# MINI PROJECT REPORT

*On*

## SKIN CARE COMPANION

*Submitted in partial fulfilment for the award of degree*

*of*

***Masters of Computer Applications***

*By*

**BIBIN BINOY (MLM23MCA-2022)**

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**DEPARTMENT OF COMPUTER APPLICATIONS MANGALAM COLLEGE OF ENGINEERING, ETTUMANOOR**

***(Affiliated to APJ Abdul Kalam Technological University)***

**NOVEMBER 2024**

# MANGALAM COLLEGE OF ENGINEERING
# DEPARTMENT OF COMPUTER APPLICATIONS

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To become a centre of excellence in computer applications,competent in the global ecosystemwith technical knowledge,innovation with a sense of social commitment.

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- To serve with state of the art education, foster advanced research and cultivate innovation in the field of computer applications.
- To prepare learners with knowledge skills and critical thinking to excel in the technological landscape and contribute positively to society.

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- **PSO 1**: Apply advanced technologies through innovations to enhance the efficiency of design development.
- **PSO 2**: Apply the principles of computing to analyze, design and implement sustainable solutions for real world challenges.

**MANGALAM COLLEGE OF ENGINEERING, ETTUMANOOR**

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## ***CERTIFICATE***

*This is to certify that the Project titled* ***"SKIN CARE COMPANION"*** *is the bonafide record of the work done by* ***BIBIN BINOY (MLM23MCA-2022****)of Masters of Computer Applications towards the partial fulfilment of the requirement for the award of the* ***DEGREE OF MASTERS OF COMPUTER APPLICATIONS by APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY****, during the academic year 2023-24.*

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# ABSTRACT

**PROBLEM STATEMENT:** Skin disease prediction faces several challenges, including limited high-quality datasets, diverse and complex disease appearances, and a scarcity of dermatological expertise. Human diagnosis can be subjective and prone to errors, while manual diagnosis is time-consuming and often inaccessible in rural areas. Additionally, specialized care can be expensive, and social stigma surrounding skin diseases can lead to delayed diagnosis.

**SOLUTION APPROACH:** This project focuses on developing a machine learning-based system for the prediction of skin diseases in humans and the provision of first aid recommendations. In this project Utilizing medical imaging and clinical data, the system employs advanced machine learning algorithms to accurately detect skin infections. The model is trained on a comprehensive dataset encompassing various skin diseases and their manifestations in different demographic groups Upon identifying an infection. The main advantage of the system is to provides immediate first aid advice, including suitable antifungal treatments, wound care procedures, and recommendations for further medical consultation.

**TECHNOLOGY STACK:**

Front-End: HTML, CSS, and JavaScript for building the user interface.

Back-End: Django for handling server-side logic and integrating the machine learning model.
Database: SQL for storing structured data.

Machine Learning: TensorFlow for developing and training the machine learning model, and TensorFlow Serving for deploying the model to production.

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# 1. INTRODUCTION

## 1.1 BACKGROUND

Skin diseases are among the most common health concerns, affecting millions of people worldwide. With a variety of skin conditions ranging from mild irritations to more severe infections, early diagnosis and appropriate treatment are crucial for effective management. However, limited access to dermatologists and specialized care often delays diagnosis, leading to prolonged discomfort and worsening of the condition.

To address this issue, we developed "Skin Care Companion," a web-based application that leverages machine learning to assist users in identifying potential skin conditions. The system uses both image and text data to analyze symptoms and provides users with probable diagnoses, along with suggested remedies and treatments. This enables individuals to gain preliminary insights into their skin conditions, potentially reducing the time between symptom onset and treatment.

The application is designed to be user-friendly and accessible to individuals with no medical expertise. By integrating machine learning techniques, such as convolutional neural networks (CNN) for image analysis and natural language processing (NLP) for symptom descriptions, "Skin Care Companion" can provide accurate and personalized predictions. The web interface allows users to upload images of the affected skin area and describe their symptoms, ensuring a comprehensive approach to skin disease prediction.

The goal of "Skin Care Companion" is not only to improve accessibility to early diagnosis but also to raise awareness about common skin conditions and their treatments. This can empower users to take timely action in seeking professional medical advice and avoid complications associated with delayed care.

## 1.2 INTRODUCTION

"Skin Care Companion" is a web-based skin disease prediction application designed to assist users in identifying and understanding various skin conditions using advanced machine learning techniques. In addition to providing accurate predictions based on user-submitted images and symptom descriptions, the application goes a step further by recommending remedies and suitable medicines for the identified condition. This feature offers users valuable guidance on potential treatments they can explore while awaiting formal medical advice.The application uses a dual-input model that processes both visual (image) data and textual descriptions of symptoms, combining these inputs to predict the most

likely skin condition. Based on the prediction, "Skin Care Companion" presents a list of remedies, including over-the-counter treatments, skincare routines, and common medications specific to the diagnosed condition. This feature provides users with actionable steps to alleviate symptoms while improving awareness of available treatments.

## 1.3 PROBLEM STATEMENT

Skin diseases affect millions of individuals globally, ranging from mild conditions like rashes to more severe infections such as cellulitis and shingles. However, access to timely diagnosis and treatment can be limited due to factors such as geographical barriers, cost of healthcare, and lack of awareness. These delays in diagnosis and treatment can lead to worsened conditions, increased discomfort, and unnecessary complications for patients.

Despite advances in healthcare technology, many individuals still lack access to dermatologists or professional medical advice when they first experience symptoms. The challenge is to provide a solution that enables users to quickly and accurately identify potential skin conditions, while also offering guidance on remedies and medicines that could provide immediate relief.

The "Skin Care Companion" app addresses this issue by utilizing machine learning algorithms to predict skin conditions based on user-inputted images and symptom descriptions. Additionally, it offers recommendations for over-the-counter treatments and medicines tailored to the diagnosed condition. This solution aims to improve accessibility to skin disease diagnosis and empower users to make informed decisions about their health while awaiting professional medical consultation.

## 1.4 MOTIVATION

The increasing prevalence of skin diseases worldwide, coupled with the challenges in accessing timely and affordable dermatological care, served as the primary motivation for developing "Skin Care Companion." Many individuals suffer from skin conditions that could be managed or treated effectively if diagnosed early. However, geographical limitations, long waiting times for specialist consultations, and a lack of awareness about various skin conditions prevent many from receiving the care they need promptly.

In today’s digital age, where smartphones and internet access are widespread, leveraging technology to bridge this healthcare app is both feasible and impactful. Machine learning offers a powerful tool for identifying skin diseases from images

and descriptions, providing an opportunity to assist users in early diagnosis. Furthermore, by recommending remedies and medicines tailored to specific skin conditions, the application empowers individuals to take initial action, potentially alleviating discomfort and preventing conditions from worsening.

The desire to democratize healthcare, especially for underserved communities, and provide a proactive, user-friendly platform for skin disease prediction inspired the creation of this app. "Skin Care Companion" aims to give individuals control over their skin health by offering accessible and accurate diagnostic tools coupled with actionable treatment recommendations. This application represents a step towards improving overall skin health awareness and promoting preventive care.

## 1.5 SCOPE

The scope of "Skin Care Companion" encompasses several key functionalities and areas of impact:

1. **Skin Disease Prediction**: The core functionality of the app is to predict potential skin diseases using machine learning algorithms based on user-submitted data. This includes both image-based input (photos of the affected skin area) and textual descriptions of symptoms. The app can identify a range of common skin conditions such as cellulitis, impetigo, athlete's foot, ringworm, and more.
2. **Remedies and Medicine Recommendations**: In addition to providing a diagnosis, the app offers users personalized suggestions for remedies and over-the-counter medicines. These recommendations are tailored to the predicted condition, giving users an initial treatment option while encouraging further professional consultation.
3. **User-Friendly Interface**: The web application is designed to be accessible to non-medical users. A simple, intuitive interface allows users to upload images, describe symptoms, and receive predictions and treatment suggestions with minimal technical or medical knowledge.
4. **Data Privacy and Security**: The app handles sensitive personal data, including images and medical information. As such, strict data privacy and security measures are implemented to ensure the safe storage and handling of user data in compliance with regulations.
5. **Scalability and Future Expansion**: The initial release of the app covers a defined set of skin diseases and treatments. However, the system can be expanded to include more conditions, additional symptom inputs, and enhanced diagnostic accuracy as more data is incorporated into the machine learning models. Future updates could also integrate telemedicine

features, allowing users to consult with dermatologists directly through the app.

# 2. LITERATURE REVIEW

The development of machine learning applications for medical diagnosis, including skin disease prediction, has been an area of growing research interest. The application of deep learning algorithms, particularly convolutional neural networks (CNNs), has revolutionized the field of medical imaging, enabling automated and accurate diagnosis of various conditions from radiographs, MRI scans, and skin images. Several studies have demonstrated the potential of machine learning to outperform traditional diagnostic methods in terms of speed and accuracy.

**1. Machine Learning in Skin Disease Diagnosis.**

Research has shown that CNNs are particularly effective in the domain of dermatology. Esteva et al. (2017) were among the pioneers, showing that CNNs can achieve dermatologist-level accuracy in classifying skin diseases. Using a dataset of over 129,000 clinical images, the model was trained to identify a range of skin conditions, including melanoma and non-cancerous lesions. This study demonstrated the potential of machine learning models to assist dermatologists and provide quicker diagnoses for patients without access to specialized care.

**2. Multimodal Approaches in Skin Disease Prediction**

While image-based machine learning models have demonstrated success, there is growing interest in combining multiple data modalities to improve diagnostic accuracy. Multimodal approaches that integrate both visual data and textual information, such as patient symptoms or medical history, offer a more comprehensive diagnostic tool. A study by Zhang et al. (2019) explored the integration of text descriptions with image data using CNNs for image processing and recurrent neural networks (RNNs) for textual symptom analysis, showing improved performance in disease prediction.

**3. Treatment and Remedy Recommendation Systems**

The use of machine learning for personalized treatment recommendations is another area of growing research. While diagnostic models are well-studied, the application of AI in recommending treatments is relatively novel. Li et al. (2021) explored the potential of recommendation systems to suggest appropriate remedies based on the predicted disease, patient history, and available treatments. These systems employ classification techniques that align predicted diseases with

existing treatment protocols, enhancing patient outcomes by suggesting early intervention strategies.

# 3. PROPOSED SYSTEM

The "Skin Care Companion" web application aims to provide users with an easy-to-use platform for predicting skin diseases and recommending remedies and medicines based on machine learning. The system integrates both image and text data to deliver accurate predictions and treatment suggestions. The proposed system includes the following components:

### 1. User Interface (UI)

The front-end interface allows users to interact with the application seamlessly. The main features of the UI include:

- **Image Upload**: Users can upload images of the affected skin area for analysis.
- **Symptom Description Form**: Users can enter details about their symptoms, such as itchiness, pain, redness, duration, and any other relevant information.
- **Prediction Display**: The system presents the predicted skin disease on the result page along with a brief description.
- **Remedy and Medicine Suggestions**: Based on the prediction, the app displays a list of possible remedies and over-the-counter medications, as well as general advice on managing the condition.

The UI will be user-friendly, responsive, and accessible on various devices, including desktops and mobile phones.

### 2. Backend System

The backend of the system handles the core functionality of processing user inputs and generating predictions. Key backend components include:

- **Image Processing Model**: A convolutional neural network (CNN) is used to process the uploaded skin images. The CNN is trained on a labeled dataset of skin disease images to identify patterns associated with different conditions such as cellulitis, ringworm, impetigo, and more.
- **Text Data Processing**: Textual symptom descriptions are processed using natural language processing (NLP) techniques. Features such as TF-IDF (Term Frequency-Inverse Document Frequency) or word embeddings

(e.g., Word2Vec) can be employed to convert the text input into structured data that can be analyzed by the model.

