

ORAS: Online Oral Cancer Screening System

GUIDED BY:

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1.INTRODUCTION

- Oral cancer is an important issue in the world today.
- Early detection and screening have been found to be effective in reducing complications.
- Several studies have evaluated the effectiveness of oral cancer screening programs.
- Using visual examination oral cancer can be detected earlier.

A) PROBLEM STATEMENT

- Low public awareness of oral cancer and delays in symptomatic patients have been identified as contributing factors to poor survival rates.
- Lack of information about causes and symptoms of oral cancer need to be addressed among the population.
- There is no specific app till date for the efficient detection of oral cancer among people in a community.

B) MOTIVATION

- In India, oral cancer represents a major health problem accounting for up to 40 % cancer.
- When primary prevention fails, early detection through screening and relatively inexpensive treatment can avert most deaths.
- Rapid increase in the access and use of mobile phones in developing countries presents an opportunity to facilitate early detection of oral cancer through online.

C) OBJECTIVES

- Evaluation of basic , specific details and images of inner mouth by experts
- A web app for experts to make reports based on oral cancer screening and evaluation.

2. LITERATURE SURVEY

1. "Oral cancer detection using data mining tool," 2017 3rd International Conference on Applied and Theoretical Computing and Communicatio Technology (iCATccT), (2017)

- Oral cancer is the unstoppable increase in the number of cells or mutation that is formed and has the capability to affect the neighboring tissues.
- In this paper different algorithms of data mining will be used to detect oral cancer.
- First it classified the oral cancer dataset and then analyzed various data mining methods and Experiment interfaces.
- The prime aim is to classify the dataset and help to collect useful material from the data and comfortably choose an appropriate algorithm .

2. “An early diagnosis of oral cancer based on three-dimensional convolutional neural networks.” IEEE Access, 7, 158603-158611. doi:10.1109/ACCESS.2019.2950286, (2019)

- For oral cancers, within this paper, established a 3D CNNs-based image processing algorithm for the early diagnosis of oral cancers, which was compared with a 2D CNNs-based algorithm.
- The 3D and 2D CNNs were constructed using the same hierarchical structure to profile oral tumors as benign or malignant.
- Its results showed that 3D CNNs with dynamic characteristics of the enhancement rate image performed better than 2D CNNs with single enhancement sequence for the discrimination of oral cancer lesions.

3. "Early stage oral cavity cancer detection: Anisotropic pre-processing and fuzzy C-means segmentation," 2018 IEEE 8th Annual Computing and Communication Workshop and Conference (CCWC), (2018)

- The high rates of oral cavity cancer incidence have been found worldwide over the past decade.
- This study aims to improve the tumor diagnosis accuracy in the oral cavity, duly considering image processing time.
- The proposed system focused on image pre-processing and segmentation steps . then improve the accuracy of tumor detection and classification.
- The findings attained from the current solution are based on a proposed approach using Support Vector Machine (SVM) as the traditional machine learning method to classify the oral tumor.

3.SYSTEM ANALYSIS

A) EXISTING SYSTEM

- Lack of information about causes and knowledge of signs and symptoms of oral cancer.
- Patient have to consult doctors directly from the clinic.
- Details and records stored as paper records which is difficult to handle.
- Doctors need more time for consulting.

B) PROPOSED SYSTEM

- The proposed Online Oral Cancer Screening System is an online application with Web and mobile interface.
- The system has the following modules: registration module(2modes - health workers, expert user), screening module, expert module, result module, administrator module.
- Basic ,specific details and images of inner mouth captured through mobile phone are evaluated by experts

4. REQUIREMENT SPECIFICATIONS

A) SYSTEM SPECIFICATION

SOFTWARE SPECIFICATION

- This section gives the application requirements.
 - Operating system: Windows 8 or above
 - Front end: Python, Flutter
 - Back end: Mysql
 - Supported browsers: Any browsers
 - Framework : Django

HARDWARE SPECIFICATION

- The selection of hardware is very important in the existence and proper working of any of the software.
- When selecting the hardware size and capacity requirements are also very important.
 - Processor: Intel/AMD.
 - Hard disk: Minimum of 12 GB.
 - RAM:4 GB RAM

B) FEASIBILITY STUDY

TECHNICAL FEASIBILITY

- Technical Feasibility evaluates the technical complexity of the system.
- The hardware and tools required are available for the proposed system.
- Additional hardware required is capturing device which is available at low cost
- So there is no technical risk involved.

OPERATIONAL FEASIBILITY

- The proposed system will be very efficient and can be used by expert doctors, health workers /volunteer, end user.

ECONOMIC FEASIBILITY

- In our proposed system the cost for developing and maintaining is considerably low, since we don't use additional hardware or software
- We use open source software and for capturing images we use camera of phone.

5. SYSTEM DESIGN

A) PROJECT DESCRIPTION

- The proposed system is an online application with Web and mobile interface.
- It includes Registration Module and Screening Module.
- Person's inner mouth images are uploaded in the system.
- Report of the screening send through SMS.

B) Input Design

- In our proposed system input is health workers/volunteers registration details.
- Doctors registration details.
- Patients details including screening test, images captured of patient's inner mouth.

C) Output Design

- Output design should improve the relationship of the system with user and help in decision making.
- In our project, the output is the result given by doctor after evaluating the documents of patient, including screening test details and other details.
- After evaluating this, doctor make result document and sent to end user.

D) MODULE DESCRIPTION

1. health workers / volunteers Registration

- The volunteers/health workers may register in to the system using web or mobile interface.

2. Expert Registration (Expert User)

- The Doctors may register in the system as expert.
- After getting approval from admin, they can login to the system.

3. Screening Module

- Screening test and image capturing takes place here.

4. Result Module

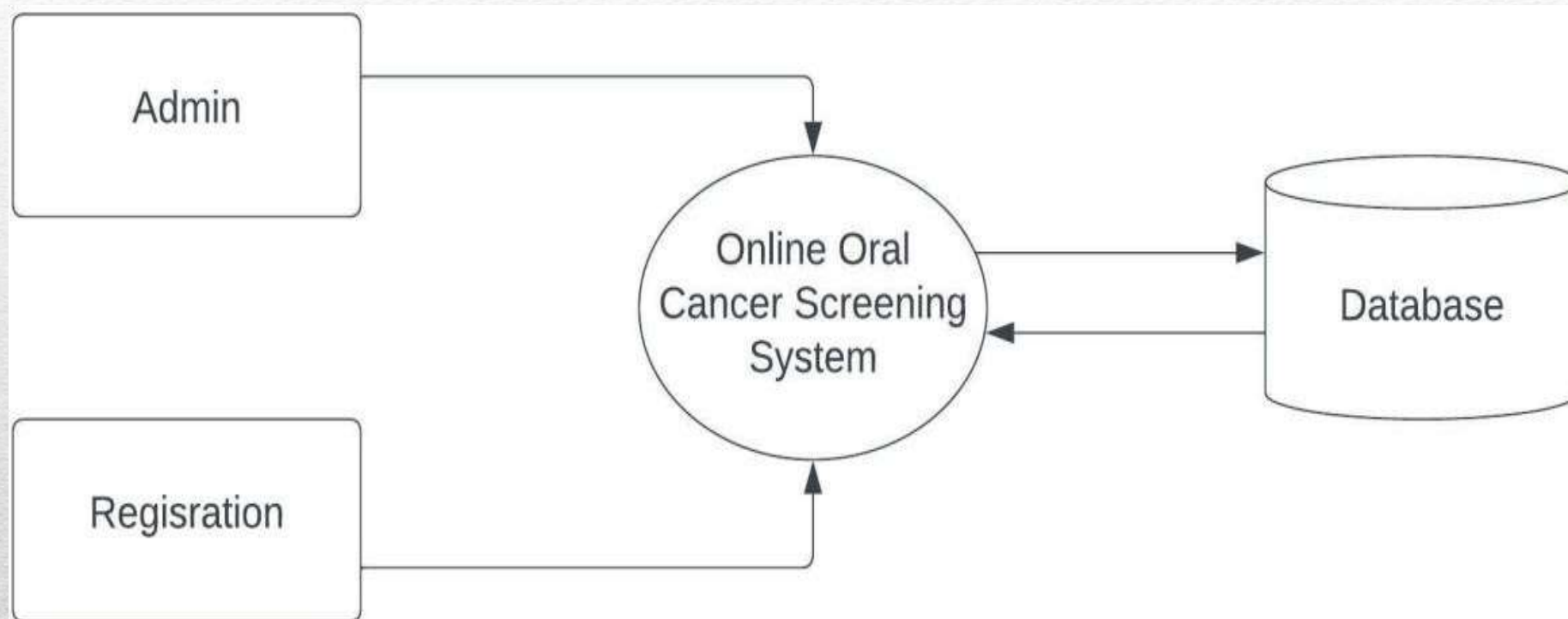
- The end user can view the result/report through SMS.

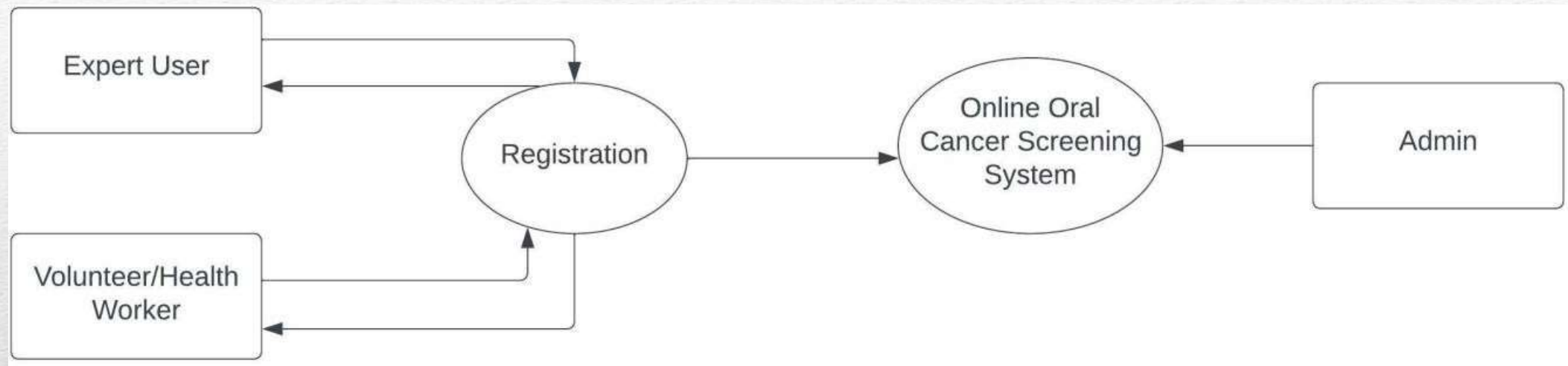
5. Administrator Module

- The Administrator module helps to manage and control the entire system.

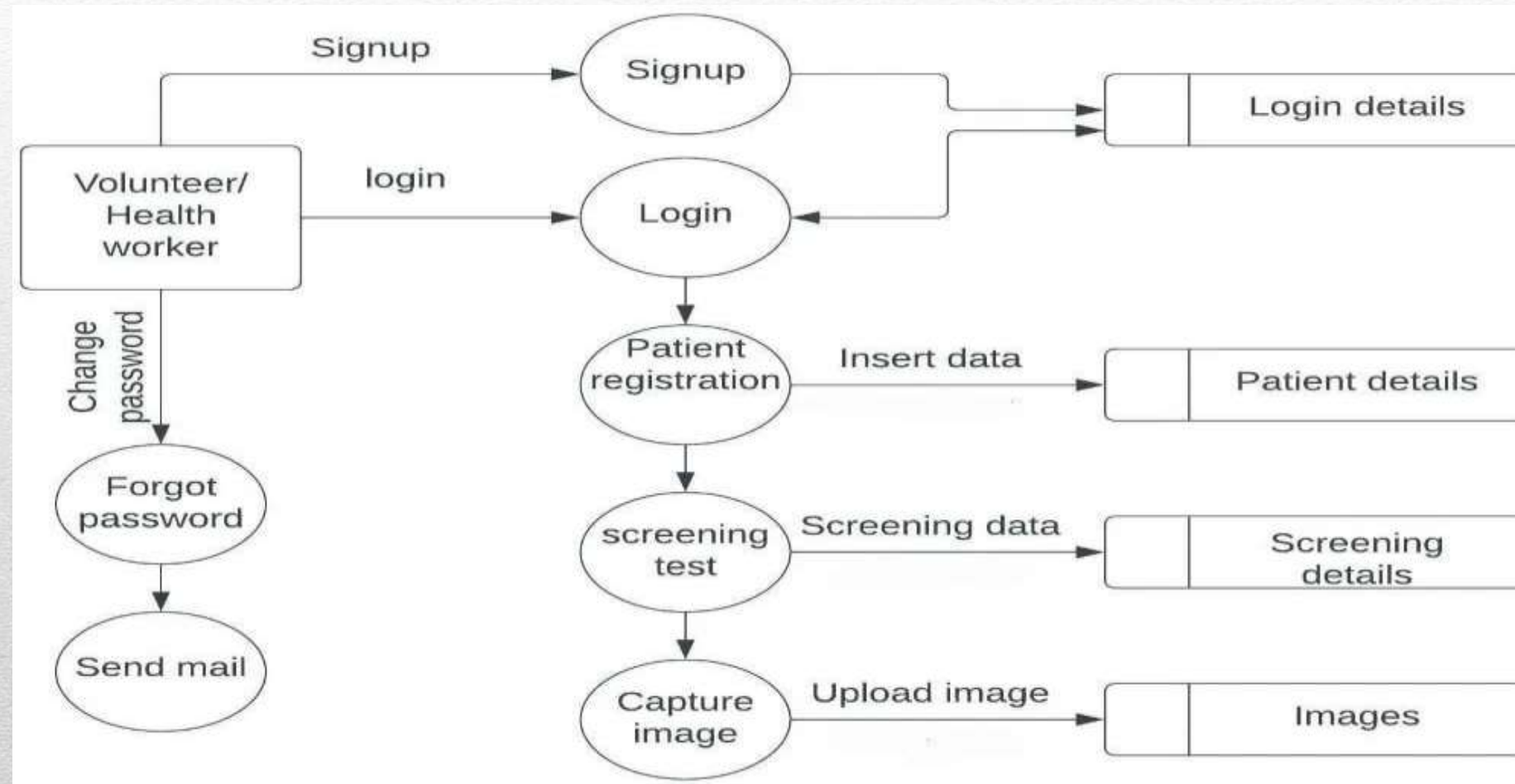
E) DATAFLOW DIAGRAM

LEVEL0:

