Medihelp: A Medical Based E- Commerce Application

BY

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This Report Presented in Partial Fulfillment of the Requirements for the Degree of Bachelor of Science in Computer Science and Engineering

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APPROVAL

This Project titled **"Medihelp: A Medical Based E-Commerce Application"**, submitted by Estiak Ahmed, ID No: 181-15-1894 to the Department of Computer Science and Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on *05-02-2023*.

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DECLARATION

We hereby declare that, this project has been done by us under the supervision of **Mohammad Monirul Islam, Assistant Professor, Department of CSE,** Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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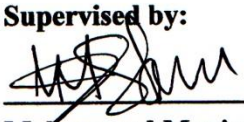

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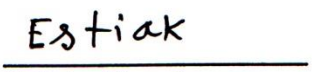

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Finally, we must acknowledge with due respect the constant support and patients of our parents.

ABSTRACT

E-commerce in the medical field covers the purchase and sale of pharmaceuticals & diagnostic implants that provides benefits including flexibility, cheaper costs or reductions, a large selection of items, replacements or return procedures, feedback and reviews, or safety assurances. Healthcare is one of the most rapidly expanding & commonly utilized industries of technology transformation. A technological shift is taking place in the healthcare industry. Systems that support organizations in improving the effectiveness of their business operations are of good quality. By combining information & automation operations, health - care web applications may assist customers in streamlining this procedure. Internet medications expedite renewals & free up resources for medical professionals, consumers, or support staff. In my project, I develop a medical care application in which patients, doctors, and other assistants are included and connected to one another for a variety of purposes over the internet. And Doctors have unlimited access to their patients' information because of online medical files. Online scheduling of appointments causes fewer missed appointments, which reduces long waits and boosts income for a healthcare center. Decreased prices for administrative and customer service workers when customers can book online booking and get data more quickly. In this project, customers can purchase medicines whenever they want and pay for them using this platform. The workforce utilizes this web-based application to look for and apply for jobs.

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CHAPTER 1
INTRODUCTION

1.1 Introduction

A website operates on a distant site and communicates with the user via a browser interface. These applications generally combine computer software for database connections, and goal achievement, and provide much, & interaction techniques with consumer coding.

Web applications have 2 key benefits:

1. There's no need for users to install any technology on their devices, and

2. Web browser is a pleasant situation wherein the consumers normally spend a significant amount of their time.

In order to provide a comprehensive, consumer system that includes a broad range of capabilities to fulfill all customer requirements, I examine the objectives before I begin the work. As a business that creates web-based healthcare apps, I put the requirements of end users first by producing software that is not only useful but also has a consumer interface and simple navigation.

The focus of this project is an online healthcare platform from which administrators, patients, customers, staff, and sellers will all gain something. A customer can purchase medication from multiple vendors at once. Customers can purchase medical equipment from vendors with favorable brand reviews, quality products ratings, & affordable costs. Visitors can log in and set up an account while utilizing a health - care service. To begin with, this may be the simple contact information and email login. In order to allow users to sign up in a matter of seconds, they abide even by the finest design standards and only ask for pertinent information. Users can get elevated medical treatment without stepping outside their houses with the use of smart phones. Actual & seamless contact among patients and doctors is made possible through constructed audio and videoconferencing collaboration.

1.2 Motivation:

Health systems have been thinking about using smartphone applications to provide top-notch services internationally. MediHealth applications have recently gathered a lot of steam because they transform the medical industry. This web application allows patients to send texts, set schedules, & interact with hospitals and doctors Online for tale medicine consultations, contrasting costly conventional communications link to physicians and medical organizations. To prevent physical appointments for minor concerns, clients may express any inquiries over videoconferencing, conversations, and phone conversations. That increases the application's efficiency greatly.

1.3 Objective:

A responsive e commerce medical and healthcare related website with any device user can use it.

Develop beautiful UI.

Increase doctor, patient, and company.

Online payment policy.

Normal people use it fluently.

Pharmacy or medicine store can use it to do fast delivery.

Cash on delivery facility

Online doctor facility.

Job searching and applying facility.

Medicine searching as well as buying.

Medical and health care related blog.

1.4 Expected Outcome:

Establishing a platform that can use for doctor to patient online consultation using google meet, and buying medicine and applying for job in health or medicine related post.

Facility to cash on delivery and online payment like mobile banking and card payment.

Time saving for patient and doctor also pharmacist.

User can see the responsible website.

Increase patient, doctor and medicine company.

Continuously uploading medical science related information so that people will be careful for their health.

All type of medicine, doctor, company filter differently.

1.5 Application Management:

In this application each patient have a portal where they can see their appointment date which they selected early, purchase medicine list, doctor can view their consultation time and generate meeting link. Admin can view all this in their panel. Payment will be received by admin in online payment.

1.6 Project Layout:

In this part, I will describe the formation of this report where I briefly describe about my application.

Chapter 1: The application motivation, introduction, expected outcome, and objective are describe this part.

Chapter 2: In this part background process will be describe properly.

Chapter 3: Specification of Requirement was utilized

Chapter 4: Specification of Design given with details

CHAPTER 2

BACKGROUND PROCESS

2.1 Basic Information:

In this project, I was used python, for developing I used framework to to done powerful feature. In front end I use HTML, CSS, bootstrap, and JavaScript so that my website more responsive. If this use interface is beautiful then user will increase more as my thought.

2.2 Similar Work:

- Medex.com.bd
- Doctime
- Maya app
- MyHealthBD.com
- Praavahealth.com
- E-healthbd.com
- Lifespringint.com

2.3 Relative Analysis:

In our country most of the medical health related application are build with single feature like doctor appointment or hospital finding or medicine buying. But in my website I am presenting many category like user can search medicine by name or group, appoint a doctor through online and offline, buying medicine using cash on delivery or online payment. In my online payment system I was added mobile banking system and card payment system.

2.4 Challenges:

1. Analyzing and collecting requirement.
2. Solution analysis
3. Front end design
4. Back end design
5. Software quality assurance

CHAPTER 3

SPECIFICATION OF REQUIREMENT

3.1 Diagram of Project:

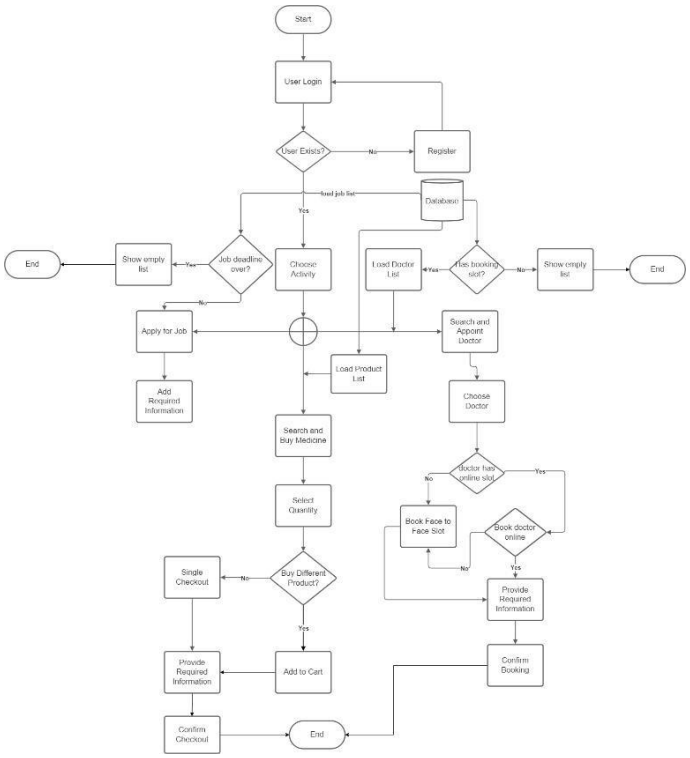

Figure 3.1: Flow chart diagram of the project

In figure 1, this is the workflow of this application named medihelpbd. User first enter this website. If he or she are registered user then he will login or if he or she is the new user then he or she need to create account. Then user are ready to action. The work flow given the clear knowledge of how a user can do their necessary task after entering this website

3.2 Used Technology and Tool:

- Operating system Windows
- PyCharm
- Visual stdio code
- Python
- Django
- Git
- Postgre sql
- Bootstrap
- Javascript
- Html
- Css

3.3 Data Model

Figure 3.2: ER diagram for my application

In figure 2 represent the data model of our application.

Basically it is the details of data table list and also data type. Which type of data we use for this project are given here. The separate box is represent as a column of data table. Under the column the value and their data type also listed here.