- **Multimodal Machine Learning Model**: The system uses a hybrid model that integrates both the image and text inputs to improve the accuracy of predictions. The image features extracted by the CNN are combined with text features processed by an NLP model, and the two data streams are fed into a neural network for final prediction.
- **Prediction Model**: The combined data from the image and text processing models is fed into a neural network to predict the skin disease. The model outputs a diagnosis with a confidence score, indicating the likelihood of the prediction being correct.

**3. Remedies and Medicine Recommendation System**

Once the disease is predicted, the system generates a list of recommended treatments:

- **Remedy Database**: The app maintains a database of home remedies, over-the-counter medications, and treatment guidelines for various skin conditions.
- **Matching Algorithm**: The system uses a simple rule-based algorithm or classification method to map the predicted disease to relevant remedies and medicines stored in the database.
- **Personalized Recommendations**: Based on the user's input and predicted condition, the system provides customized recommendations. For example, if a condition is predicted to be impetigo, the user might receive suggestions for antibacterial ointments and instructions for keeping the skin clean.

**4. Data Storage and Management**

The system requires a secure and scalable database for storing user data, including:

- **User Profiles**: Information related to user profiles, such as previous predictions, preferences, and medical history.
- **Prediction Logs**: A record of past predictions made by the system, including the images, text descriptions, and corresponding recommendations.
- **Privacy and Security**: To ensure the protection of sensitive information, the system employs encryption methods and secure authentication protocols. User data is stored in compliance with data protection laws and best practices.

### 5. Model Training and Updates

The machine learning models are trained on a large dataset of labeled skin images and symptom descriptions. The system will be designed to support ongoing model improvement:

- **Model Retraining**: As new data is collected (e.g., additional images, symptom descriptions), the system allows for model retraining to improve its predictive capabilities.
- **Model Evaluation**: The system will monitor prediction accuracy and update the model periodically to enhance performance.

### 6. System Architecture

The overall architecture of the "Skin Care Companion" system includes:

- **Frontend**: Built using web technologies such as HTML, CSS, JavaScript providing a responsive and intuitive user experience.
- **Backend**: Developed using Django managing the API endpoints for image upload, text processing, and database interactions.
- **Machine Learning Models**: Hosted on a server or cloud platform, with image and text processing models preloaded for real-time predictions.
- **Database**: A relational database (e.g., PostgreSQL or MySQL) to store user data, prediction results, and treatment recommendations.
- **Security**: Implementation of HTTPS, secure user authentication, and encrypted storage for sensitive data.

## 4. METHODOLOGY

The development of "Skin Care Companion" follows a structured methodology that integrates machine learning, web development, and user-centered design principles. The project is divided into several key phases: data collection, model development, system integration, and deployment. The following methodology outlines the step-by-step process for building the application.

### 1. Data Collection

The first step involves gathering data that is critical for training the machine learning models used in skin disease prediction.

- **Image Dataset**: A large dataset of labeled skin images is collected, covering various common skin conditions such as cellulitis, ringworm,

impetigo, athlete's foot, and more. This dataset is obtained from publicly available medical image repositories or healthcare institutions.

- **Text Dataset**: Descriptions of symptoms are gathered, either from medical databases, patient forums, or synthesized based on common knowledge of skin conditions. The dataset includes common symptoms such as itchiness, pain, redness, and discharge associated with different skin diseases.

Both datasets are preprocessed to ensure they are suitable for training the model. For the image data, this involves resizing and normalizing the images. For the text data, preprocessing includes cleaning, tokenizing, and vectorizing the descriptions.

## 2. Model Development

The core of the "Skin Care Companion" app is its machine learning models. The methodology here focuses on building both image and text processing models.

- **Image Processing (CNN)**: A Convolutional Neural Network (CNN) is developed for the classification of skin disease images. The CNN architecture includes several convolutional layers for feature extraction, followed by pooling layers and fully connected layers for classification. The model is trained using the collected image dataset, with a softmax layer providing the probability distribution over different skin conditions.
- **Text Processing (NLP)**: For the symptom descriptions, a Natural Language Processing (NLP) model is developed. First, the text is preprocessed using techniques like tokenization and stopword removal. The vectorization of text is handled using Term Frequency-Inverse Document Frequency (TF-IDF) or word embeddings like Word2Vec. The processed text data is fed into a neural network (such as an LSTM or fully connected network) to extract features related to the symptoms.
- **Multimodal Fusion**: The image and text models are integrated into a multimodal neural network. The features extracted from the CNN (image) and NLP (text) models are combined and passed into a fully connected layer for final classification. This fusion improves the accuracy of predictions by utilizing both visual and descriptive data.
- **Training and Validation**: The models are trained using the combined dataset, with separate training, validation, and testing sets. Metrics such as accuracy, precision, recall, and F1-score are calculated to evaluate the performance of the model. Hyperparameter tuning is applied to optimize model performance.

**3. System Integration**

Once the models are trained and validated, they are integrated into the backend of the web application.

- **Backend Development**: The backend is built using Django, with the trained machine learning models loaded into the system. API endpoints are created to handle image uploads, symptom inputs, and prediction results. The backend processes user requests, runs the machine learning models on the input data, and returns the predicted skin disease along with confidence scores.
- **Frontend Development**: The frontend of the application is developed using HTML, CSS, and JavaScript (or a modern front-end framework like React). Users can interact with the app by uploading images, filling out a symptom description form, and receiving the results of the prediction. A clean and intuitive user interface ensures easy navigation.

**4. Remedy and Medicine Recommendation System**

The remedy recommendation system is integrated into the app to provide users with relevant treatment options.

- **Remedy Database**: A database is created containing information about common treatments and over-the-counter medicines for various skin diseases. The database is populated based on medical research, recommendations from dermatologists, and publicly available treatment guidelines.
- **Recommendation Algorithm**: A simple rule-based matching algorithm is implemented to associate each predicted skin disease with corresponding remedies and medicines. Once a skin disease is predicted, the system queries the remedy database and presents the user with relevant treatments, including home remedies and drug suggestions.

**5. Testing and Evaluation**

Thorough testing is performed to ensure the system functions as expected.

- **Unit Testing**: Individual components, such as the image processing model, text processing model, and remedy recommendation system, are tested to verify their functionality.
- **Integration Testing**: The entire application is tested to ensure that all components work together seamlessly. This includes testing the API endpoints, user interface, and data flow between the frontend and backend.

- **User Testing**: A group of users is invited to test the application. Their feedback is gathered to improve the user experience, interface design, and the clarity of the predictions and recommendations.
- **Performance Evaluation**: The performance of the machine learning models is evaluated based on prediction accuracy and response time. Continuous monitoring is put in place to track the performance of the app as it is used by real users.

**6. Deployment**

After successful testing, the application is deployed.

- **Cloud Deployment**: The application is deployed on a cloud platform such as AWS or Heroku to ensure scalability and reliability. The machine learning models and the web application are hosted on servers capable of handling concurrent users and real-time predictions.
- **Security Measures**: Data security and user privacy are critical in healthcare-related applications. Measures such as encryption, secure authentication, and HTTPS are implemented to protect user data, particularly sensitive information like medical images and symptoms.
- **Maintenance and Updates**: After deployment, the system is continuously monitored for bugs, performance issues, and user feedback. Periodic updates are made to improve the model's accuracy by retraining it with new data and enhancing the user experience.

# 5. SYSTEM ARCHITECTURE

The system architecture for "Skin Care Companion" is designed to handle both image-based and text-based inputs, providing predictions and recommendations in a seamless manner. The architecture includes a combination of frontend and backend components, along with machine learning services for prediction. The system follows a modular, scalable design to accommodate future updates and enhancements. Below is a high-level description of the architecture.

**1. User Interface (Frontend Layer)**

The user interface (UI) is the point where users interact with the application. It is designed to be simple, intuitive, and responsive, making it easy for users to submit images and symptom descriptions.

- **Components**:
  - **Image Upload**: Users can upload images of the affected skin area.

- **Symptom Description Form**: A form for entering details about the skin condition, such as pain, redness, itchiness, duration, and other symptoms.
- **Prediction Results**: The UI displays the predicted skin disease along with a confidence score and personalized treatment suggestions.
- **Recommendations Display**: Remedies and medicines tailored to the diagnosed condition are shown on the results page.

- **Technologies**:
  - **Frontend Framework**: Developed using HTML, CSS, JavaScript, or frameworks like React or Vue.js to create a responsive design that works on desktops and mobile devices.
  - **AJAX**: Used to submit the image and text data to the backend without refreshing the page.

**2. Backend Layer (Server-Side Logic)**

The backend handles the core application logic, including user authentication, data processing, prediction requests, and communication with machine learning models.

- **Components**:
  - **Django Web Framework**: The primary backend framework, which manages API endpoints, routing, and database interactions.
  - **API Endpoints**: Exposed RESTful APIs to handle the submission of image and text data from the frontend. These APIs are used for:
    - Uploading images.
    - Submitting symptom descriptions.
    - Retrieving prediction results and remedies.
  - **Authentication & User Management**: Handles user authentication, registration, and session management. User profiles, including past predictions and preferences, are stored securely in the backend.
- **Machine Learning Model Integration**:
  - The machine learning models (for image and text processing) are loaded into the backend, and when a prediction request is made, the backend handles the inference by passing the input data to the models.

- **Prediction Logic**: The backend combines image and text features and generates the final prediction using the integrated machine learning models.

- **Technologies**:
  - **Django (Python)**: Backend framework for web application logic, API routing, and interaction with the machine learning models.
  - **Gunicorn/Nginx**: Web server to host and serve the Django application.
  - **Django Rest Framework (DRF)**: For building and managing RESTful APIs to facilitate communication between the frontend and backend.

### 3. Machine Learning Models (Prediction Engine)

The machine learning models, which handle the core predictions, are located in the backend. These models are pre-trained and can perform real-time predictions based on user inputs.

- **Components**:
  - **Image Processing Model**: A Convolutional Neural Network (CNN) processes the uploaded images to classify skin diseases based on visual features. The model outputs a predicted disease and a confidence score.
  - **Text Processing Model**: Natural Language Processing (NLP) techniques are used to process the user's symptom description. A model based on techniques like TF-IDF or Word2Vec extracts important features from the text and predicts a condition based on these features.
  - **Multimodal Fusion Model**: Both image and text data are processed and merged using a neural network that combines the two inputs for a more accurate prediction.
- **Technologies**:
  - **TensorFlow/Keras or PyTorch**: For building and loading machine learning models into the Django backend.
  - **Pretrained Models**: CNNs trained on image datasets and NLP models trained on text datasets.
  - **GPU Support**: The models may run on servers equipped with GPUs (if required) to speed up the inference process, especially for image data.

**4. Database Layer**

The database layer handles the storage of user data, prediction logs, and treatment recommendations.

- **Components**:
  - **User Data**: User profiles, login credentials, and history of past predictions.
  - **Prediction Logs**: Stores records of image and text inputs, prediction results, and remedies provided.
  - **Remedy Database**: A database of skin conditions and their associated remedies, which is queried to display the recommended treatments.
- **Technologies**:
  - **PostgreSQL/MySQL**: A relational database used to store structured data, including user profiles, prediction results, and remedies.

**5. Recommendation System**

The recommendation system provides treatment suggestions based on the predicted disease.

- **Components**:
  - **Treatment Matching Algorithm**: Once a disease is predicted, the system queries the remedy database and suggests appropriate treatments (e.g., home remedies, over-the-counter medications).
  - **Personalization**: Remedies are tailored based on the disease, with additional consideration for user input (e.g., severity of symptoms).

# 6. MODULES

**1. User Module.**

The User module provides functionalities for individual users to interact with the "Skin Care Companion" application. Key features include:

- **Registration**: Users can create an account by providing their personal information.
- **Login**: Users authenticate their credentials to access the application securely.

- **Prediction**: Users can upload images and input symptoms to receive predictions regarding potential skin diseases.
- **View Results**: Users can view the prediction results, including the diagnosed condition and recommended remedies.