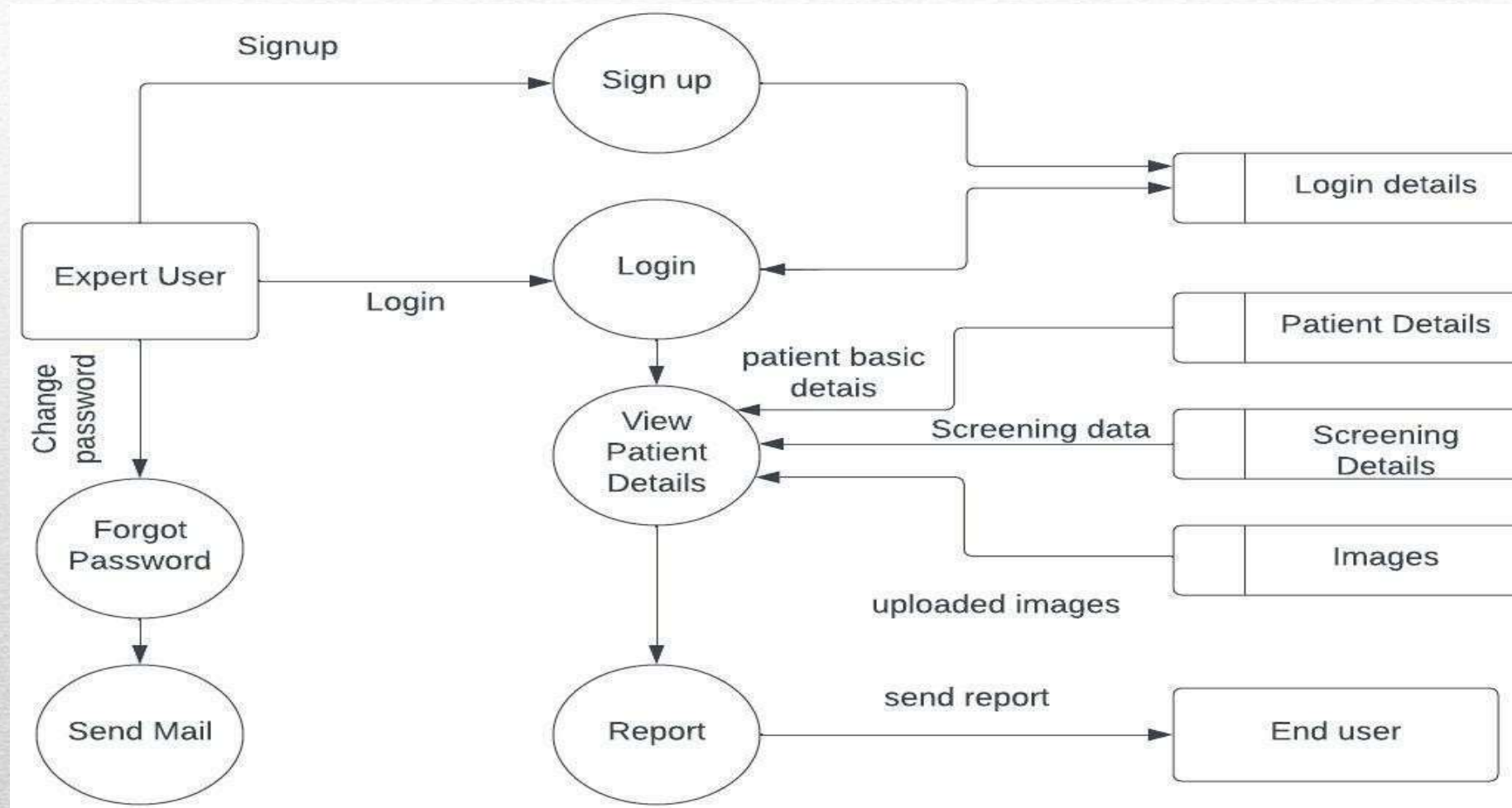


Level 1:

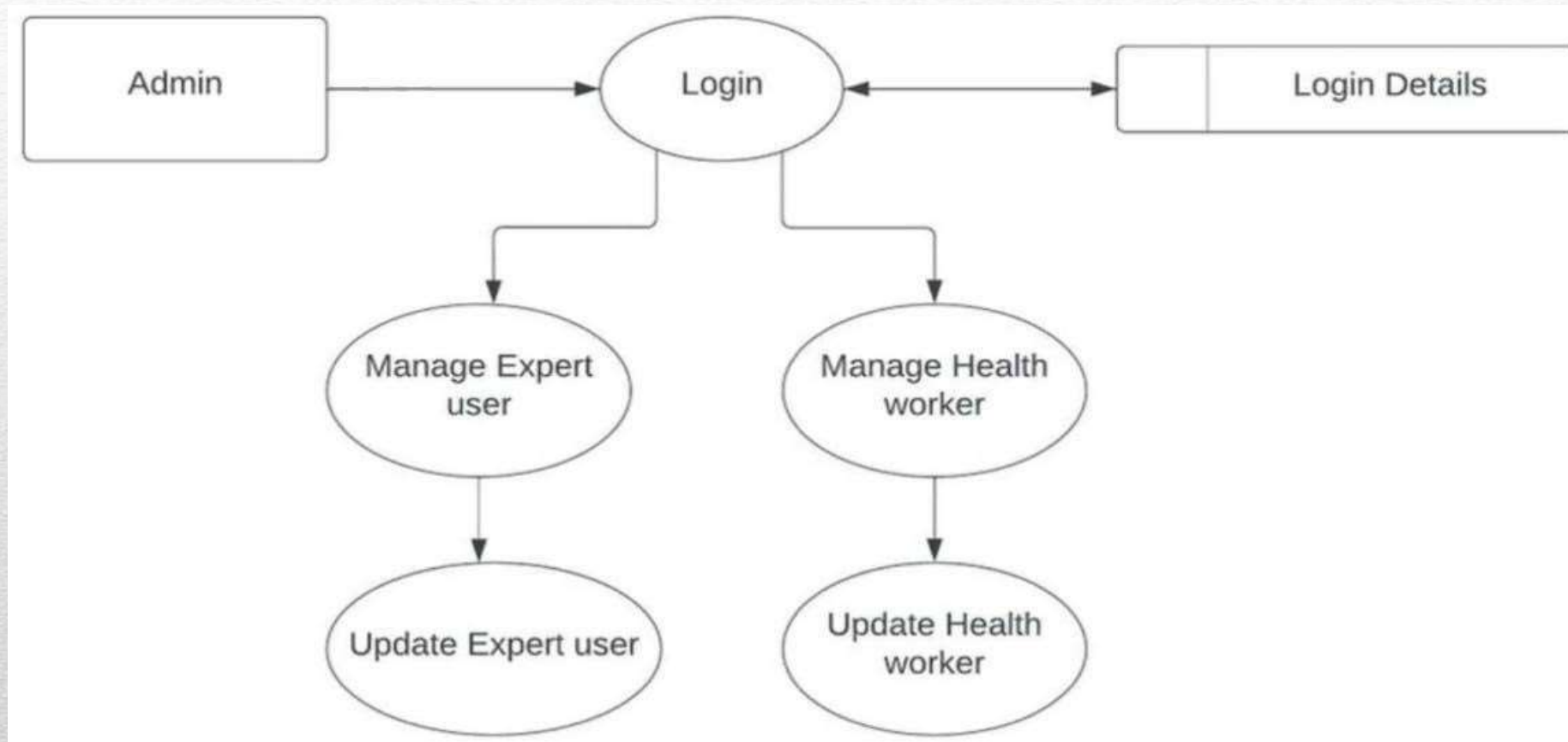
Level 1.1: Volunteer/Health worker



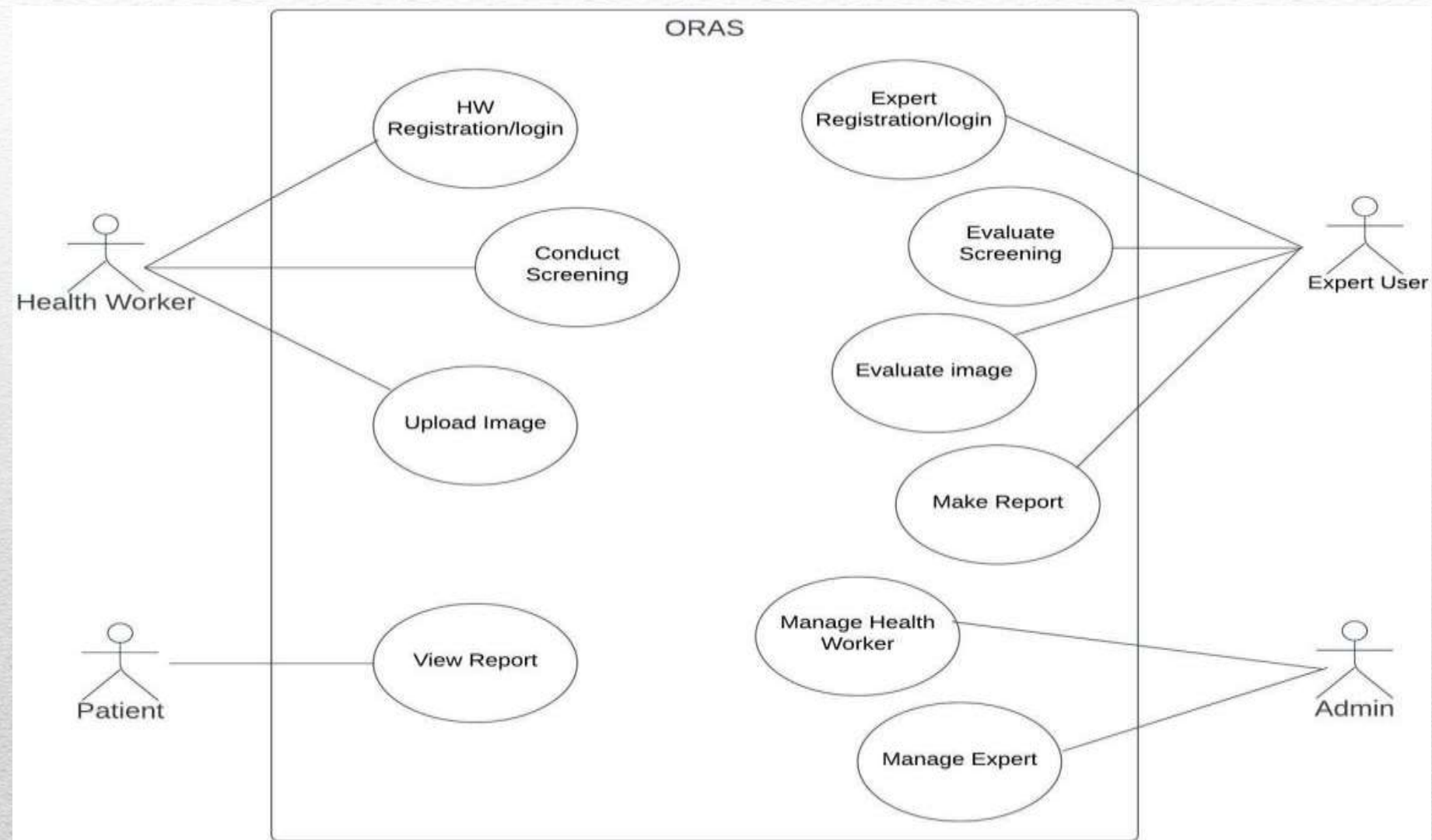
Level 1.2:Expert User



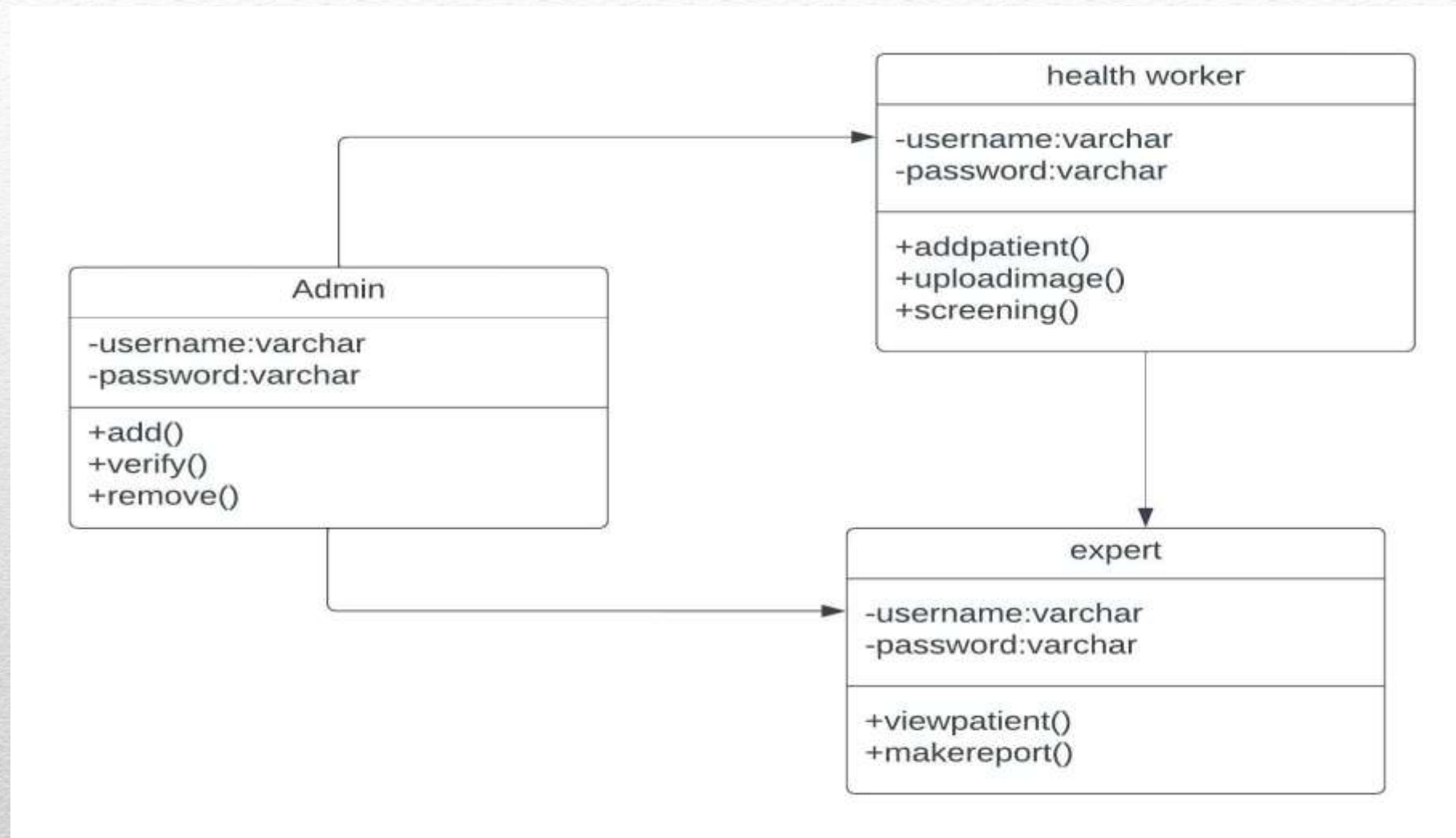
Level 1.3:Admin



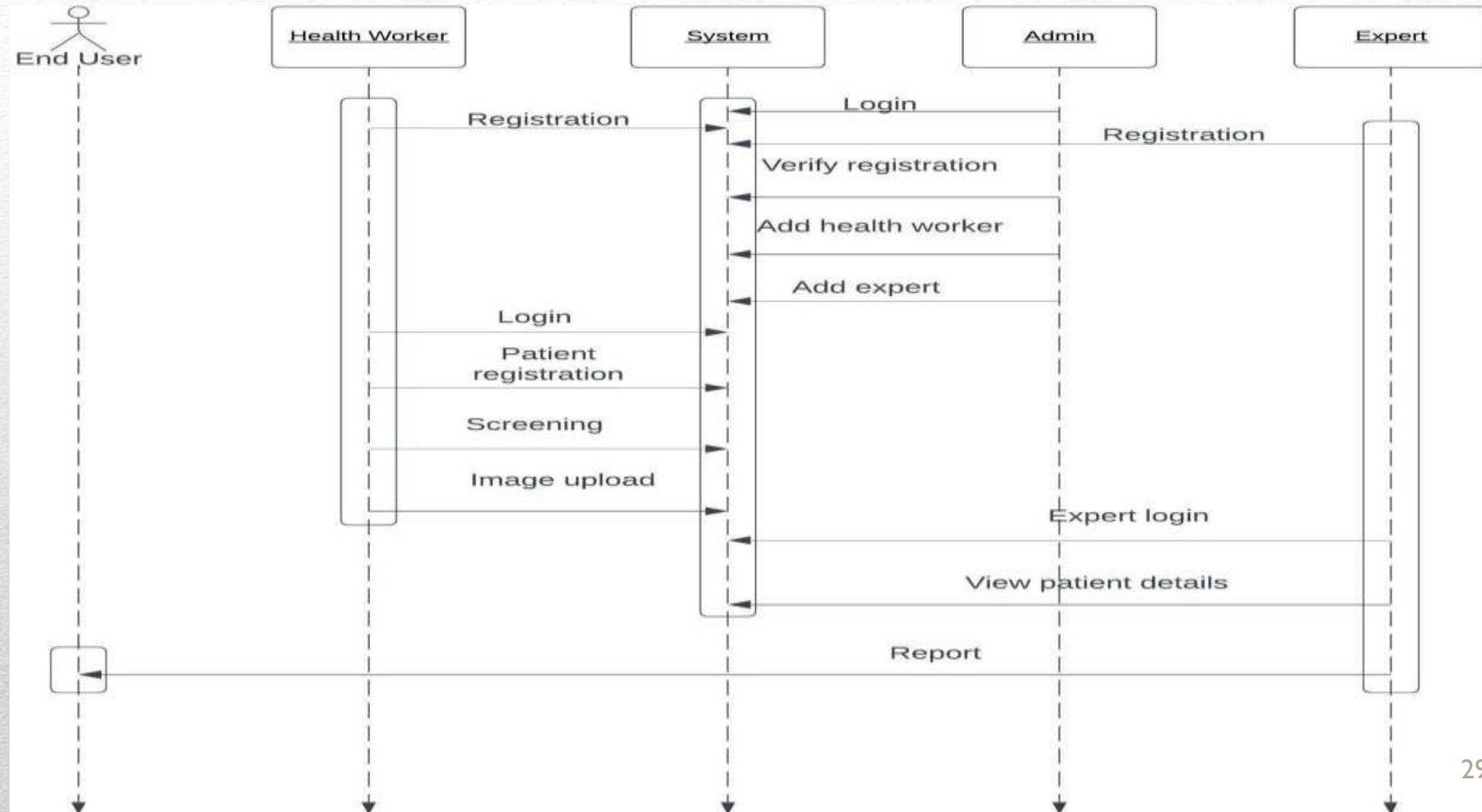
USE CASE DIAGRAM



CLASS DIAGRAM



SEQUENCE DIAGRAM



F) DATABASE DESIGN

Table For Login

Field Name	Data Type	Constraints
User_id	Varchar (40)	PK
Password	Varchar (50)	Not Null
Category	Varchar (50)	Not Null