3.4 Use Case Model

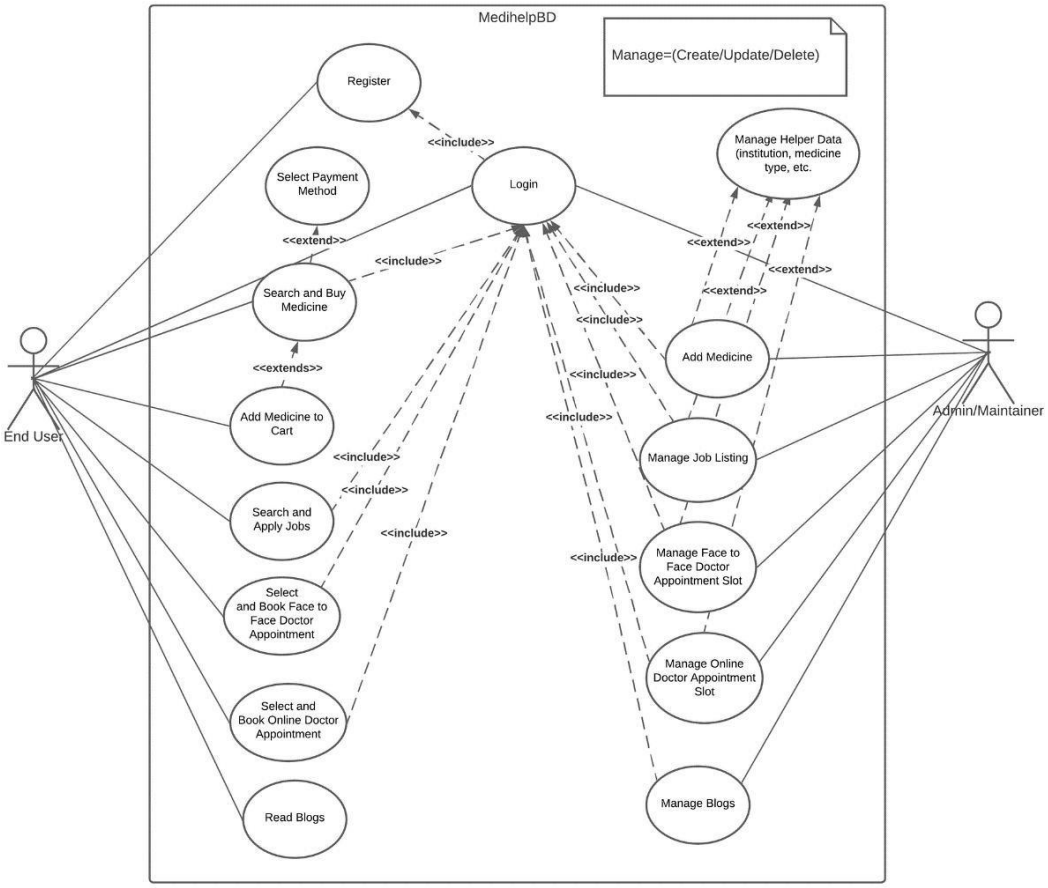

Figure 3.3: Use case diagram of my application

3.5 Requirement of Project Design

I used pycharm a python IDE that have more easier feature to install and upgrade project and help migration easier. I utilized the open-source relational database management system PostgreSql for databases. The bootstrap framework is what we utilize for the front-end. It aids in the development of a responsive design. I used the Python-based Django framework for our project's back end that enables us to easily construct dynamic interfaces without having to leave the comfort of Django. It's a library that makes it simple to create contemporary, responsive, dynamic interfaces using the templating language Django Blade. I have utilized several different Python packages to help us build different functionalities for our project. Moreover, we utilized JavaScript to carry out some operations. Django is now a day advance web based application developer it also used artificial intelligence.

CHAPTER 4

SPECIFICATION OF DESIGN

4.1 Front End Design

For this kind of purchasing platform, the front-end is crucial to attracting more customers. I have therefore placed a lot of emphasis on the front-end. I made an effort to make the entire project responsive so that it could be used on any device and increase our consumer base. The bootstrap framework was applied. It is a front-end framework that is widely used to build contemporary websites and web apps. It is a free front-end framework designed to speed up and simplify web development. Along with other optional JavaScript plugins, it also comes with HTML and CSS-based design templates for forms, typography, buttons, navigation, tables, modals, image carousels, and many other components.

4.2 Back End

For the back-end programming language in our project, we used the Django framework. Django is a well-known Python framework that is free and open-source. The Django framework may be used to create everything from very tiny to very huge projects. Django outperforms other web frameworks thanks to its robust capabilities and development tools that speed up the creation of online applications. Django's clean, reusable code that adheres to the MVT design aids website developers in streamlining the development process. We picked this framework since it is a highly developed web framework with a sizable developer community, making it very easy to find a solution to any issue.

4.3 UI and UX

Welcome page

When a user enter the url of medihelpbd then s/he find this page

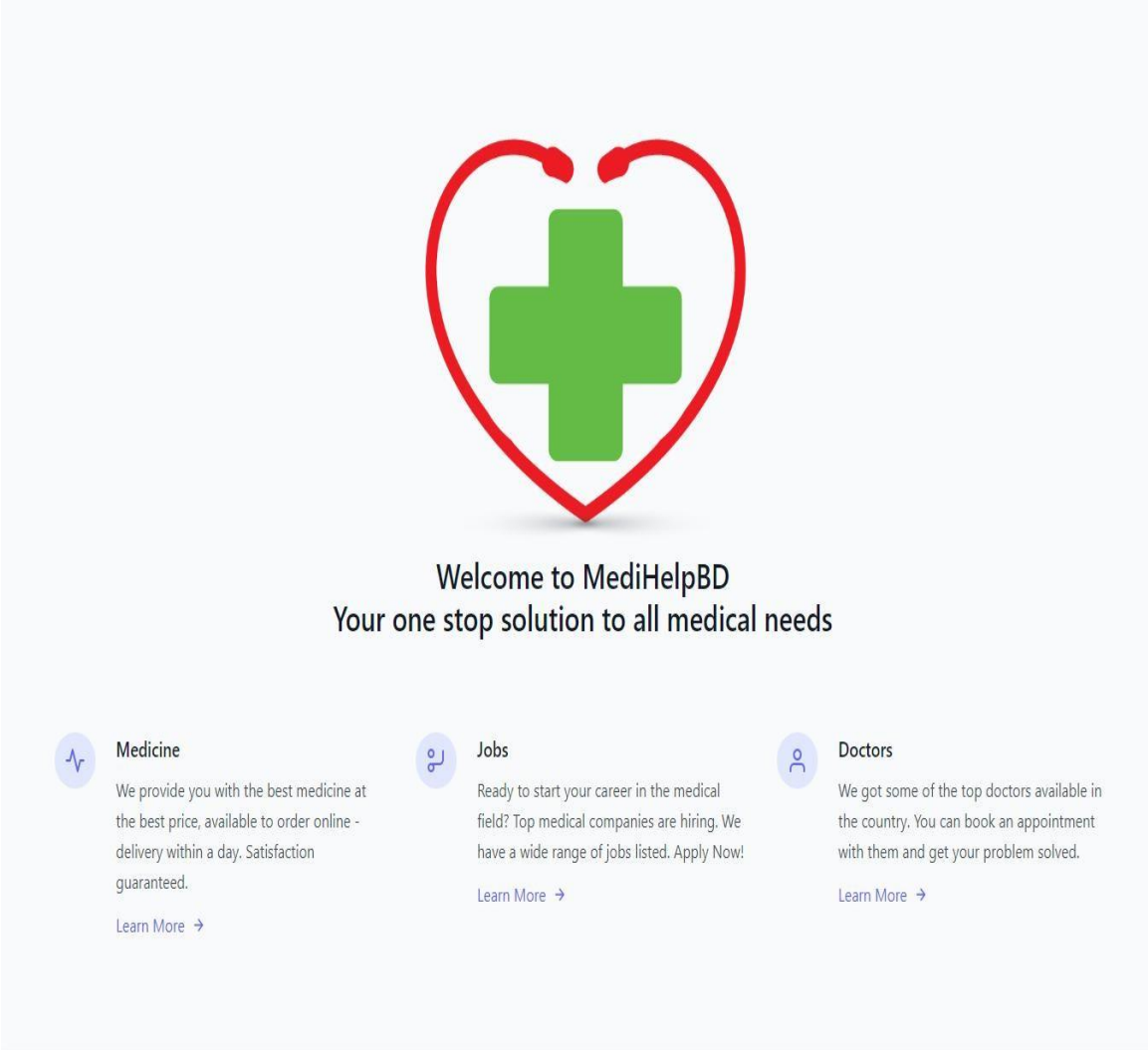

Figure 4.1: Welcome page

Login Page

In this page, the ui is login ui when a user or a admin or a doctor or a patient can go to login then this page will appear

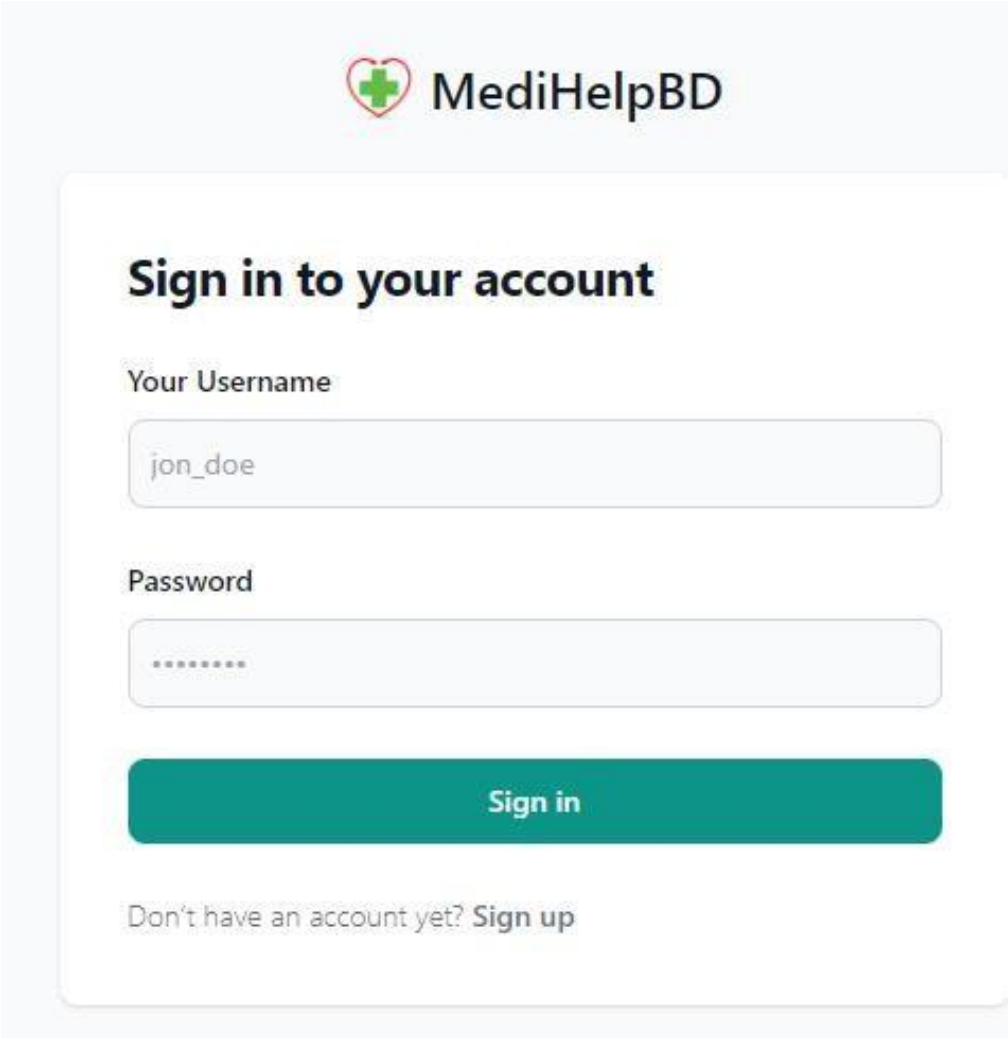

Figure 4.2: Login page

Sign up Page

In this page, the ui is login ui when a user or a admin or a doctor or a patient can go to register then this page will appear.

