HEART CARE WEBSITE

A Social Internship

Report

Submitted in the partial fulfillment of the requirements for

the award of the degree of

Bachelor of Technology

in

Department of Computer Science and Engineering

By

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Declaration

The Social Internship Report entitled "HEARTCARE WEBSITE" is a record of bonafide workofN.MahendraNathReddy(2010030233),N.SAINATHREDDY(2010030320),S.INDRAREDDY(2010030159,S.SaiSantoshReddy(2010030145) , submitted in partial fulfillment for the award of B.Tech in the Department of Computer Science and Engineering to the K L University, Hyderabad. The results embodied in this report have not been copied from any other Departments/ University/ Institute.

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Certificate

This is to certify that the Social Internship Report entitled "**HEARTCARE WEBSITE**" is being submitted by N.MahendraNathReddy(2010030233), N.Sainathreddy(201030320), S.Indrareddy(2010030159),S.Saisanthoshreddy(2010030145)submitted in partial fulfillment for the award of B. Tech in **COMPUTER SCIENCE AND ENGINEERING** to the K L University, Hyderabad is a record of bonafide work carried out under our guidance and supervision.

The results embodied in this report have not been copied from any other departments/ University/Institute.

Signature of the Supervisor

Ms. Sai Sudha

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Signature of the HOD

Signature of the External Examiner

CHAPTER-1
ACKNOWLEDGEMENT

First and foremost, we thank the lord almighty for all his grace & mercy showered upon us, for completing this Social Internship successfully.

We take grateful opportunity to thank our beloved Founder and Chairman who has given constant encouragement during our course and motivated us to do this Social Internship. We are grateful to our Principal **Dr. Rama Krishna** who has been constantly bearing the torch for all the curricular activities undertaken by us.

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We wholeheartedly thank all the teaching and non-teaching staff of our departmentwithout whom we would have made this Social Internship a reality. We would like to extend our sincere thanks especially to our parents, our family members and friends who have supported us to make this Social Internship a grand success.

CHAPTER-2
ABSTRACT

Healthcare is a challenging, yet so demanding sector that developing countries are paying more attention to recently. Statistics show that rural areas are expected to develop a high rate of heart diseases, which is a leading cause of sudden mortality, in the future. Thus, providing solutions that can assist rural people in detecting the cardiac risks early will be vital for uncovering and even preventing the long-term complications of cardiac diseases.

Healthcare is very important to lead a good life. However, it is very difficult to obtain consultation with the doctor for every health problem. The idea is to create a website for heart care using Artificial Intelligence that can diagnose the disease and provide basic details about the disease before consulting a doctor. This will help to reduce healthcare costs and improve accessibility to medical knowledge through medical website in this website the clint can view the list of doctors and there specialization according to that the clint can chouse the doctor and he can contact through the email or mobile number and, they can book an appointment on a particular date and time to a particular specialist from that hospital. The client can check the history of the doctor in this website. Growing risk of coronary heart diseases and lack of resources necessitate introducing a robust, yet low cost, solution for risk detection of Middle Eastern population in both rural and urban areas. In this work, we have proposed Heartcare Website-based solution that is capable of accurately estimating the HCHD risk over 10 years based on medical measurements introduced by the Framingham heart study. Moreover, Heartcare Website intensifies the communication channel between the lab workers and patients residing in rural towns and cardiologists in urban places. The application can classify the patient based on the clinical and nonclinical data to low, moderate, or high risk based on the Framingham scoring model's criteria

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CHAPTER 1
INTRODUCTION

The main purpose of the scheme is to build the language gap between the user and health providers by giving immediate replies to the Questions asked by the user. Today's people are more likely addicted to internet but they are not concern about their personal health. They avoid to go in hospital for small problem which maybe come a major disease in future. Establishing question answer forums is becoming a simple way to answer those queries rather than browsing through the list of potentially relevant document from the web.

Middle East is experiencing a wide growth of population nowadays with a noticeable decrease of medical and manpower resources which makes it vulnerable to hard coronary heart diseases (HCHD) attacks. These resources are represented by staff, expert physicians, and expensive medical equipment. Moreover, life style changes have always been the reason chasing the HCHD prevalence in urban cities but a recent scary fact reflected that rural areas' records of HCHD mortality were found higher compared to the urban areas This type of smart healthcare solution has not yet been deployed in the Middle East. Furthermore, no healthcare solution is designed to connect the HCHD patients with their doctors for risk detection and prevention.

Heartcare is a diagnostic management project developed in Django. Admin can add doctor, add services, add gallery pictures. User can see doctors' profile and, they can make appointment. They can also contact to the heartcare through email. In this website we can add the doctors of worldwide and patients can apply appointments for specific heart disease, and patients can also check the availability of cardiologist and get information about department services and provide special treatments and patients are going to Contact doctors using social media

CHAPTER 02

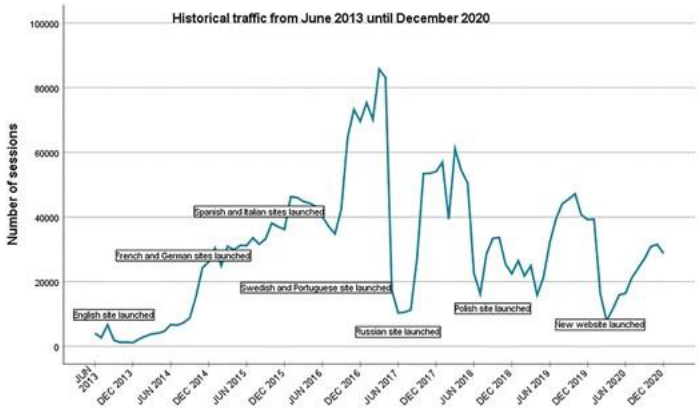
LITERATURE SURVEY

1) Heartfailurematters.org education purpose of doctors and patients in Europe

- In 2007, the Heart Failure Association of the European Society of Cardiology (ESC) launched the information website **heartfailurematters.org** (HFM site) with the aim of creating a practical tool through which to provide advice and guidelines for living with heart failure to patients, their career's, health care professionals and the general public worldwide.
- The website is managed by the ESC at the European Heart House and is currently available in nine languages. The aim of this study is to describe the background, objectives, use, lessons learned and future directions of the HFM site.