Table For Health Worker

Field Name	Data Type	Constraints
Volunteer_id	Varchar (25)	PK
Name	Varchar (50)	Not Null
E-mail	Varchar (50)	Not Null
Address	Varchar (50)	Not Null
District	Varchar (50)	Not Null
Pin	Int (10)	Not Null
Category	Varchar (20)	Not Null
Id_card_no	Int (10)	Not Null
Mobile	Int (20)	Not Null

Table For Expert User

Field Name	Data Type	Constraints
Exp_id	Varchar (25)	PK
Name	Varchar (50)	Not Null
E-mail	Varchar (50)	Not Null
Mob	Int (20)	Not Null
Designation	Varchar (50)	Not Null
Address	Varchar (50)	Not Null
Qualification	Varchar (50)	Not Null
MCI/DCI Reg no	Varchar (50)	Not Null
MoU signed	Varchar (10)	Not Null

Table For Patient Details

Field Name	Data Type	Constraints
Pat_scrn_id	Varchar (25)	PK
Name	Varchar (50)	Not Null
Sex	Varchar (50)	Not Null
Mobile	Int (20)	Not Null
Age	Int (10)	Not Null
LSGD	Varchar (50)	Not Null
Occupation	Varchar (50)	Not Null
Aadhar no	Int (20)	Not Null
Place	Varchar (50)	Not Null
District	Varchar (50)	Not Null
Photo	Var binary (max)	Not Null

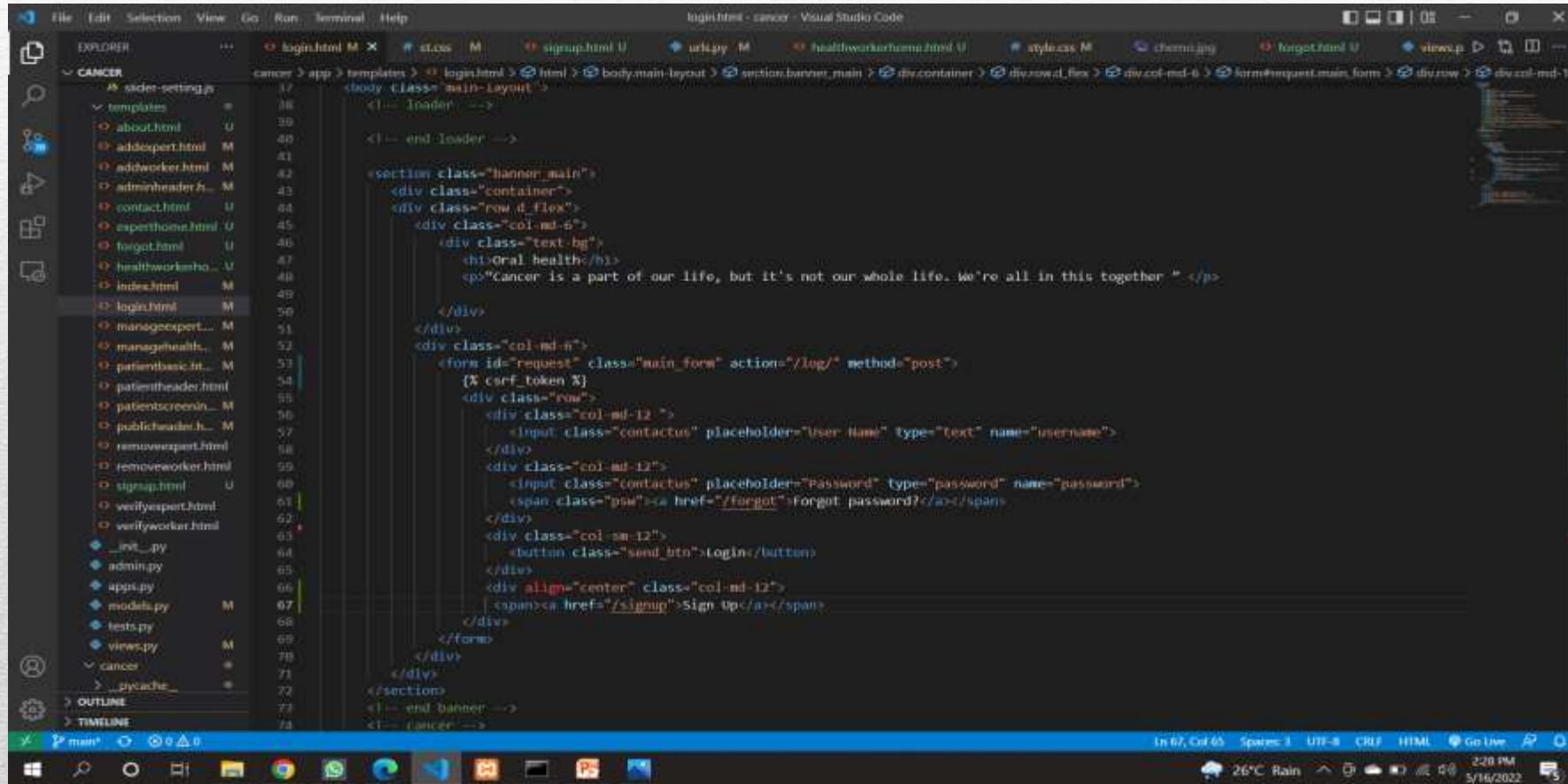
Table For Screen Image

Field Name	Data Type	Constraints
Image_id	Varchar (25)	PK
Pat_scrn_id	Varchar (25)	FK
Image_name	Varchar (20)	Not Null
Status	Varchar (10)	Not Null

6. IMPLEMENTATION

A) USER INTERFACE DESIGN

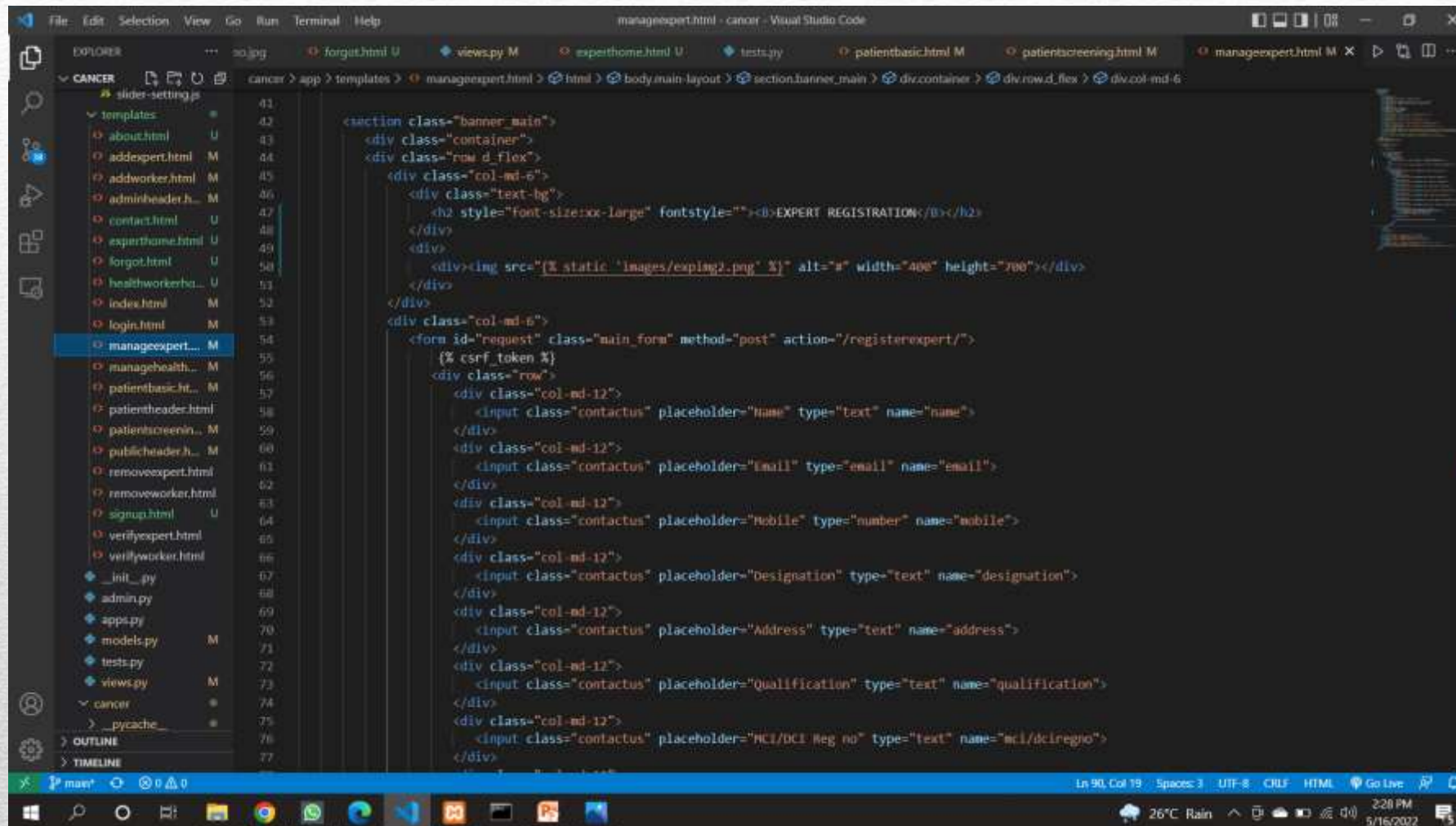
Login code



```
37 <!-- loader -->
38
39 <!-- end loader -->
40
41
42 <section class="banner main">
43   <div class="container">
44     <div class="row d-flex">
45       <div class="col-md-6">
46         <div class="text-bg">
47           <h1>Oral health</h1>
48           <p>Cancer is a part of our life, but it's not our whole life. We're all in this together "</p>
49         </div>
50       </div>
51       <div class="col-md-6">
52         <form id="request" class="main_form" action="/log/" method="post">
53           {X csrf_token X}
54           <div class="row">
55             <div class="col-md-12">
56               <input class="contactus" placeholder="User Name" type="text" name="username">
57             </div>
58             <div class="col-md-12">
59               <input class="contactus" placeholder="Password" type="password" name="password">
60               <span class="psw"><a href="/forgot">Forgot password?</a></span>
61             </div>
62             <div class="col-sm-12">
63               <button class="send_btn">Login</button>
64             </div>
65             <div align="center" class="col-md-12">
66               <span><a href="/signup">Sign Up</a></span>
67             </div>
68           </div>
69         </form>
70       </div>
71     </div>
72   </section>
73   <!-- end banner -->
74 <!-- cancer -->
```

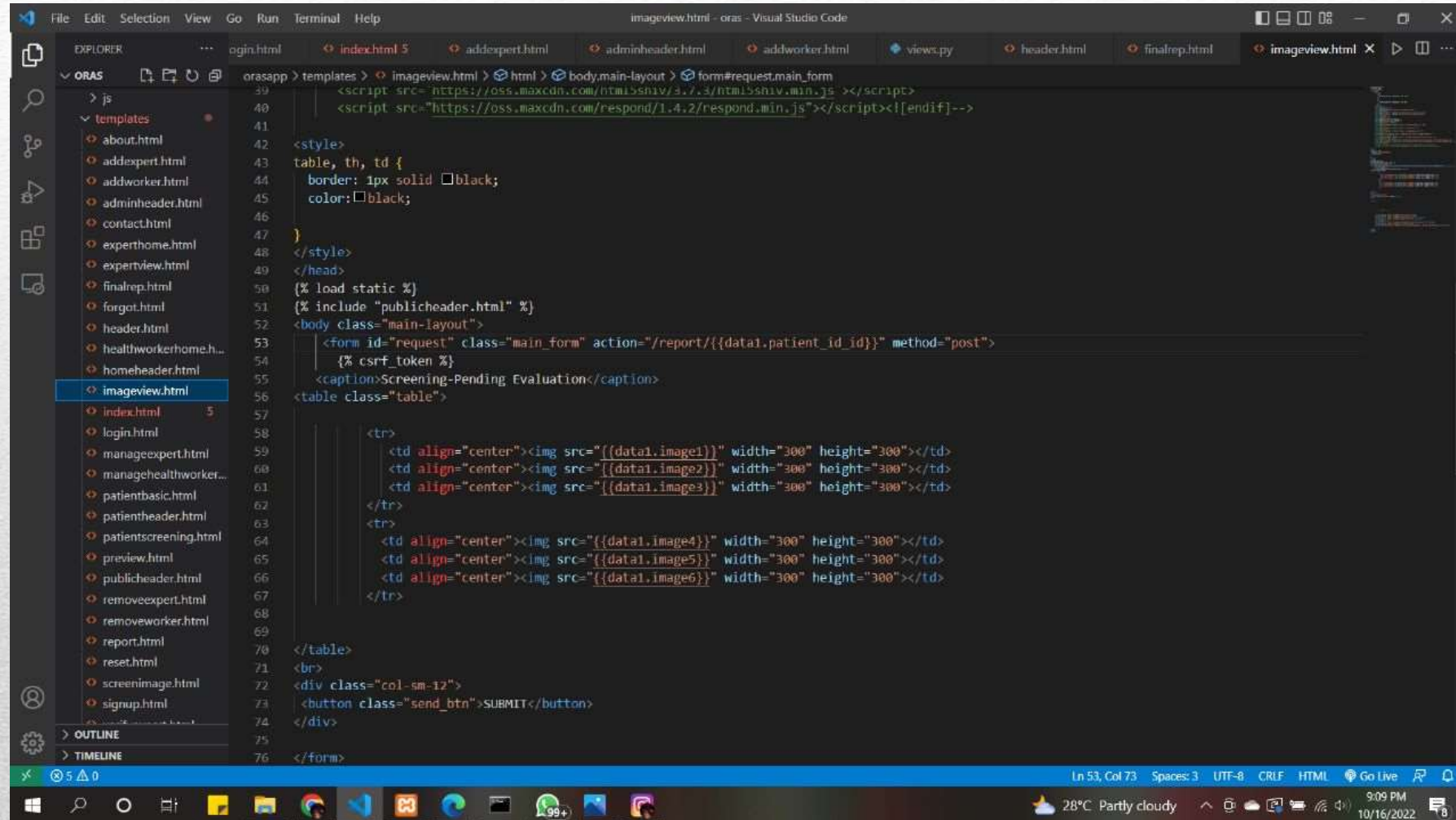
35

EXPERT CODE



```
manageexpert.html - cancer - Visual Studio Code
File Edit Selection View Go Run Terminal Help
cancer > app > templates > manageexpert.html > html > body.main-layout > section.banner_main > div.container > div.row_d_flex > div.col-md-6
EXPLORER
cancer
  slider-settings.js
  templates
    about.html
    addexpert.html
    addworker.html
    adminheader.html
    contact.html
    expert.html
    forgot.html
    healthworker.html
    index.html
    login.html
    manageexpert.html
    managehealth.html
    patientbasic.html
    patientheader.html
    patientscreening.html
    publicheader.html
    removeexpert.html
    removeworker.html
    signup.html
    verifyexpert.html
    verifyworker.html
  __init__.py
  admin.py
  apps.py
  models.py
  tests.py
  views.py
  cancer
  __pycache__
  OUTLINE
  TIMELINE
manageexpert.html
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<section class="banner_main">
  <div class="container">
    <div class="row_d_flex">
      <div class="col-md-6">
        <div class="text-bg">
          <h2 style="font-size: 1.5em; font-weight: bold;">EXPERT REGISTRATION</h2>
        </div>
        <div>
          
        </div>
      </div>
      <div class="col-md-6">
        <form id="request" class="main_form" method="post" action="/registerexpert/">
          {% csrf_token %}
          <div class="row">
            <div class="col-md-12">
              <input class="contactus" placeholder="Name" type="text" name="name">
            </div>
            <div class="col-md-12">
              <input class="contactus" placeholder="Email" type="email" name="email">
            </div>
            <div class="col-md-12">
              <input class="contactus" placeholder="Mobile" type="number" name="mobile">
            </div>
            <div class="col-md-12">
              <input class="contactus" placeholder="Designation" type="text" name="designation">
            </div>
            <div class="col-md-12">
              <input class="contactus" placeholder="Address" type="text" name="address">
            </div>
            <div class="col-md-12">
              <input class="contactus" placeholder="Qualification" type="text" name="qualification">
            </div>
            <div class="col-md-12">
              <input class="contactus" placeholder="MCI/DCI Reg no" type="text" name="mci/dciregno">
            </div>
          </div>
        </form>
      </div>
    </div>
  </div>
</section>
```