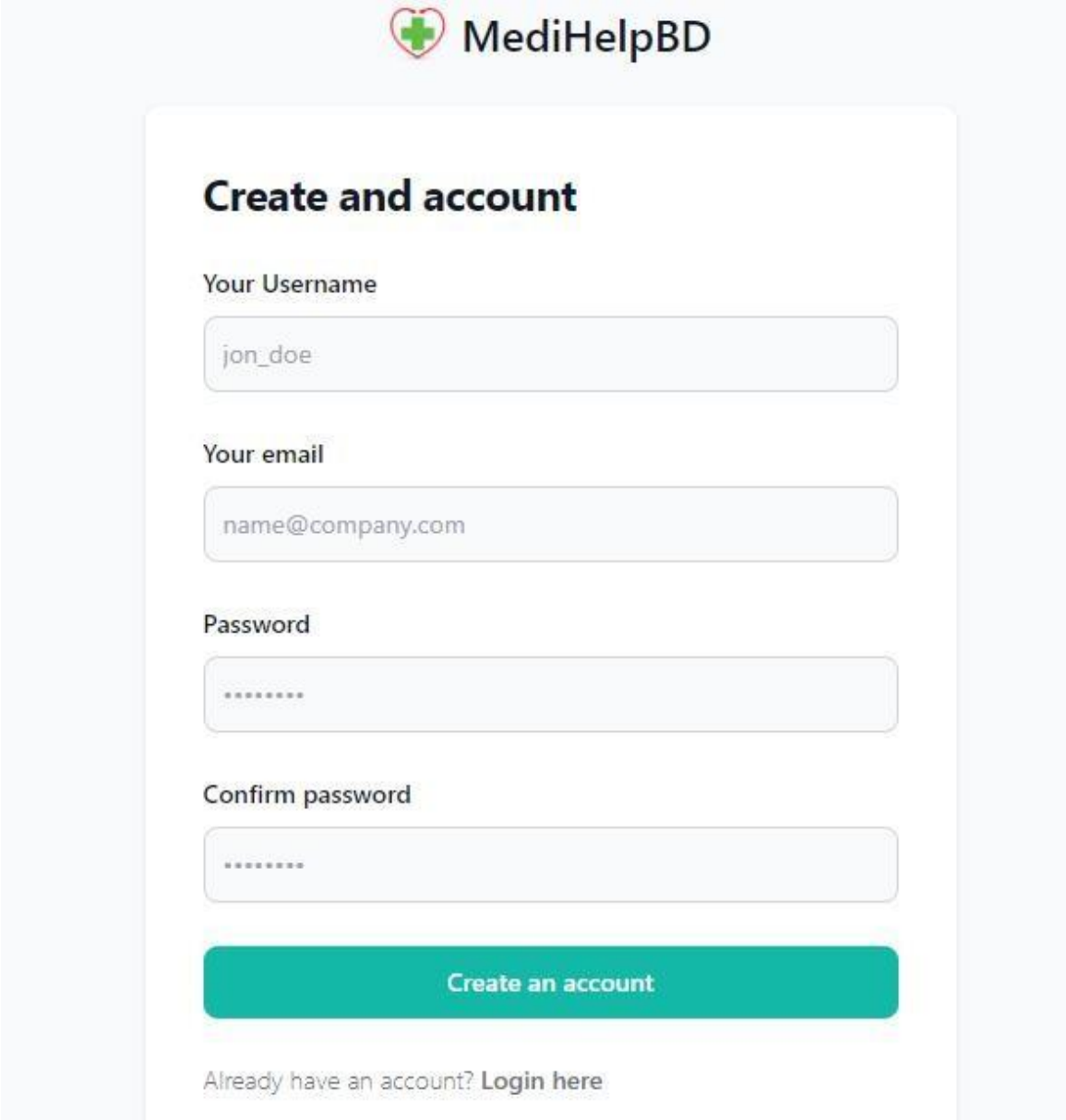

Figure 4.3: Sign up page

Menu bar

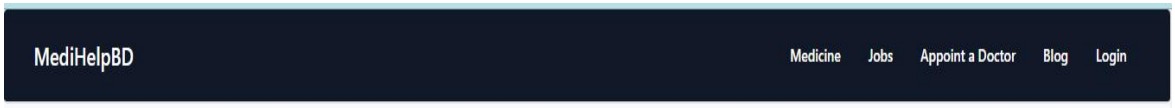

Figure 4.4: Menu bar UI

Medicine Page

In this page, when user are going to buy some medicine then this page will appear.

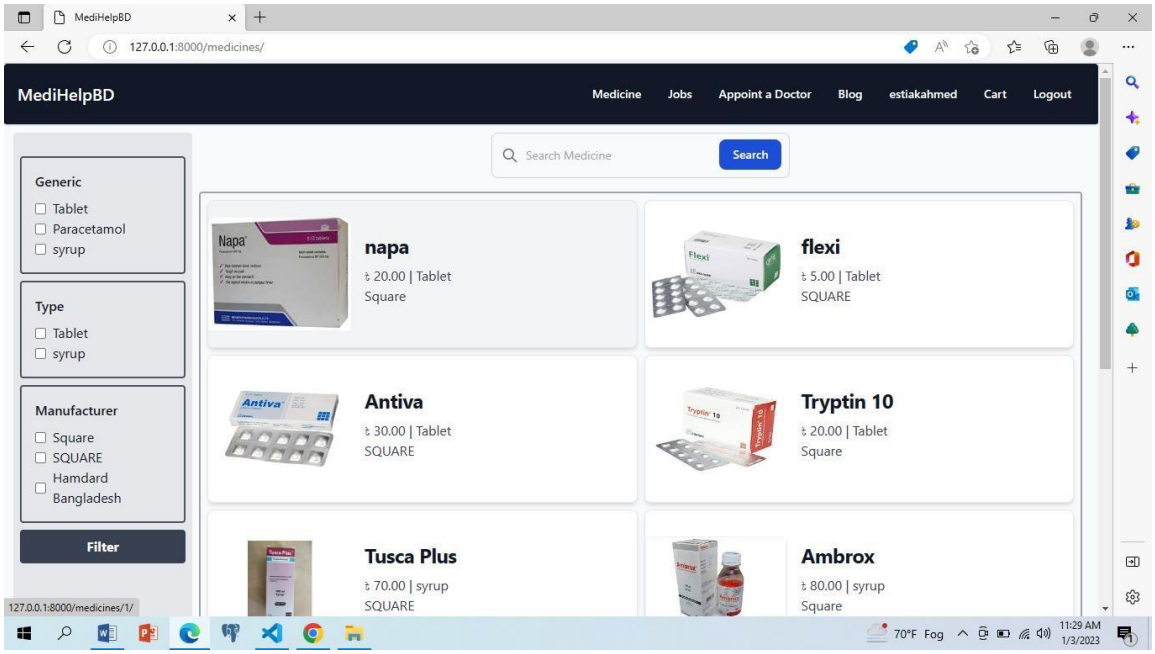

Figure 4.5: Medicine page UI

This page have some feature like multiple filter and searching option.

Job page

In this page, when user are going to apply job in any company then this page will appear.

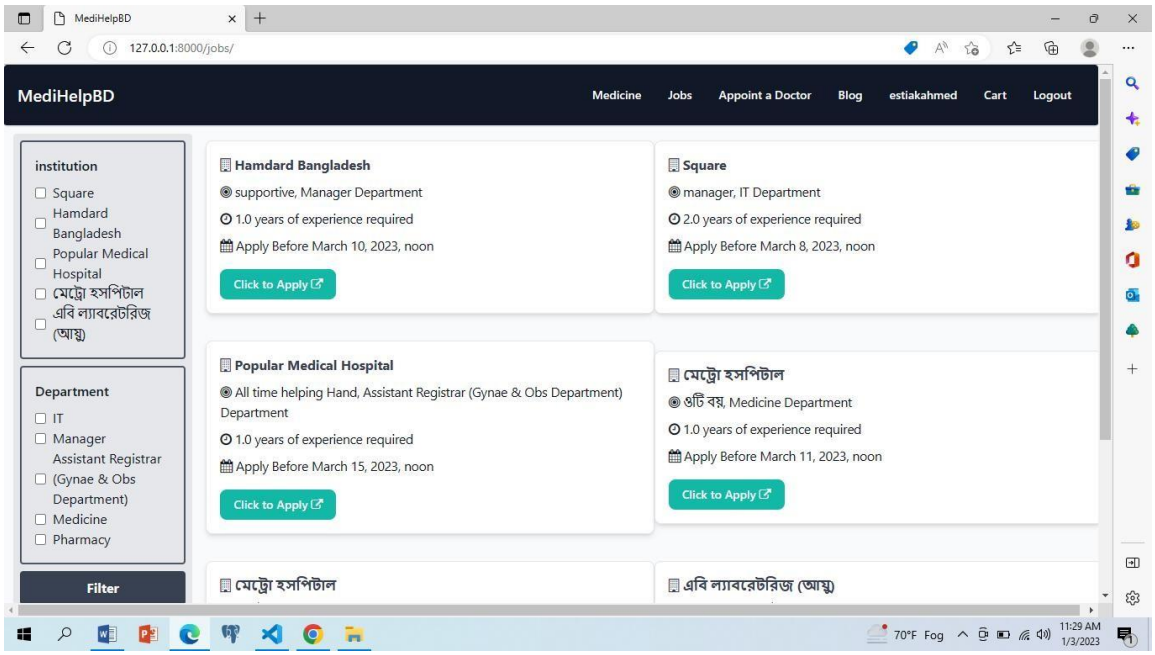

Figure 4.6: Job page

Doctor Page

In this page, when user are going to appoint doctor in online or offline then this page will appear.