**2. Admin Module.**

The Admin module offers enhanced privileges for administrative users to manage the application and its data effectively. Key features include:

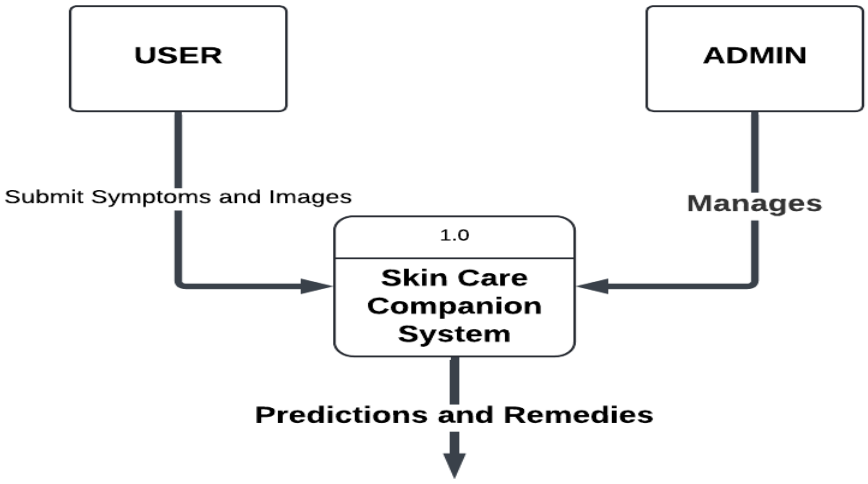
- **User View**: Admins can view and manage user accounts, monitor registrations, and ensure user data integrity.
- **Disease View**: Admins have access to view and update information about various skin diseases, including their symptoms and treatment options.
- **Message View**: Admins can monitor and respond to messages from users, facilitating effective communication and support.

# 7. DIAGRAMS

## 7.1 DFD

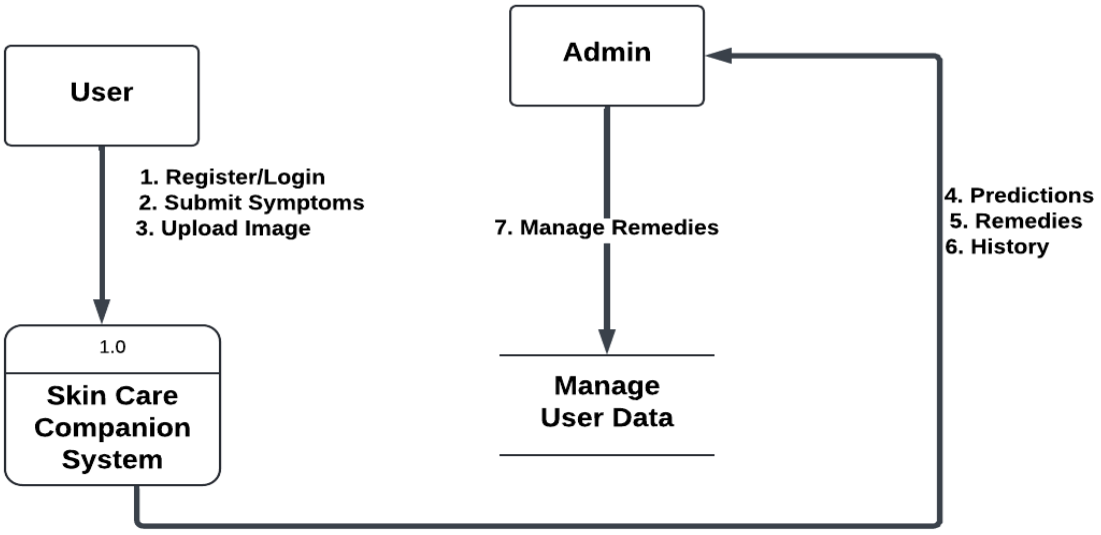
### 7.1.1 LEVEL 0 DFD

**Level 0 DFD: Context Diagram**




### 7.1.2 LEVEL 1 DFD

**Level 1 DFD: Detailed Processes**



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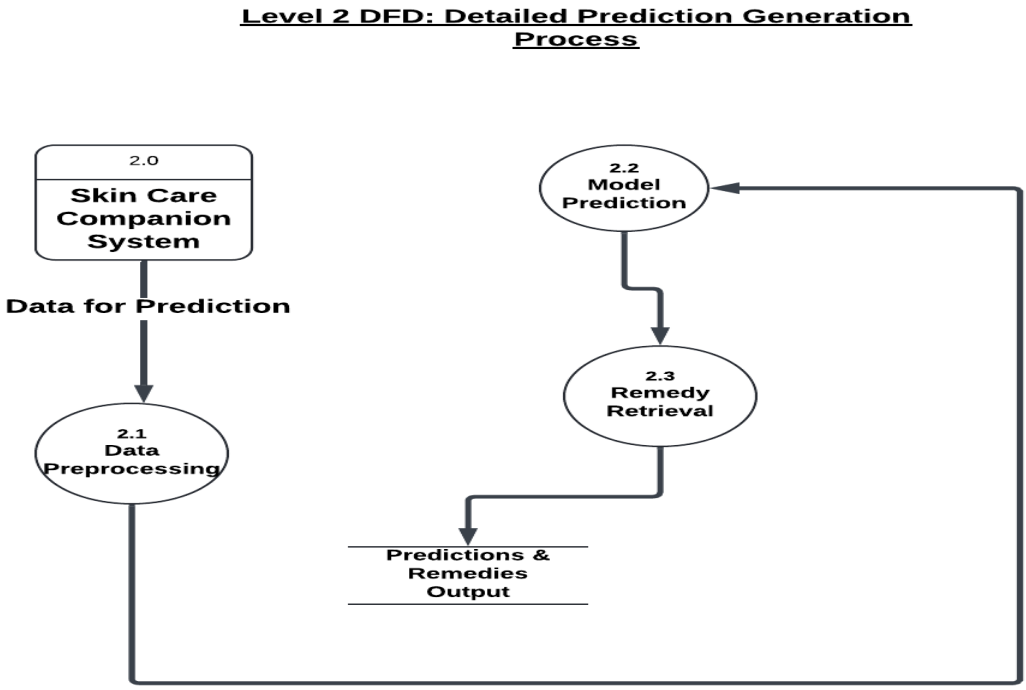
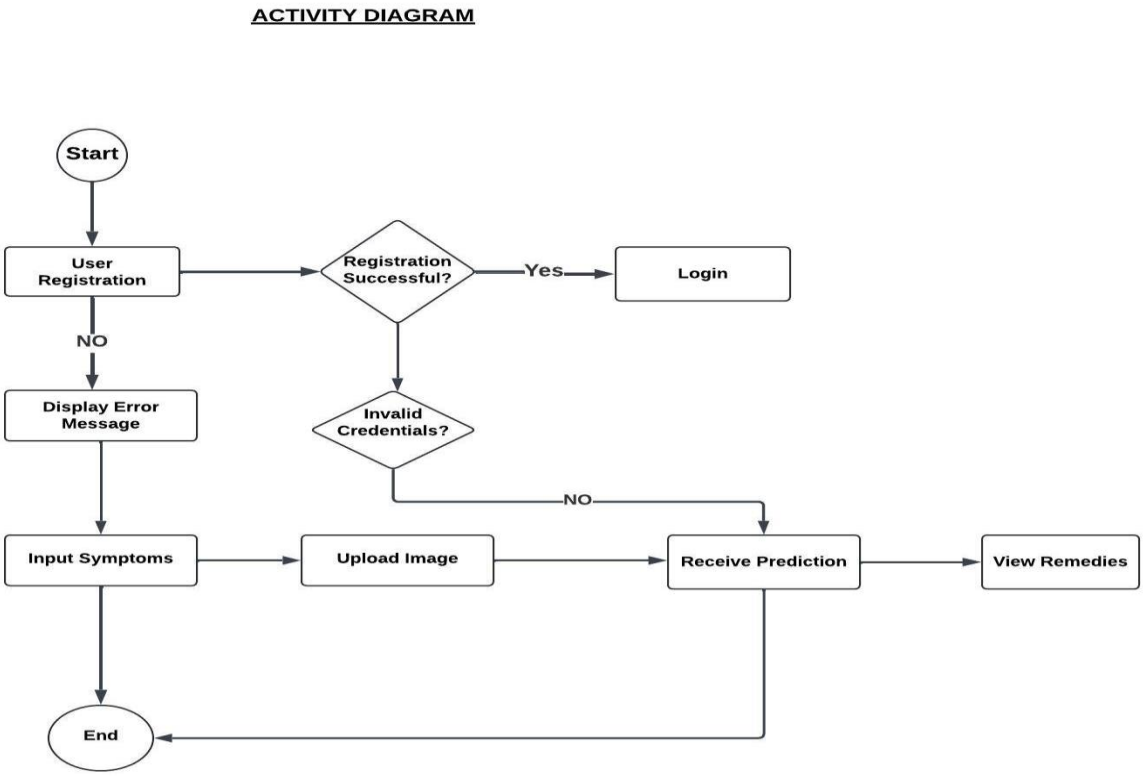
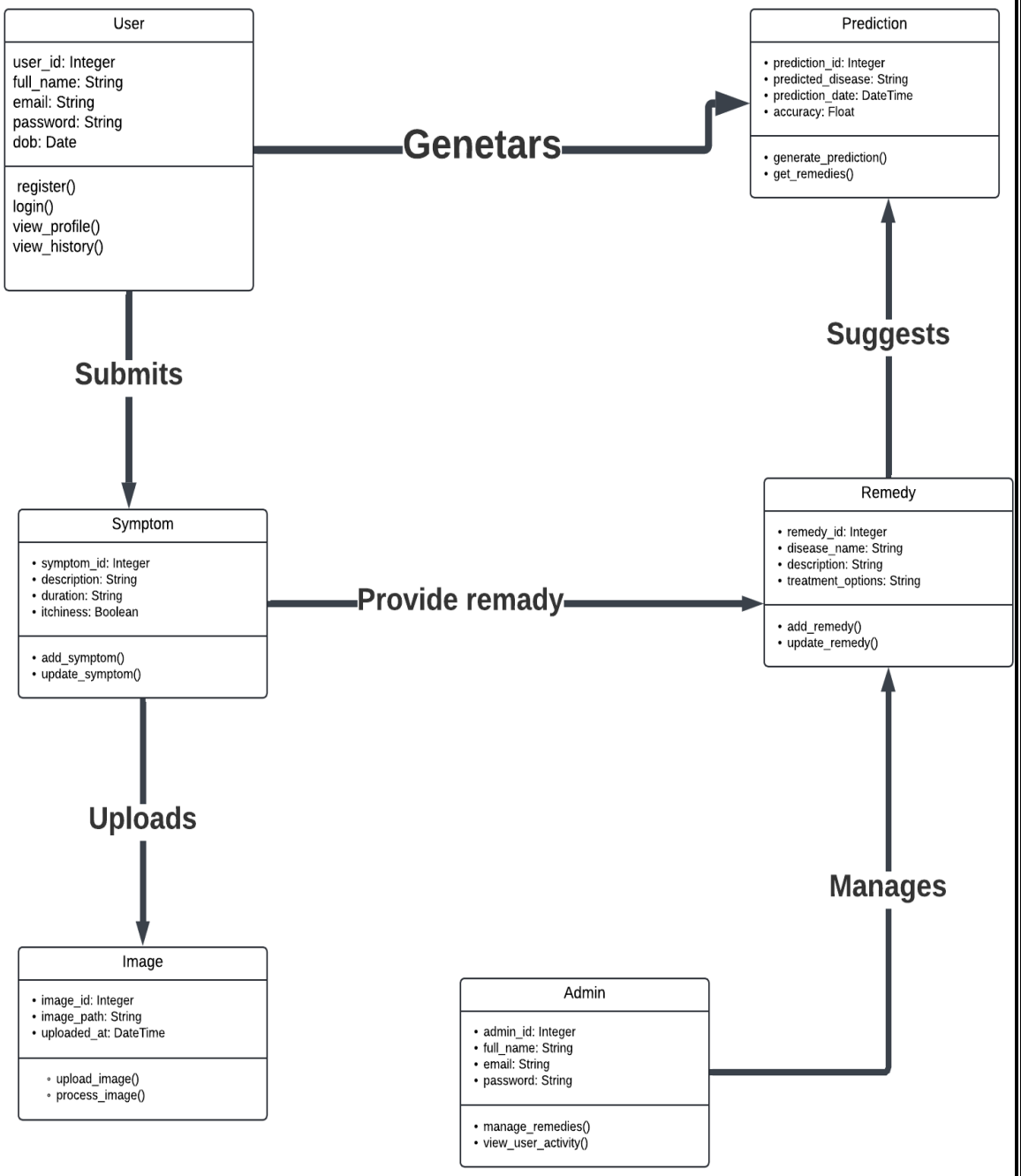


