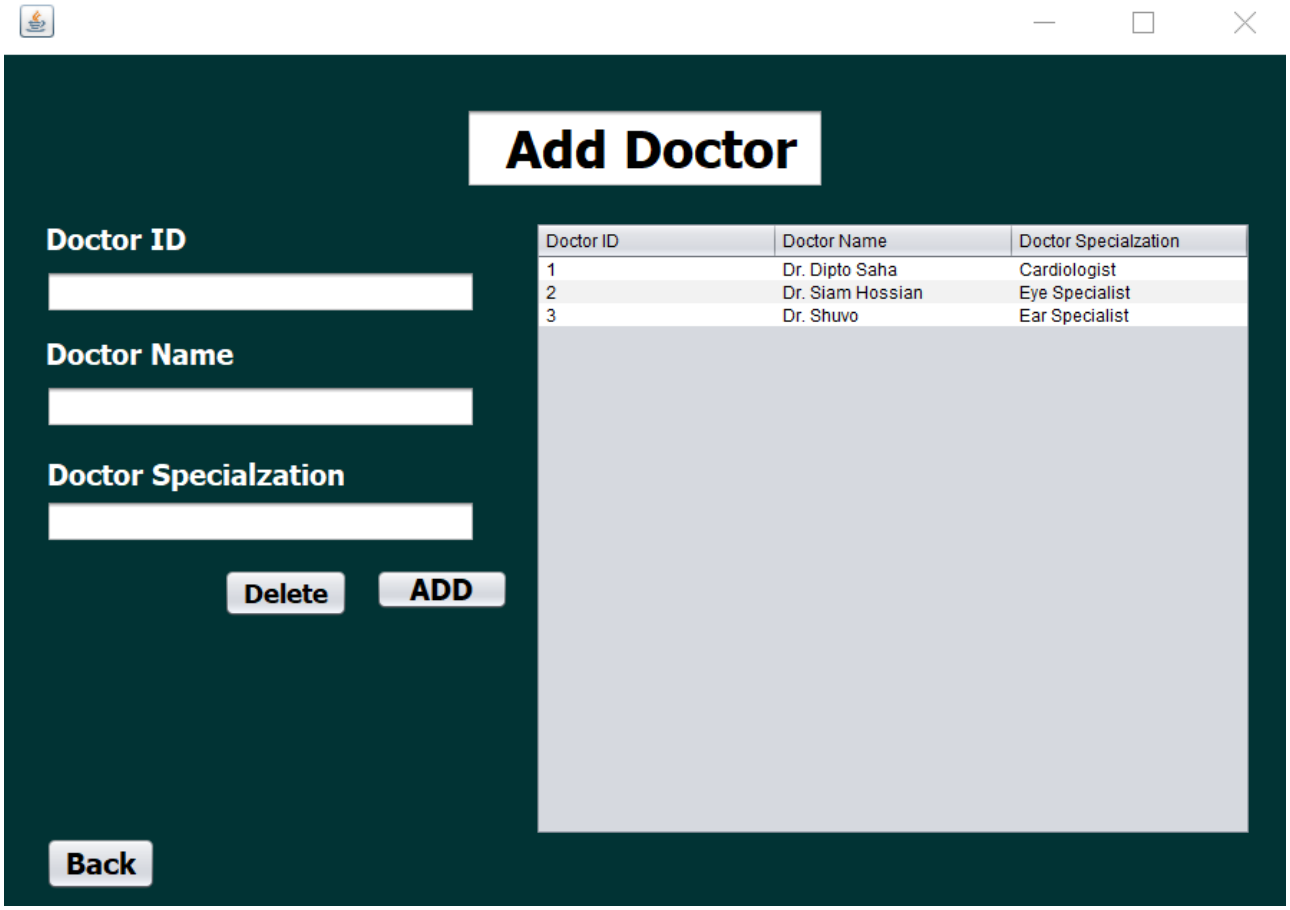

Figure 5.9: Doctor Registration

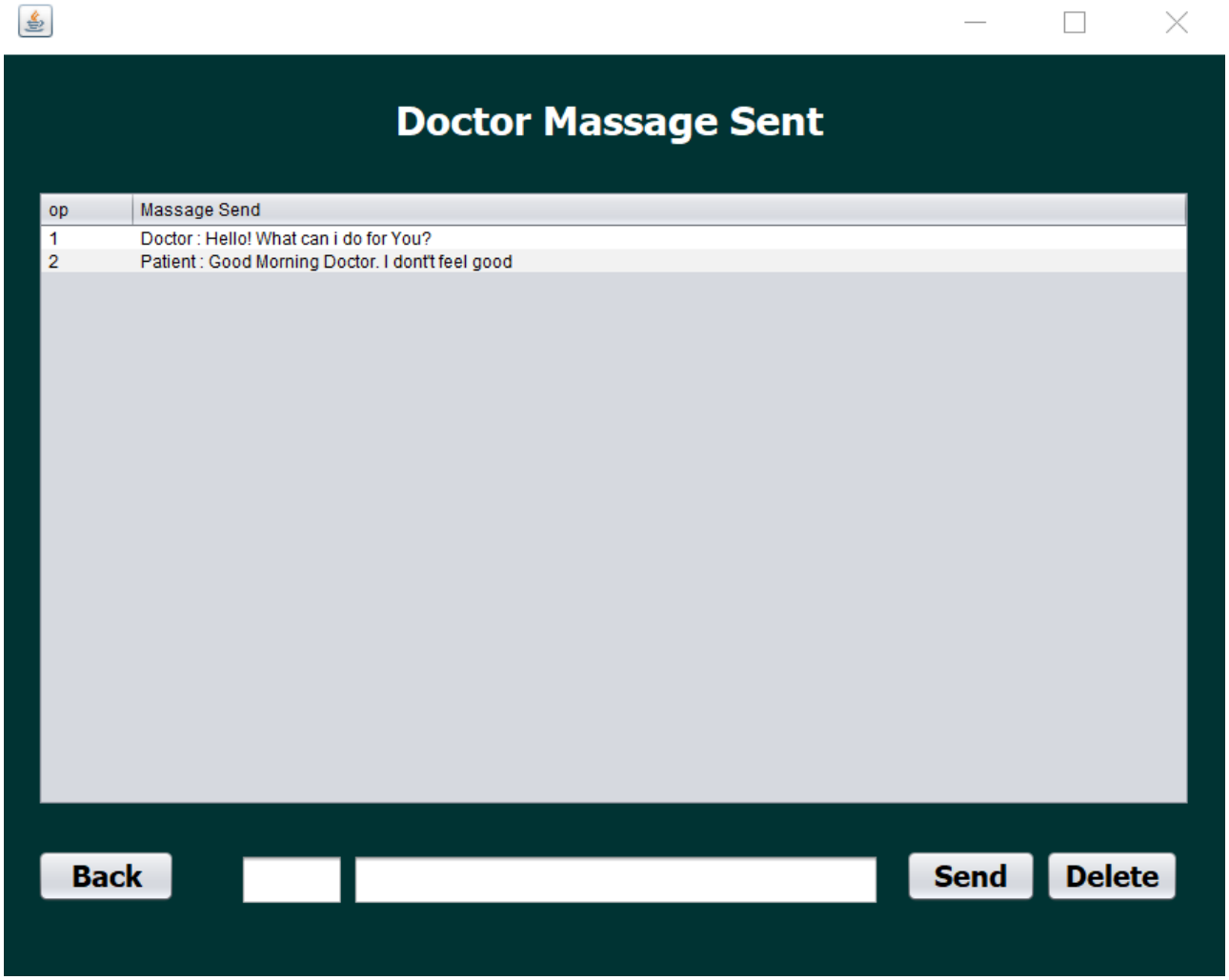

Figure 5.10: Doctor Messaging

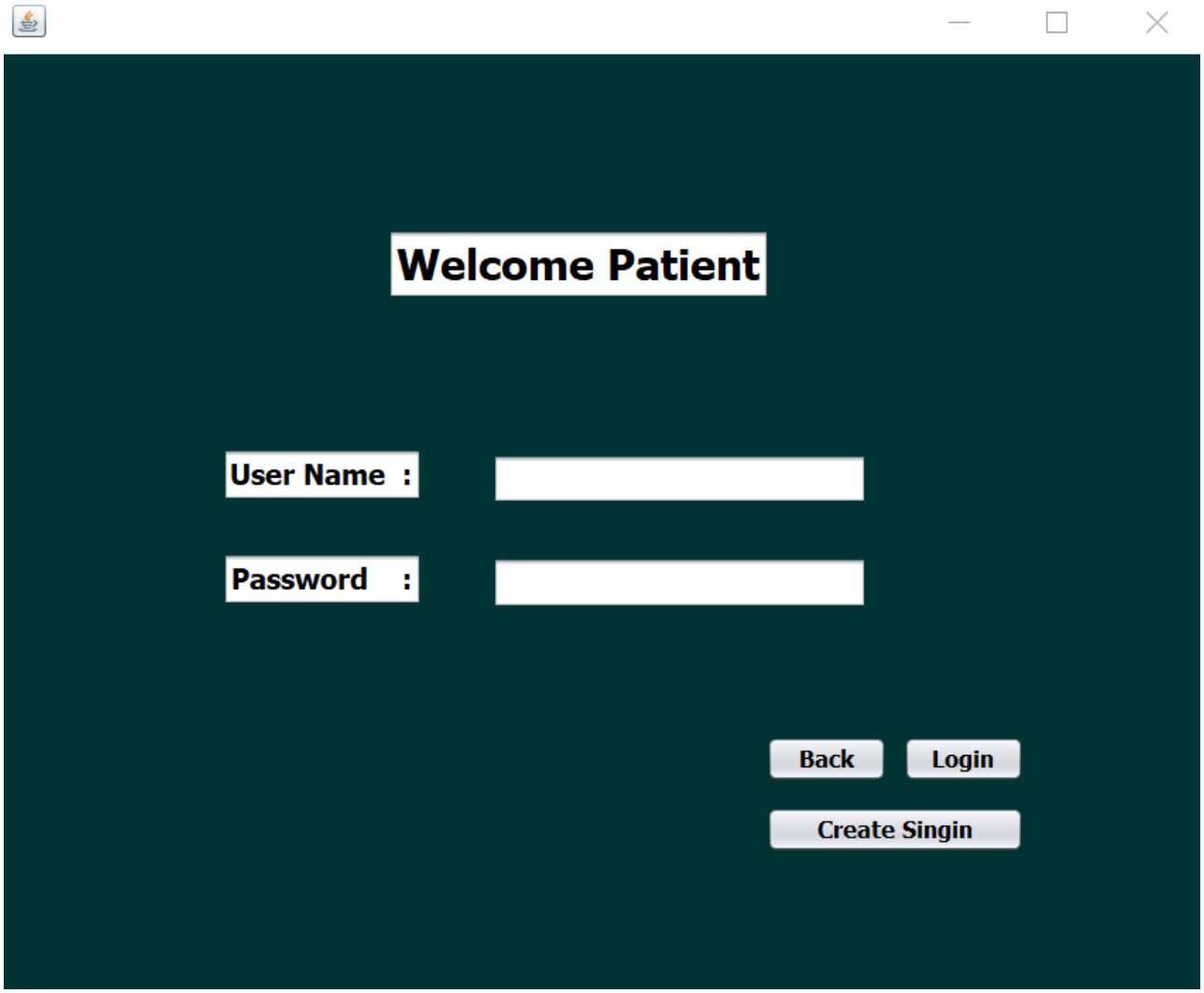

Figure 5.11: Patient Log-In

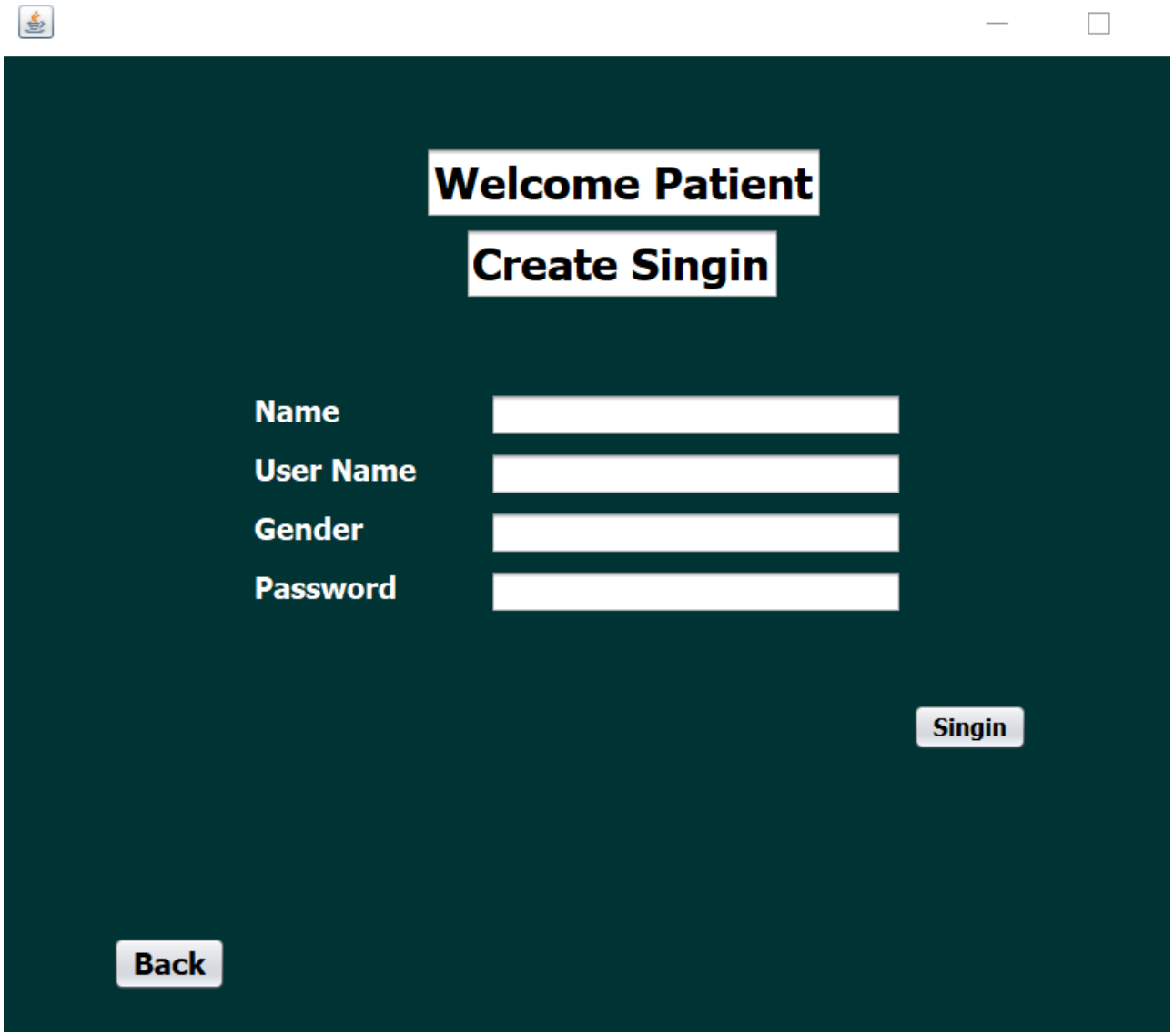

Figure 5.12: Patient sign up