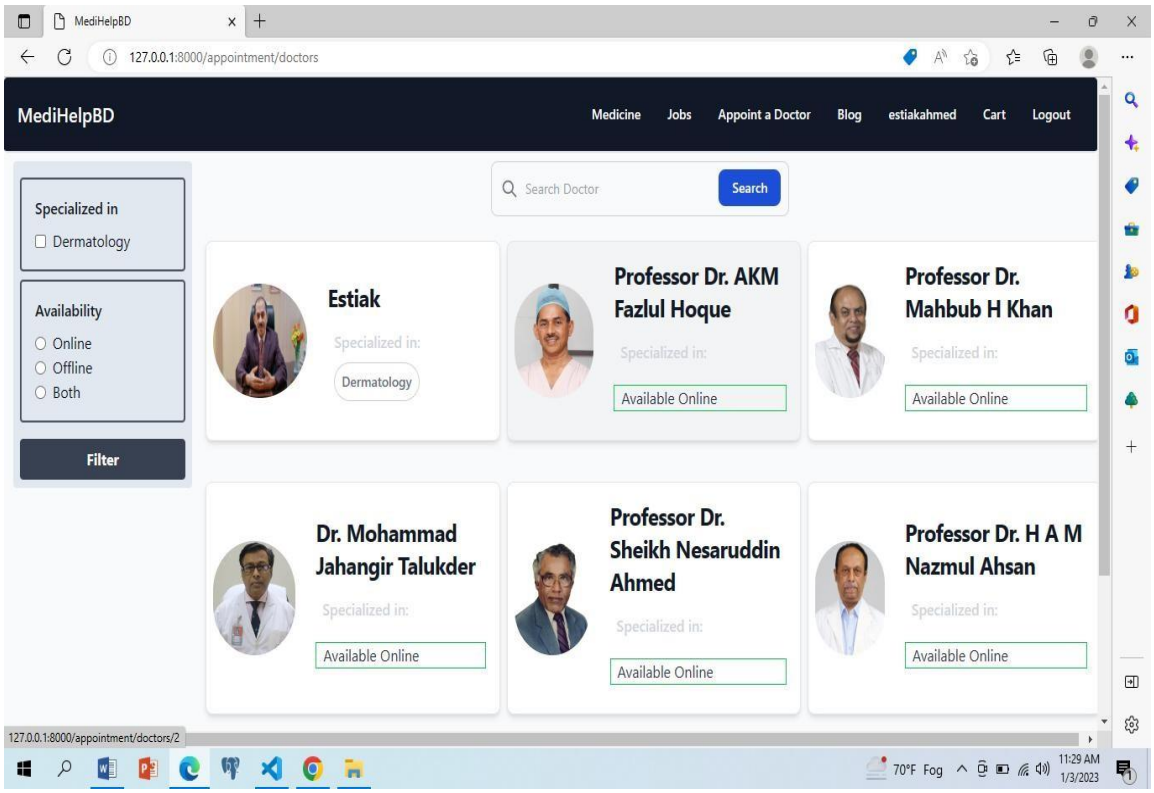

Figure 4.7: Doctor appointment page

Blog Page

This page is build for to give user a proper information so that they have idea to current outbreak.

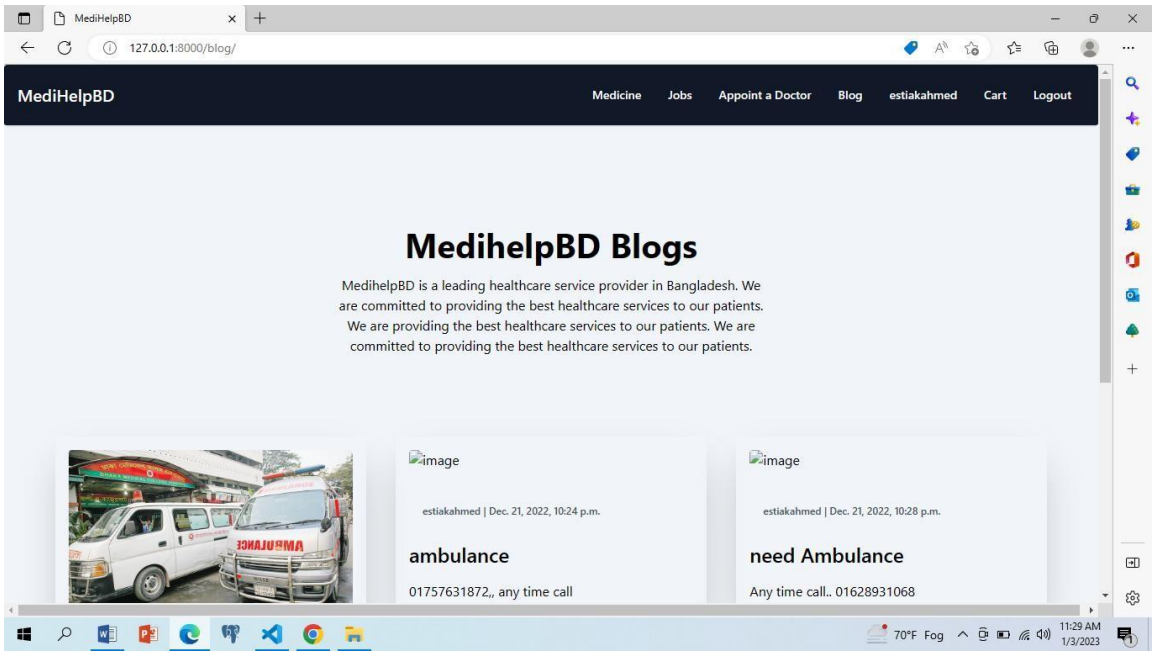

Figure 4.8: Blog page

Footer view

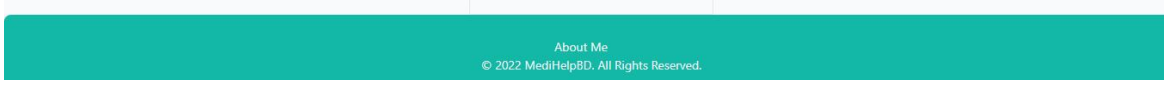

Figure 4.9: Footer view

User Panel

When user login to this website the he seen his previous history of buying medicine or appoint a doctor or apply a job.

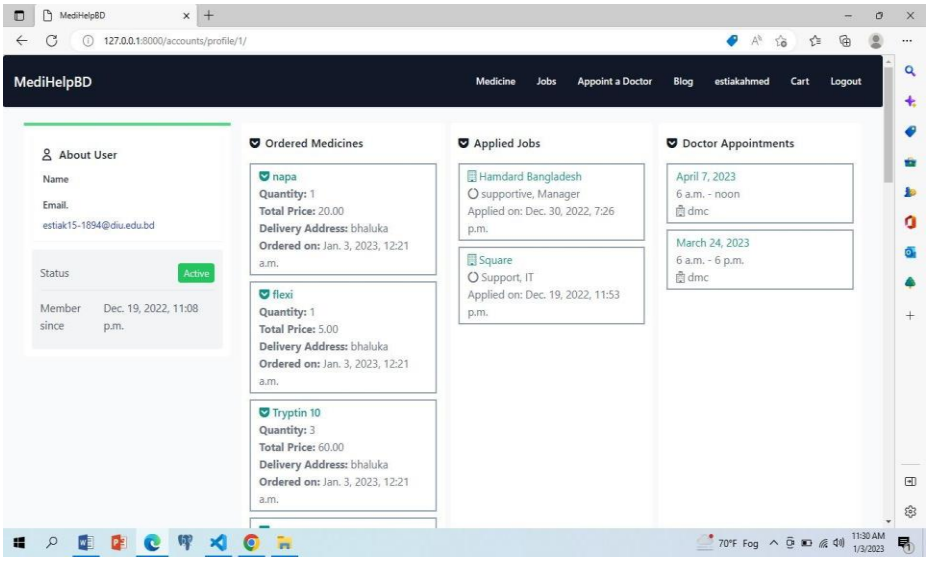

Figure 4.10: User Panel

Medicine Details Page

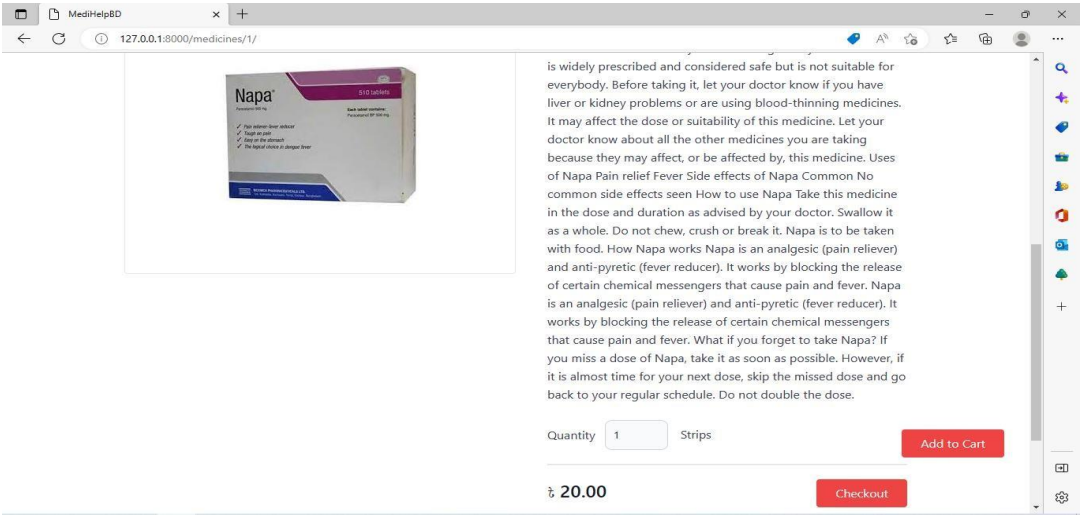

Figure 4.11: Medicine detail page

Checkout with cart Medicine Page:

This page is checkout page when anyone buy some medicine they this information is need to fill up