2). Afibmatters.org -Heart Rhythm Association

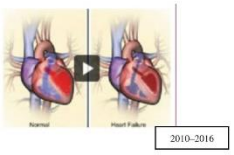
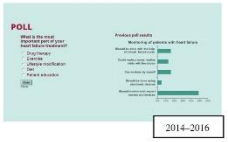
- Afibmatters.org' is a website developed by the European Heart Rhythm Association (EHRA) in order to provide unbiased information and education on atrial fibrillation (AF) for patients and their caregivers. It was launched in 2013 in line with the increasing demand of health education online and digital opportunities in communication and has gradually been updated since then. The afibmatters.org website aims to provide a user-friendly educational tool for the large and diverse population of patients with AF to better assess the disease and its sequelae and understand the importance of effective treatment options. The website can also be used by physicians who want to provide their patients with a reliable and EHRA-endorsed educational platform.
- The website is divided into four main sections, each of which addresses one of the below-mentioned questions and provides more detailed information. The information is provided in a simplified way, understandable even without prior medical knowledge, with relevant pictures and tables where appropriate.


Historical traffic from June 2013 until December 2020
Number of sessions
100000
80000
60000
40000
20000
0
English site launched
French and German sites launched
Spanish and Italian sites launched
Swedish and Portuguese site launched
Russian site launched
Polish site launched
New website launched
JUN 2013
DEC 2013
JUN 2014
DEC 2014
JUN 2015
DEC 2015
JUN 2016
DEC 2016
JUN 2017
DEC 2017
JUN 2018
DEC 2018
JUN 2019
DEC 2019
JUN 2020
DEC 2020


AFIB MATTERS
ATRIAL FIBRILLATION
What is afib?
The normal heart rhythm and anatomy
The heart during atrial fibrillation
The different types of AFIB
What do I need to know?
How common is AFIB?
Who is at higher risk for AFIB?
How does it feel to have AFIB?
Why is AFIB dangerous?
Can AFIB come back?
Is AFIB hereditary?
What can my doctor do?
Useful tests
Medication
What is a cardioversion?
What is an ablation?
How to prevent stroke
How to prevent heart failure
What can I do?
How should I change my life?
Travel Insurance
Where can I get more advice and support?

3). Heartfailurematters.org Australian Society of Cardiology:

- Heart failure (HF) is a serious health care problem, and patient education, participation and empowerment are necessary to improve quality of life, prevent worsening of HF and reduce unplanned admissions to hospital.1, 2 In 2004, in recognition of this, members of the Board of the Heart Failure Association (HFA) of the European Society of Cardiology (ESC) initiated meetings with patients and health care professionals (e.g. cardiologists, HF nurses, general practitioners) to gain input on how this need might be met. This resulted in an initiative to develop an attractive website providing information on living with HF delivered in easily understood lay terms and informative animations aimed at patients, and their families and carers. Multiple industrial partners in cooperation with the HFA provided unrestricted grants to help construct and launch the website, which was designated ‘heartfailurematters.org’. A web-based medium was chosen to enable patients and their careers to access information from health care providers at the pace and place of their choosing.
- The HFM site provides independent information that is consistent with the ESC guidelines on HF.1 Importantly, the website contains only essential information on HF and its management, and avoids the inclusion of controversial cutting-edge material that might provoke disagreement between patients and their health care providers. The scientific content of the site is the responsibility of the HFM core group, under the auspices of the HFA. The HFM core group has monthly telephone conferences, conducts three face-to-face meetings annually and periodically reviews the site content to assure its consistency with current practice. Technical issues, layout and content are maintained and kept up to date by dedicated personnel at the ESC European Heart House (LA and AC).
- The essential content of the HFM site consists of practical information on underlying pathophysiology, diagnosis, lifestyle, self-care, medication and devices delivered in an easily understood manner. The information is provided in several formats (e.g., text, animations, movies, downloadable tools) to meet users' preferences.

 2010–2014 2014–2016	*Homepage with subpages (number of pages within subpage)* 1 Understanding heart failure (9) 2 What can your doctor do (8) 3 What can you do (6) 4 Living with heart failure (10) 5 For caregivers (7) 6 Warning signs (11) 7 FAQ (1) 8 Ask your doctor (11)
 2010–2016	*Avatar 'Anna' is available to guide the user through the website*
 2010–2016	*Animations* 1 How the normal heart works 2 What goes wrong in heart failure 3 How the heart and the body compensate in heart failure 4 How heart failure causes fluid accumulation 5 How a heart attack can cause heart failure 6 How abnormal heart valves can cause heart failure 7 How vasodilators work in heart failure 8 How diuretics work in heart failure 9 How medical devices work in heart failure
 2010–2016	*Useful tools* 1 Symptoms and events diary 2 Monitoring chart 3 Warning signs 4 Appointment record 5 Medicine chart
 2010–2016	*Patient and caregivers videos*
 2014–2016	*A poll to collect website users' opinions on heart failure topics*
 2014–2016	*Link to a Facebook page on which to share views and experiences with other patients, families and caregivers*

- each subpage provided access to other pages containing more detailed information on the topic For example, under 'Understanding heart failure', a page presented 'Symptoms of heart failure' and 'Common tests for heart failure'.