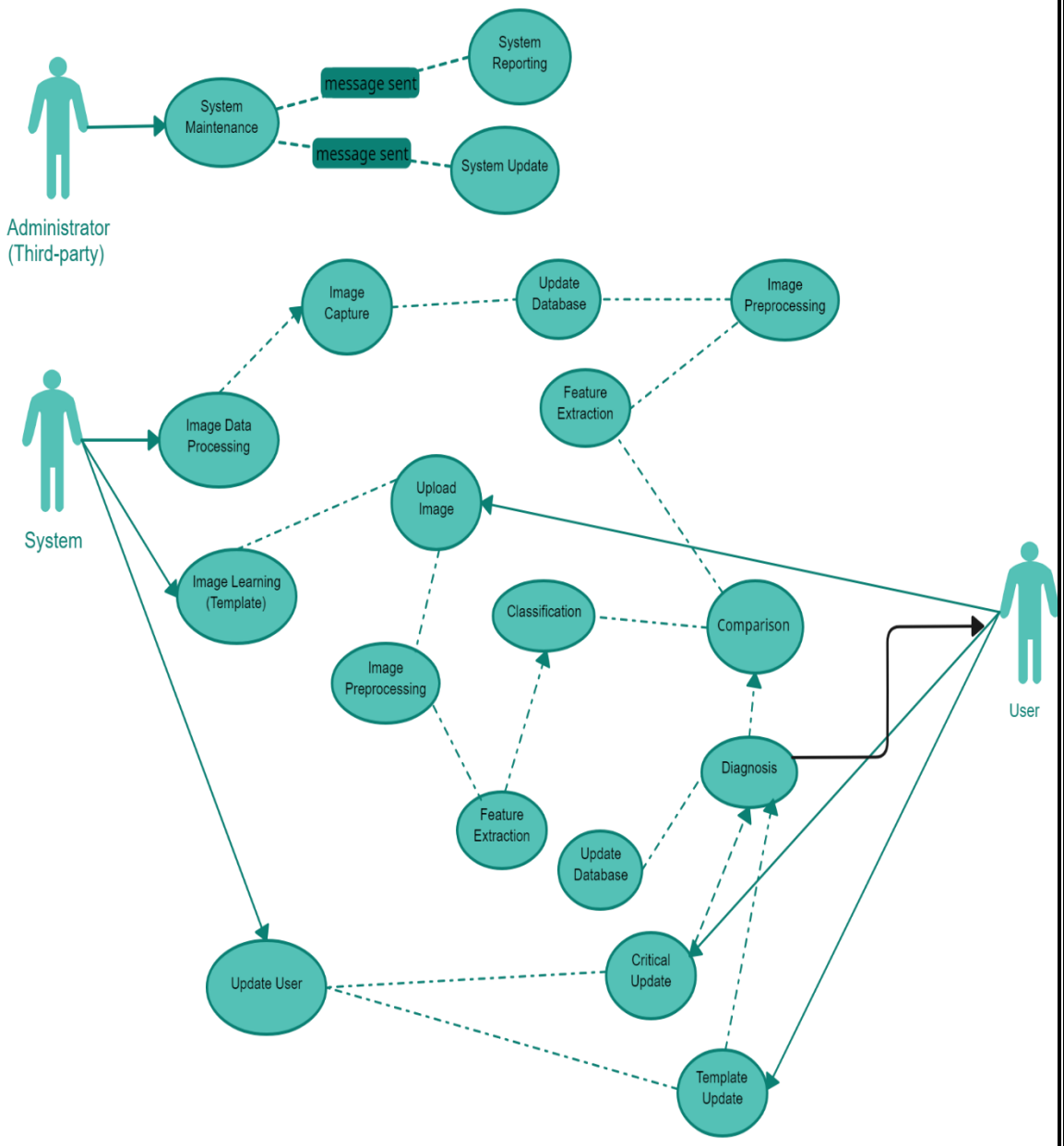

## 7.2 ACTIVITY DIAGRAM



## 7.3 CLASS DIAGRAM



## 7.4 USE CASE DIAGRAM



# 8. TESTING

**Testing** in software development is the process of evaluating and verifying that an application functions correctly, meets the specified requirements, and is free of bugs. In the **"Skin Care Companion"** app, testing ensures that features like user registration, login, skin disease prediction, and remedy recommendations work as expected.

1. Unit Testing

- **Purpose**: Tests individual components or functions in isolation to ensure they work as intended.
- **Why Important**: The app includes multiple features such as user registration, login, and prediction processing. Unit testing ensures that these functionalities work correctly on their own before integrating them.

2. Integration Testing.

- **Purpose**: Ensures that different modules of the app work together seamlessly.
- **Why Important**: In the "Skin Care Companion" app, components like registration, login, and the prediction system must interact correctly. Integration testing helps detect issues when combining these modules.

3. Functional Testing.

- **Purpose**: Verifies that the app's features work according to the specified requirements.
- **Why Important**: Functional testing ensures that each feature, like the prediction and remedy recommendation system, behaves as expected under various conditions.

4. Security Testing.

- **Purpose**: Identifies vulnerabilities and ensures that sensitive data (such as user information and health-related predictions) is protected.
- **Why Important**: The app deals with personal and sensitive health information, making security a priority to protect users' privacy.

# 9. ADVANTAGES & DISADVANTAGES

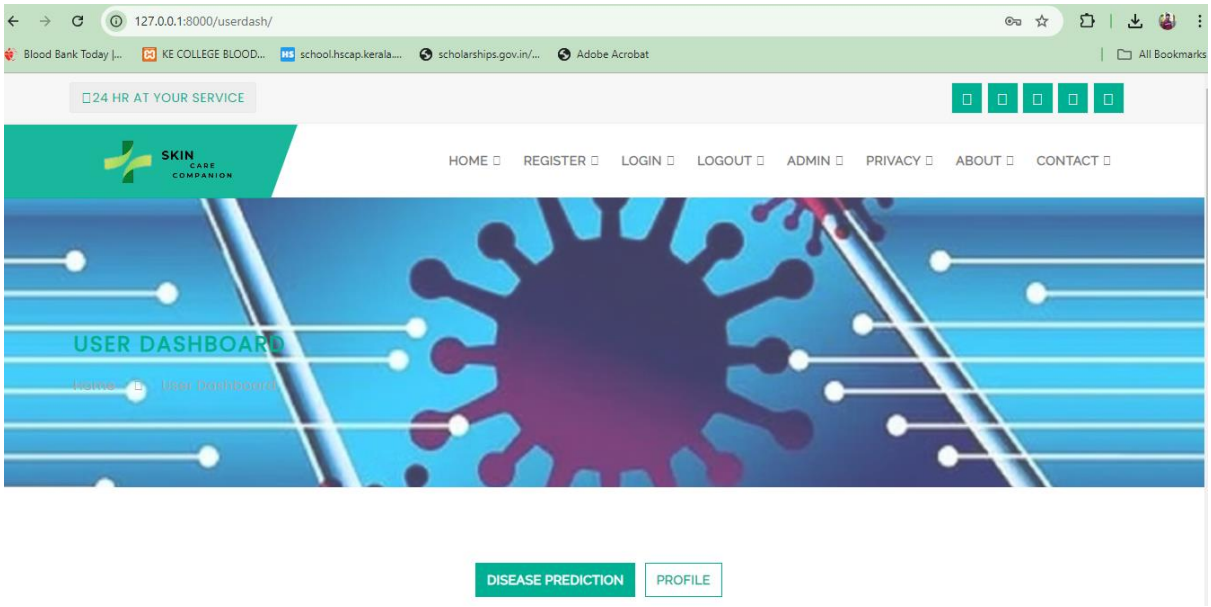
## Advantages

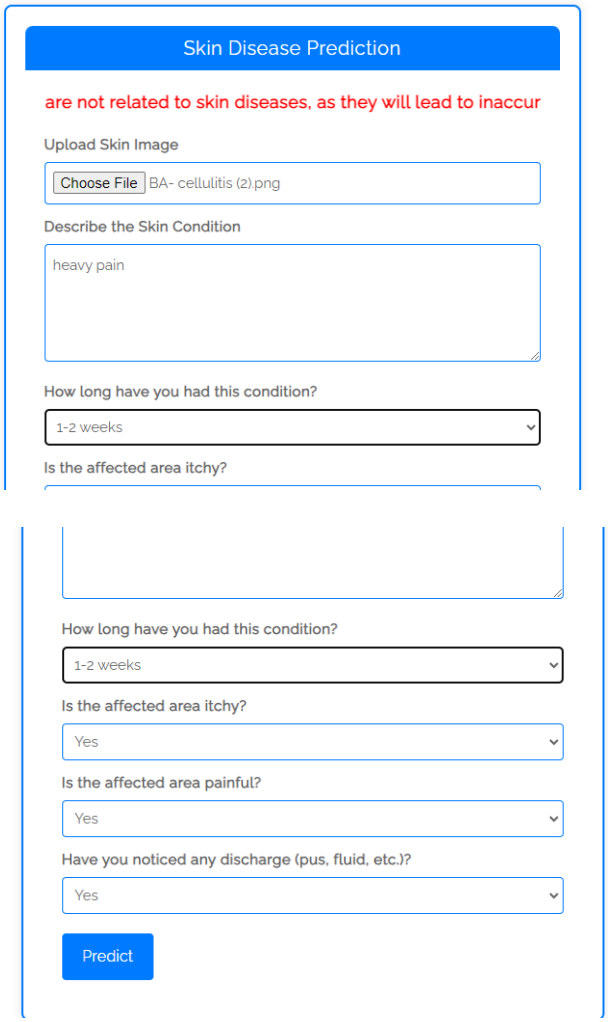
1. **Early Detection of Skin Diseases**: The app provides users with a tool to predict skin diseases based on symptoms and images, allowing for early intervention and treatment.
2. **Personalized Remedies and Medicines**: After predicting a disease, the app offers personalized remedies and medicine suggestions, enhancing user convenience and promoting better health outcomes.
3. **Ease of Use**: The app offers a user-friendly interface where users can easily register, log in, input symptoms, and upload images to receive predictions and remedies.
4. **Accessibility**: It enables users to get skin disease predictions without visiting a doctor immediately, making healthcare more accessible, especially in remote areas.
5. **Data-Driven Insights**: The app utilizes machine learning algorithms to provide reliable predictions, which are continually improved as more data is gathered.
6. **Time and Cost Efficiency**: It helps reduce the need for frequent hospital visits by providing preliminary predictions, saving time and money for users.