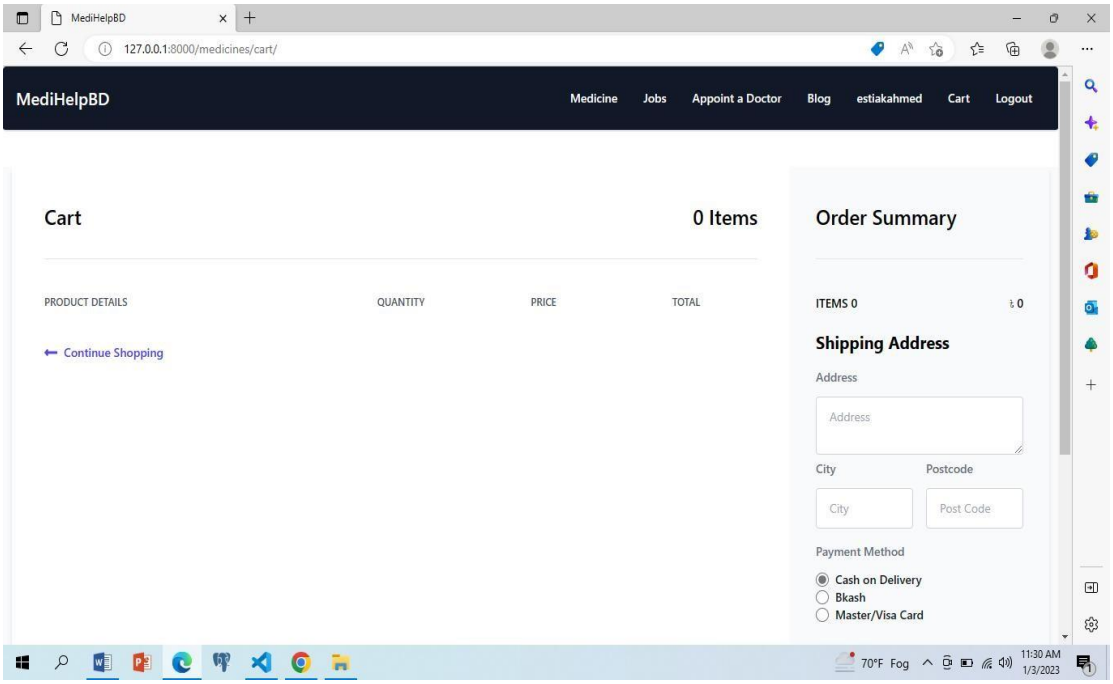

Figure 4.12: Checkout page

Job Details page:

When applicant are going to click apply button then he or she will find this page.