IMAGE VIEW



```
File Edit Selection View Go Run Terminal Help
imageview.html - oras - Visual Studio Code

EXPLORER
ORAS
  js
  templates
    about.html
    addexpert.html
    addworker.html
    adminheader.html
    contact.html
    experthome.html
    expertview.html
    finalrep.html
    forgot.html
    header.html
    healthworkerhome.h...
    homeheader.html
    imageview.html
    index.html 5
    login.html
    manageexpert.html
    managehealthworker...
    patientbasic.html
    patientheader.html
    patientscreening.html
    preview.html
    publicheader.html
    removeexpert.html
    removeworker.html
    report.html
    reset.html
    screenimage.html
    signup.html

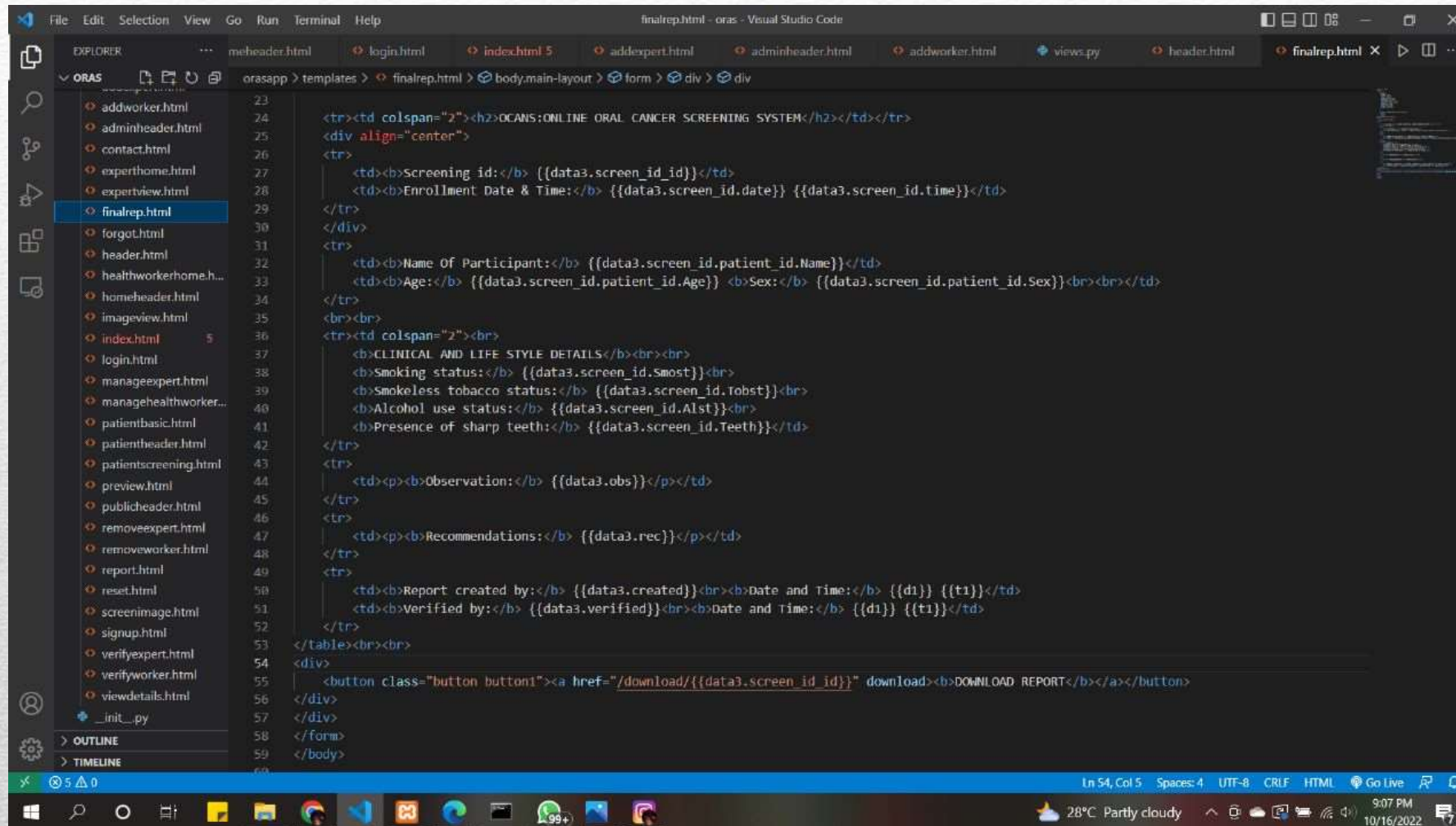
  OUTLINE
  TIMELINE

imageview.html
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<script src="https://oss.maxcdn.com/html5shiv/3.7.3/html5shiv.min.js"></script>
<script src="https://oss.maxcdn.com/respond/1.4.2/respond.min.js"></script><![endif]-->

<style>
table, th, td {
border: 1px solid black;
color: black;
}
</style>
</head>
{% load static %}
{% include "publicheader.html" %}
<body class="main-layout">
  <form id="request" class="main_form" action="/report/{{data1.patient_id_id}}" method="post">
    {% csrf_token %}
    <caption>Screening-Pending Evaluation</caption>
    <table class="table">
      <tr>
        <td align="center"></td>
        <td align="center"></td>
        <td align="center"></td>
      </tr>
      <tr>
        <td align="center"></td>
        <td align="center"></td>
        <td align="center"></td>
      </tr>
    </table>
    <div class="col-sm-12">
      <button class="send_btn">SUBMIT</button>
    </div>
  </form>
```

REPORT GENERATION



The screenshot displays the Visual Studio Code editor with the file 'finalrep.html' open. The Explorer sidebar on the left shows a project structure for 'ORAS' with various HTML and Python files. The main editor area shows the HTML code for the report, which includes a header section with the title 'OCANS: ONLINE ORAL CANCER SCREENING SYSTEM', a table for patient information, a section for clinical and life style details, and a footer with report creation and verification information. The code uses placeholders like {{data3.screen_id.id}}, {{data3.screen_id.date}}, and {{data3.screen_id.time}} for dynamic data insertion. A 'DOWNLOAD REPORT' button is also present at the bottom of the report content.

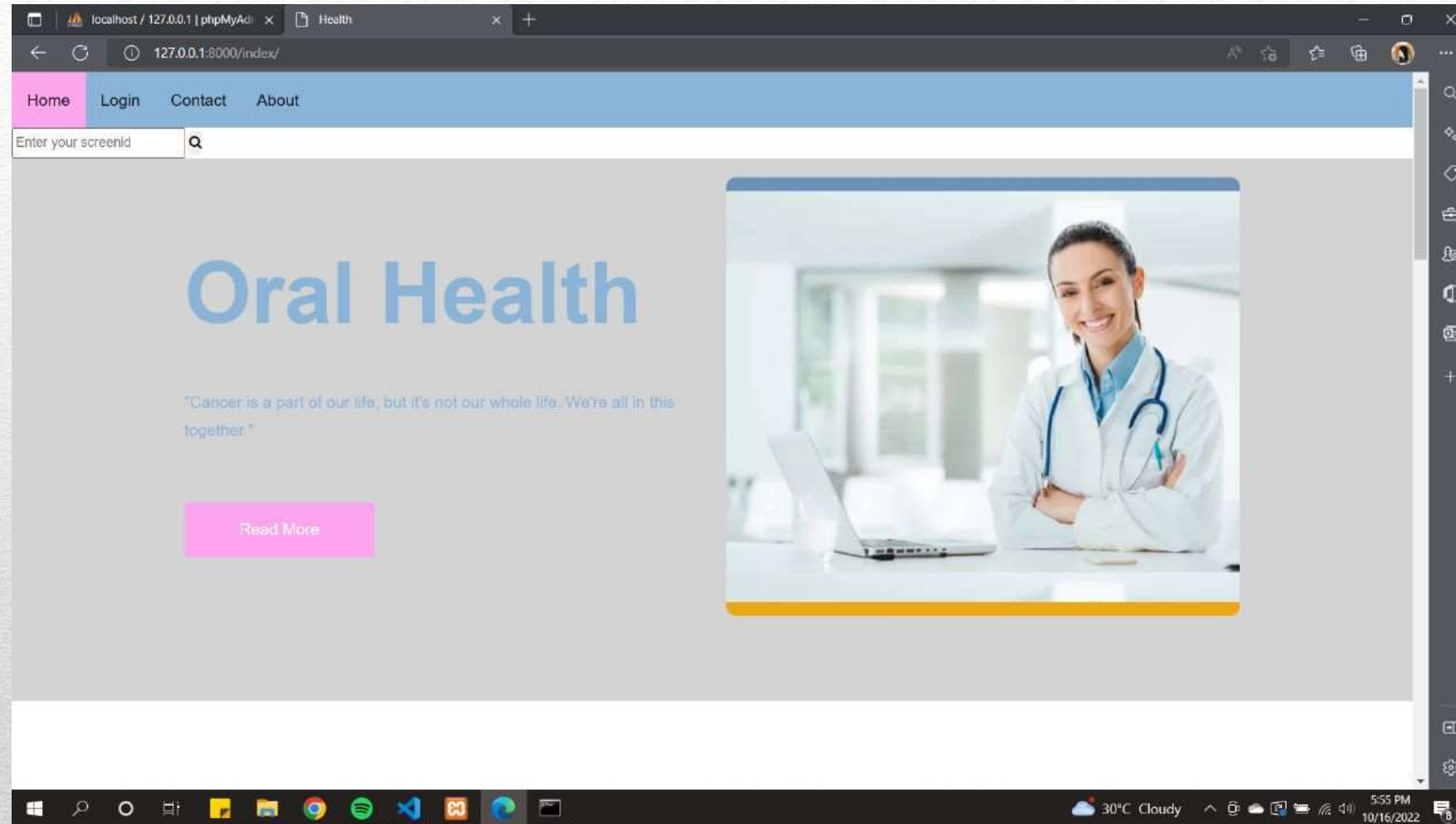
```
File Edit Selection View Go Run Terminal Help
finalrep.html - oras - Visual Studio Code

EXPLORER
ORAS
  addworker.html
  adminheader.html
  contact.html
  experthome.html
  expertview.html
  finalrep.html
  forgot.html
  header.html
  healthworkerhome.h...
  homeheader.html
  imageview.html
  index.html
  login.html
  manageexpert.html
  managehealthworker...
  patientbasic.html
  patientheader.html
  patientscreening.html
  preview.html
  publicheader.html
  removeexpert.html
  removeworker.html
  report.html
  reset.html
  screenimage.html
  signup.html
  verifyexpert.html
  verifyworker.html
  viewdetails.html
  _init_.py

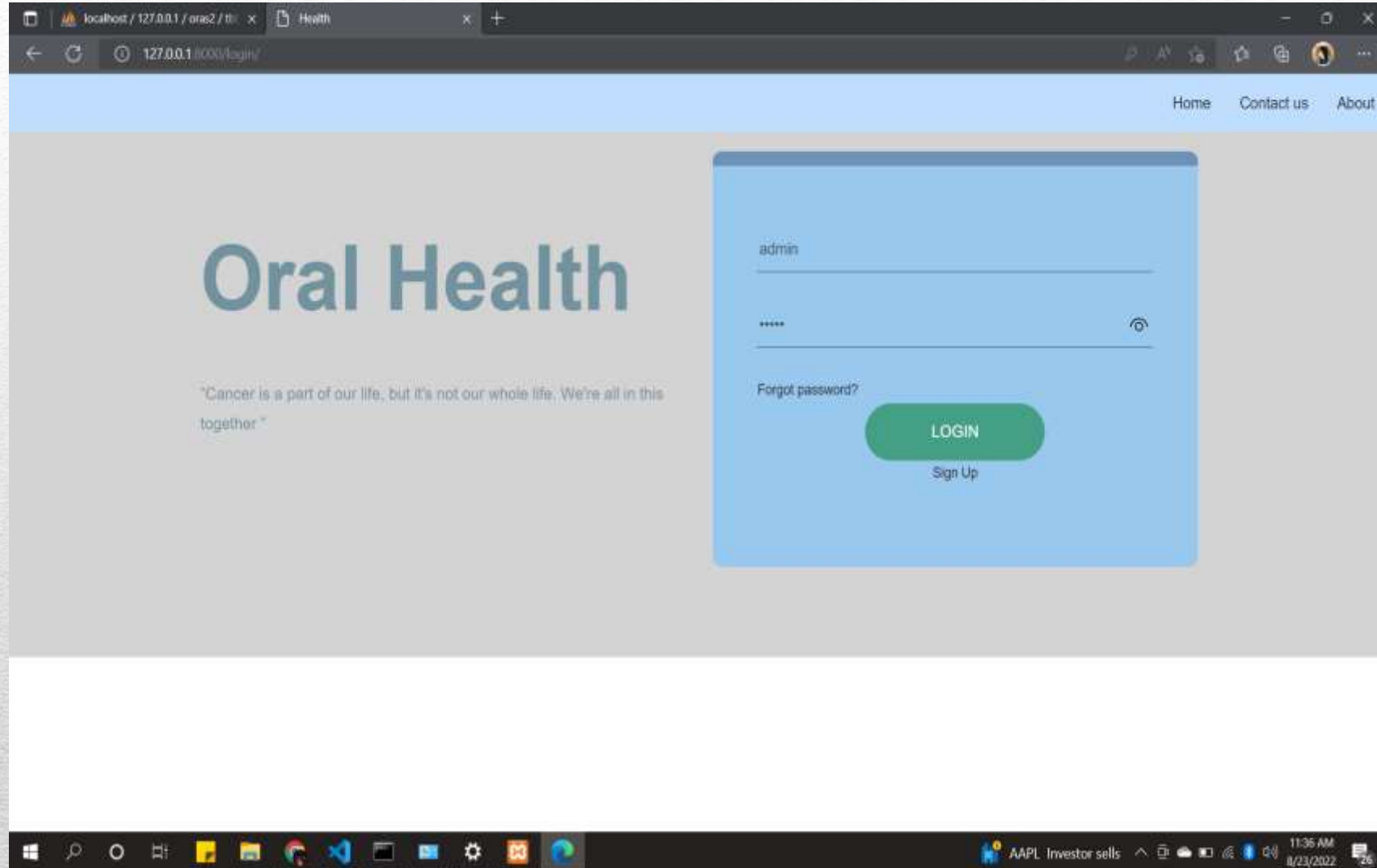
OUTLINE
TIMELINE

finalrep.html
  <tr><td colspan="2"><h2>OCANS: ONLINE ORAL CANCER SCREENING SYSTEM</h2></td></tr>
  <div align="center">
  <tr>
  <td><b>Screening id:</b> {{data3.screen_id.id}}</td>
  <td><b>Enrollment Date & Time:</b> {{data3.screen_id.date}} {{data3.screen_id.time}}</td>
  </tr>
  </div>
  <tr>
  <td><b>Name Of Participant:</b> {{data3.screen_id.patient_id.Name}}</td>
  <td><b>Age:</b> {{data3.screen_id.patient_id.Age}} <b>Sex:</b> {{data3.screen_id.patient_id.Sex}}<br><br></td>
  </tr>
  <br><br>
  <tr><td colspan="2"><br>
  <b>CLINICAL AND LIFE STYLE DETAILS</b><br><br>
  <b>Smoking status:</b> {{data3.screen_id.Smst}}<br>
  <b>Smokeless tobacco status:</b> {{data3.screen_id.Tobst}}<br>
  <b>Alcohol use status:</b> {{data3.screen_id.Alst}}<br>
  <b>Presence of sharp teeth:</b> {{data3.screen_id.Teeth}}</td>
  </tr>
  <tr>
  <td><p><b>Observation:</b> {{data3.obs}}</p></td>
  </tr>
  <tr>
  <td><p><b>Recommendations:</b> {{data3.rec}}</p></td>
  </tr>
  <tr>
  <td><b>Report created by:</b> {{data3.created}}<br><b>Date and Time:</b> {{d1}} {{t1}}</td>
  <td><b>Verified by:</b> {{data3.verified}}<br><b>Date and Time:</b> {{d1}} {{t1}}</td>
  </tr>
  </table><br><br>
  <div>
  <button class="button button1"><a href="/download/{{data3.screen_id.id}}" download><b>DOWNLOAD REPORT</b></a></button>
  </div>
  </div>
  </form>
  </body>
```