CHAPTER-03

Methodology

We used python programing language in order to create the chatbot with Django and other Packages of python

I. Django

To configure the template system, we have to provide some entries in settings.py file.

heartcare > settings.py > ...

```
133
134  # Email Settings
135  EMAIL_BACKEND = 'django.core.mail.backends.smtp.EmailBackend'
136  EMAIL_HOST = 'smtp.gmail.com'
137  EMAIL_PORT = 587
138  EMAIL_USE_TLS = True
139  EMAIL_HOST_USER = '2010030233@klh.edu.in'
140  EMAIL_HOST_PASSWORD = 'mahi@7922'
141  EMAIL_USE_TLS=True
142  #EMAIL_USE_SSL=False
143
```

II. Creating templates for website:

nplates > base.html

```
1   {% load static %}
2   <!DOCTYPE html>
3   <html lang="en">
4
5   <head>
6     <meta charset="utf-8">
7     <meta http-equiv="X-UA-Compatible" content="IE=edge">
8     <meta name="viewport" content="width=device-width, initial-scale=1">
9     <title>Heart Care | Heart Hospital</title>
10    {% include 'partials/_css.html' %}
11
12    <!--[if lt IE 9]>
13      <script src="https://oss.maxcdn.com/html5shiv/3.7.3/html5shiv.min.js"></script>
14      <script src="https://oss.maxcdn.com/respond/1.4.2/respond.min.js"></script>
15    <![endif]-->
16  </head>
17
```

III. views.py

appointment > views.py > ...

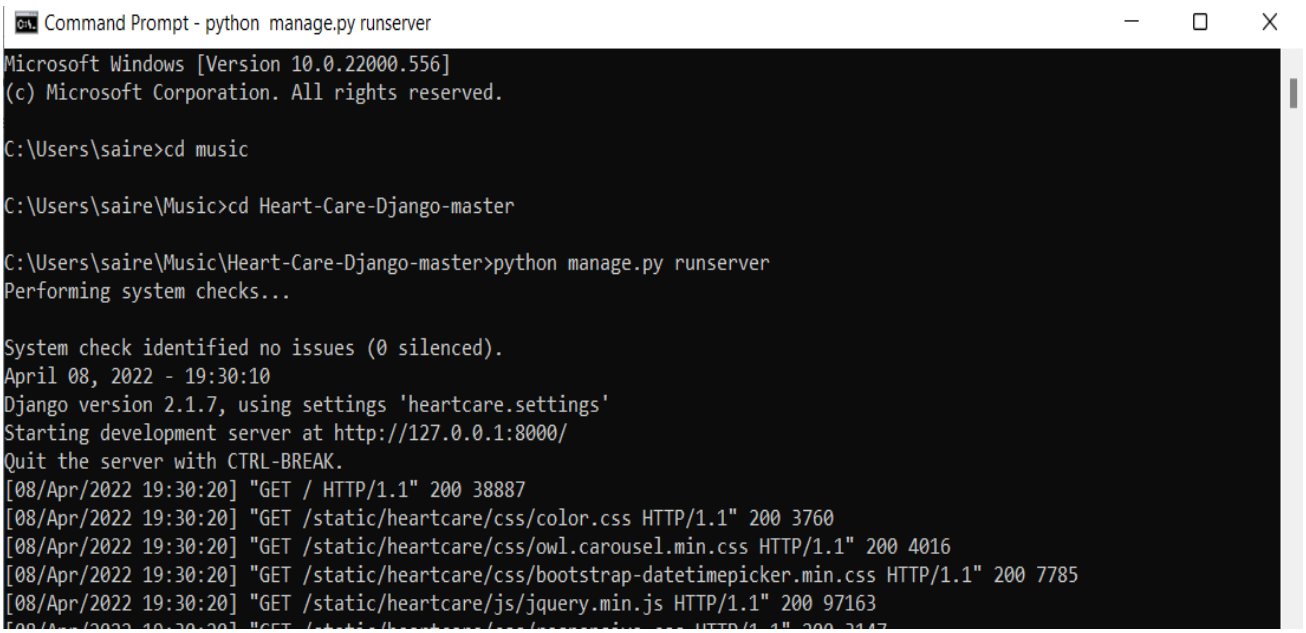
```python
from django.contrib import messages
from django.shortcuts import render, redirect, get_object_or_404
from django.views.generic import View
from hospital.models import Doctor
from .models import Appointment


class AppointmentView(View):
    def get(self, request, *args, **kwargs):
        context = {
            'doctors': Doctor.objects.all()
        }
        return render(request, "appointment/index.html", context)

    def post(self, request, *args, **kwargs):
        name = request.POST.get('name')
        phone = request.POST.get('phone')
        email = request.POST.get('email')
        doctor_id = request.POST.get('doctor')
        date = request.POST.get('date')
        time = request.POST.get('time')
        note = request.POST.get('note')
        if doctor_id:
            doctor = get_object_or_404(Doctor, id=doctor_id)

        if(name and phone and email and doctor and date and time):
            Appointment.objects.create(
```

IV. Urls.py

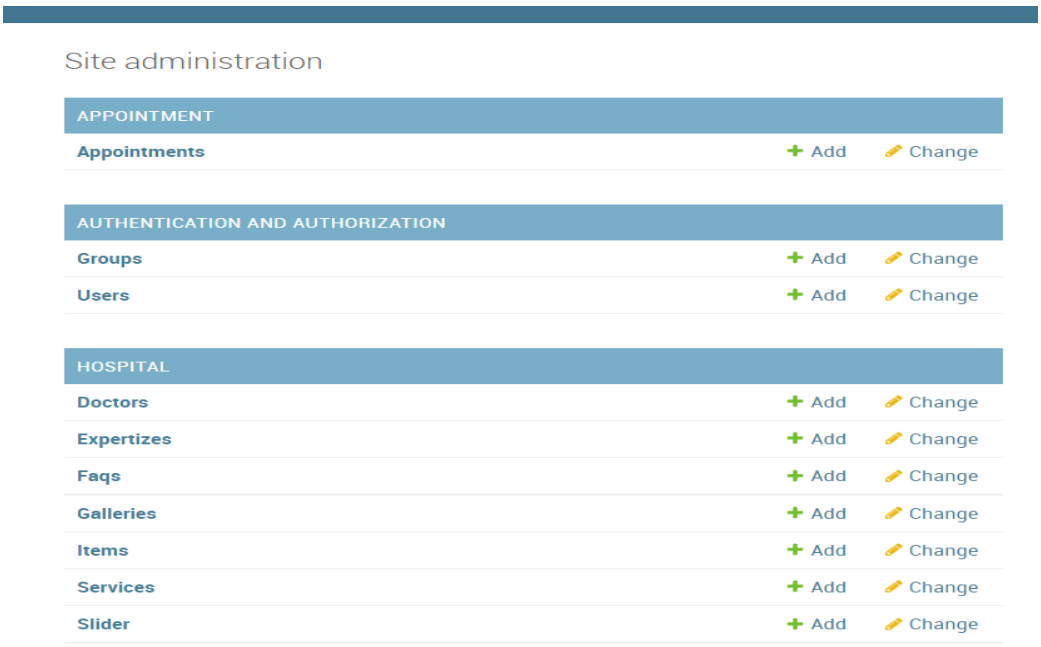
appointment > urls.py > ...

```python
from django.urls import path
from . import views

urlpatterns = [
    path('', views.AppointmentView.as_view(), name="appointment"),
]
```