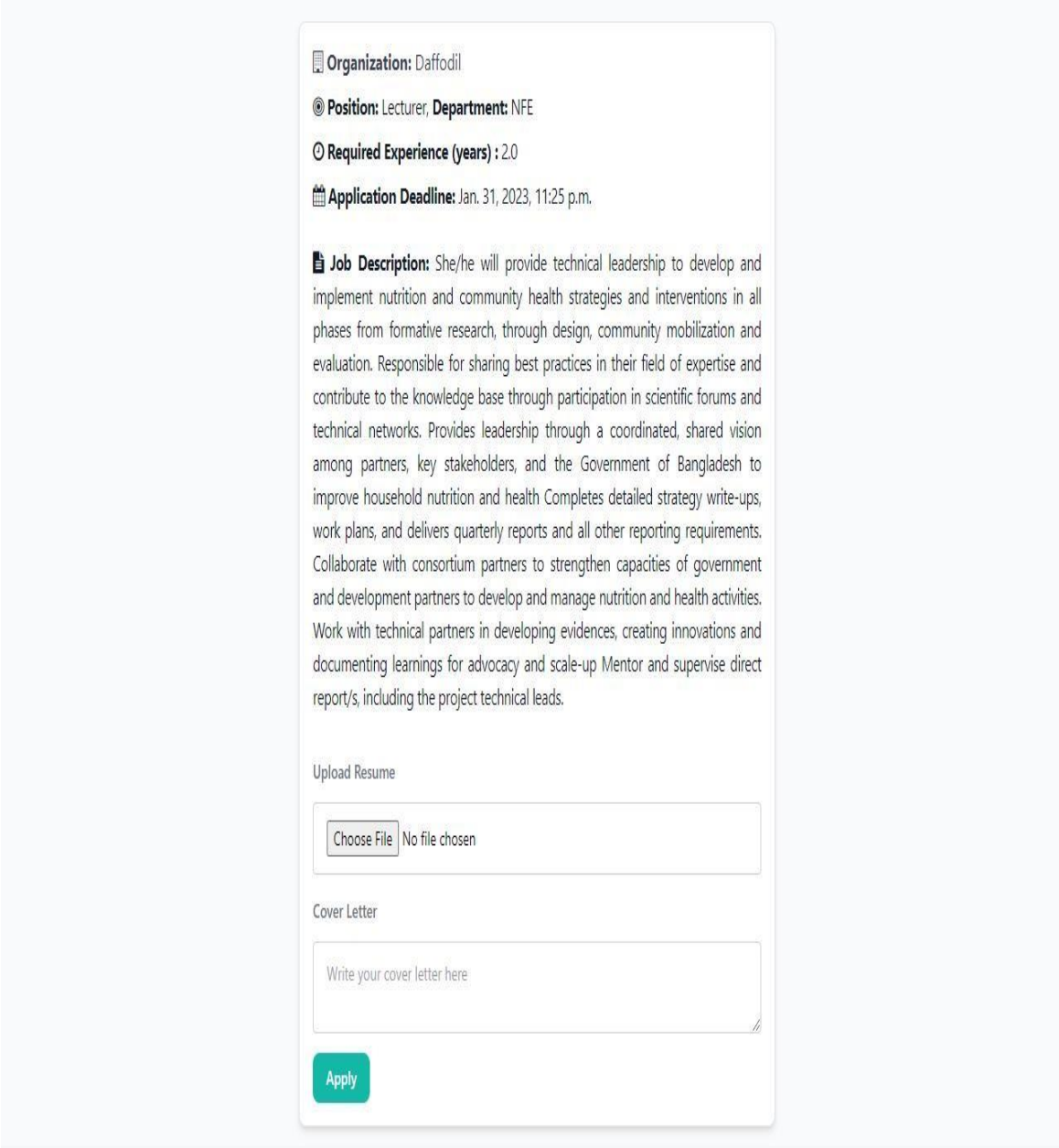

Figure 4.13: Apply job details page

Doctor Appointment Details Page

When any patient are going to appoint a doctor then he need to fill up this form

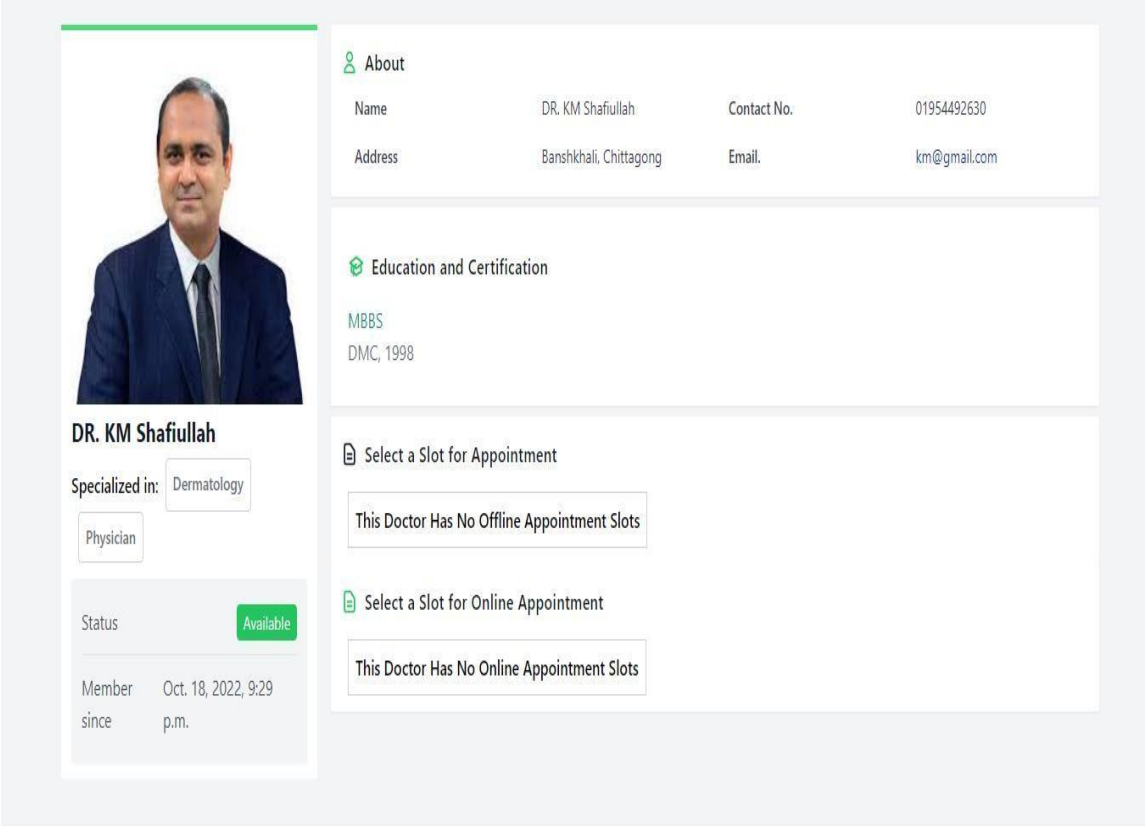

Figure 4.14: Appoint a doctor detail page

Admin Panel Login

In this page, when admin go to login then this page will appear

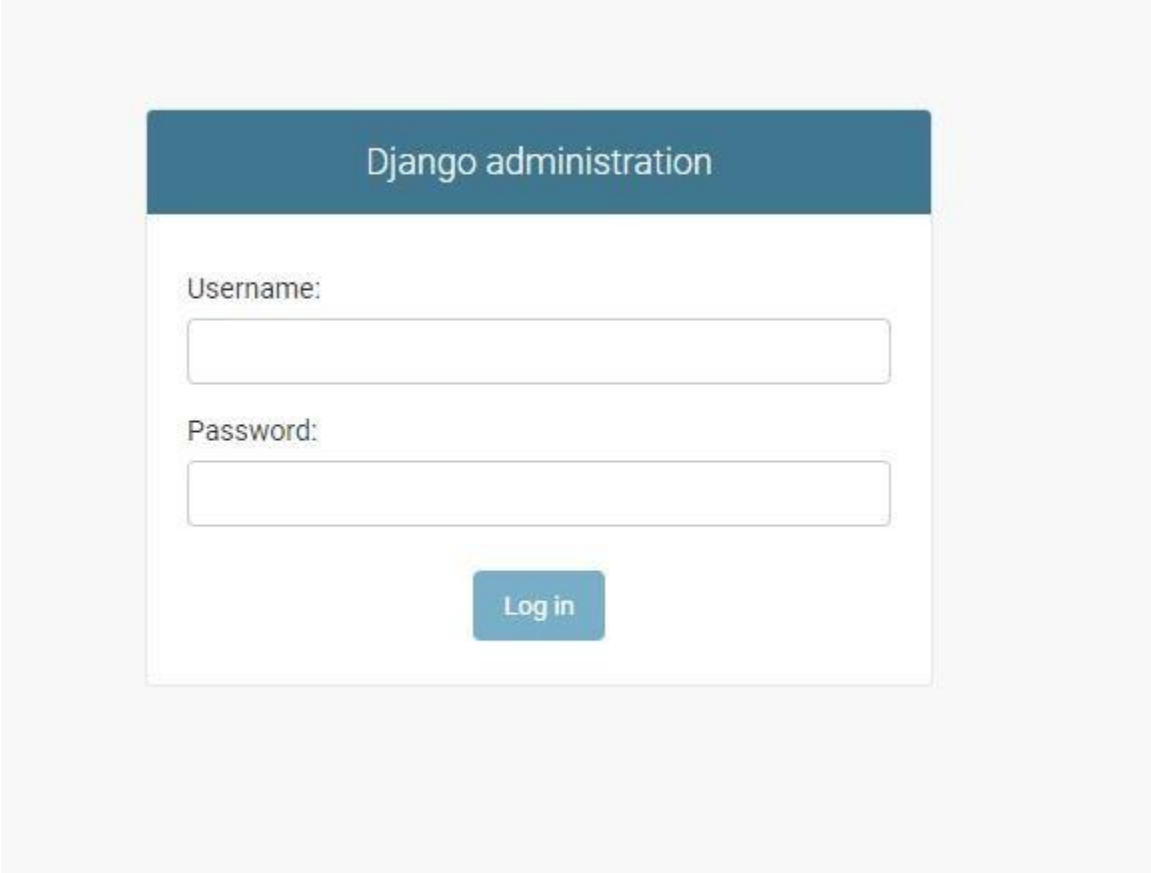

Figure 4.15: Admin login page

Admin Dashboard

This is the main control page of my website

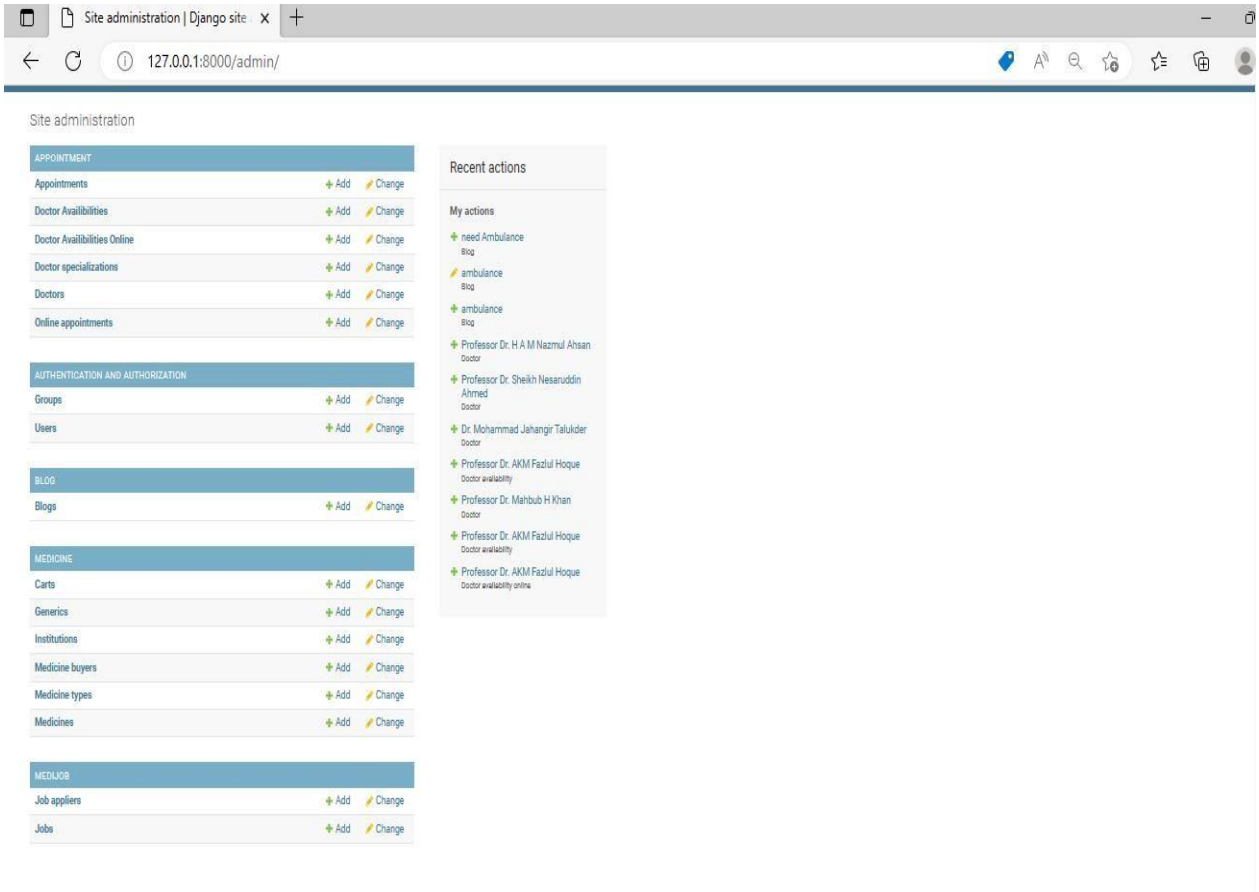

Figure 4.16: Admin dashboard

Medicine Buyer List

In this page from admin dashboard this list represent the list of the person who brought medicine.

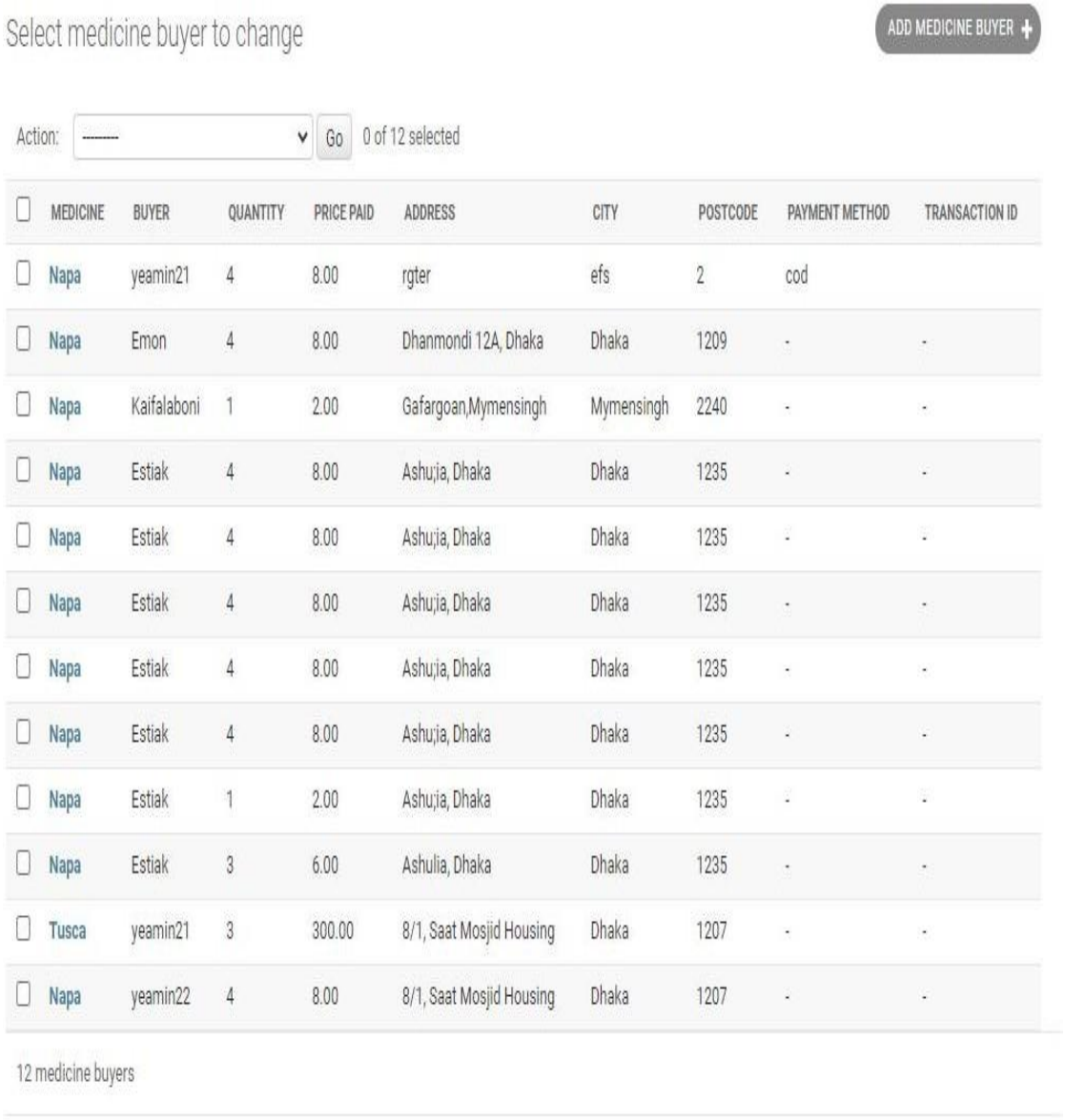

Figure 4.17: Medicine buyer list

Add Medicine

This page is the User Interface(UI) for add medicine for the user from admin page