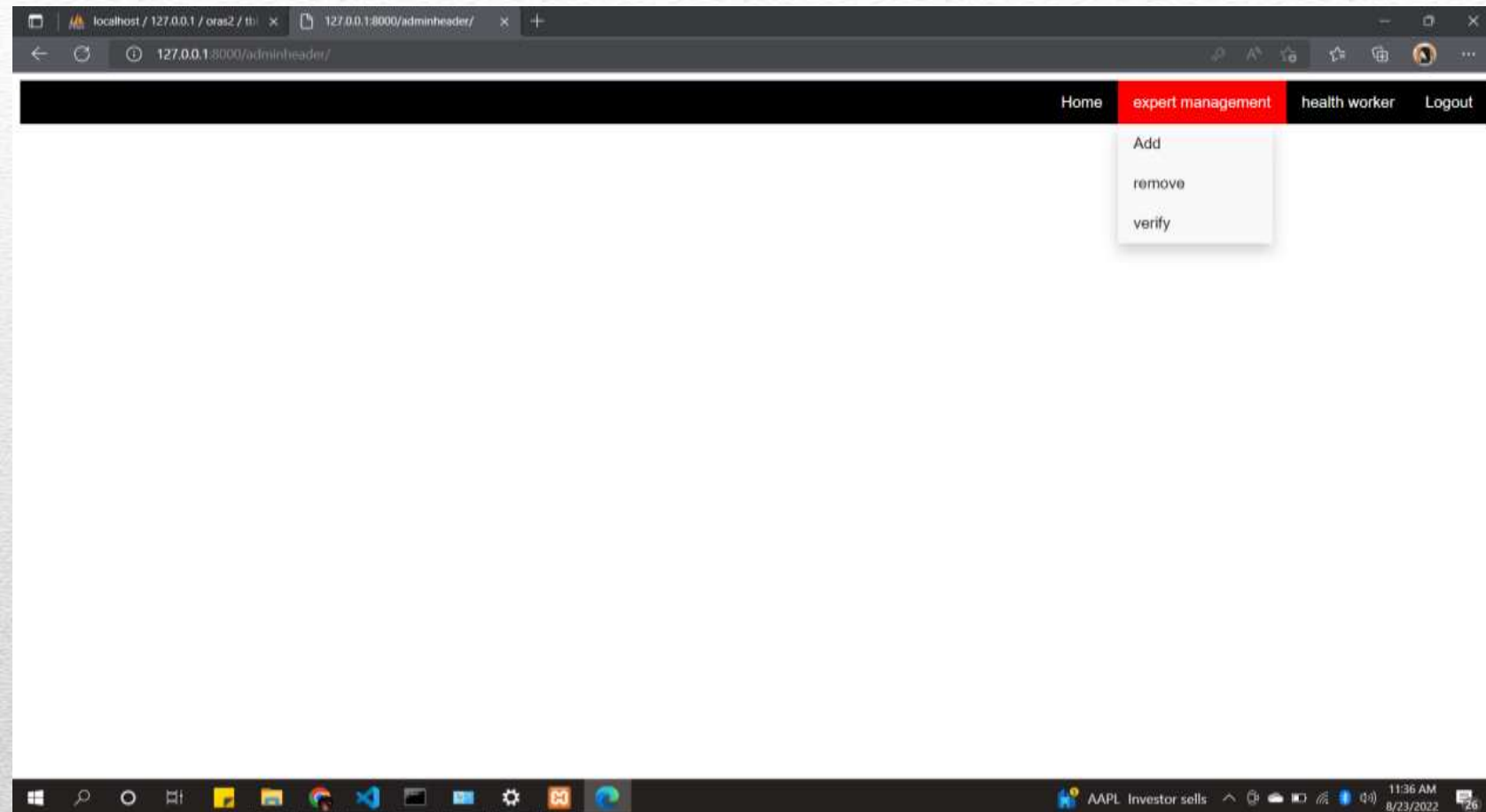

Home Page



Login Page



Admin Page



Add Health Worker/Expert

localhost / 127.0.0.1 / oras2 / health

127.0.0.1:8000/addexpert/

Home expert management health worker Logout

Oral Health

"Cancer is a part of our life, but it's not our whole life. We're all in this together."

Name

Email

Mobile

Designation

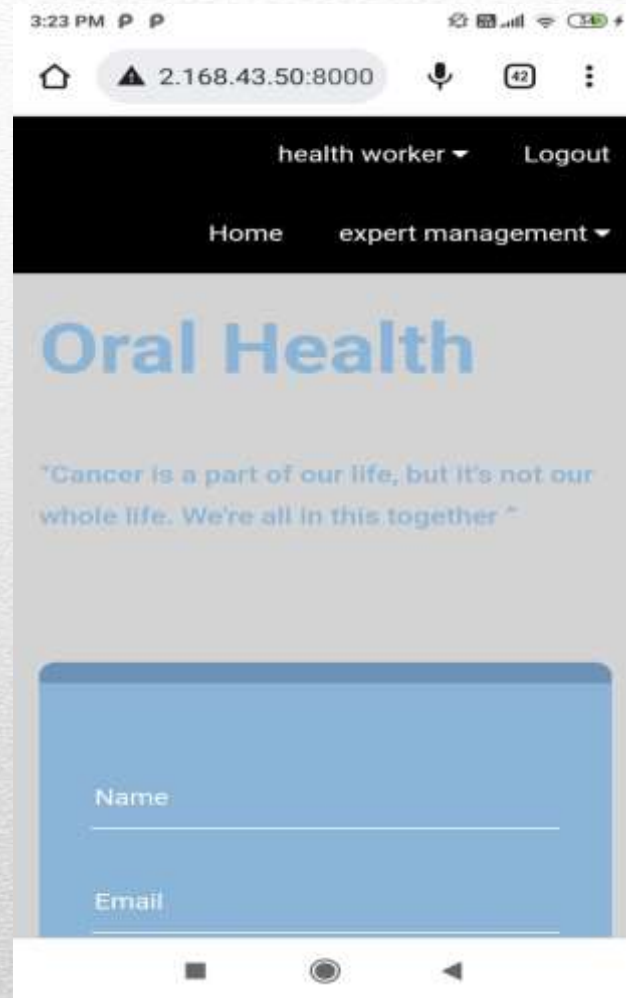
Address

Qualification

MCI/DCI Reg no

MoU signed

24°C Light rain 11:47 AM 8/23/2022



3:23 PM P P

2.168.43.50:8000

health worker ▾ Logout

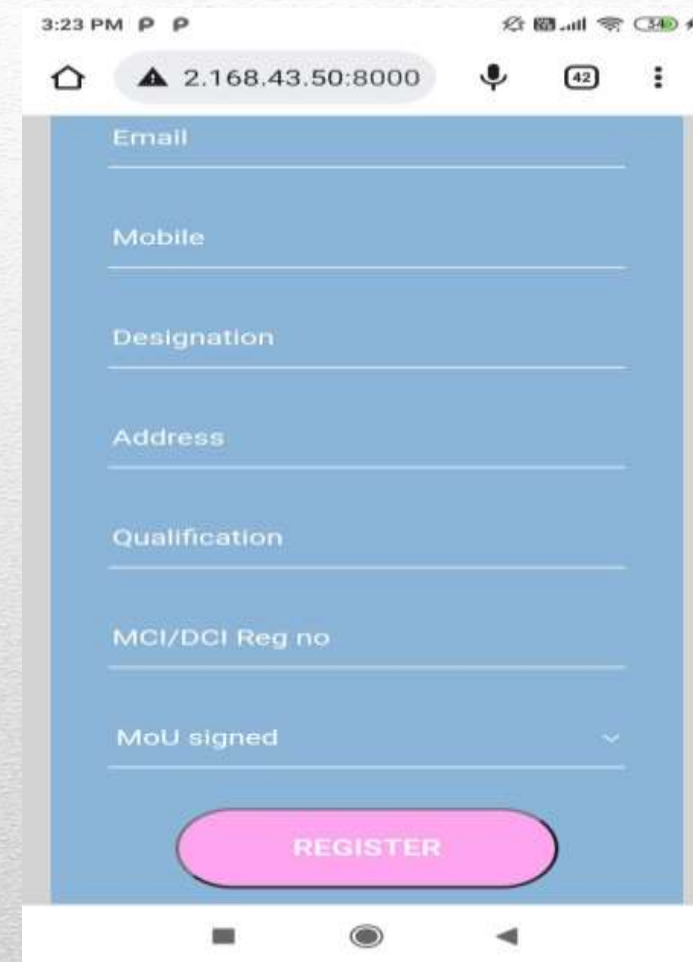
Home expert management ▾

Oral Health

"Cancer is a part of our life, but it's not our whole life. We're all in this together."

Name

Email



3:23 PM P P

2.168.43.50:8000

Email

Mobile

Designation

Address

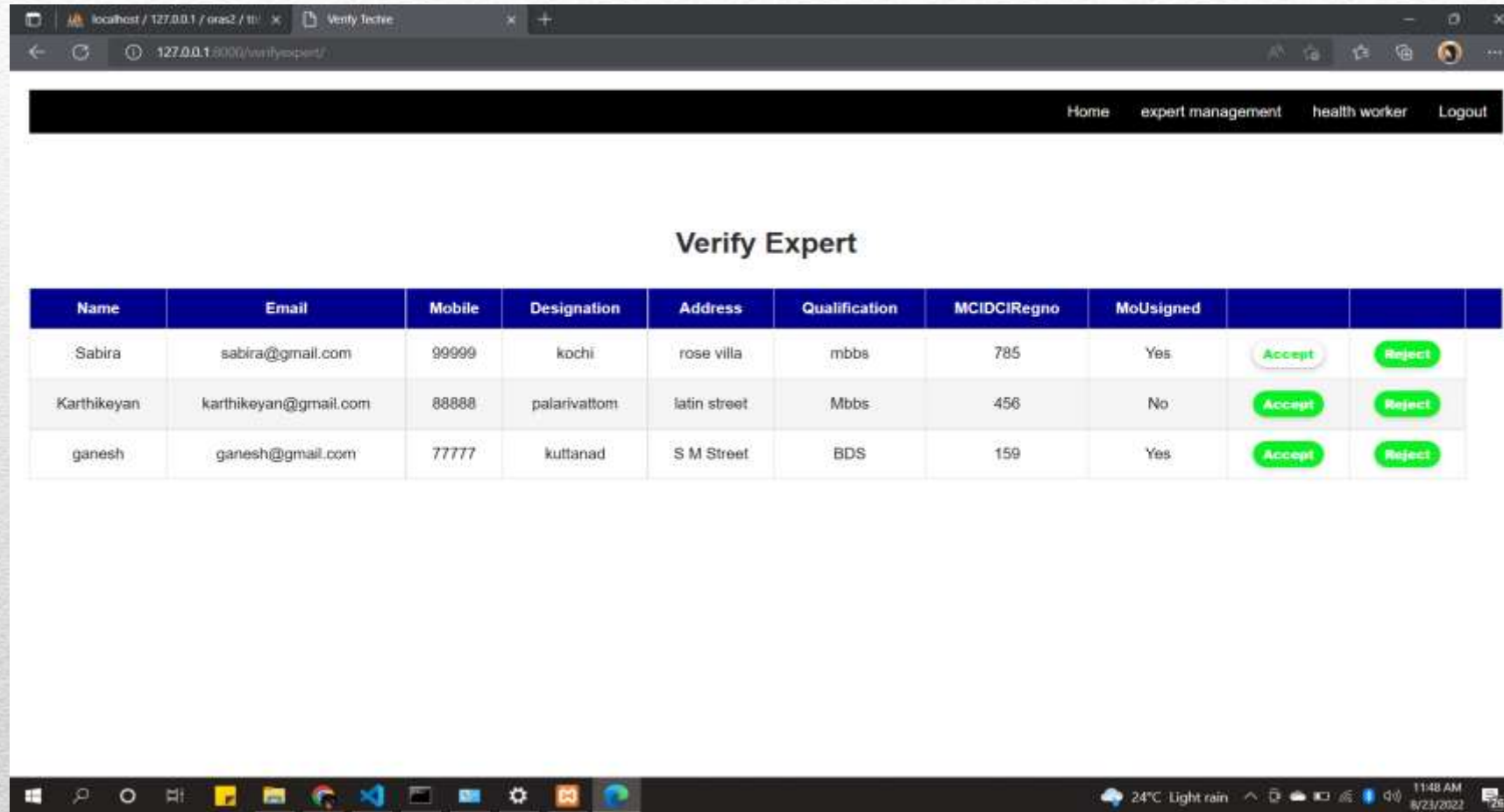
Qualification

MCI/DCI Reg no

MoU signed ▾

REGISTER

Verify Expert



The screenshot shows a web browser window with the URL `localhost / 127.0.0.1 / oras2 / th /` and a tab titled 'Verify Expert'. The browser address bar shows `127.0.0.1:8000/verifyexpert/`. The application has a navigation bar with links: Home, expert management, health worker, and Logout. The main content area is titled 'Verify Expert' and displays a table with the following data:

Name	Email	Mobile	Designation	Address	Qualification	MCIDCIRegno	MoUnsigned		
Sabira	sabira@gmail.com	99999	kochi	rose villa	mbbs	785	Yes	Accept	Reject
Karthikeyan	karthikeyan@gmail.com	88888	palarivattom	latin street	Mbbs	456	No	Accept	Reject
ganesh	ganesh@gmail.com	77777	kuttanad	S M Street	BDS	159	Yes	Accept	Reject

3:24 PM P P 2.168.43.50:8000 42

health worker Logout

Home expert management

Verify Expert

Name	Ganesh
Email	ganesh@gmail.com
Mobile	77777
Designation	kotooli
Address	S M Street
Qualification	BDS
MCIDCIRegno	456