V. run server



VI. user and admin



CHAPTER -04

Implementation

Model.py

hospital > models.py > ...

```python
from django.db import models


class Slider(models.Model):
    caption = models.CharField(max_length=150)
    slogan = models.CharField(max_length=120)
    image = models.ImageField(upload_to='sliders/')

    def __str__(self):
        return self.caption[:20]

    class Meta:
        verbose_name_plural = 'Slider'


class Service(models.Model):
    title = models.CharField(max_length=120)
    description = models.TextField()
    items = models.ManyToManyField(to='Item',)
    thumbnail = models.ImageField(upload_to='services/')
    cover = models.ImageField(upload_to='services/')
    image1 = models.ImageField(upload_to='services/', blank=True, null=True)
    image2 = models.ImageField(upload_to='services/', blank=True, null=True)

    def __str__(self):
        return self.title


class Item(models.Model):
    title = title = models.CharField(max_length=120)

    def __str__(self):
        return self.title


class Doctor(models.Model):
    name = models.CharField(max_length=120)
```

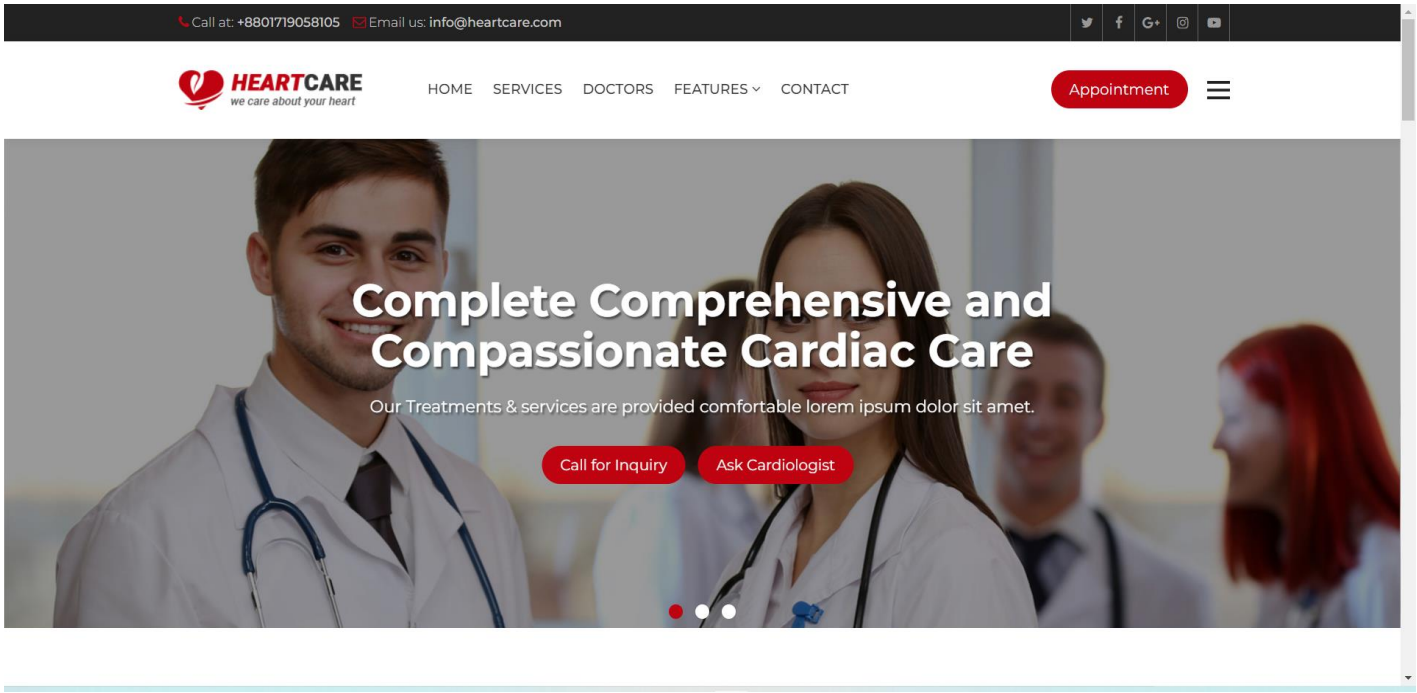
Manage.py

```python
#!/usr/bin/env python
"""Django's command-line utility for administrative tasks."""
import os
import sys


def main():
    os.environ.setdefault('DJANGO_SETTINGS_MODULE', 'heartcare.settings')
    try:
        from django.core.management import execute_from_command_line
    except ImportError as exc:
        raise ImportError(
            "Couldn't import Django. Are you sure it's installed and "
            "available on your PYTHONPATH environment variable? Did you "
            "forget to activate a virtual environment?"
        ) from exc
    execute_from_command_line(sys.argv)


if __name__ == '__main__':
    main()