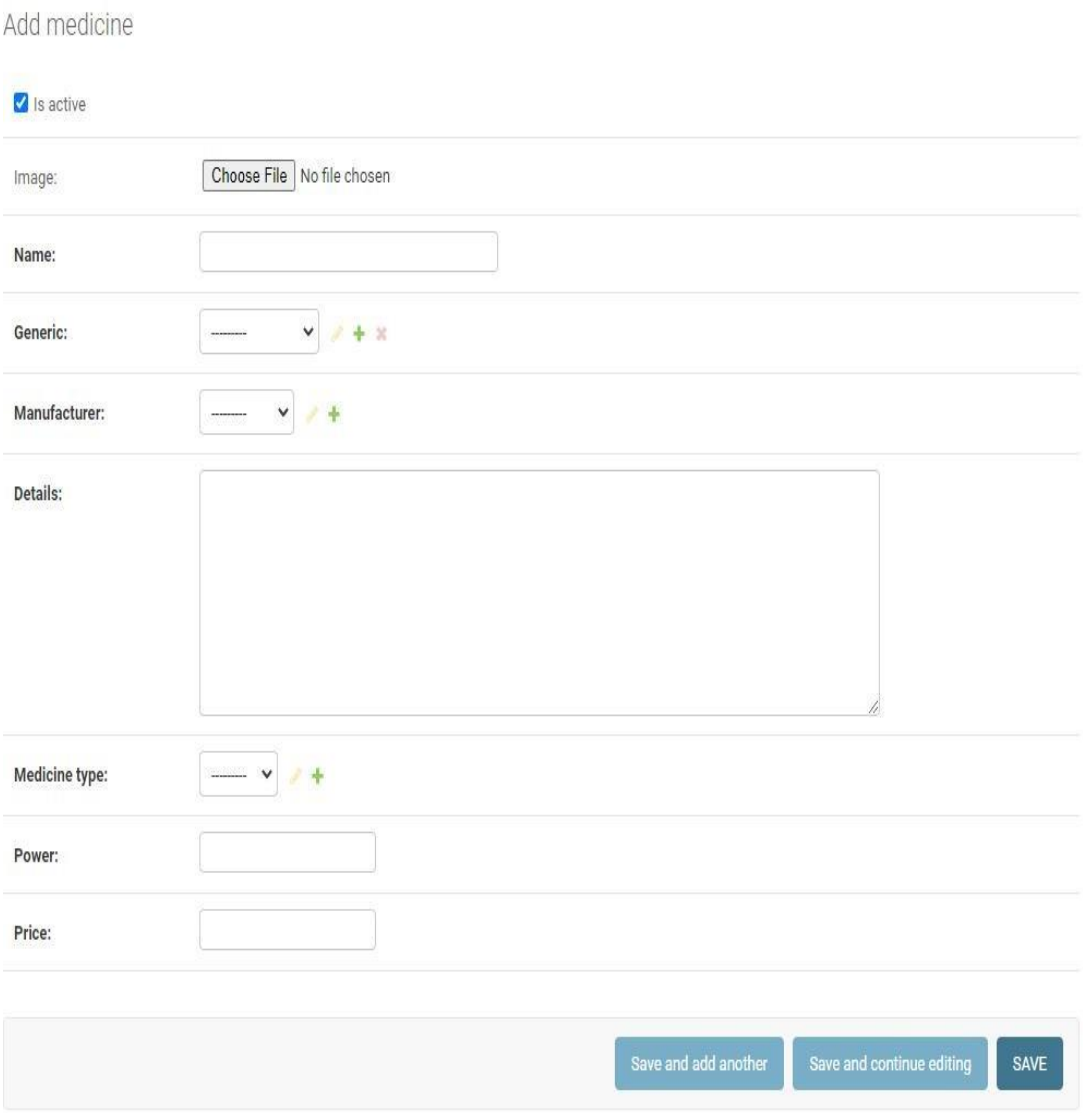

Figure 4.18: Add medicine page

Add Doctor Page:

This page is the User Interface(UI) for add doctor for the user from admin page

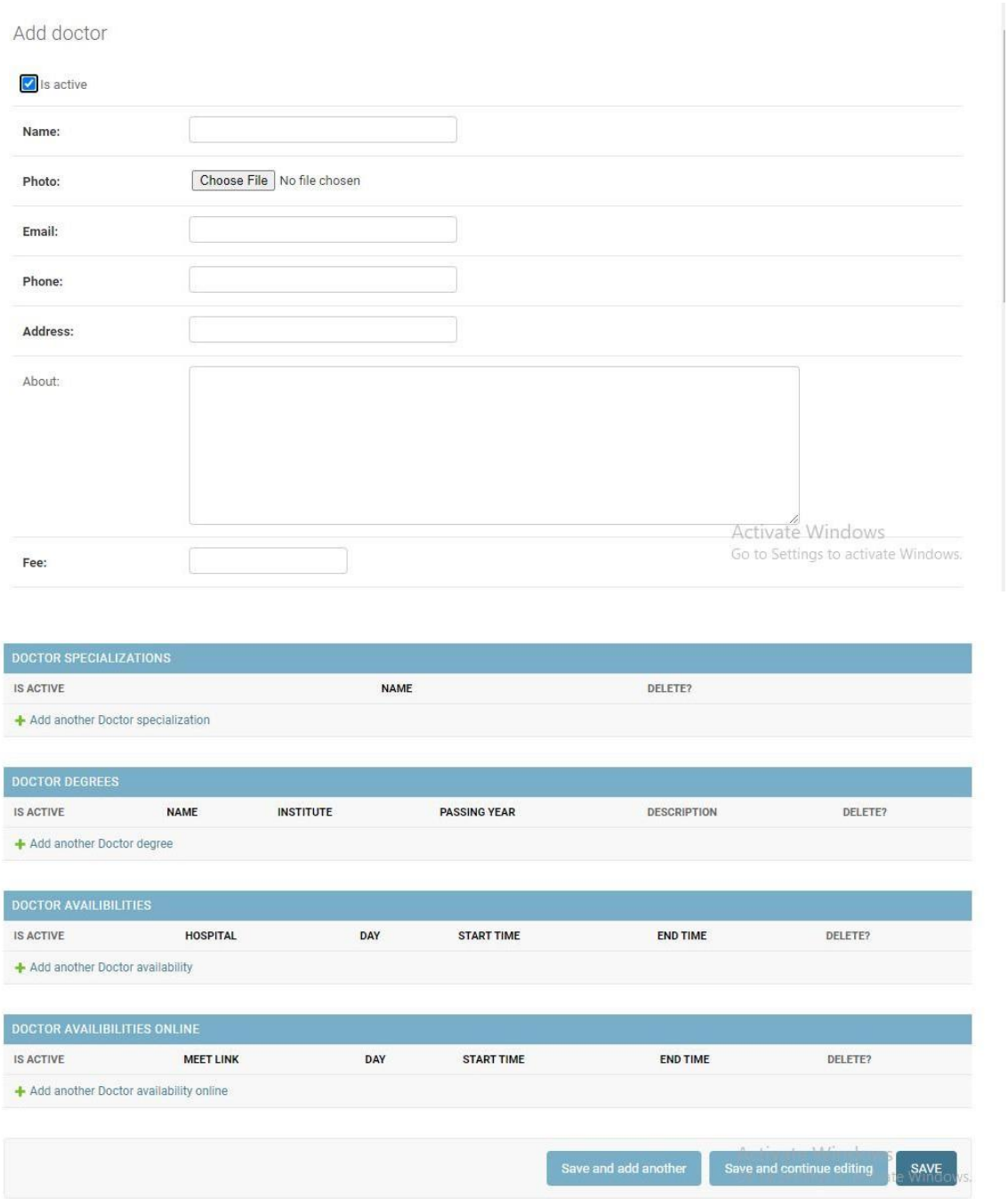

Figure 4.19: Add doctor page

Add Job Page

This page is the User Interface(UI) for add job for the user from admin page

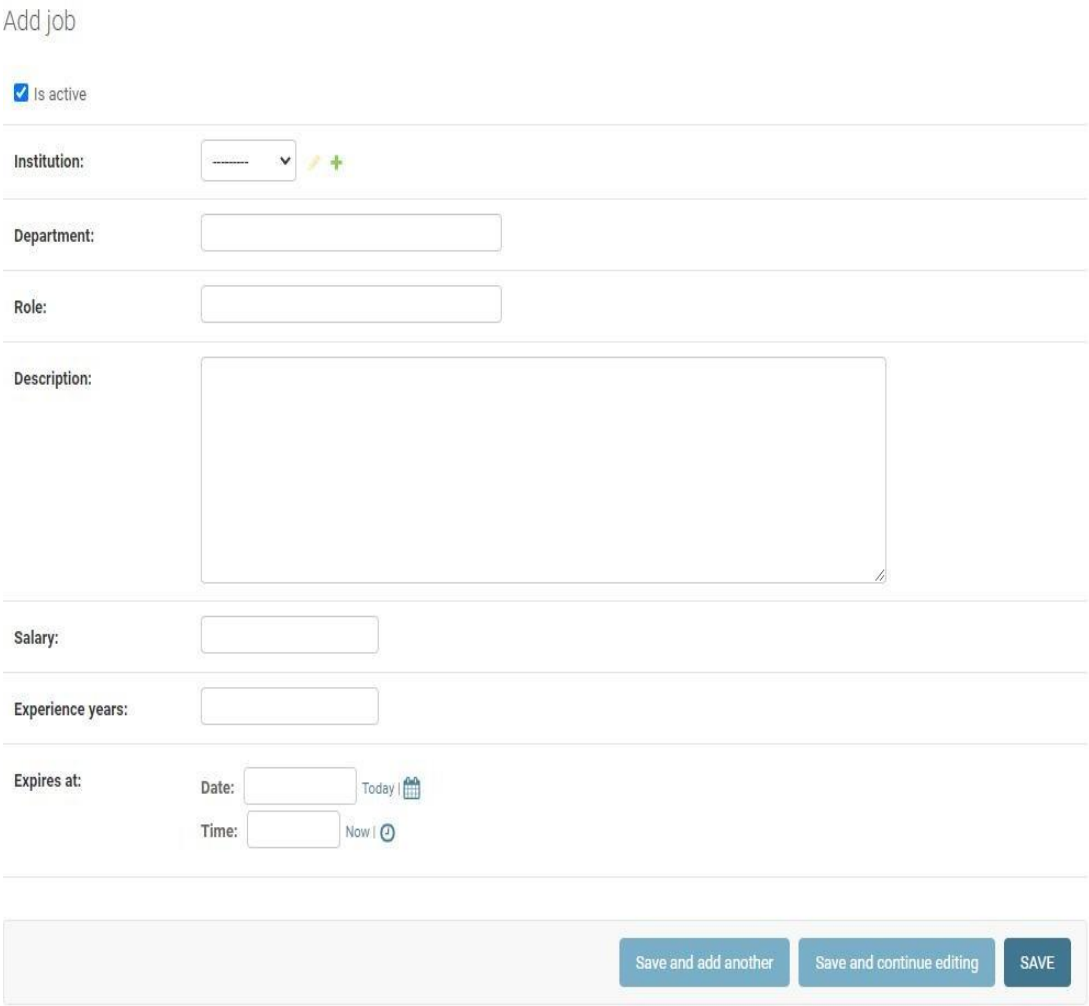

Figure 4.20: Add job page

CHAPTER 5

IMPLEMENTATION AND TESTING

5.1 Implementation of Database

For databases, we used PostgreSQL, it's an open-source relational database management system. In our project we are using python framework, basically this software is online doctor service system and also through this software we can get different types of medicine and medical equipment It is used for a wide range of purposes, basically this software is online doctor service system and also through this software we can get different types of medicine and medical equipment and logging applications this is the most common use for PostgreSQL however, it is used for the purpose of a web database. it is a software distribution that provides the Apache web server, With PostgreSQL , we can use Django, PostgreSQL to create & use our PostgreSQL Database in minutes. PostgreSQL server that is used to test websites before publishing them to a remote web server. The Django server software on a local computer provides an appropriate environment for testing PostgreSQL projects. This method might sometimes help us avoid issues on our live website.