3:24 PM P P

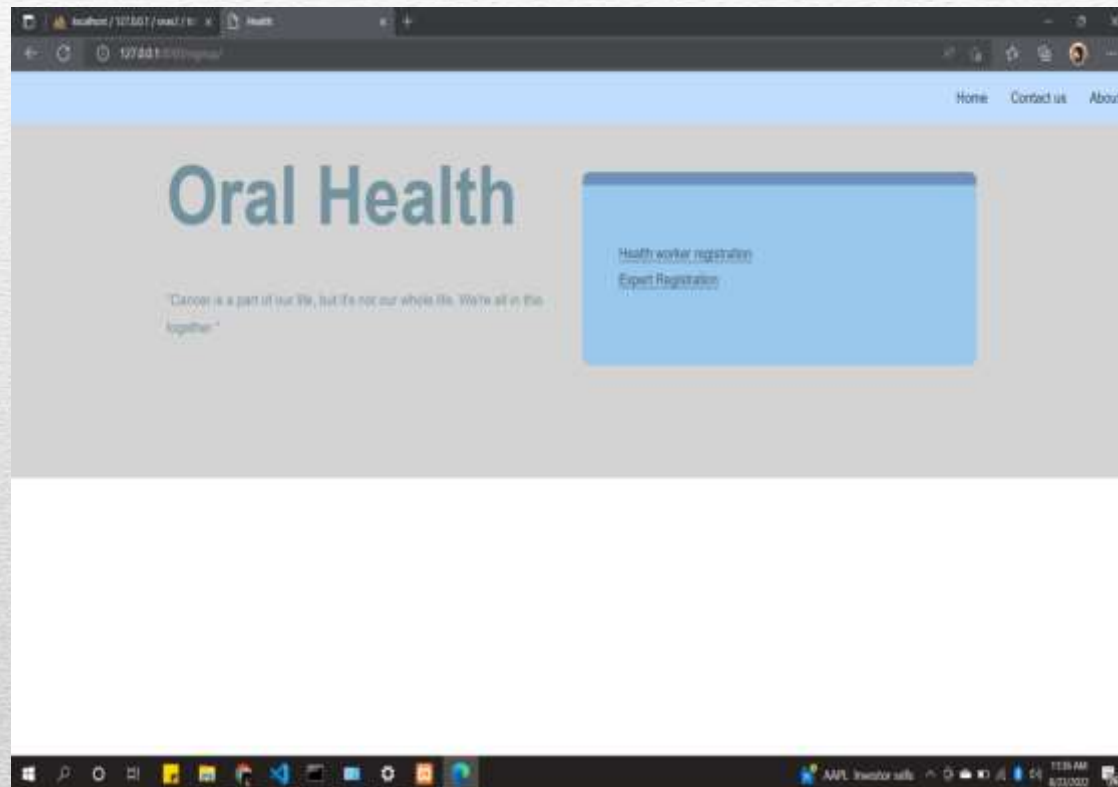
Verify Expert

Name	Ganesh
Email	ganesh@gmail.com
Mobile	77777
Designation	kotooli
Address	S M Street
Qualification	BDS
MCIDCIRegno	456
MoUnsigned	No

Accept

Reject

Category




Expert Registration

localhost / 127.0.0.1 / oras2 / th... Health

127.0.0.1:3000/manageexpert/

Home Contact us About

EXPERT REGISTRATION



Name

Email

Mobile

Designation

Address

Qualification

MCI/DCI Reg no

MoU signed

Register

24°C Light rain 11:46 AM 8/23/2022

16:05 192.168.139.95:8000/manageexpert/ Home Contact us About

EXPERT REGISTRATION



Name

Email

Mobile


Designation

Address

Qualification

MCI/DCI Reg no

16:05



Name

Email

Mobile

Designation

Address

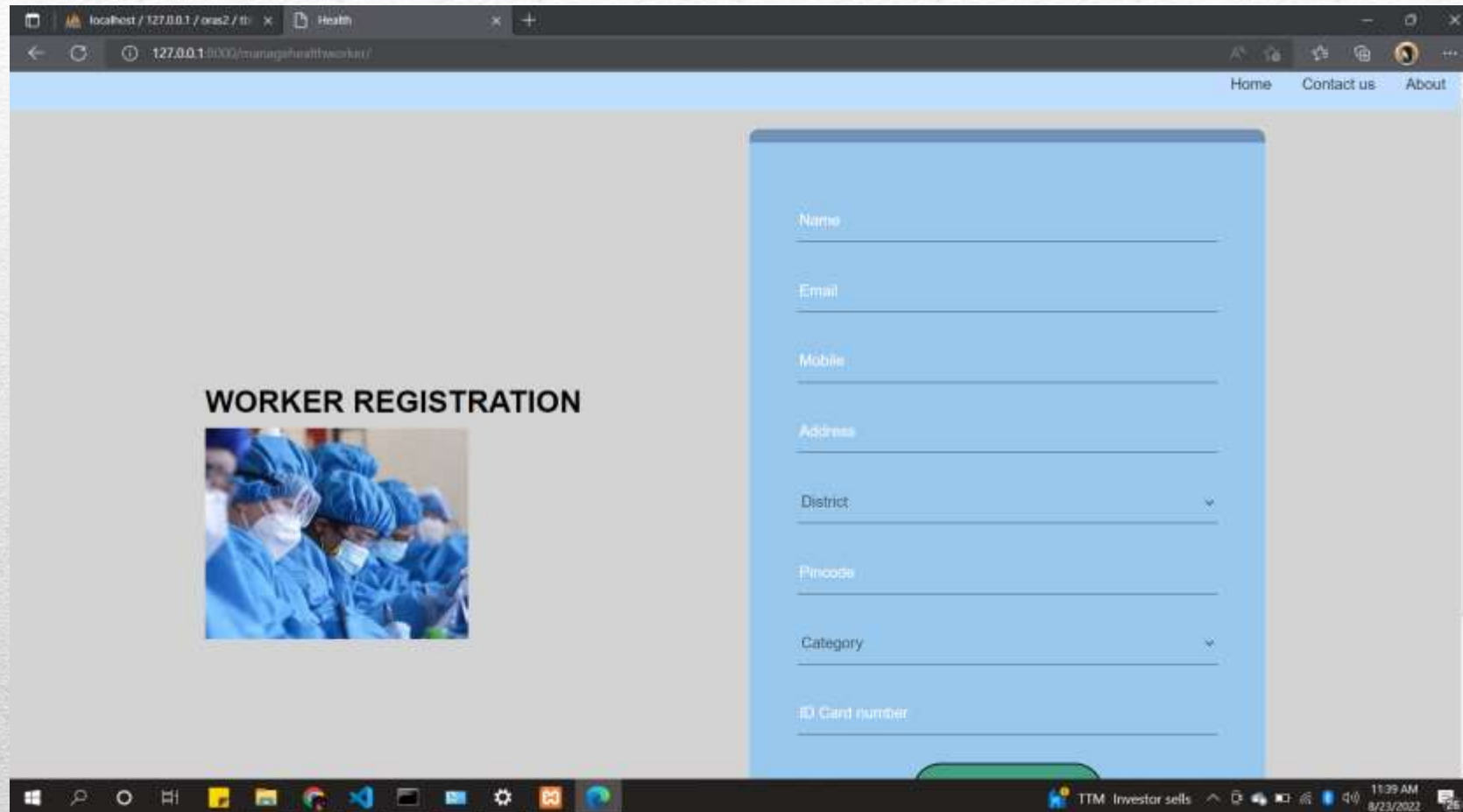
Qualification

MCI/DCI Reg no

MoU signed ☐

REGISTER

Health Worker Registration




localhost / 127.0.0.1 / oras2 / th

127.0.0.1:8000/curughealthworker/

Home Contact us About

WORKER REGISTRATION



Name

Email

Mobile

Address

District

Pincode

Category

ID Card number



16:05 192.168.139.95:8000/managehealthwork

Home Contact us About

WORKER REGISTRATION



Name

Email

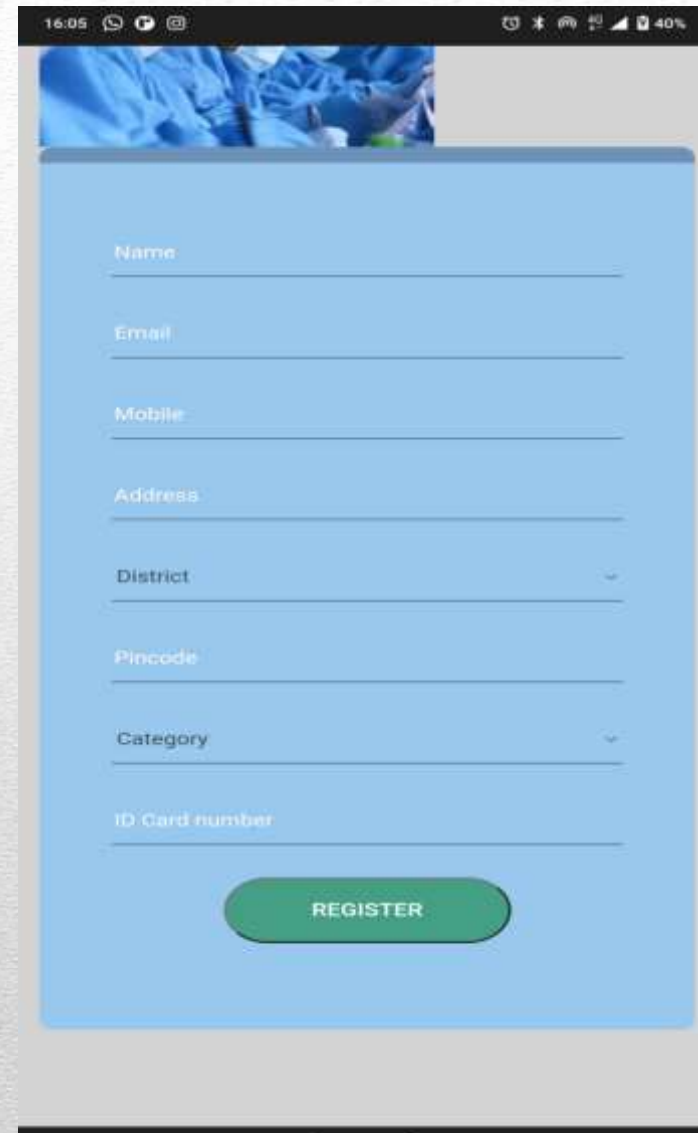
Mobile

Address


District

Pincode

Category



16:05



Name

Email

Mobile

Address

District

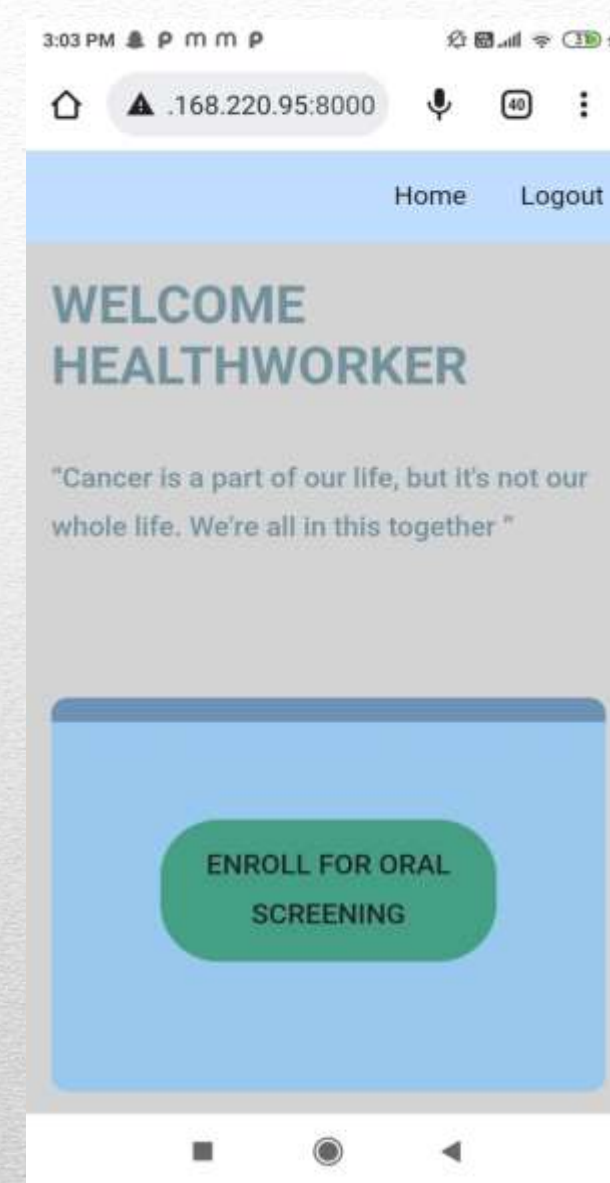
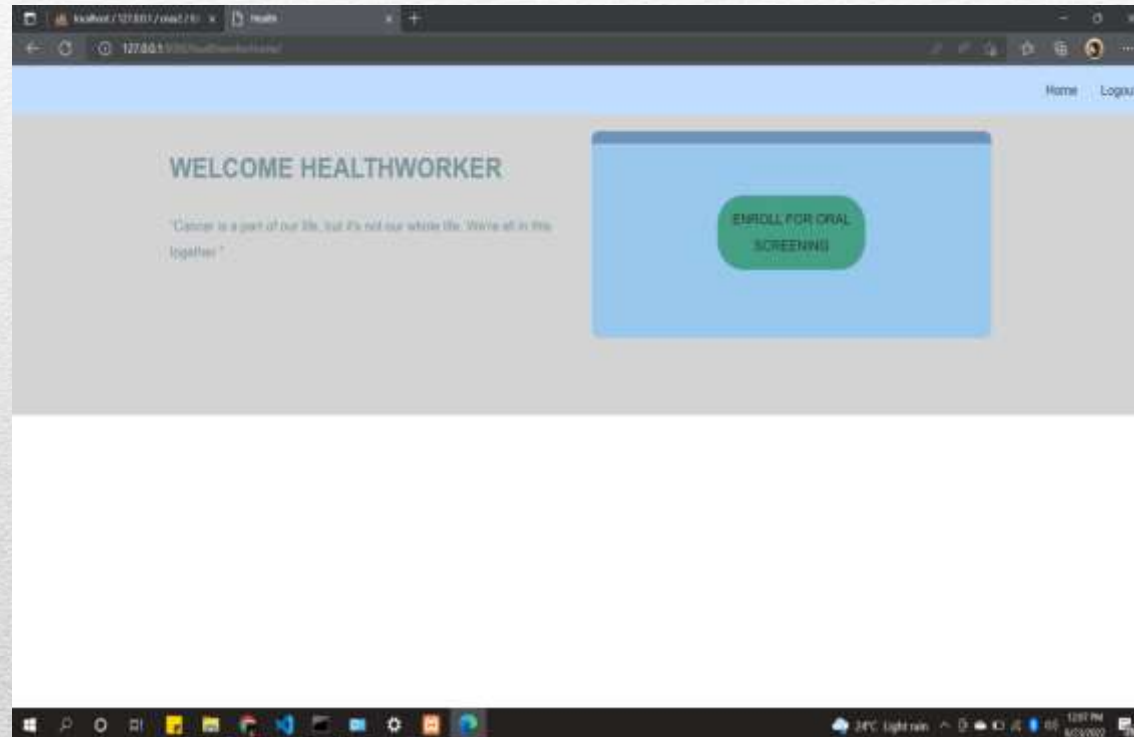
Pincode