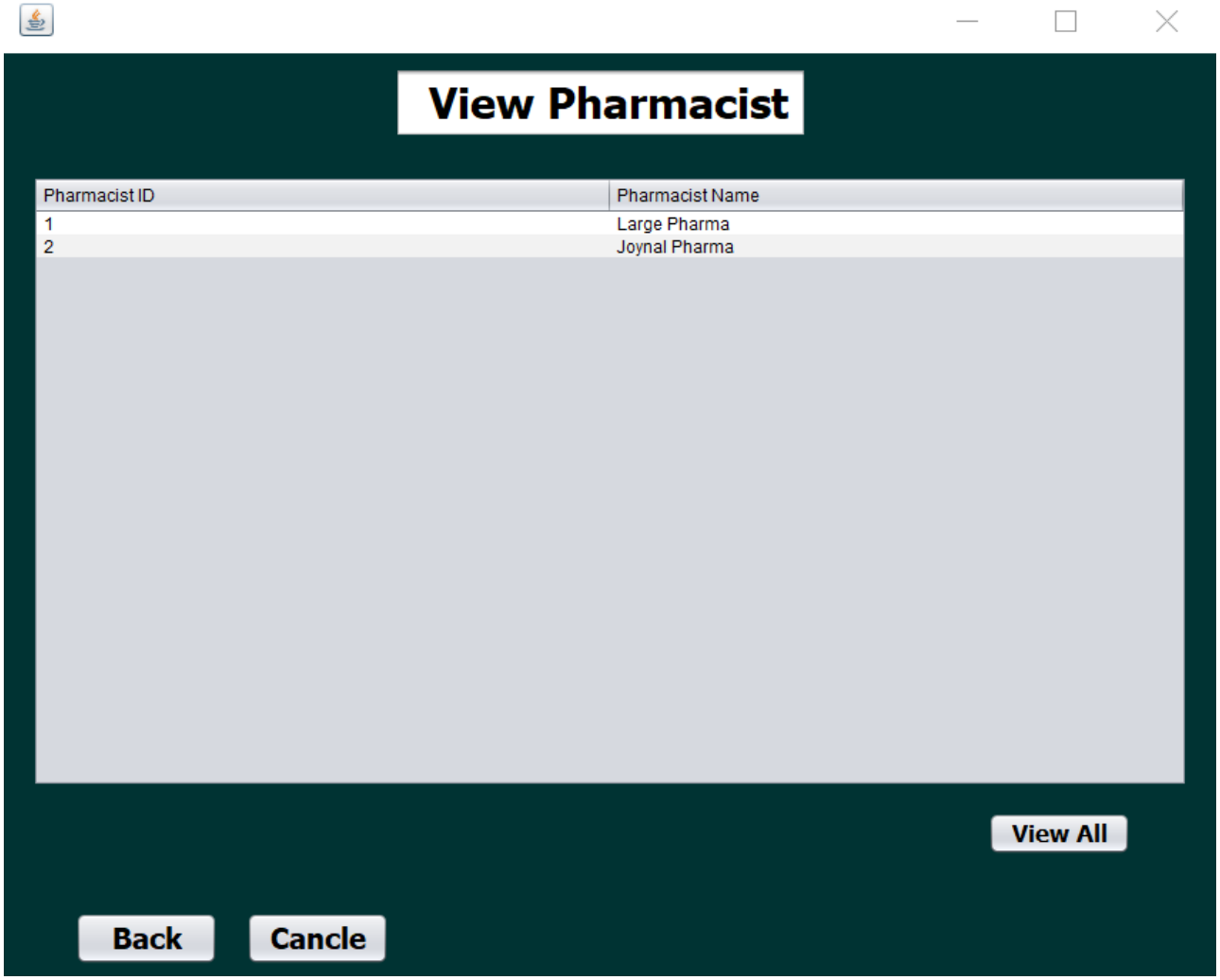

Figure 5.13: Pharmacist overview

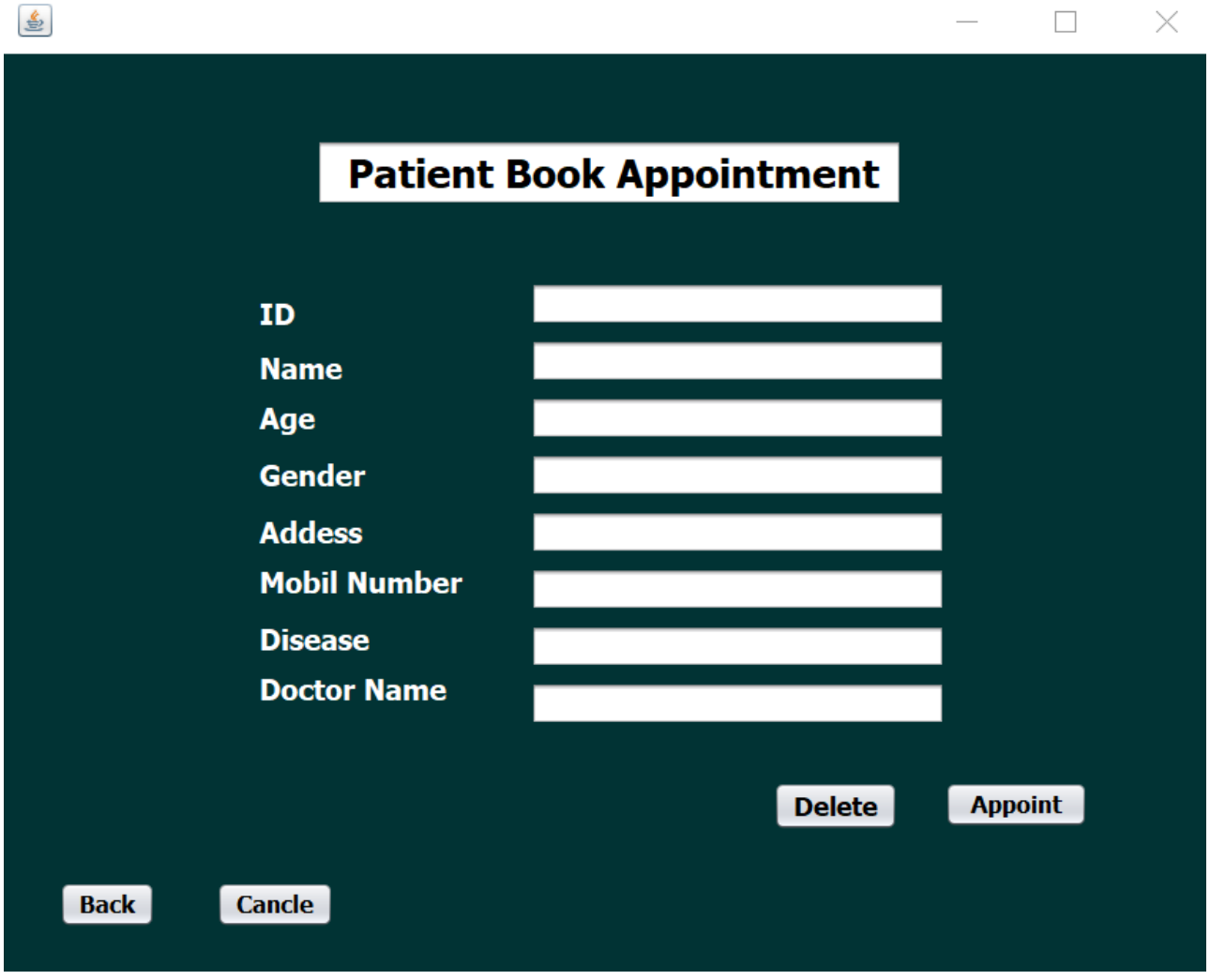

Figure 5.14: Appointment Booking

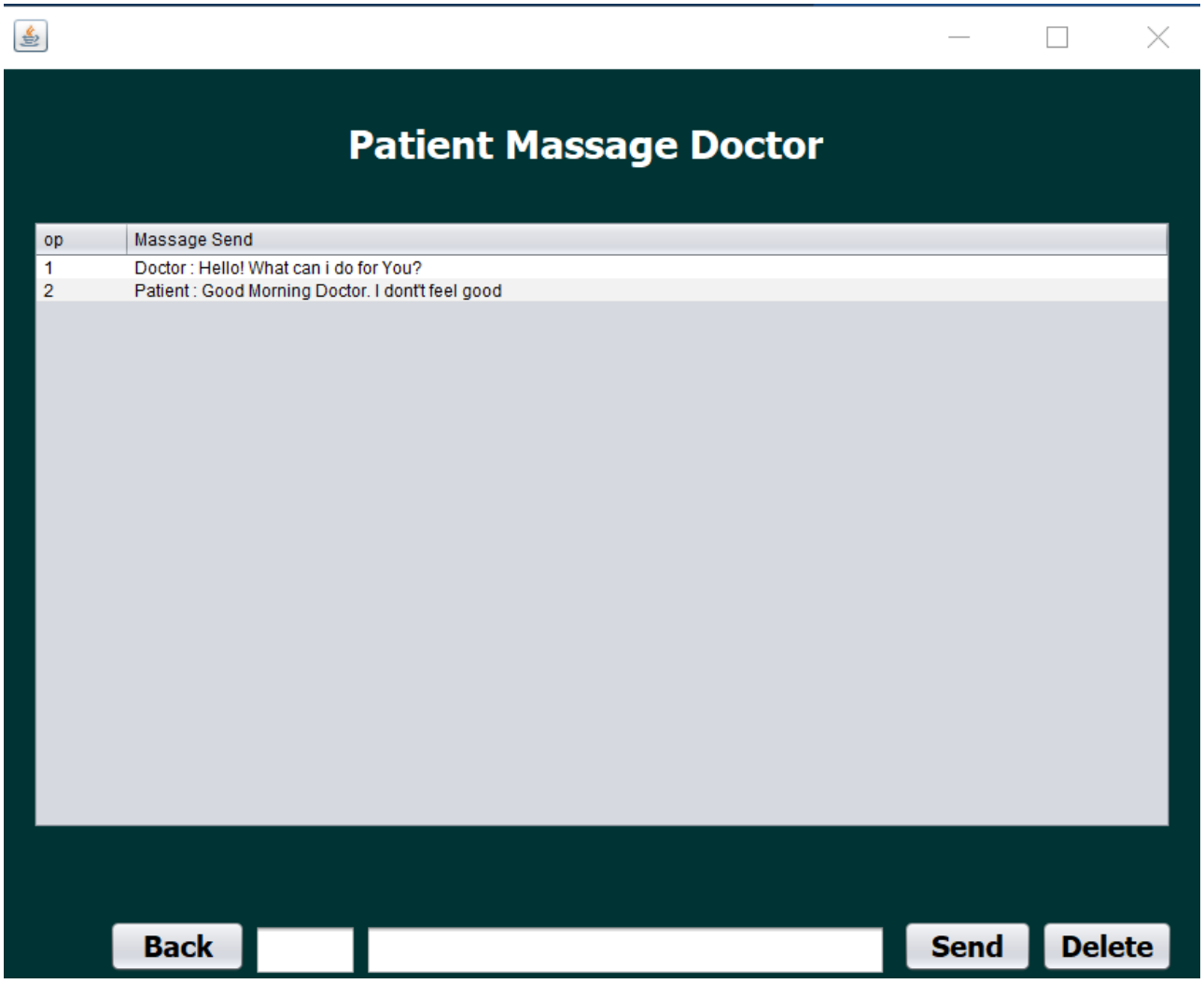

Figure 5.15: Patient messaging

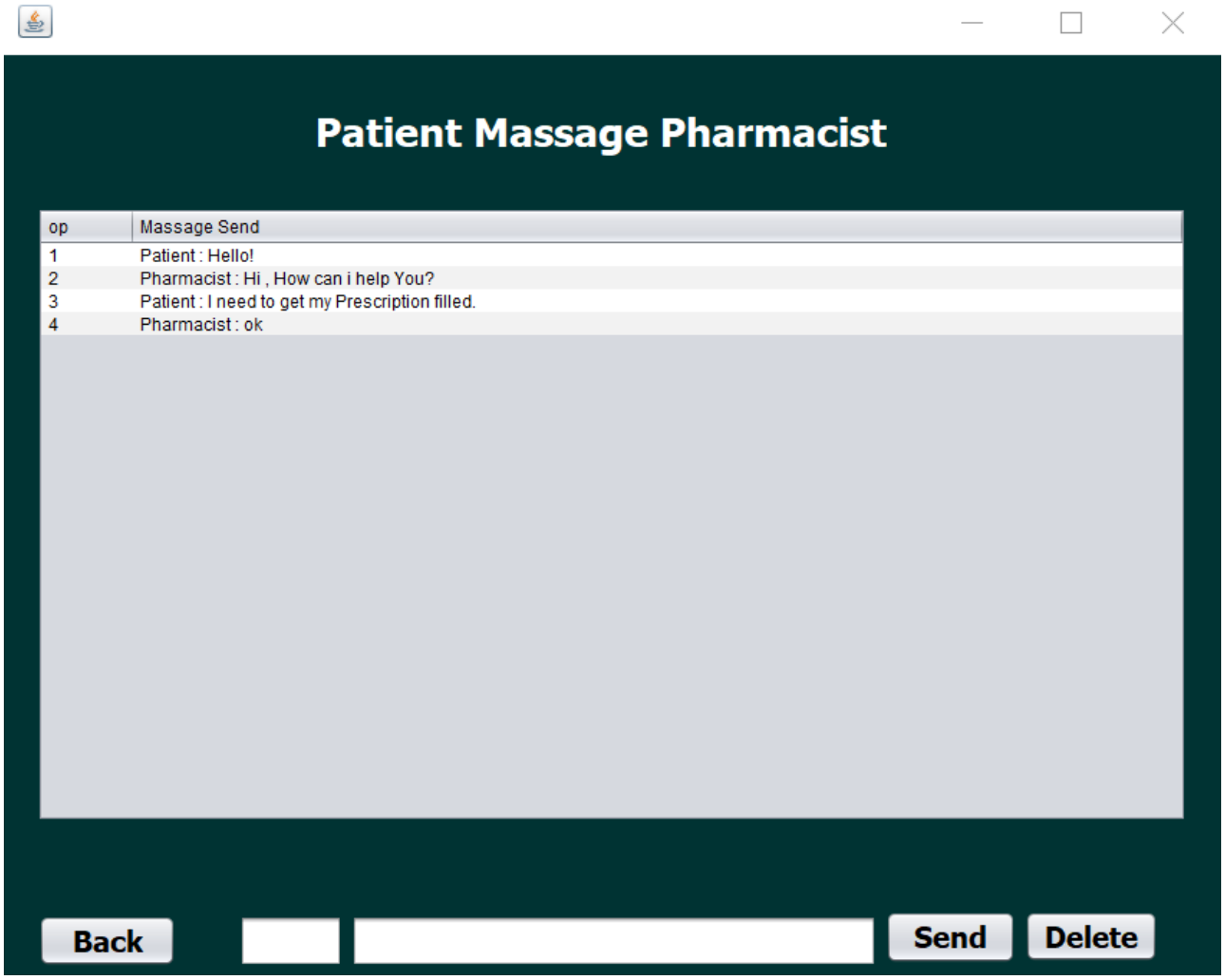