5.2 Implementation of Font-end Design

For this type of shopping platform, the front-end is crucial to attracting more customers.

Therefore, the front-end has been given a lot of importance. In an effort to increase our customer base, we have made every effort to make the project responsive, making it usable on any device. A framework called bootstrap was employed. A lot of contemporary websites and web applications are made using this front-end framework. With the aim of accelerating and simplifying web development, it is a free front-end framework. In

addition, it comes with additional optional JavaScript plugins and HTML and CSS-based design templates for forms, typography, buttons, navigation, tables, modals, image carousels, and many other elements.

5.3 Testing Implementation

Thorough e-commerce website testing is very essential. It assures that our customers are interacting with a bug-free website, which will enhance user experiences. E-commerce testing can be defined as a process of testing various elements such as design, specifications, functions, pages and features to check their purity and ensure that they do

not harm the performance of the site in any way.

5.4 Unit Testing

We have done unit testing in our entire project. Unit testing is a software development process in which the smallest testable parts of an application, called units, are individually and independently verified to operate correctly. This testing procedure is performed by software developers and sometimes QA personnel during the development process.

5.5 Testing Objectives

Preventing errors during shopping and digital transactions.

Determining how well our e-commerce applications fulfill all requirements.

Evaluate whether the application complies with all of the required procedures.

Analyzing the website performance, loading speed, how it handles huge traffic, etc.

To enhance the efficiency of the site by decreasing all possible errors

5.6Test Results and Reports

```
(venv) PS D:\medici> python manage.py test
Found 22 test(s).
Creating test database for alias 'default'...
System check identified no issues (0 silenced).
Test: Registering a new user
Test: Registering a new user PASSED
.
Test: Booking an Appointment Slot Online
Test: Booking an Appointment Slot Online PASSED
.
Test: Trying to Book Unavialable Appointment Slot
Test: Trying to Book Unavialable Appointment Slot PASSED
.
Test: Trying to Book Unavialable Appointment Slot Online
Test: Trying to Book Unavialable Appointment Slot Online PASSED
.
Test: Filter Job by Institution
Test: Filter Job by Institution PASSED
.
Test: Apply to a Job
Test: Apply to a Job PASSED
.
Test: Submitting Resume file to a Job
Test: Submitting Resume file to a Job PASSED
.
Test: Logging Out User
Test: Logging Out User PASSED
.
Test: Logged Out User unable to Checkout Medicine
Test:Logged Out Userunable to Checkout Medicine PASSED
.
Test: Logged Out User unable to Appoint Doctor
Test:Logged Out User unable to Appoint Doctor PASSED
.
Test: Logged Out User unable to Appoint Doctor (Online)
Test:Logged Out User unable to Appoint Doctor (Online) PASSED
.
Test: Login a new user
Test: Login a new user PASSED
.
Test: Logged Out User unable to Apply for Job
Test:Logged Out User unable to Apply for Job PASSED
.
```

Figure 5.1: Unit test results

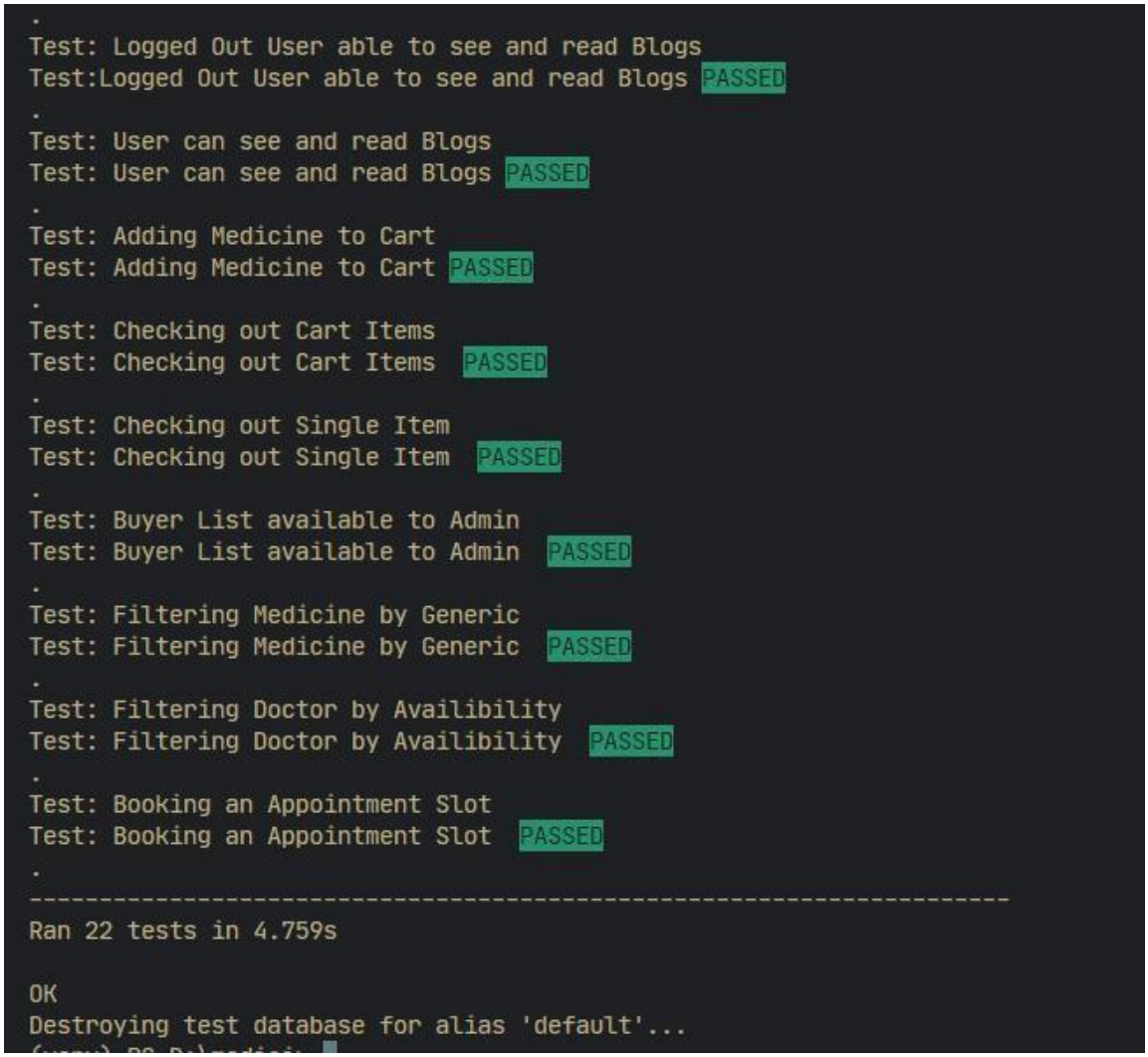

Figure 5.2: Unit test results

CHAPTER 6

Impact on Society and Sustainability

6.1 Social effect:

Health disparities have fundamental, contributory causes that include social determinants of health like poor, uneven access to medical care, a low level of education, prejudice, or prejudice. Communicating among patients and health care providers is now relatively simple thanks to mobile technology. Healthcare providers can communicate by mail, phones, messaging services, and other means. Consumers no longer need to receive letters via mail from doctors informing them of upcoming consultations & testing. Without being required to make any expenditures, small- and medium-sized businesses can easily run their operations from this website. I think the idea will be extraordinarily beneficial to entrepreneurs, in addition to employees, physicians, clinics, and the community in general.

6.2 Ethical effect:

Differences of opinion regarding clinical needs, waiting times, and availability are just a few of the difficulties that might present ethical quandaries for healthcare providers who are responsible for a patient's condition. It discusses the difference of what is proper and immoral at a particular moment and a particular society. Healthcare ethics deals with the duties that doctors, hospitals, or other medical professionals have to patients, as well as to other members of the community. Customers can purchase goods from suppliers who have received favorable brand ratings and reviews. Making certain that the individual giving ratings and assessments is a normal human is very important. Because if the reviews and ratings are fraudulent, customers would suffer severely. Customers may only rate and review things they have previously purchased, we make sure of that. Social sustainability

inside the healthcare sector refers to a public's capacity for medical systems to increase life satisfaction and its well.

6.3 Sustainability effect:

Healthcare design creates links, makes it available, improves health and fosters equity. These are the advantages of sustainability in the healthcare sector. Healthy Care Sustainability lowered operation expenses & power expenditures, improved name recognition or goodwill Lower emissions impact and ecological consequences, increased customer and public confidence, and greater staff happiness and retention.Customers will quickly find what they're looking for because there will be a wide variety of Sustainable merchants and products here.The vendors that are unaware of advertising methods or methods for sell a item to the common person may profit from this endeavor. I'll simplify the product delivery process for customers. Customers will easily identify what they're seeking for thanks to the large selection of Responsible vendors & goods present.

CHAPTER 7

CONCLUSION AND FUTURE WORK

7.1 CONCLUSION:

I have included in this project all necessary components for an online store. It will be highly beneficial to everyone. constantly posting information on medical knowledge so that people will take good care of themselves. Cash-on- Delivery & online payment options including mobile banking and card payments are available in the project, which makes us more smart**.** Here patients can ask any questions via videoconferencing, chats, and phone calls to avoid scheduling unnecessary physical appointments for small issues. This significantly boosts the application's effectiveness. Therefore, this website is fantastic for people because it can simplify their lives and also save customers time.

7.2 FUTURE WORK:

In the future, I might evaluate data produced by our website using machine learning algorithms. I also make an effort to include a donation page so that many underprivileged individuals who cannot afford medical care can still benefit from this website's service.

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