Category

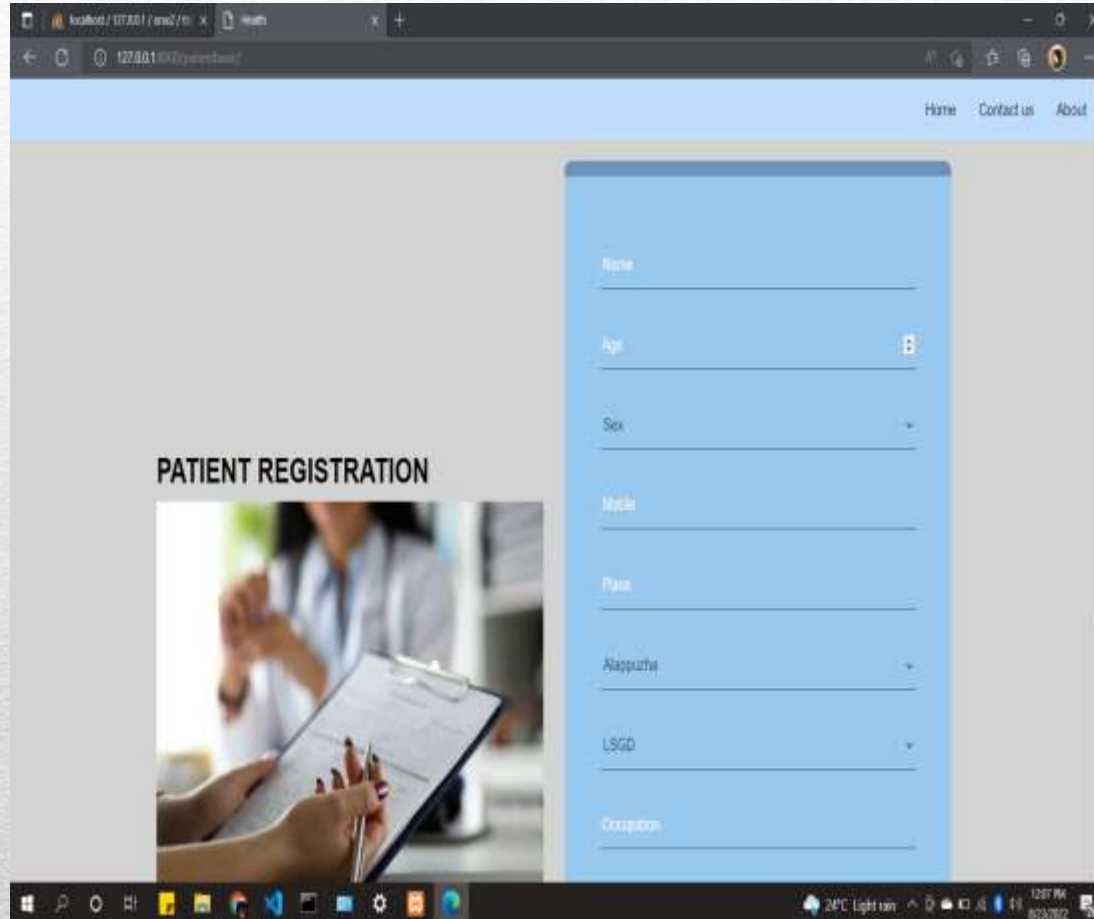
ID Card number

REGISTER

Health Worker Login



Patient Basic Details



Home Contact us About

PATIENT REGISTRATION

Name

Age

Sex

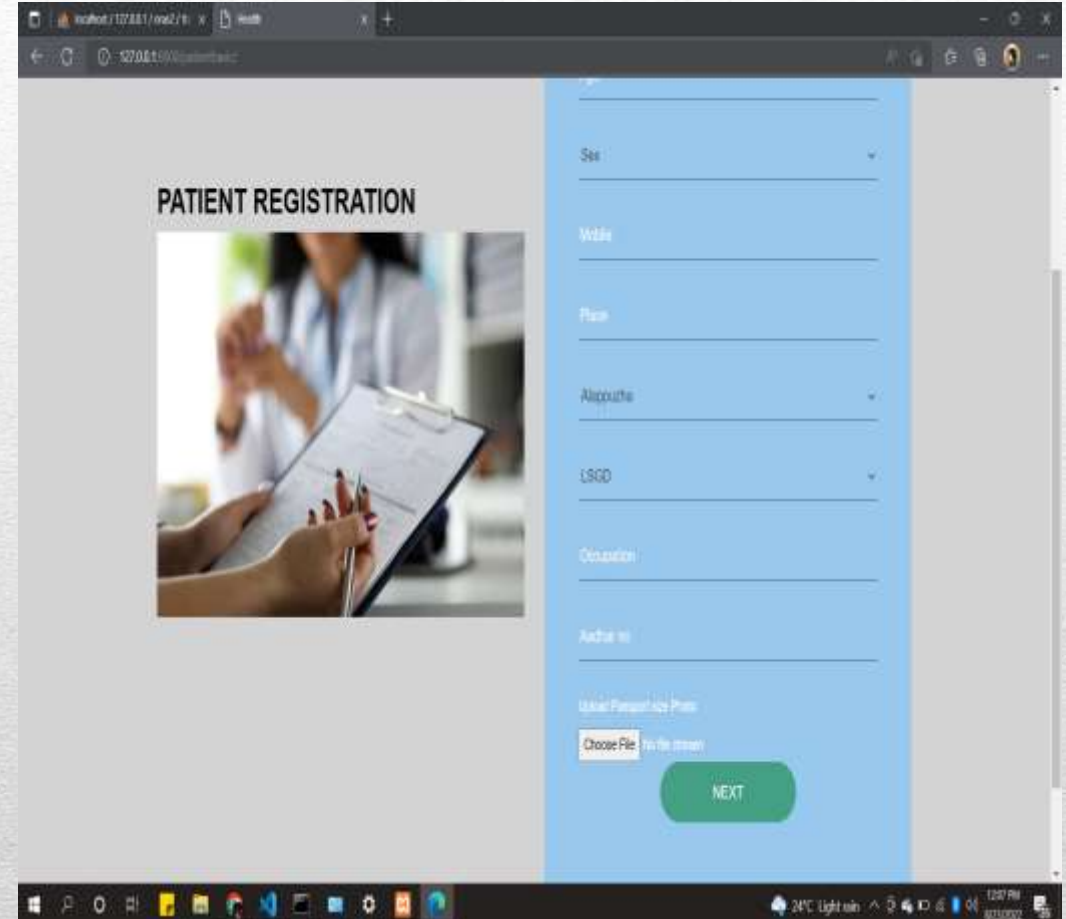
Mobile

Place

Address

LSGD

Occupation



PATIENT REGISTRATION

Sex

Mobile

Place

Address

LSGD

Occupation

Address

Upload Patient's Photo

Choose File or file stream

NEXT

3:04 PM .168.220.95:8000

Home Contact us About

PATIENT REGISTRATION



Name

Age

3:04 PM

Mobile

Place

Alappuzha

LSGD

Occupation

Aadhar no

Upload Passport size Photo

Choose file No file chosen

NEXT

3:04 PM

Mobile

Place

Alappuzha

LSGD

Occupation

Choose an action

Camera Camcorder Recorder Files

Cancel

53

Patient Screening Test

Home Contact us About

SCREENING TEST

Smoking status

Smoking product

Smoking Frequency

Smoking Duration

Smokeless tobacco status

Smokeless tobacco product

Smokeless Tobacco Frequency

Smokeless Tobacco Duration

Home Contact us About

SCREENING TEST

Smokeless tobacco status

Smokeless tobacco product

Smokeless Tobacco Frequency

Smokeless Tobacco Duration

Alcohol user status

Alcohol product

Alcohol use Frequency

Alcohol use Duration

Presence of sharp teeth

NEXT

3:05 PM 168.220.95:8000

Home Contact us About

SCREENING TEST



Smoking status ▾

Smoking product ▾

Smoking Frequency ▾

3:05 PM 168.220.95:8000

Smokeless Tobacco Freque

Smokeless Tobacco Duratic

Alcohol user status ▾

Alcohol product ▾

Alcohol use Frequency

Alcohol use Duration

Presence of sharp teeth ▾

NEXT

Preview

The screenshot shows a web browser window with a single tab titled 'Health'. The address bar shows 'localhost / 127.0.0.1 / oras2 / it/' and the URL '127.0.0.1:8000/screenpreview/'. The page has a light blue header with navigation links 'Home', 'Contact us', and 'About'. The main content area is a light gray rectangle with the word 'PREVIEW' in bold black text. On the right side, there is a blue rectangular form with a white border. The form contains a list of labels and input fields:

Smoking Status	Current user
Smoking Product	Cigarette
Smoking Frequency	45
Smoking Duration	1
Smokeless Tobacco Status	Ex-user
Smokeless Tobacco Product	Hans
Smokeless Tobacco Frequency	23
Smokeless Tobacco Duration	1
Alcohol user status	Current user
Alcohol Product	Toddy
Alcohol use Frequency	50
Alcohol use Duration	2
Sharpness of Teeth	no

At the bottom of the form is a green rounded rectangular button with the text 'SUBMIT' in white capital letters.

3:06 PM .168.220.95:8000

Home Contact us About

PREVIEW

Smoking Status

Smoking Product

Smoking Frequency

Smoking Duration

Smokeless Tobacco Status

Smokeless

3:06 PM

Smokeless Tobacco Duration

Alcohol user status

Alcohol Product

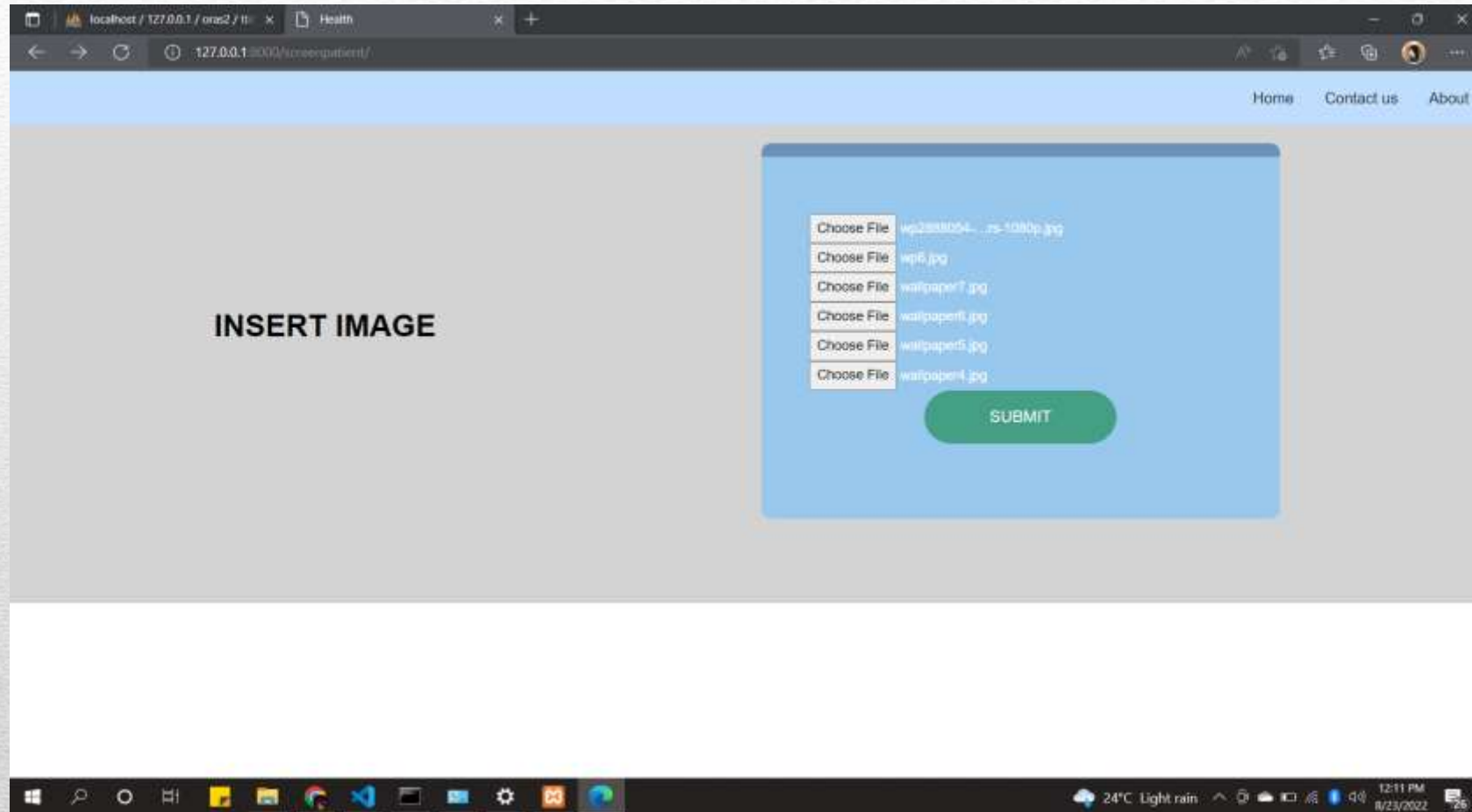
Alcohol use Frequency

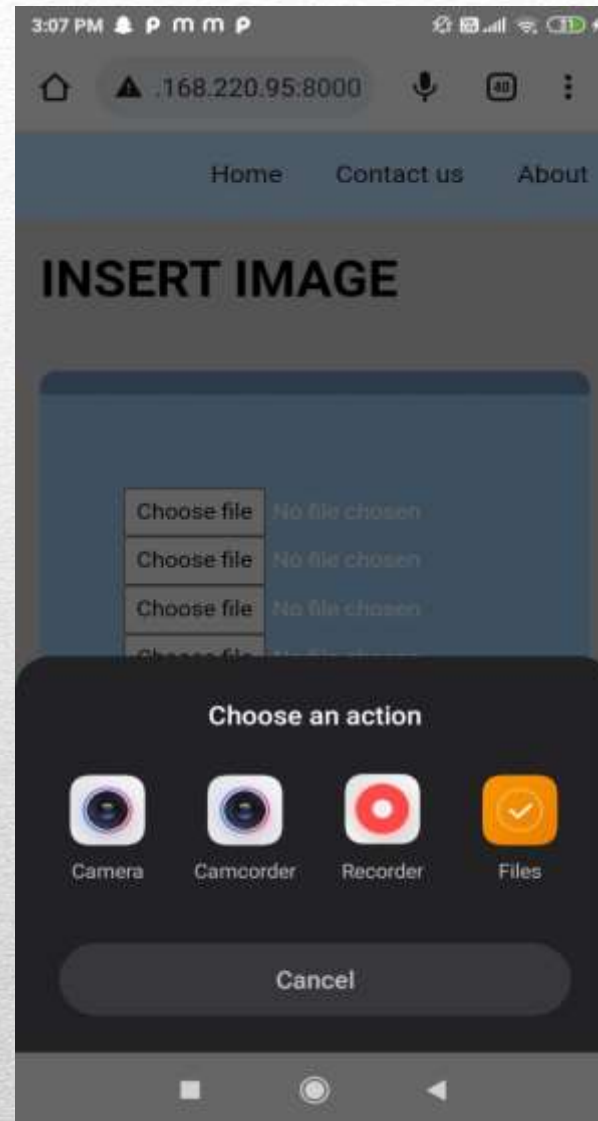
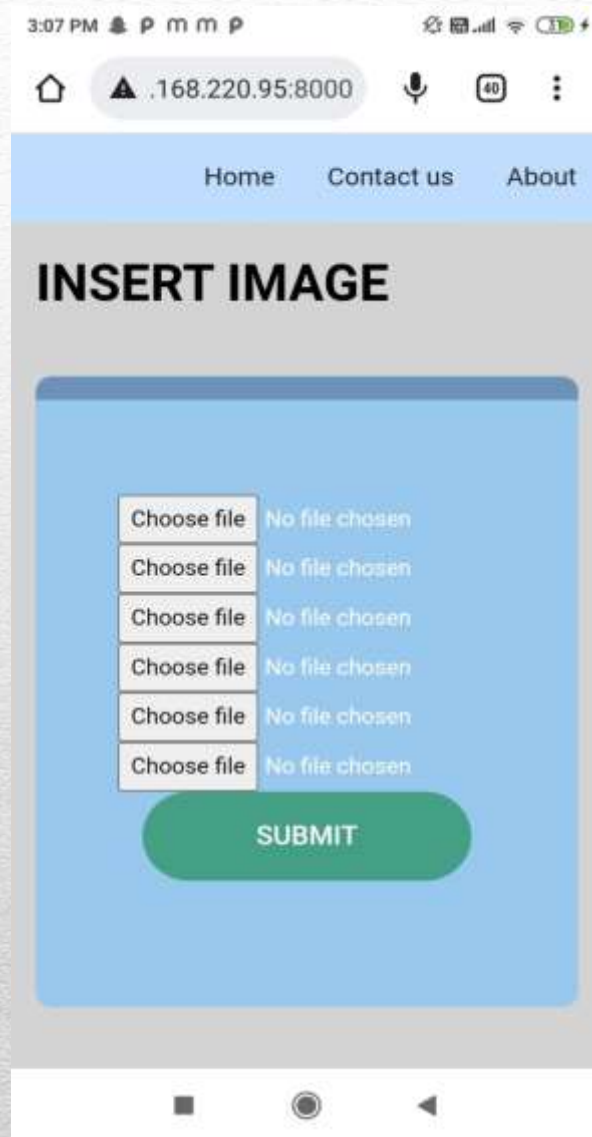
Alcohol use Duration

Sharpness of Teeth

SUBMIT

Screening Image





Expert View Page

Sl. No	Date	Time	Screen_Id	Name	Age	Sex	District	Mobile	View	Status	
1	2022-08-23	12:10:45	SC_001	Rameshan	65	Male	Kollam	12121	view details	verified	proceed
1	2022-09-15	09:47:35	SC_0010	adarsh	35	Male	Alappuzha	890	view details	verified	proceed
1	2022-08-23	12:19:03	SC_002	Leela	45	Female	Malappuram	23232	view details	pending	proceed
1	2022-08-23	15:06:56	SC_003	Dhyan	82	Male	Kannur	34343	view details	pending	proceed
1	2022-08-26	08:35:39	SC_004	ayshal	23	Male	Malappuram	987765544	view details	pending	proceed
1	2022-08-29	12:49:01	SC_005	Aravind	31	Male	Kozhikode	1234	view details	pending	proceed
1	2022-08-29	14:10:36	SC_006	Dinesh	56	Male	Kottayam	55555	view details	pending	proceed
1	2022-08-29	14:27:07	SC_007	Ramu	21	Male	Kozhikode	66666	view details	pending	proceed
1	2022-09-10	11:40:46	SC_008	alen	28	Male	Ernakulam	1234567890	view details	verified	proceed
1	2022-09-11	14:37:59	SC_009	aysha	22	Female	Kozhikode	987583281	view details	pending	proceed