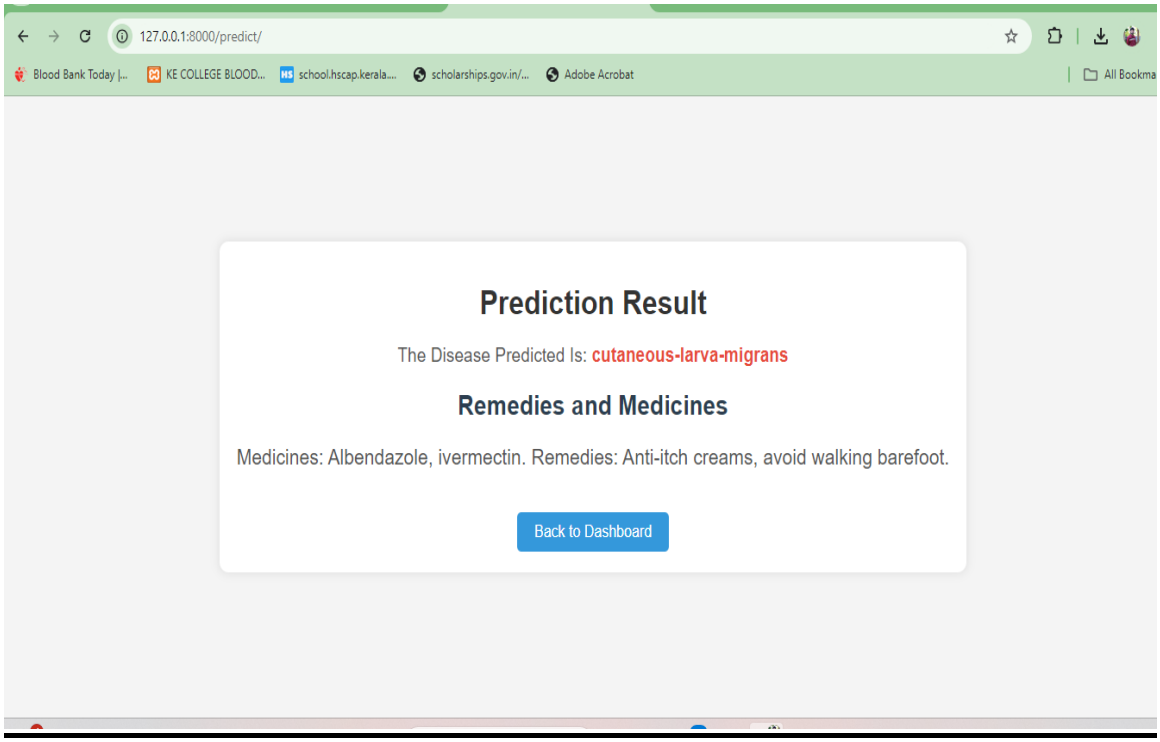
## Disadvantages

1. **Accuracy Limitations**: While the app uses machine learning models, its predictions may not always be 100% accurate, and incorrect predictions could lead to user anxiety or improper self-treatment.
2. **Dependency on Image Quality**: The prediction system's accuracy is highly dependent on the quality of the images uploaded, and poor-quality images may lead to incorrect predictions.
3. **Limited Scope of Diseases**: The app is limited to predicting only certain skin diseases (like cellulitis, impetigo, etc.), and may not cover more complex or rare conditions.
4. **No Substitute for Professional Medical Advice**: The app provides preliminary predictions and remedies, but it cannot replace professional medical diagnosis and treatment, which may result in users neglecting proper medical care.
5. **Privacy Concerns**: Handling sensitive health data requires strict security measures. Any breach of user data could compromise privacy and lead to legal and ethical issues.

# 10. RESULTS AND CONCLUSIONS






## CONCLUSIONS

The **"Skin Care Companion"** app offers an innovative and user-friendly solution for early detection and preliminary diagnosis of common skin diseases. By leveraging machine learning algorithms, the app enables users to input symptoms and upload images, providing accurate disease predictions along with recommended remedies and medications. This empowers users to take proactive steps in managing their skin health, especially in regions with limited access to healthcare professionals.

While the app offers numerous benefits such as time and cost efficiency, personalized remedies, and increased accessibility, it is important to note that it serves as a complementary tool rather than a replacement for professional medical advice. Its predictions, though useful, are dependent on the quality of input data and should always be followed by a consultation with a healthcare provider.

In conclusion, the **"Skin Care Companion"** app provides an efficient, accessible, and data-driven approach to managing skin health, helping users make informed decisions. However, it must be used responsibly, with an understanding of its limitations in terms of accuracy and the scope of diseases it can predict.