```

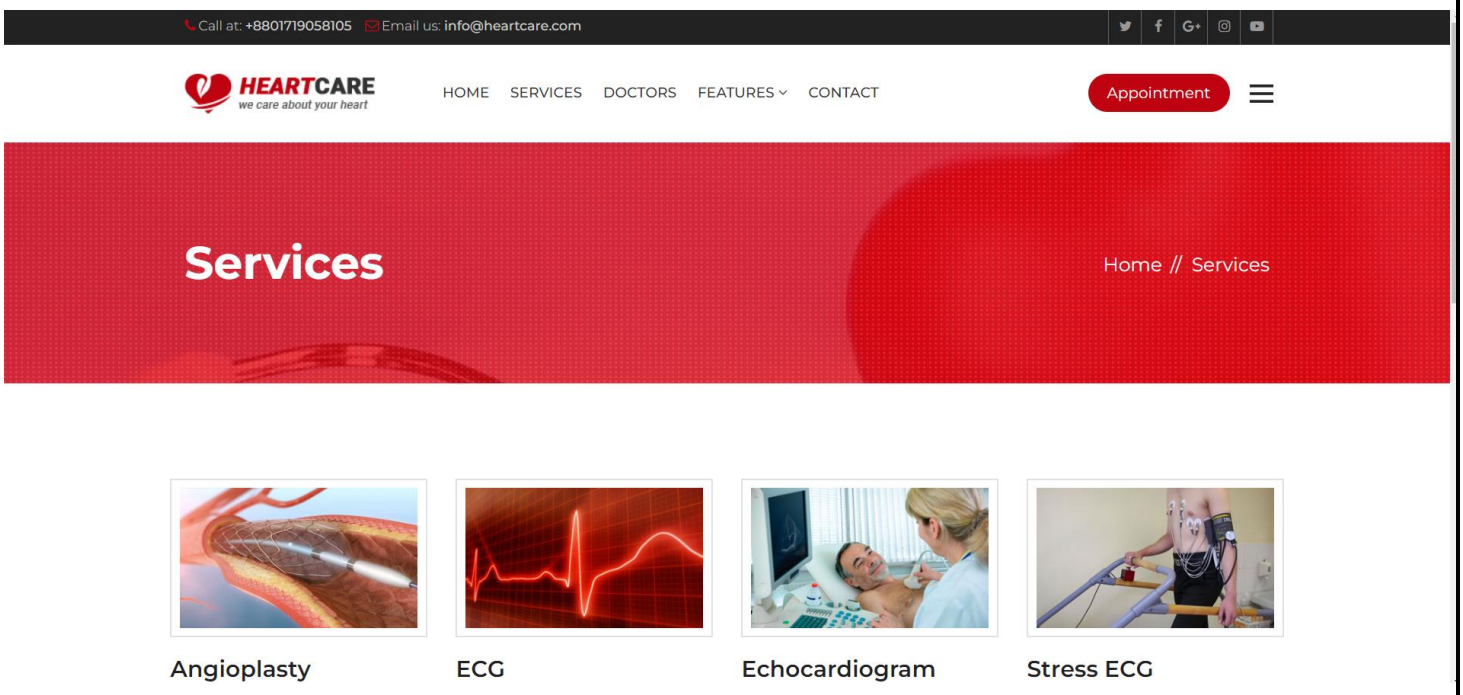
Running server

```
Command Prompt - python  manage.py runserver
Microsoft Windows [Version 10.0.22000.556]
(c) Microsoft Corporation. All rights reserved.

C:\Users\saire>cd music

C:\Users\saire\Music>cd Heart-Care-Django-master

C:\Users\saire\Music\Heart-Care-Django-master>python manage.py runserver
Performing system checks...

System check identified no issues (0 silenced).
April 08, 2022 - 19:30:10
Django version 2.1.7, using settings 'heartcare.settings'
Starting development server at http://127.0.0.1:8000/
Quit the server with CTRL-BREAK.
[08/Apr/2022 19:30:20] "GET / HTTP/1.1" 200 38887
[08/Apr/2022 19:30:20] "GET /static/heartcare/css/color.css HTTP/1.1" 200 3760
[08/Apr/2022 19:30:20] "GET /static/heartcare/css/owl.carousel.min.css HTTP/1.1" 200 4016
[08/Apr/2022 19:30:20] "GET /static/heartcare/css/bootstrap-datetimepicker.min.css HTTP/1.1" 200 7785
[08/Apr/2022 19:30:20] "GET /static/heartcare/js/jquery.min.js HTTP/1.1" 200 97163
[08/Apr/2022 19:30:20] "GET /static/heartcare/css/responsive.css HTTP/1.1" 200 3147
[08/Apr/2022 19:30:20] "GET /static/heartcare/js/bootstrap.min.js HTTP/1.1" 200 37045
[08/Apr/2022 19:30:20] "GET /static/heartcare/js/js/jquery.prettyPhoto.js HTTP/1.1" 404 1735
[08/Apr/2022 19:30:20] "GET /static/heartcare/js/owl.carousel.min.js HTTP/1.1" 200 42854
[08/Apr/2022 19:30:20] "GET /static/heartcare/css/bootstrap.min.css HTTP/1.1" 200 121208
[08/Apr/2022 19:30:20] "GET /static/heartcare/css/custom.css HTTP/1.1" 200 63257
[08/Apr/2022 19:30:20] "GET /static/heartcare/js/custom.js HTTP/1.1" 200 3959
```