Figure 5.16: Pharmacist messaging

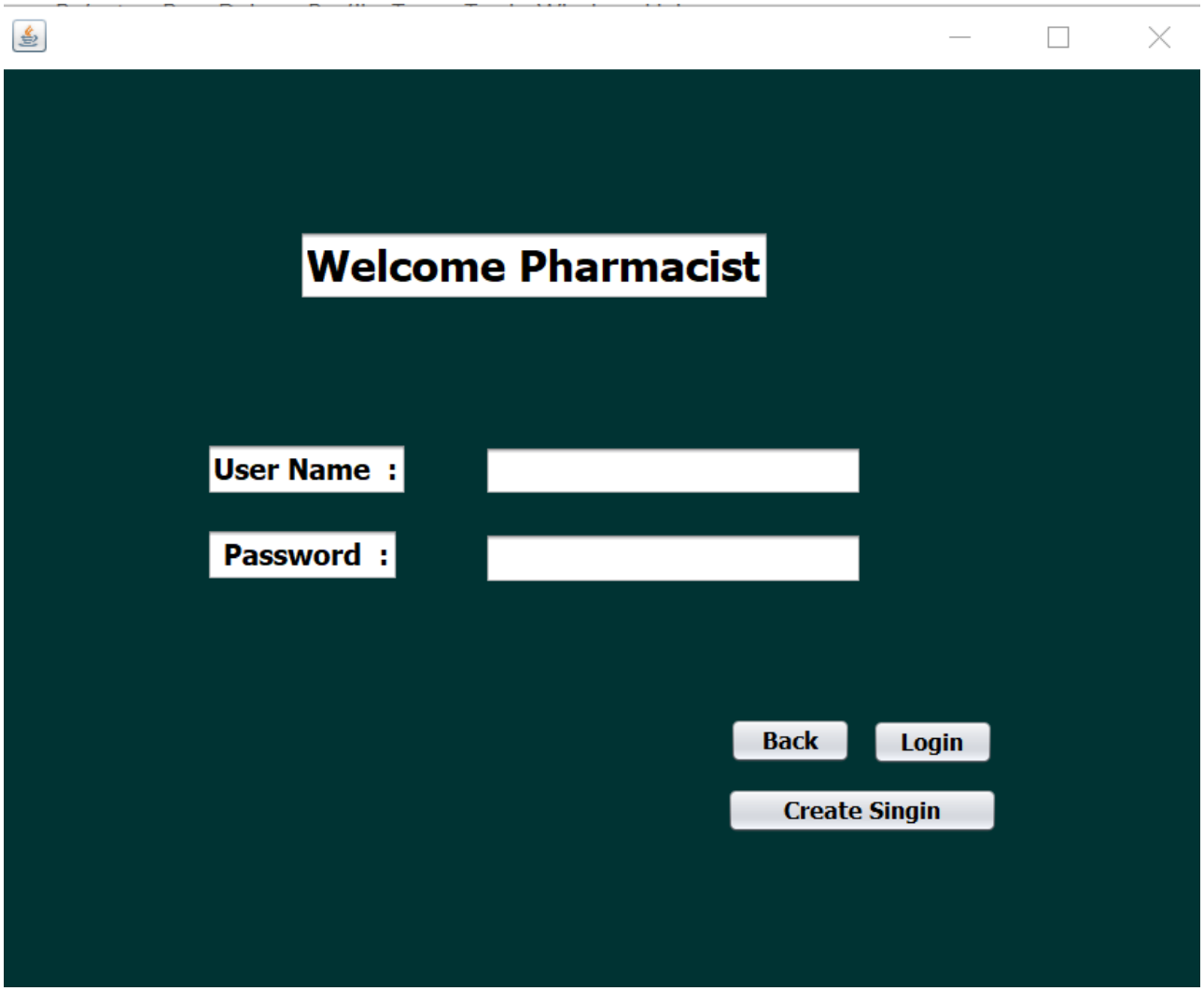

Figure 5.17: Pharmacist log-in

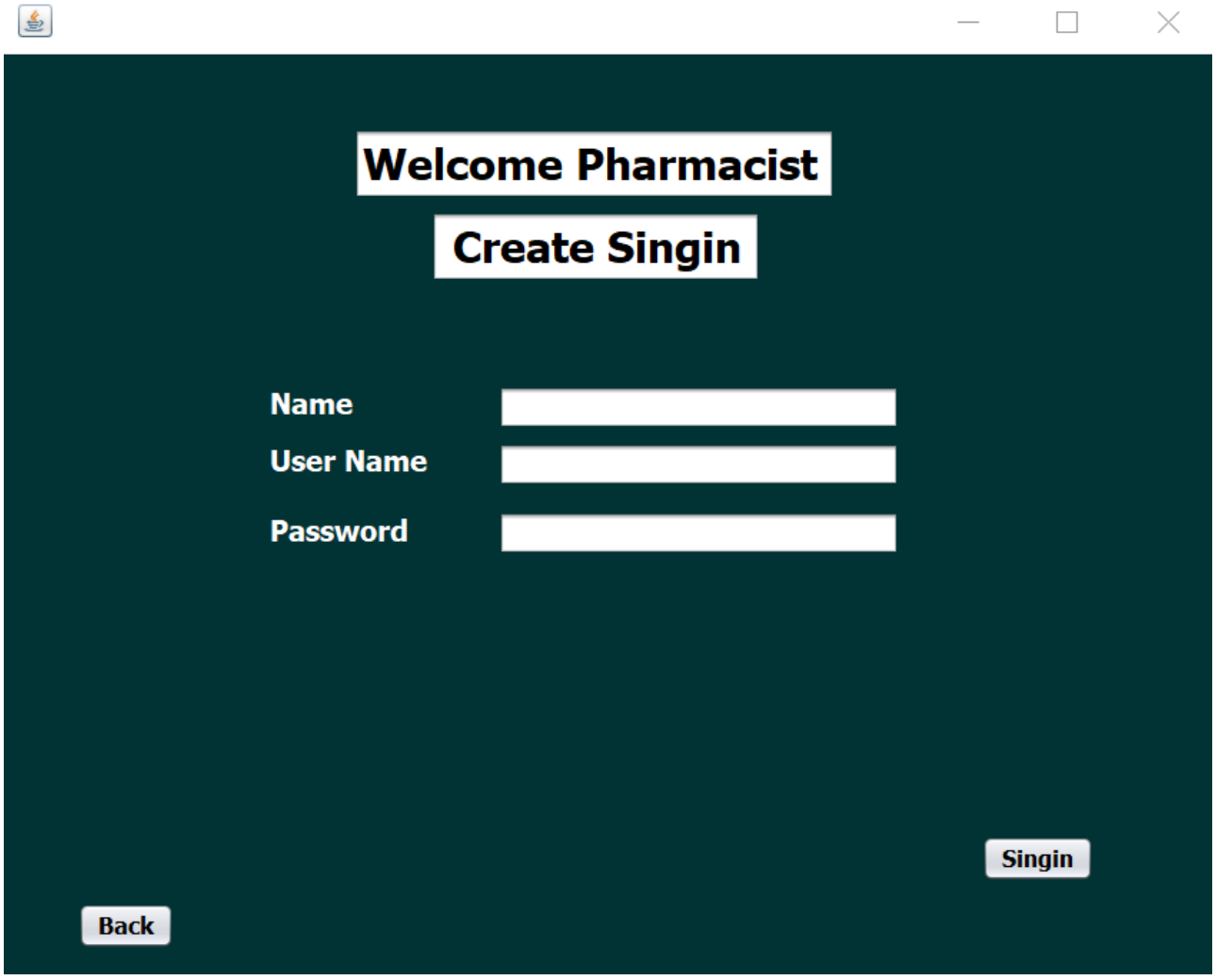

Figure 5.18: Pharmacist sign up

Figure 5.19: Pharmacist Page

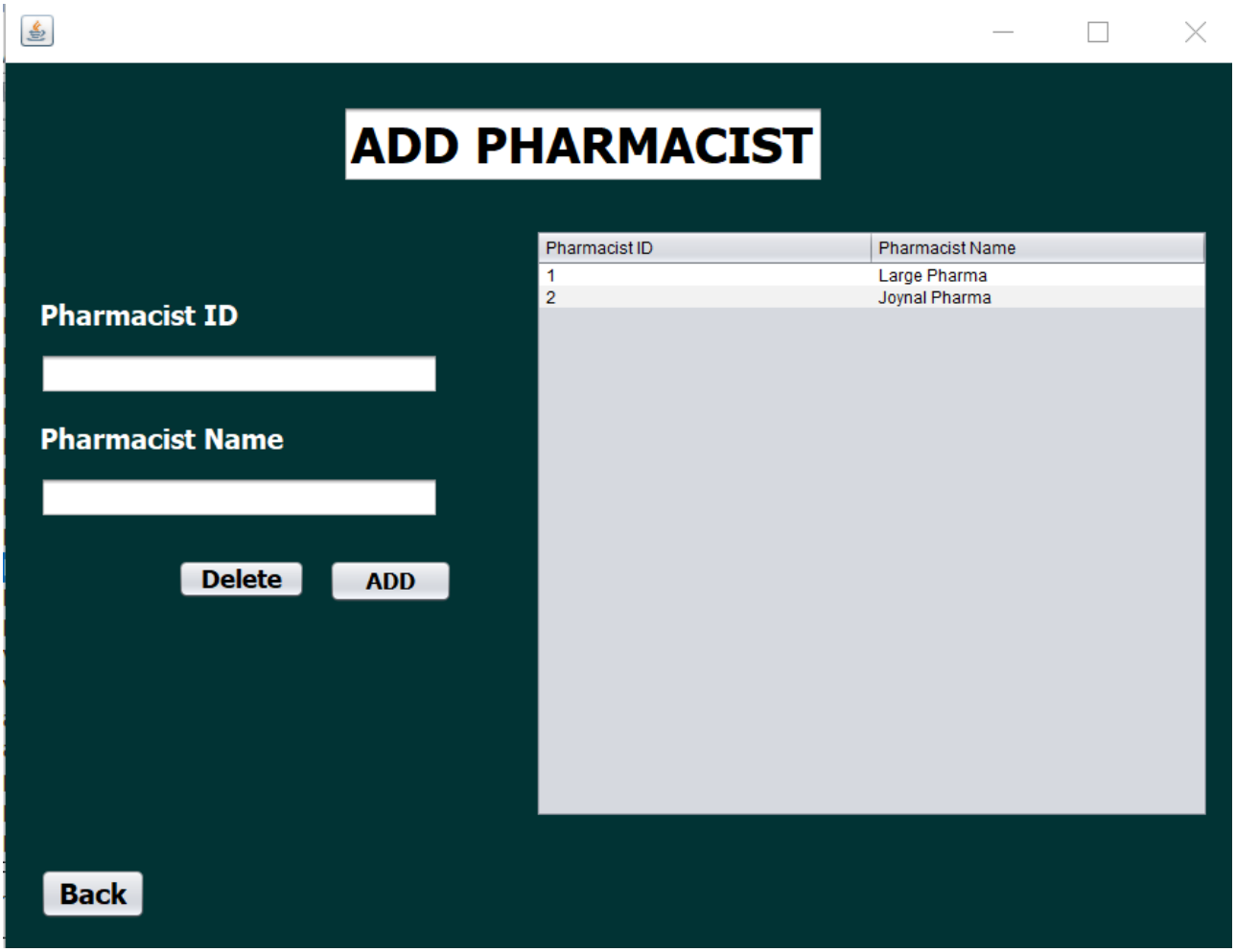

Figure 5.20: Pharmacist Registration