# 11. APPENDICES

**Index.html**

```
{% extends "base.html" %}

{% load static %}

{% block main %}

<div class="preloader"></div>


   <!-- Header navbar start -->

   <div class="header-topbar style-2">

      <div class="container padding-none">

         <div class="row">

            <div class="col-md-8 col-sm-6 welcome-top">

               <ul class="list-inline top-icon">


                  <li><i class="fa fa-clock-o"></i> 24 HR AT YOUR SERVICE</li>

               </ul>

            </div>

            <div class="col-md-4 col-sm-6">

               <ul class="list-inline text-right icon-style-1">

                  <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-twitter" aria-hidden="true"></i></a></li>

                  <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-instagram" aria-hidden="true"></i></a></li>
```

```
                <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-linkedin" aria-hidden="true"></i></a></li>

                <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-dribbble" aria-hidden="true"></i></a></li>

                <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-google-plus" aria-hidden="true"></i></a></li>

              </ul>

            </div>

          </div>

      </div>

   </div>

{% include "navbar.html" %}

   <!-- Header navbar end -->



   <!-- Start  bootstrap-touch-slider Slider -->

   <div id="bootstrap-touch-slider" class="carousel bs-slider fade  control-round indicators-line" data-ride="carousel" data-pause="hover" data-interval="5000" >



      <!-- Indicators -->

      <ol class="carousel-indicators">

         <li data-target="#bootstrap-touch-slider" data-slide-to="0" class="active"></li>

         <li data-target="#bootstrap-touch-slider" data-slide-to="1"></li>

         <li data-target="#bootstrap-touch-slider" data-slide-to="2"></li>

      </ol>
```

```
    <!-- Wrapper For Slides -->

    <div class="carousel-inner" role="listbox">

      <!-- Third Slide -->

      <div class="item active">

        <!-- Slide Background -->

        <img src="{% static 'img/bg/3.jpg' %}" alt="Slider Images" class="slide-image"/>

        <div class="bs-slider-overlay"></div>



        <div class="slide-text slide_style_left">

          <h1 data-animation="animated fadeInRight">Welcome To <span class="color-defult">Skin Care </span>Companion</h1>

          <p data-animation="animated fadeInLeft">Discover a healthier you with Skin Care Companion,<br> your trusted app for identifying and understanding skin conditions. <br> Our app combines advanced AI technology with expert medical insights to help you take control of your skin health with confidence.</p>




        </div>

      </div>

      <!-- End of Slide -->



      <!-- Second Slide -->
```

```
        <div class="item">

            <!-- Slide Background -->

            <img src="{% static 'img/bg/2.jpg'%}" alt="Slider Images" class="slide-image"/>

            <div class="bs-slider-overlay"></div>

            <!-- Slide Text Layer -->

            <div class="slide-text slide_style_center">

                <h1 data-animation="animated bounceInDown"> Treat<span class="color-defult"> Skin</span> disease.</h1>

                <p data-animation="animated lightSpeedIn">Skin diseases encompass a wide range of conditions that affect the skin, <br>each requiring specific treatments.</p>



            </div>

        </div>

        <!-- End of Slide -->



        <!-- Third Slide -->

        <div class="item">

            <!-- Slide Background -->

            <img src="{% static 'img/bg/1.jpg'%}" alt="Slider Images" class="slide-image"/>

            <div class="bs-slider-overlay"></div>

            <!-- Slide Text Layer -->

            <div class="slide-text slide_style_right">
```

```
                <h1 data-animation="animated fadeInLeft">Follow<span class="color-defult">Medical Advice</span></h1>

                <p data-animation="animated fadeInRight">Always follow the treatment plan prescribed by your dermatologist. </p>



            </div>

        </div>

        <!-- End of Slide -->

    </div><!-- End of Wrapper For Slides -->



    <!-- Left Control -->

    <a class="left carousel-control" href="#bootstrap-touch-slider" role="button" data-slide="prev">

        <span class="fa fa-angle-left" aria-hidden="true"></span>

        <span class="sr-only">Previous</span>

    </a>



    <!-- Right Control -->

    <a class="right carousel-control" href="#bootstrap-touch-slider" role="button" data-slide="next">

        <span class="fa fa-angle-right" aria-hidden="true"></span>

        <span class="sr-only">Next</span>

    </a>
```

```
</div> <!-- End  bootstrap-touch-slider Slider -->




<!-- welcome start -->

<section>

   <div class="container">

      <div class="section-content">

         <div class="row">

            <div class="col-md-7">

               <h2>Why chose Skin Care Companion</h2>

               <h3 class="color-defult">Empower Your Skin, Empower Yourself</h3>

               <p class="lead">Every step you take towards healthier skin is a step towards a more confident you.</b> Embrace the journey with the best tools and expert advice. </p>

               <p> <b>Your skin is a reflection of your inner health. With dedication and the right guidance, achieve the flawless skin you deserve.</b></p>

               <div class="row margin-top-20">

                  <div class="col-md-6">

                     <img class="margin-top-10" src="{% static 'img/services/s1.jpg'%}" alt="">

                  </div>
```

```
                </div>



            </div>
            <div class="col-md-5">
                <div>
                    <img alt="" src="{%  static 'img/services/w1.jpg'%}">
                </div>
            </div>
        </div>
    </div>
</section>
<!-- welcome end -->


<!-- service start -->
<section class="service-area bg-f8 animatedParent animateOnce">
    <div class="container">
        <div class="section-title">
            <div class="row">
                <div class="col-md-8 col-md-offset-2 text-center">
                    <h2>Our <span class="color-defult">Services</span></h2>
                    <div class="line-border-center bg-defult"></div>
```

```
                <p>Find The Skin Disease At The  best Way.</p>
            </div>
        </div>
    </div>
    <div class="section-content">
        <div class="row">
            <div class="col-xs-12 col-sm-6 col-md-4">
                <div class="service-item text-center style-3">
                    <span class="flaticon-heart-1"></span>
                    <h4><a href="#">Disease Prediction</a></h4>
                    <div class="border-center"></div>
                    <p>  Provide direct support to an individual, family or community without paying  for service.</p>
                    <button type="submit" class="btn btn-theme margin-top-20" data-text="Send Message">Read More</button>
                </div>
            </div>
            <div class="col-xs-12 col-sm-6 col-md-4">
                <div class="service-item text-center style-3">
                    <span class="flaticon-broken-bone"></span>
                    <h4><a href="#">Skin Disease Knowledge</a></h4>
                    <div class="border-center"></div>
                    <p>  Provide direct support to an individual, family or community without paying  for service</p>
```

```
                    <button type="submit" class="btn btn-theme margin-top-20" data-text="Send Message">Read More</button>

                </div>

            </div>

            <div class="col-xs-12 col-sm-6 col-md-4">

                <div class="service-item text-center style-3">

                    <span class="flaticon-stomach"></span>

                    <h4><a href="#">Basic Medicines</a></h4>

                    <div class="border-center"></div>

                    <p>  Provide direct support to an individual, family or community without paying  for service</p>

                    <button type="submit" class="btn btn-theme margin-top-20" data-text="Send Message">Read More</button>

                </div>

            </div>

            <div class="col-xs-12 col-sm-6 col-md-4">

                <div class="service-item text-center style-3">

                    <span class="flaticon-brain-2"></span>

                    <h4><a href="#">Medicine Usage</a></h4>

                    <div class="border-center"></div>

                    <p>  Provide direct support to an individual, family or community without paying  for service</p>

                    <button type="submit" class="btn btn-theme margin-top-20" data-text="Send Message">Read More</button>

                </div>
```

```
            </div>
            <div class="col-xs-12 col-sm-6 col-md-4">
              <div class="service-item text-center style-3">
                <span class="flaticon-spine-bone"></span>
                <h4><a href="#">Skin Care</a></h4>
                <div class="border-center"></div>
                <p>  Provide direct support to an individual, family or community without paying  for service</p>
                <button type="submit" class="btn btn-theme margin-top-20" data-text="Send Message">Read More</button>
              </div>
            </div>
            <div class="col-xs-12 col-sm-6 col-md-4">
              <div class="service-item text-center style-3">
                <span class="flaticon-virus"></span>
                <h4><a href="#">Life Time Support</a></h4>
                <div class="border-center"></div>
                <p>  Provide direct support to an individual, family or community without paying  for service</p>
                <button type="submit" class="btn btn-theme margin-top-20" data-text="Send Message">Read More</button>
              </div>
            </div>
          </div>
```

```
        </div>
      </div>
   </section>
   <!-- service end -->


    <!-- portfolio start -->
   <section class="gallery-area">
      <div class="container">
         <div class="section-title">
            <div class="row">
               <div class="col-md-8 col-md-offset-2 text-center">
                  <h2> Common Skin<span class="color-defult"> Diseases </span></h2>
                  <div class="line-border-center bg-defult"></div>


               </div>
            </div>
         </div>
         <div class="section-content">
            <div class="row clearfix">



               <div class="gallery col-3 gutter">
```

```
                <div class="gallery-item gp-two">
                    <div class="thumb">
                        <img src="{% static 'img/portfolio/ss1.jpg'%}" alt="">
                        <div class="gallery-hover">
                            <div class="gallery-info">
                                <div class="gallery-btn">
                                    <a href="{% static 'img/portfolio/ss1.jpg'%}" data-fancybox-group="gallery" class="lightbox-image" title="lightbox view"> <i class="pe-7s-graph2"></i> </a>
                                </div>
                                <h4><a href="{% static 'img/portfolio/ss1.jpg'%}" data-fancybox-group="gallery" class="lightbox-image" title="lightbox view">Primary Cutaneous Amyloidosis</a></h4>

                            </div>
                        </div>
                    </div>
                </div>
                <div class="gallery-item gp-three">
                    <div class="thumb">
                        <img src="{% static 'img/portfolio/ss2.jpg'%}" alt="">
                        <div class="gallery-hover">
                            <div class="gallery-info">
                                <div class="gallery-btn">
```

```
                        <a href="{% static 'img/portfolio/ss2.jpg'%}" data-fancybox-group="gallery" class="lightbox-image" title="lightbox view"> <i class="pe-7s-graph2"></i> </a>

                        </div>

                        <h4><a href="{% static 'img/portfolio/ss2.jpg'%}" data-fancybox-group="gallery" class="lightbox-image" title="lightbox view">Keratosis Pilaris</a></h4>



                    </div>

                </div>

            </div>

        </div>

        <div class="gallery-item gp-four">

            <div class="thumb">

                <img src="{% static 'img/portfolio/ss3.jpg '%}" alt="">

                <div class="gallery-hover">

                    <div class="gallery-info">

                        <div class="gallery-btn">

                            <a href="{% static 'img/portfolio/ss3.jpg'%}" data-fancybox-group="gallery" class="lightbox-image" title="lightbox view"> <i class="pe-7s-graph2"></i> </a>

                        </div>

                        <h4><a href="{% static 'img/portfolio/ss3.jpg'%}" data-fancybox-group="gallery" class="lightbox-image" title="lightbox view">Hemangioma</a></h4>
```

```
                        </div>
                    </div>
                </div>
            </div>

        </div>
    </div>
</div>
</section>
<!-- portfolio end -->









<!-- Counter start -->
<section class="funfact-field over-layer-default" style="background-image: url('{% static "img/bg/6.jpg" %}')">
    <div class="container-fluid">
        <div class="col-md-8 col-md-offset-2 text-center">
            <h2> Successful  Outcomes </h2>
            <div class="line-border-center bg-defult"></div>
```

```
</div>
<div class="row">
   <div class="col-md-3 col-sm-6 col-xs-6">
      <div class="counter-col text-center">
         <i class="flaticon-heart"></i>
         <div class="count">
            <div class="start-count">250</div>
            <h4>Morgellons Diseases</h4>
         </div>
      </div>
   </div>
   <div class="col-md-3 col-sm-6 col-xs-6">
      <div class="counter-col text-center">
         <i class="flaticon-human-lungs"></i>
         <div class="count">
            <div class="start-count">979</div>
            <h4>Erythropoietic Protoporphyria</h4>
         </div>
      </div>
   </div>
   <div class="col-md-3 col-sm-6 col-xs-6">
      <div class="counter-col text-center">
```

```
                <i class="flaticon-kidney"></i>
                <div class="count">
                    <div class="start-count">5264</div>
                    <h4>Leprosy</h4>
                </div>
            </div>
        </div>
        <div class="col-md-3 col-sm-6 col-xs-6">
            <div class="counter-col text-center">
                <i class="flaticon-first-aid-kit"></i>
                <div class="count">
                    <div class="start-count border-none">1000</div>
                    <h4>Eruptive Xanthomas</h4>
                </div>
            </div>
        </div>
    </div>
</section>
<!-- Counter end -->

<!-- Testimonial start -->
<section class="testimonial">
```

```
    <div class="container">
        <div class="section-title">
            <div class="row">
                <div class="col-md-8 col-md-offset-2 text-center">
                    <h2>Our <span class="color-defult"> Clients</span> Say</h2>
                    <div class="line-border-center bg-defult"></div>

                </div>
            </div>
        </div>
        <div class="section-content">
            <div class="row">
                <div class="col-md-8 col-md-offset-2">
                    <div class="testimonial-carousel-one">
                        <div class="item">
                            <div class="testimonial-item text-center">
                                <div class="testimonial-author">
                                    <div class="author-img">
                                        <img class="img-responsive" src="{% static
'img/testimonial/1.png'%}" alt="" />
                                    </div>
                                    <h4>John Daniel</h4>
```

```
                        <ul>
                            <li><i class="fa fa-star" aria-hidden="true"></i></li>
                            <li><i class="fa fa-star" aria-hidden="true"></i></li>
                            <li><i class="fa fa-star" aria-hidden="true"></i></li>
                            <li><i class="fa fa-star" aria-hidden="true"></i></li>
                            <li><i class="fa fa-star" aria-hidden="true"></i></li>
                        </ul>
                    </div>
                    <p>I want to extend my heartfelt thanks to the team behind this incredible app. Your accurate predictions and effective treatments have truly transformed my skin. I used to struggle with persistent skin issues, but now, thanks to your expertise and dedication, my skin is healthier than ever.</p>
                </div>
            </div>
            <div class="item">
                <div class="testimonial-item text-center">
                    <div class="testimonial-author">
                        <div class="author-img">
                            <img class="img-responsive" src="{% static 'img/testimonial/2.png'%}" alt="" />
                        </div>
                        <h4>Henry Thomas</h4>
```

```
                        <ul>
                            <li><i class="fa fa-star" aria-hidden="true"></i></li>
                            <li><i class="fa fa-star" aria-hidden="true"></i></li>
                            <li><i class="fa fa-star" aria-hidden="true"></i></li>
                            <li><i class="fa fa-star" aria-hidden="true"></i></li>
                            <li><i class="fa fa-star" aria-hidden="true"></i></li>
                        </ul>
                    </div>
                    <p>I am incredibly grateful for the amazing results I have experienced using this app. The accurate predictions and personalized treatment plans have worked wonders on my skin. I can't thank you enough for your commitment to helping people like me.</p>
                </div>
            </div>
            <div class="item">
                <div class="testimonial-item text-center">
                    <div class="testimonial-author">
                        <div class="author-img">
                            <img class="img-responsive" src="{% static 'img/testimonial/3.png'%}" alt="" />
                        </div>
```

```
                        <h4>James Alexander</h4>

                        <ul>
                            <li><i class="fa fa-star" aria-hidden="true"></i></li>
                            <li><i class="fa fa-star" aria-hidden="true"></i></li>
                            <li><i class="fa fa-star" aria-hidden="true"></i></li>
                            <li><i class="fa fa-star" aria-hidden="true"></i></li>
                            <li><i class="fa fa-star" aria-hidden="true"></i></li>
                        </ul>
                    </div>
                    <p>Thank you for creating such an outstanding app. It has not only predicted my skin issues accurately but also provided treatments that have cured my condition effectively. Your app's comprehensive approach and user-friendly interface have made managing my skin health so much easier.</p>
                </div>
            </div>
        </div>
    </div>
</div>
```

```
    </section>
    <!-- Testimonial end -->




    <!-- Footer Style start -->
    <footer class="bg-faded">
        <div class="container">
            <div class="section-content">
                <div class="row margin-top-30">
                    <div class="col-md-3">
                        <div class="footer-item footer-widget-one">
                            <img alt="" src="{% static 'img/s1logo.png'%}" class="footer-
logo">
                            <p><b>Smart Solutions for Your Skin's Health
Journey.</b></p>


                            <ul class="address">
                                <li><i class="pe-7s-call"></i>Phone:9495567823</li>
                                <li><i class="pe-7s-mail"></i><a href="mailto:">Email:
skincare.com</a></li>
                            </ul>
```

```
            </div>
          </div>
          <div class="col-md-6">
            <div class="footer-item">
              <div class="footer-title">
                <h4>Our Motive </h4>
                <div class="border-style-2"></div>
              </div>
              <p>The core motive of our skin disease prediction app is to empower you with early detection and personalized solutions for healthier skin.<br>

                By providing advanced predictive technology, we aim to give you the tools to identify potential skin issues before they escalate.<br> Our app offers tailored advice and solutions that address your unique skin needs, <br>

                ensuring that you can take proactive steps towards maintaining and achieving optimal skin health. <br>With our support, you can stay ahead of skin conditions and enjoy the confidence of a healthier, glowing complexion.</p>
            </div>
          </div>
        </div>
      </div>
    </div>
  </footer>
```

```
<section class="footer-copy-right bg-f9">
 <div class="container">
  <div class="row">
   <div class="col-12 text-center">
    <p><a target="_blank" href=" ">HAVE A NICE DAY</a></p>
   </div>
  </div>
 </div>
</section>
<!-- Footer Style End -->  {% endblock %}
```