3:09 PM .168.220.95:8000

Home Contact us About

Sl. No	Date	Time	Screen_id	Name
1	2022-08-23	12:10:45	SC_001	Rameshan
1	2022-08-23	12:19:03	SC_002	Leela
1	2022-08-23	15:06:56	SC_003	Dhyan

3:09 PM .168.220.95:8000

istrict	Mobile	View	Status	
llam	12121	view details	pending	proceed
slappuram	23232	view details	pending	proceed
nnur	34343	view details	pending	proceed

Expert View Details

PATIENT SPECIFIC DETAILS

Name	Rameshan
Age	65
Sex	Male
Mobile	12121
Place	kakkad
District	Kollam
LMD	Block Pandrayat
Occupation	kool
Address no	452178
Smoking Status	Current user
Smoking Product	Cigarette
Smoking Frequency	45
Smoking Duration	1
Smokeless Tobacco Status	Ex-user
Smokeless Tobacco Product	Hani
Smokeless Tobacco Frequency	25
Smokeless Tobacco Duration	1

PATIENT SPECIFIC DETAILS

District	Kollam
LMD	Block Pandrayat
Occupation	kool
Address no	452178
Smoking Status	Current user
Smoking Product	Cigarette
Smoking Frequency	45
Smoking Duration	1
Smokeless Tobacco Status	Ex-user
Smokeless Tobacco Product	Hani
Smokeless Tobacco Frequency	25
Smokeless Tobacco Duration	1
Alcohol Use Status	Current user
Alcohol Product	Toddy
Alcohol Use Frequency	50
Alcohol Use Duration	2
Pregnancy of Self	no

NEXT

3:09 PM 168.220.95:8000

Home Contact us About

PATIENT SPECIFIC DETAILS

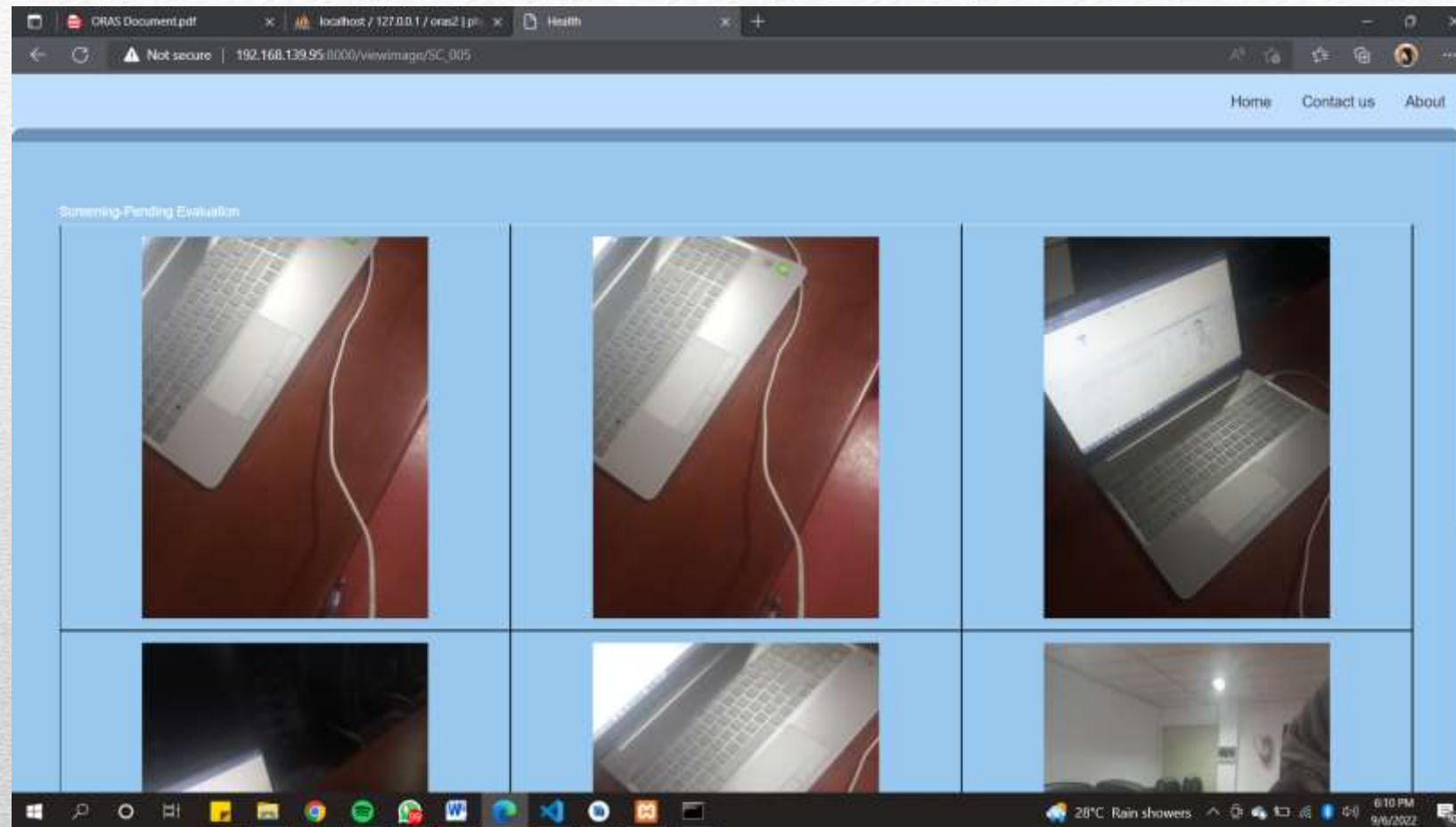
Name	Rameshan
Age	65
Sex	Male
Mobile	12121
Place	kakkanad
District	Kollam
LSGD	Block Panchayat
Occupation	kooli
Aadhar no	452178

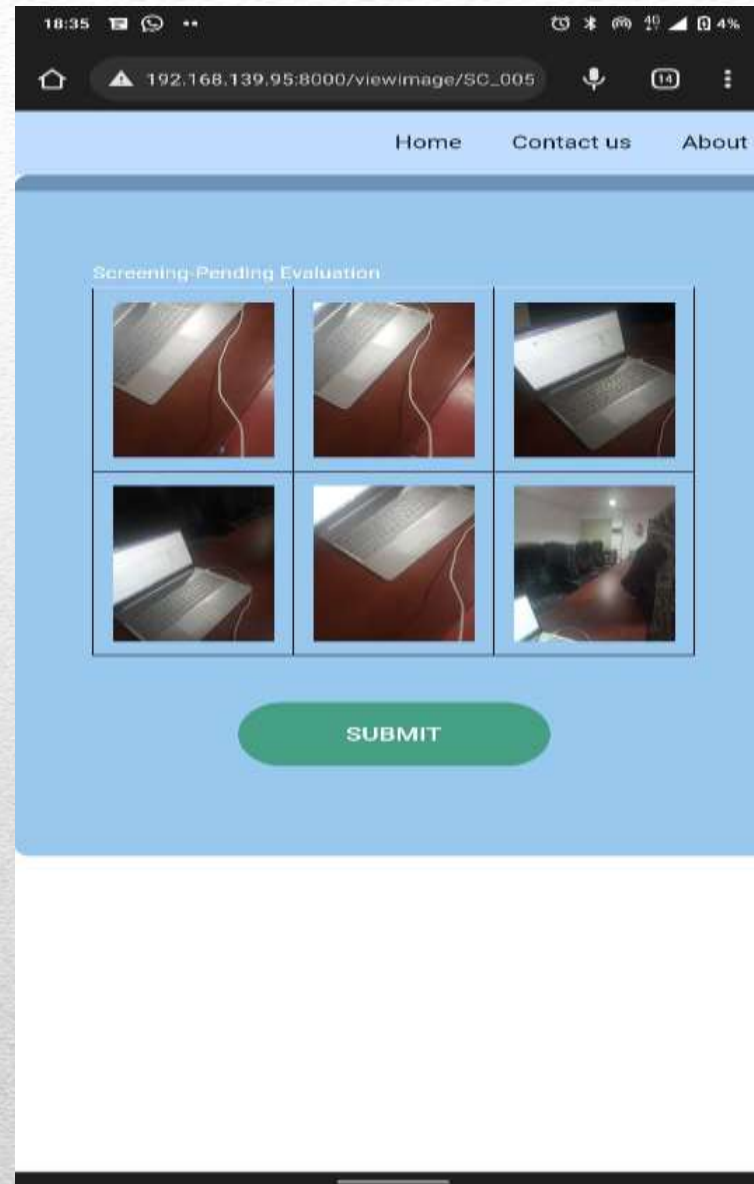
3:09 PM 168.220.95:8000

Frequency	
Smokeless Tobacco	1
Duration	
Alcohol user status	Current user
Alcohol Product	Toddy
Alcohol use	50
Frequency	
Alcohol use	2
Duration	
Sharpness of Teeth	no

NEXT

Expert Image Evaluation





Report Generation

ORAS REPORT 6-09-2022.pdf | localhost / 127.0.0.1 / oras1.jsp | Health

Not secure | 192.168.11.95:8080/report/PT_005

Home | Contact us | About

REPORT

Observation

Recommendation

Report created by

Date and Time

Report verified by

Date and Time

Name of Participant: Arvind

Age: 31

Sex: Male

Drinking Status: Current user

ORAS REPORT 6-09-2022.pdf | localhost / 127.0.0.1 / oras1.jsp | Health

Not secure | 192.168.11.95:8080/report/PT_005

REPORT

Date and Time

Report verified by

Date and Time

Name of Participant: Arvind

Age: 31

Sex: Male

Drinking Status: Current user

Smoking Status: Ex-user

Alcohol use status: Ex-user

Sharpness of Teeth: yes

SUBMIT

17:31 47%

Home Contact us About

REPORT

Observation

Recommendation

Report created by

Date and Time

Report verified by

Date and Time

Name of Participant	Aravind
Age	31
Sex	Male
Smoking Status	Current user
Smokeless Tobacco status	Ex-user
Alcohol user status	Ex-user
Sharpness of Teeth	yes

SUBMIT

Report

The screenshot shows a web browser window with the address bar displaying 'localhost / 127.0.0.1 | phpMyAdmin' and '127.0.0.1:8000/reportgen/SC_003'. The page content is as follows:

OCANS:ONLINE ORAL CANCER SCREENING SYSTEM

Screening id: SC_003 Enrollment Date & Time: 2022-08-23 15:06:56
Name Of Participant: Dhyan Age: 82 Sex: Male

CLINICAL AND LIFE STYLE DETAILS

Smoking status: Current user
Smokeless tobacco status: Current user
Alcohol use status: Ex-user
Presence of sharp teeth: no

Observation: Hard

Recommendations: Consult Doctor

Report created by: David Verified by: Alex
Date and Time: 2022-10-16 18:24:33 Date and Time: 2022-10-16 18:24:33

[DOWNLOAD REPORT](#)

The browser window includes a taskbar at the bottom with various application icons and a system tray showing the time as 6:24 PM on 10/16/2022.

17:32 192.168.11.95:8000/reportgen/SC_005 40 47%

OCANS:ONLINE ORAL CANCER SCREENING SYSTEM

Screening id: SC_005	Enrollment date & Time:
Name Of Participant: Aravinth	Age: Sex:
Clinical and life style details	
Smoking status:	
Smokeless tobacco status:	
Alcohol use status:	
Presence of sharp teeth:	
Observation	
Recommendations:	Verified by:
Report created by:	Date and Time:
Date and Time:	

Basic Test Cases

Test case 1

Test case ID:TC_01		Test Designed by: Adithya.P				
Test priority: High		Test designed date:13-10-2022				
Module name: Login		Test Executed by: Adithya.P				
Test Title: Login using corresponding username and password		Test Execution date:13-10-2022				
Description: Test the login page						

Step	Test steps	Test data	Expected result	Actual result	Status	Notes
1	Navigate to login page		Login page is loaded	Page loaded as needed	Pass	Navigated to login page
2	Enter the username	Username	Username entered	Data provided	Pass	Username provided
3	Enter the password	password	Enter password	password entered	Pass	password provided

Test case 2

Test case ID:TC_02	Test Designed by: Ayisha Nihala.UM
Test priority: High	Test designed date:13-10-2022
Module name: Registration of expert and health worker	Test Executed by: Ayisha Nihala.UM
Test Title: Verify the registration with valid details	Test Execution date:13-10-2022
Description: Test the registration page	



Step	Test steps	Test data	Expected result	Actual result	Status	Notes
1	Navigate to registration page (expert/Health worker)		Registration page is loaded	Page loaded as needed	Pass	Navigated to registration page
2	Enter registration details		Data entered	Data provided	Pass	Username provided
3	Enter submit button		Enter submit button	Submit button clicked	Pass	Registration completed

Test case 3

Test case ID:TC_03		Test Designed by:Maneesa Mustharif.T.P				
Test priority: High		Test designed date:10-10-2022				
Module name: Screening module		Test Executed by:Maneesa Mustharif.T.P				
Test Title: Screening test conducted		Test Execution date:10-10-2022				
Description: Screening test conducted						

Step	Test steps	Test data	Expected result	Actual result	Status	Notes
1	Enter basic details of patients		Details entered	Data provided	Pass	Basic details entered
2	Enter specific details		Data entered	Data provided	Pass	Specific details entered
3	Capture images of inner mouth and store it		Images captured and stored	Images captured and stored	Pass	Images captured and stored

Test case 4

Test case ID:TC_04		Test Designed by:Megha Manoj				
Test priority: High		Test designed date:10-10-2022				
Module name: Expert view		Test Executed by: Megha Manoj				
Test Title: Expert view the details of patients		Test Execution date:10-10-2022				
Description: Test the expert view page						

Step	Test steps	Test data	Expected result	Actual result	Status	Notes
1	Expert views basic details of patients		Basic details viewed by expert	Basic details viewed by expert	Pass	Expert viewed basic details
2	Expert viewed specific details		Expert details viewed	Specific details viewed by expert	Pass	Specific details viewed
3	Expert viewed captured images of inner mouth and store it		Images captured and stored are viewed by expert	Images captured and stored are viewed by expert	Pass	Expert observed images captured

Test Case 5

Test case ID:TC_05		Test Designed by: Sabira.K				
Test priority: High		Test designed date:13-10-2022				
Module name: Report generation		Test Executed by: Sabira.K				
Test Title: Reports are generated by experts		Test Execution date:13-10-2022				
Description: Experts generate report by observing details of patients						

+

Step	Test steps	Test data	Expected result	Actual result	Status	Notes
1	Expert enter observation, recommendation etc. based on the details of patients		Data entered	Data entered	Pass	Expert entered details
2	Generate report		Report generated	Report generated	Pass	Report generated successfully
3	Generated report downloaded using screen id		Generated report can be downloaded	Generated report can be downloaded	Pass	Report generated and downloaded

7. CONCLUSION

- Oral cancer is an important health issue.
- Oral cancer screening is to identify mouth cancer early.
- Our proposed system conduct screening test easily through online.
- Doctor review patient details and inner mouth images.
- Appropriate report is send to corresponding patient

8. REFERENCES

- [1] A. Tetarbe, T. Choudhury, T. T. Toe and S. Rawat, "Oral cancer detection using data mining tool," 2017 3rd International Conference on Applied and Theoretical Computing and Communication Technology (iCATccT), 2017.
- [2] Xu, S., Liu, C., Zong, Y., Chen, S., Lu, Y., Yang, L., . . . Zhang, C. (2019). An early diagnosis of oral cancer based on three-dimensional convolutional neural networks,2019.
- [3] Z. Hu, A. Alsadoon, P. Manoranjan, P. W. C. Prasad, S. Ali and A. Elchouemic, "Early stage oral cavity cancer detection: Anisotropic pre-processing and fuzzy C-means segmentation," 2018 IEEE 8th Annual Computing and Communication Workshop and Conference (CCWC), 2018.