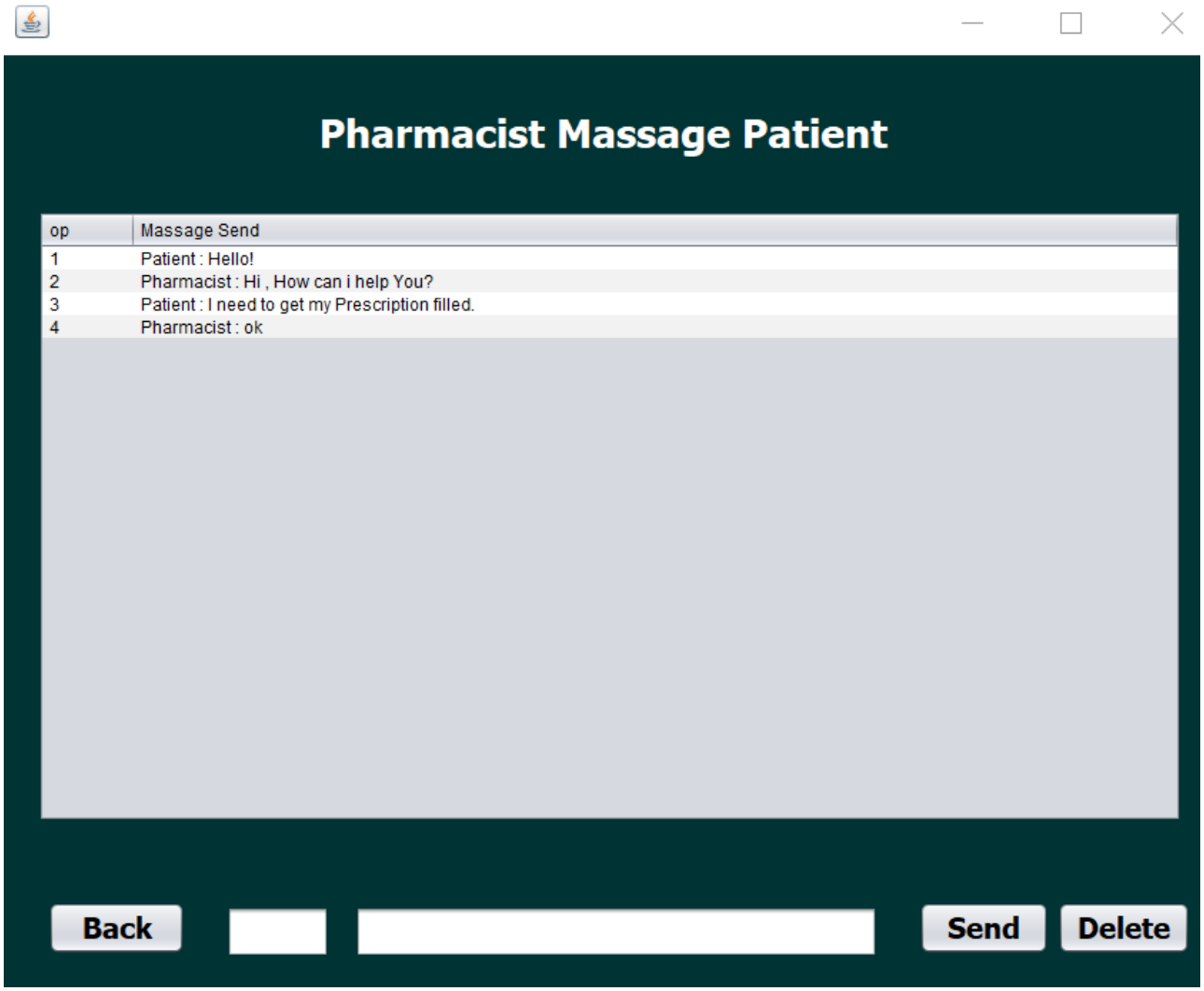

Figure 5.21: Pharmacist Messaging

5.3 Conclusion

In this chapter we show our results after compiling the code of our project.Here we include some screenshot to understand the procedure of the project.

Chapter 6

Conclusion and Future Work

The growing quality demand in the hospital sector makes it necessary to exploit the whole potential of stored data efficiently, not only the clinical data, in order to improve diagnoses and treatments, but also on management, in order to minimize costs and improve the care given to the patients. In this sense, Data Mining can contribute with important benefits to the health sector, as a fundamental tool to analyze the data gathered by hospital information systems (HIS) and obtain models and patterns which can improve patient assistance and a better use of resources and pharmaceutical expense.

The system forms an online visiting platform for doctors and patients. Use of this application roots out the problems such as data missing, information miss-match, long lane of patients in hospital etc.It accurately analyses the usage percentage of hospital resources, bed occupation ratio, administration, Laboratory information etc.It utilizes CRISP-DM (Standard Cross-Industry Process for Data Mining) for development of accurate and effective management system.

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