**Registration.html**

```
{% extends "base.html" %}
{% load static %}
{% block main %}
<div class="preloader"></div>


<!-- Header navbar start -->
<div class="header-topbar style-2">
   <div class="container padding-none">
      <div class="row">
         <div class="col-md-8 col-sm-6 welcome-top">
            <ul class="list-inline top-icon">
```

```
            </ul>
          </div>
          <div class="col-md-4 col-sm-6">
            <ul class="list-inline text-right icon-style-1">
              <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-twitter" aria-hidden="true"></i></a></li>
              <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-instagram" aria-hidden="true"></i></a></li>
              <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-linkedin" aria-hidden="true"></i></a></li>
              <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-dribbble" aria-hidden="true"></i></a></li>
              <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-google-plus" aria-hidden="true"></i></a></li>
            </ul>
          </div>
        </div>
      </div>
    </div>
{% include "navbar.html" %}

    <!-- Header navbar end -->
```

```
<section class="inner-bg over-layer-black" style="background-image: url('{% static "img/bg/bg1.jpg" %}')">

    <div class="container">

        <div class="row">

            <div class="col-md-4">

                <div class="mini-title inner-style-2">

                    <h3>Register</h3>

                    <p><a href="{% url 'index' %}">Home</a> <span class="fa fa-angle-right"></span> <a href="#"><b>Register Dtails</b></a></p>

                </div>

            </div>

        </div>

    </div>

</section>


<!-- depertment start -->

<section class="container">

    <div class="container">

        <div class="section-content">

            <div class="row">


                <div class="col-md-6">
```

```
<h3 class="margin-top-30 margin-bottom-20"> <span class="color-defult"><u>Fill The </span> Form </u></h3>

<div style="background-color: rgb(255, 255, 255); padding: 20px; border-radius: 8px; box-shadow: 0 0 10px rgba(0, 0, 0, 0.1); width: 800px;">

<form action="{% url "reg" %}" method="POST">

{% csrf_token %}

<div style="margin-bottom: 15px;">

<label for="fullname" style="margin-bottom: 5px; display: block; color: #333;">Full Name:</label>

<input type="text" id="fullname" name="fullname" required style="width: 100%; padding: 10px; margin: 10px 0; border: 1px solid #ccc; border-radius: 4px; box-sizing: border-box;">

</div>

<div style="margin-bottom: 15px;">

<label for="email" style="margin-bottom: 5px; display: block; color: #333;">Email:</label>

<input type="email" id="email" name="email" required style="width: 100%; padding: 10px; margin: 10px 0; border: 1px solid #ccc; border-radius: 4px; box-sizing: border-box;">

</div>

<div style="margin-bottom: 15px;">

<label for="dob" style="margin-bottom: 5px; display: block; color: #333;">Date of Birth:</label>

<input type="date" id="dob" name="dob" required style="width: 100%; padding: 10px; margin: 10px 0; border: 1px solid #ccc; border-radius: 4px; box-sizing: border-box;">

</div>
```

```
                <div style="margin-bottom: 15px;">

                    <label for="password" style="margin-bottom: 5px; display: block; color: #333;">Password:</label>

                    <input type="password" id="password" name="password" required style="width: 100%; padding: 10px; margin: 10px 0; border: 1px solid #ccc; border-radius: 4px; box-sizing: border-box;">

                </div>

                <div style="margin-bottom: 15px;">

                    <label for="confirmpassword" style="margin-bottom: 5px; display: block; color: #333;">Confirm Password:</label>

                    <input type="password" id="confirmpassword" name="confirmpassword" required style="width: 100%; padding: 10px; margin: 10px 0; border: 1px solid #ccc; border-radius: 4px; box-sizing: border-box;">

                </div>

                <div style="margin-bottom: 15px;">

                    <label for="gender" style="margin-bottom: 5px; display: block; color: #333;">Gender:</label>

                    <select id="gender" name="gender" required style="width: 100%; padding: 10px; margin: 10px 0; border: 1px solid #ccc; border-radius: 4px; box-sizing: border-box;">

                        <option value="" disabled selected>Select your gender</option>

                        <option value="male">Male</option>

                        <option value="female">Female</option>

                        <option value="other">Other</option>

                    </select>

                </div>
```

```
                    <input type="submit" value="Register" style="width: 100%; background-color: #4CAF50; color: white; padding: 10px; border: none; border-radius: 4px; cursor: pointer; font-size: 16px;">
                </form>
            </div>

            </div>
        </div>
      </div>
    </div>
  </section>
  <!-- depertment end -->




  <section class="footer-copy-right bg-f9">
    <div class="container">
      <div class="row">
        <div class="col-12 text-center">
          <p><a target="_blank" href="#">HAVE A NICE DAY</a></p>
        </div>
      </div>
    </div>
```

```
    </section>
    <!-- Footer Style End -->
{% endblock  %}
```

**Login.html**

```
{% extends "base.html" %}
{% load static %}
{% block main %}



    <div class="preloader"></div>


    <!-- Header navbar start -->
    <div class="header-topbar style-2">
        <div class="container padding-none">
            <div class="row">
                <div class="col-md-8 col-sm-6 welcome-top">
                    <ul class="list-inline top-icon">


                    </ul>
                </div>
                <div class="col-md-4 col-sm-6">
                    <ul class="list-inline text-right icon-style-1">
```

```
                <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-twitter" aria-hidden="true"></i></a></li>

                <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-instagram" aria-hidden="true"></i></a></li>

                <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-linkedin" aria-hidden="true"></i></a></li>

                <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-dribbble" aria-hidden="true"></i></a></li>

                <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-google-plus" aria-hidden="true"></i></a></li>

              </ul>

            </div>

          </div>

       </div>

   </div>


 {% include "navbar.html" %}

   <!-- Header navbar end -->




   <section class="inner-bg over-layer-black" style="background-image: url('{% static "img/bg/bg2.jpg" %}')">

       <div class="container">

          <div class="row">

             <div class="col-md-4">
```

```
                <div class="mini-title inner-style-2">

                    <h3 >Login</h3>

                    <p><a href="{% url 'index' %}">Home</a> <span class="fa fa-angle-right"></span> <a href="#"><b>Login Dtails</b></a></p>

                </div>

            </div>

        </div>

    </section>


    <!-- Team start -->

    <section class="team-area">

        <div class="container">

            <div class="section-content">

                <div class="row">

                    <div style="background-color: white; padding: 20px; border-radius: 8px; box-shadow: 0 0 10px rgba(0, 0, 0, 0.1); width: 800px;">

                    <h2 style="text-align: center; margin-bottom: 20px; color: blue;">Login</h2>

                    <form action="{% url 'log' %}" method="POST">

                        {% csrf_token %}

                        <div style="margin-bottom: 15px;">

                            <label for="email" style="margin-bottom: 5px; display: block; color: #333;">Email</label>
```

```
                    <input type="email" id="email" name="email" required style="width: 100%; padding: 10px; margin: 10px 0; border: 1px solid #ccc; border-radius: 4px; box-sizing: border-box;">

                </div>

                <div style="margin-bottom: 15px;">

                    <label for="password" style="margin-bottom: 5px; display: block; color: #333;">Password</label>

                    <input type="password" id="password" name="password" required style="width: 100%; padding: 10px; margin: 10px 0; border: 1px solid #ccc; border-radius: 4px; box-sizing: border-box;">

                </div>

                <input type="submit" value="Login" style="width: 100%; background-color: #4CAF50; color: white; padding: 10px; border: none; border-radius: 4px; cursor: pointer; font-size: 16px;">

            </form>

        </div>

    </div>

</section>

<!-- Team end -->




<section class="footer-copy-right bg-f9">

  <div class="container">

    <div class="row">
```

```
        <div class="col-12 text-center">
          <p><a target="_blank" href="#">HAVE A NICE DAY</a></p>
        </div>
      </div>
    </div>
  </section>
  <!-- Footer Style End -->    {% endblock  %}
```

**User_dashboard.html**

```
{% extends "base.html" %}
{% load static %}
{% block main %}



  <div class="preloader"></div>


  <!-- Header navbar start -->
  <div class="header-topbar style-2">
     <div class="container padding-none">
        <div class="row">
           <div class="col-md-8 col-sm-6 welcome-top">
              <ul class="list-inline top-icon">
                 <li><i class="fa fa-envelope"></i>24 HR AT YOUR SERVICE</li>
```

```
            </ul>
          </div>
          <div class="col-md-4 col-sm-6">
            <ul class="list-inline text-right icon-style-1">
              <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-twitter" aria-hidden="true"></i></a></li>
              <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-instagram" aria-hidden="true"></i></a></li>
              <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-linkedin" aria-hidden="true"></i></a></li>
              <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-dribbble" aria-hidden="true"></i></a></li>
              <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-google-plus" aria-hidden="true"></i></a></li>
            </ul>
          </div>
        </div>
      </div>
    </div>

    {% include "navbar.html" %}
    <!-- Header navbar end -->
```

```
  <section class="inner-bg over-layer-black" style="background-image: url('{% static "img/bg/ud.jpg" %}')">
      <div class="container">
         <div class="row">
            <div class="col-md-4">
               <div class="mini-title inner-style-2">
                  <h3>USER DASHBOARD</h3>
                  <p><a href="{% url 'index' %}">Home</a> <span class="fa fa-angle-right"></span>
                     <a href="#">User Dashboard</a></p>
               </div>
            </div>
         </div>
      </div>
   </section>

   <!-- portfolio start -->
   <section class="gallery-area">
      <div class="container">
         <div class="section-content">
            <div class="row clearfix">
               <div class="gallery-filter-item text-center">
                  <ul class="gallery-filter">
```

```
                <li class="active"><a href="#" data-filter="*" class="current">DISEASE PREDICTION </a></li>

                <li class=""><a href="{% url 'profile' %}" class="btn-primary">PROFILE</a></li>



            </ul>

        </div>



        <div class="gallery col-8">

            <div style="margin-top: 50px; max-width: 600px; background-color: #fff; padding: 20px; border-radius: 8px; box-shadow: 0px 0px 10px rgba(0, 0, 0, 0.1); border: 2px solid #007bff; margin-left: auto; margin-right: auto;">

                <div style="background-color: #007bff; color: white; text-align: center; font-size: 20px; padding: 10px; border-radius: 8px 8px 0 0;">

                    Skin Disease Prediction

                </div>

                <div style="padding: 20px;">

                    <form action="{% url 'predict' %}" method="post" enctype="multipart/form-data" >

                        {% csrf_token %}

                        <div >

                            <marquee style="color: red; font-weight: bold; font-size: 18px;">

                                Warning: Please upload a clear photo of the affected skin area only. Avoid using irrelevant images or photos that are not related to skin diseases, as they will lead to inaccurate predictions.

                            </marquee>
```

```
                </div>

                <!-- Image Upload Field -->

                <label for="image" style="font-weight: bold; display: block; margin-top: 10px;">Upload Skin Image</label>

                <input type="file" name="image" id="image" style="width: 100%; padding: 8px; border-radius: 4px; border: 1px solid #007bff; box-sizing: border-box;" required>



                <!-- Description Text Area -->

                <label for="description" style="font-weight: bold; display: block; margin-top: 10px;">Describe the Skin Condition</label>

                <textarea name="description" id="description" style="width: 100%; padding: 8px; border-radius: 4px; border: 1px solid #007bff; box-sizing: border-box; resize: vertical;" rows="4" required></textarea>



                <!-- Symptom Questions -->

                <label style="font-weight: bold; display: block; margin-top: 10px;">How long have you had this condition?</label>

                <select name="duration" style="width: 100%; padding: 8px; border-radius: 4px; border: 1px solid #007bff; box-sizing: border-box;" required>

                    <option value="less_than_week">Less than a week</option>

                    <option value="one_to_two_weeks">1-2 weeks</option>

                    <option value="more_than_two_weeks">More than 2 weeks</option>

                </select>
```

```
<label style="font-weight: bold; display: block; margin-top: 10px;">Is the affected area itchy?</label>

<select name="itchiness" style="width: 100%; padding: 8px; border-radius: 4px; border: 1px solid #007bff; box-sizing: border-box;" required>

<option value="yes">Yes</option>

<option value="no">No</option>

</select>


<label style="font-weight: bold; display: block; margin-top: 10px;">Is the affected area painful?</label>

<select name="pain" style="width: 100%; padding: 8px; border-radius: 4px; border: 1px solid #007bff; box-sizing: border-box;" required>

<option value="yes">Yes</option>

<option value="no">No</option>

</select>


<label style="font-weight: bold; display: block; margin-top: 10px;">Have you noticed any discharge (pus, fluid, etc.)?</label>

<select name="discharge" style="width: 100%; padding: 8px; border-radius: 4px; border: 1px solid #007bff; box-sizing: border-box;" required>

<option value="yes">Yes</option>

<option value="no">No</option>

</select>
```

```
                        <!-- Prediction Button -->
                        <div style="text-align: left; margin-top: 20px;">
                            <button type="submit" style="padding: 10px 20px; border-radius: 4px; border: 1px solid #007bff; background-color: #007bff; color: white; font-size: 16px;">Predict</button>
                        </div>
                    </form>
                </div>
            </div>
        </div>
    </div>
</section>
<!-- portfolio end -->    <!-- Footer Style End -->

{% endblock  %}
```