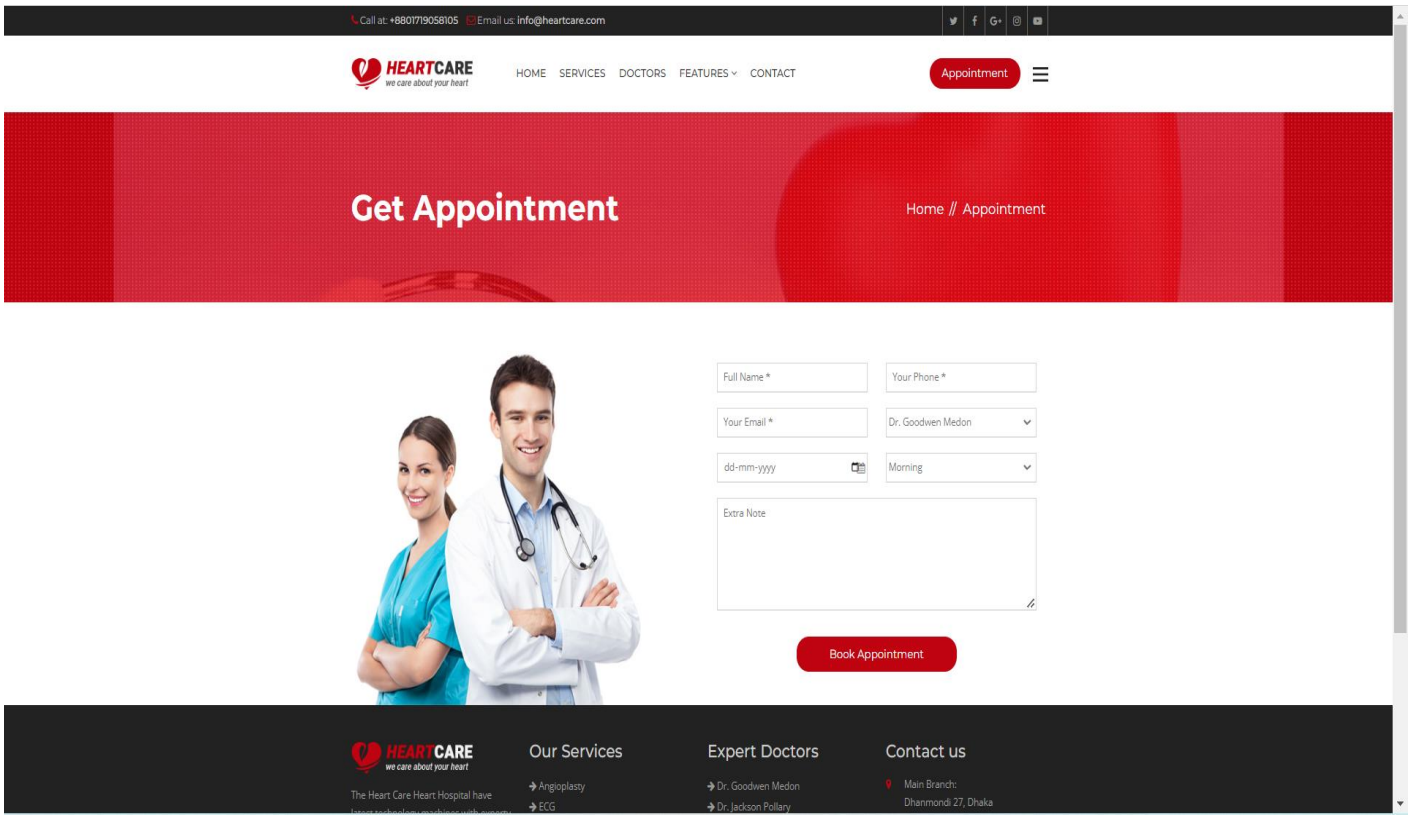
Website page:



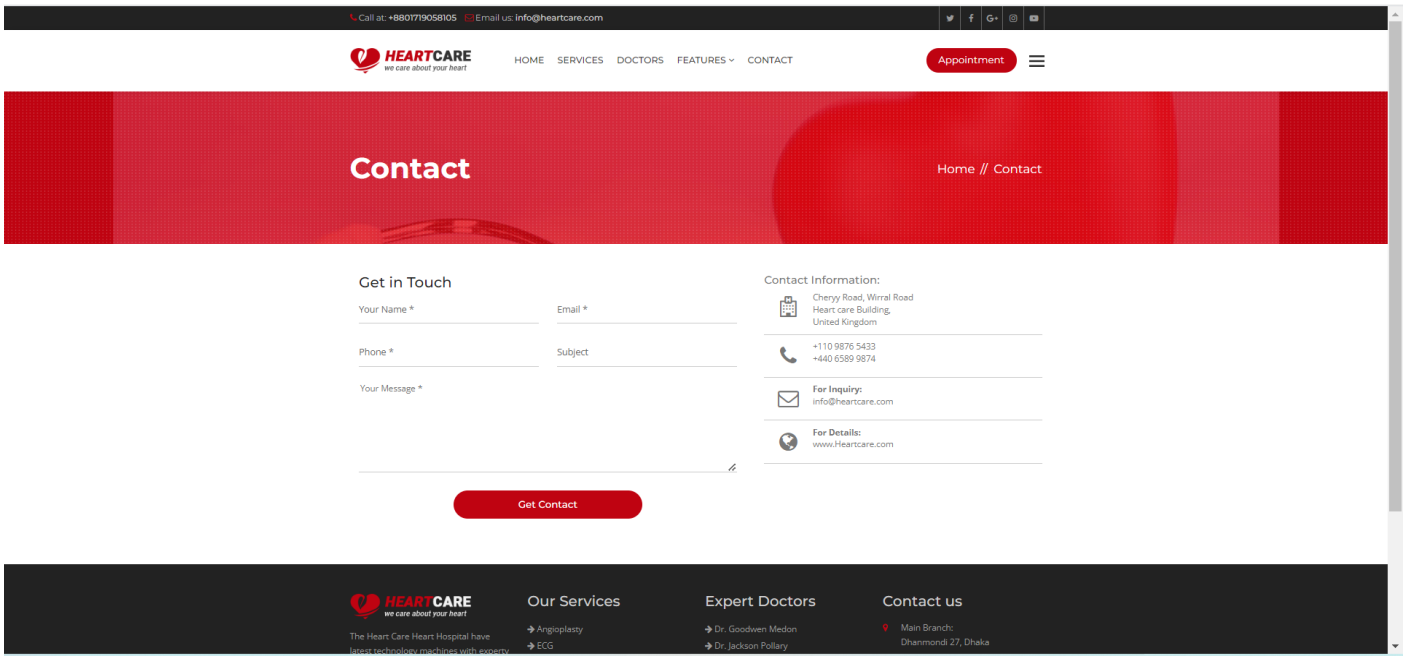
Services:



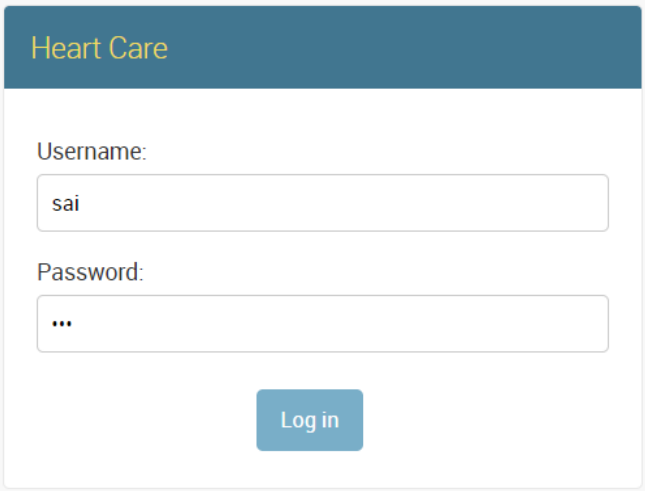
Appointment:



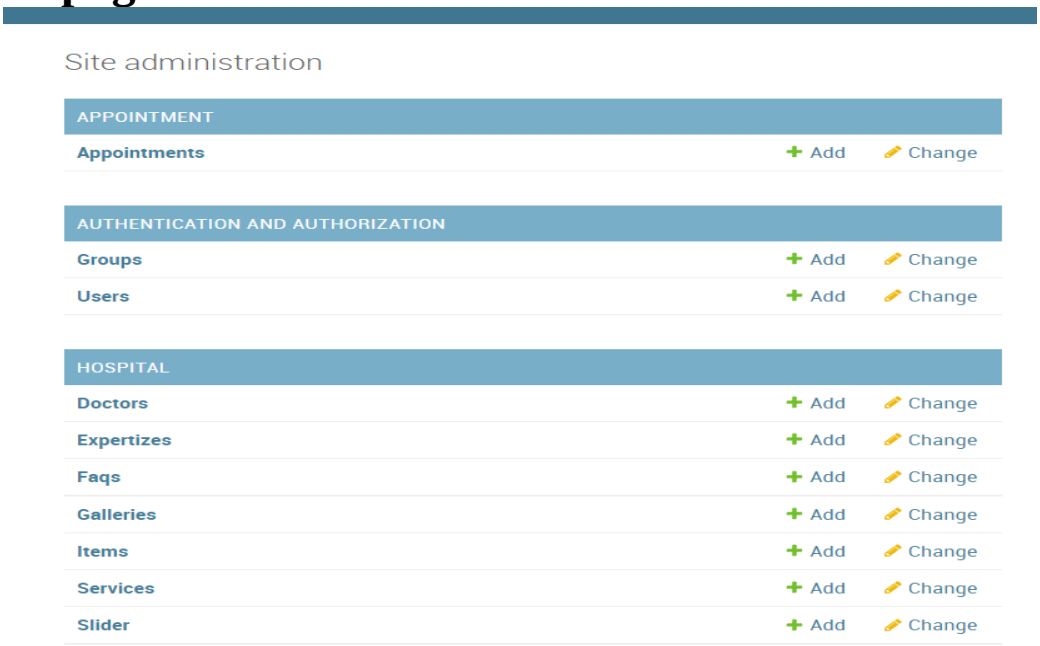
Contact:



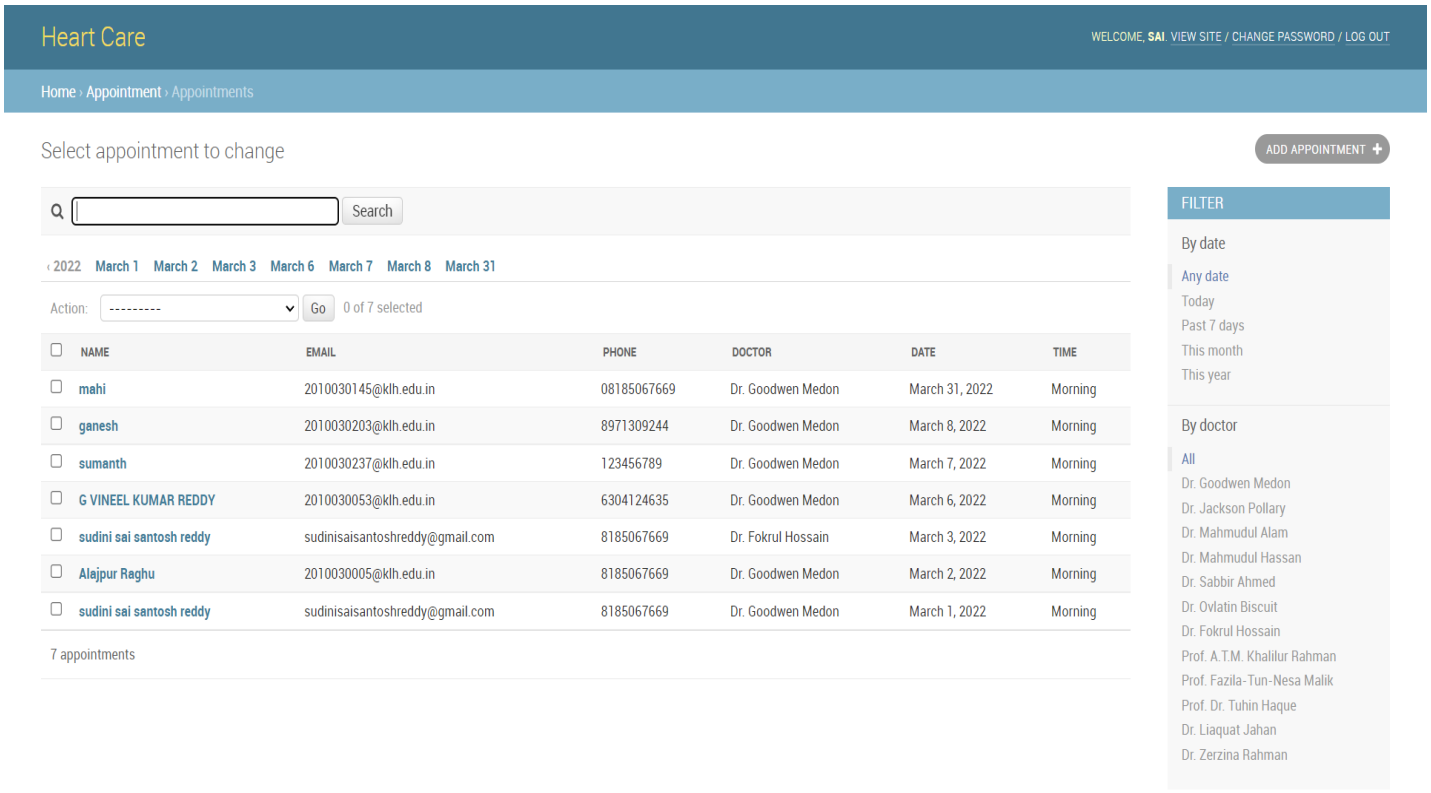
Admin user:



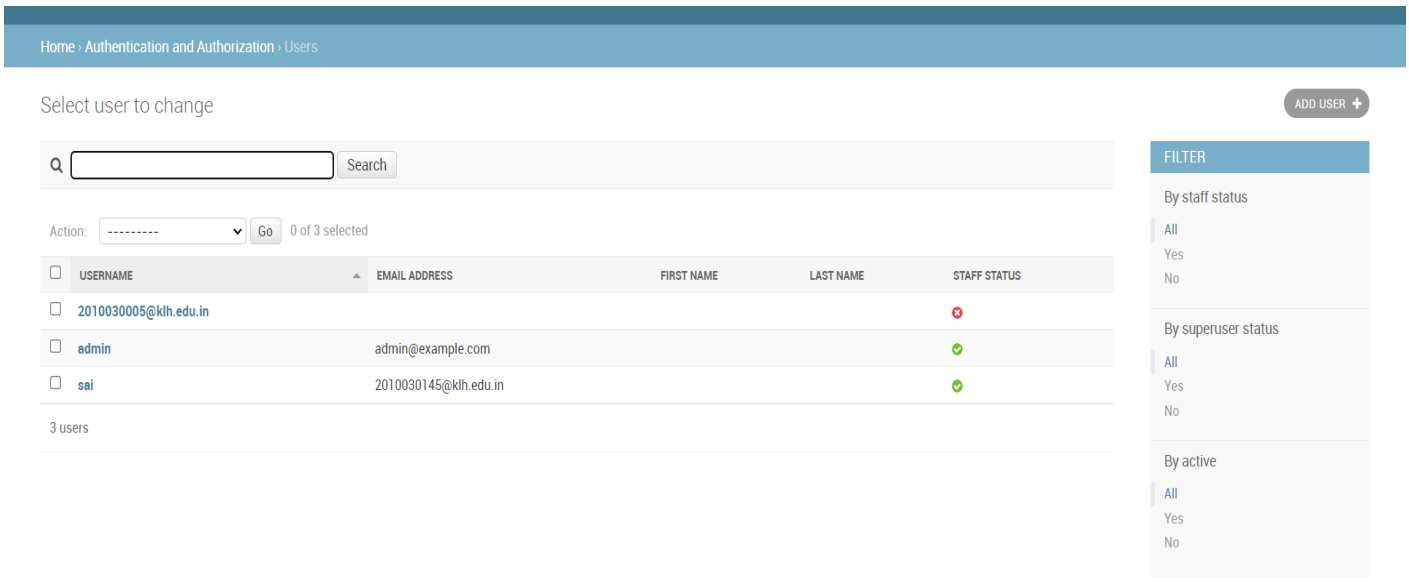
Admin page:



Checking appointments:



Checking admin and staff status:



CHAPTER-05
RESULT

In our website the clint can view the list of doctors and there specialization according to that the clint can chouse the doctor and he can contact through the email or mobile number and also, they can book an appointment on a particular date and time to a particular specialist from that hospital. The client can check the history of the doctor in this website.

The application can classify the patient based on the clinical and nonclinical data to low, moderate, or high risk based on the Framingham scoring model’s criteria. Heartcare Website, however, has its own limitations that will be resolved in the future work Heartcare is a diagnostic management project developed in Django. Admin can add doctor, add services, add gallery pictures. User can see doctors' profile and, they can make appointment. They can also contact to the heartcare through email.

CHAPTER-06
CONCLUSION

Growing risk of coronary heart diseases and lack of resources necessitate introducing a robust, yet low cost, solution for risk detection of Middle Eastern population in both rural and urban areas.
In this work, we have proposed HeartCare+ mobile-based solution that is capable of accurately estimating the HCHD risk over 10 years based on medical measurements introduced by the Framingham heart study. Moreover, HeartCare+ app intensifies the communication channel between the lab workers and patients residing in rural towns and cardiologists in urban places. The application can classify the patient based on the clinical and nonclinical data to low, moderate, or high risk based on the Framingham scoring model's criteria. HeartCare+ app, however, has its own limitations that will be resolved in the future work. These limitations include the following: (1) application does not guarantee the identity of doctors registered on it but registering new doctors can be controllable by the Ministry of Health in the future and (2) all lab workers get any patient's file automatically which can be adjusted based on the clinic location in which the patient had his laboratory checks completed. Hence our proposed smart mobile helps in early risks prediction of coronary heart disease risks both in rural and urban areas.

CHAPTER-07
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