**Disease_view.html**

```
{% extends "base.html" %}

{% load static %}

{% block main %}
```

```
<section class="inner-bg over-layer-black" style="background-image: url('{% static "img/bg/profile.jpg" %}')">

   <div class="container">

      <div class="row">

         <div class="col-md-12">

            <h2 style="text-align: center; margin-bottom: 20px; color: blue;">Disease View</h2>

            <div style="background-color: white; padding: 20px; border-radius: 8px; box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);">

               {% if user_details %}

               <table style="width: 100%; border-collapse: collapse;">

                  <thead>

                     <tr>

                        <th style="border: 1px solid #ddd; padding: 12px; text-align: left; background-color: #4CAF50; color: white;">User ID</th>

                        <th style="border: 1px solid #ddd; padding: 12px; text-align: left; background-color: #4CAF50; color: white;">Full Name</th>

                        <th style="border: 1px solid #ddd; padding: 12px; text-align: left; background-color: #4CAF50; color: white;">Email</th>

                        <th style="border: 1px solid #ddd; padding: 12px; text-align: left; background-color: #4CAF50; color: white;">Predicted Disease</th>

                        <th style="border: 1px solid #ddd; padding: 12px; text-align: left; background-color: #4CAF50; color: white;">Remedies and Medicines</th>

                        <th style="border: 1px solid #ddd; padding: 12px; text-align: left; background-color: #4CAF50; color: white;">Description</th>

                        <th style="border: 1px solid #ddd; padding: 12px; text-align: left; background-color: #4CAF50; color: white;">Duration</th>
```

```
                    <th style="border: 1px solid #ddd; padding: 12px; text-align:
left; background-color: #4CAF50; color: white;">Itchiness</th>

                    <th style="border: 1px solid #ddd; padding: 12px; text-align:
left; background-color: #4CAF50; color: white;">Pain</th>

                    <th style="border: 1px solid #ddd; padding: 12px; text-align:
left; background-color: #4CAF50; color: white;">Discharge</th>

                    <th style="border: 1px solid #ddd; padding: 12px; text-align:
left; background-color: #4CAF50; color: white;">Created At</th>

                  </tr>

                </thead>

                <tbody>

                  {% for user in user_details %}

                    {% for prediction in user.predictions %}

                    <tr style="{% if forloop.counter|divisibleby:2
%}background-color: #f2f2f2;{% endif %}"
onmouseover="this.style.backgroundColor='#ddd';"
onmouseout="this.style.backgroundColor='{% if forloop.counter|divisibleby:2
%}#f2f2f2{% else %}#fff{% endif %}';">

                      <td style="border: 1px solid #ddd; padding: 12px; text-
align: left;">{{ user.profile.id }}</td>

                      <td style="border: 1px solid #ddd; padding: 12px; text-
align: left;">{{ user.profile.FullName }}</td>

                      <td style="border: 1px solid #ddd; padding: 12px; text-
align: left;">{{ user.profile.email }}</td>

                      <td style="border: 1px solid #ddd; padding: 12px; text-
align: left;">{{ prediction.predicted_disease }}</td>

                      <td style="border: 1px solid #ddd; padding: 12px; text-
align: left;">{{ prediction.remedies_and_medicines }}</td>
```

```
                        <td style="border: 1px solid #ddd; padding: 12px; text-
align: left;">{{ prediction.description }}</td>

                        <td style="border: 1px solid #ddd; padding: 12px; text-
align: left;">{{ prediction.duration }}</td>

                        <td style="border: 1px solid #ddd; padding: 12px; text-
align: left;">{{ prediction.itchiness }}</td>

                        <td style="border: 1px solid #ddd; padding: 12px; text-
align: left;">{{ prediction.pain }}</td>

                        <td style="border: 1px solid #ddd; padding: 12px; text-
align: left;">{{ prediction.discharge }}</td>

                        <td style="border: 1px solid #ddd; padding: 12px; text-
align: left;">{{ prediction.created_at }}</td>

                    </tr>

                    {% endfor %}

                {% empty %}

                <tr>

                    <td colspan="11" style="border: 1px solid #ddd; padding:
12px; text-align: center;">No predictions available.</td>

                </tr>

                {% endfor %}

            </tbody>

        </table>

        {% else %}

        <p>No data found.</p>

        {% endif %}

    </div>
```

```
        </div>
    </div>
  </div>
</section>


{% endblock %}
```

**Message_view.html**

```
{% extends "base.html" %}
{% load static %}
{% block main %}
<style>
  body {
    font-family: Arial, sans-serif;
    background-color: #f4f4f4;
    margin: 0;
    padding: 20px;
  }
  h1 {
    text-align: center;
    color: #333;
  }
  table {
    width: 100%;
```

```
    border-collapse: collapse;
    margin: 20px 0;
    background-color: #fff;
    box-shadow: 0 2px 5px rgba(0, 0, 0, 0.1);
}
thead {
    background-color: #007bff;
    color: #fff;
}
th, td {
    padding: 12px 15px;
    text-align: left;
    border-bottom: 1px solid #ddd;
}
tbody tr:nth-child(even) {
    background-color: #f9f9f9;
}
tbody tr:hover {
    background-color: #f1f1f1;
}
th {
    font-weight: bold;
}
```

```
    td {
        color: #333;
    }
</style>



    <div class="preloader"></div>


    <!-- Header navbar start -->
    <div class="header-topbar style-2">
        <div class="container padding-none">
            <div class="row">
                <div class="col-md-8 col-sm-6 welcome-top">
                    <ul class="list-inline top-icon">


                    </ul>
                </div>
                <div class="col-md-4 col-sm-6">
                    <ul class="list-inline text-right icon-style-1">
                        <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-twitter" aria-hidden="true"></i></a></li>
                        <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-instagram" aria-hidden="true"></i></a></li>
```

```
                <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-linkedin" aria-hidden="true"></i></a></li>

                <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-dribbble" aria-hidden="true"></i></a></li>

                <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-google-plus" aria-hidden="true"></i></a></li>

            </ul>

        </div>

    </div>

</div>

{% include "navbar.html" %}



<!-- Header navbar end -->




<section class="inner-bg over-layer-black" style="background-image: url('{% static "img/bg/mg.jpg" %}')">

    <div class="container">

        <div class="row">

            <div class="col-md-4">

                <div class="mini-title inner-style-2">

                    <h3 >MESSAGES</h3>

                    <p><a href="{% url 'index' %}">Home</a> <span class="fa fa-angle-right"></span> <a href="#"><b>MESSAGES </b></a></p>
```

```
                </div>
            </div>
        </div>
    </div>
  </section>
{% comment %} {% for i in userprofiles  %}
{{i.password}}
{{i.password}}
{{i.password}}
{{i.password}}
{{i.password}}
{{i.password}}
{{i.password}}
{% endfor %} {% endcomment %}
  <!-- Team start -->
  <section class="team-area">
    <div class="container">
      <div class="section-content">
        <h1 style="text-align: center;">All MESSAGES</h1>
        <table border="1">
          <thead>
            <tr>
              <th>ID</th>
```

```
                    <th>Name</th>
                    <th>Email</th>
                    <th>Subject</th>
                    <th>Message</th>
                </tr>
            </thead>
            <tbody>
                {% for contact in contacts %}
                <tr>
                    <td>{{ contact.id }}</td>
                    <td>{{ contact.name }}</td>
                    <td>{{ contact.email }}</td>
                    <td>{{ contact.subject }}</td>
                    <td>{{ contact.message }}</td>
                </tr>
                {% endfor %}
            </tbody>
        </table>
    </div>
  </div>
</section>
<!-- Team end -->
```

```
<section class="footer-copy-right bg-f9">
 <div class="container">
  <div class="row">
   <div class="col-12 text-center">
    <p><a target="_blank" href=" ">HAVE A NICE DAY</a></p>
   </div>
  </div>
 </div>
</section>
<!-- Footer Style End -->    {% endblock  %}
```

**Contact.html**

```
{% extends "base.html" %}
{% load static %}
{% block main %}


<div class="preloader"></div>


<!-- Header navbar start -->
<div class="header-topbar style-2">
    <div class="container padding-none">
        <div class="row">
```

```
            <div class="col-md-8 col-sm-6 welcome-top">

               <ul class="list-inline top-icon">



                  <li><i class="fa fa-clock-o"></i> 24 HR AT YOUR
SERVICE</li>

               </ul>

            </div>

            <div class="col-md-4 col-sm-6">

               <ul class="list-inline text-right icon-style-1">

                  <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-
twitter" aria-hidden="true"></i></a></li>

                  <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-
instagram" aria-hidden="true"></i></a></li>

                  <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-
linkedin" aria-hidden="true"></i></a></li>

                  <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-
dribbble" aria-hidden="true"></i></a></li>

                  <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-
google-plus" aria-hidden="true"></i></a></li>

               </ul>

            </div>

         </div>

      </div>

   </div>
```

```
{% include "navbar.html" %}

<!-- Header navbar end -->



<section class="inner-bg over-layer-black" style="background-image: url('{% static "img/bg/bg3.jpg" %}')">

    <div class="container">

        <div class="row">

            <div class="col-md-4">

                <div class="mini-title inner-style-2">

                    <h3>Contact Us</h3>

                    <p><a href="{% url 'index' %}">Home</a> <span class="fa fa-angle-right"></span> <a href="#">Contact</a></p>

                </div>

            </div>

        </div>

    </div>

</section>



<!-- service start -->

<section class="service-area contact-info">

    <div class="container padding-bottom-none">

        <div class="section-content">

            <div class="row">
```

```
<div class="col-sm-12 col-md-4">
   <div class="service-item style-1 bg-f8">
      <div class="service-icon">
         <i class="pe-7s-map"></i>
      </div>
      <div class="content">
         <h5><a href="#" class="color-333">Contact Info</a></h5>
         <p>9495567823 <br>9496872565</p>
      </div>
   </div>
</div>

<div class="col-sm-12 col-md-4">
   <div class="service-item style-1 bg-f8">
      <div class="">
         <i class="pe-7s-mail-open"></i>
      </div>
      <div class="content">
         <h5><a href="#" class="color-333">Email</a></h5>
         <p>skincare.com <br> skincarecompanion.com </p>
      </div>
   </div>
</div>
```

```
            </div>
        </div>
    </div>
</section>
<!-- service end -->
<hr>


<section>
    <div class="container padding-bottom-80">
        <div class="section-content">
            <div class="row">
                <div class="col-md-6">
                    <div class="section-title margin-left-20 ">
                        <h6>Contact</h6>
                        <h2>Get in Touch</h2>
                        <div class="small-line-border-2"></div>
                    </div>
                    <form action="{% url 'contact_view' %}" method="post" enctype="multipart/form-data">
                        {% csrf_token %}
                        <div class="col-md-6">
                            <input type="text" name="name" id="name" class="form-control" placeholder="Your Name" required>
                        </div>
```

```
                    <div class="col-md-6">

                      <input type="email" name="email" id="email" class="form-
control" placeholder="Your Email"  required>

                    </div>

                    <div class="col-md-12">

                      <input type="text" name="subject" class="form-control"
placeholder="Subject" id="subject" required>

                    </div>

                    <div class="col-md-12">

                      <div class="contact-textarea">

                        <textarea class="form-control" rows="6"
placeholder="Wright Message" id="message" name="message"
required></textarea>

                        <button class="btn btn-theme" type="submit"
value="Submit Form">Send Message</button>

                      </div>

                    </div>

                    <div id="form-messages"></div>

                  </form>

                </div>

                <div class="col-md-6">

                  <div id="map"></div>

                </div>

              </div>

            </div>
```

```
        </div>
    </section>


   <!-- divider start -->
   <section class="service-area over-layer-default" style="background-image:url('{% static "img/bg/5.jpg" %}')">
        <div class="container padding-bottom-none padding-top-40">
            <div class="section-content">
                <div class="row">
                    <div class="col-sm-12 col-md-4">
                        <div class="service-item style-1 text-white border-right">
                            <div class="service-icon">
                                <i class="pe-7s-call"></i>
                            </div>
                            <div class="content">
                                <h5><a href="#">Give us a Call</a></h5>
                                <p>9495567823</p>
                            </div>
                        </div>
                    </div>
                    <div class="col-sm-12 col-md-4">
                        <div class="service-item style-1 text-white border-right">
                            <div class="">
```

```
                    <i class="pe-7s-mail-open"></i>
                </div>
                <div class="content">
                    <h5><a href="#">Send us a Message</a></h5>
                    <p>skincarecompanion.com</p>
                </div>
            </div>
        </div>
        <div class="col-sm-12 col-md-4">
            <div class="service-item style-1 text-white">
                <div class="">
                    <i class="pe-7s-map-marker"></i>
                </div>
                <div class="content">
                    <h5><a href="#">Visit our Location</a></h5>
                    <p>Kerala,India</p>
                </div>
            </div>
        </div>
    </div>
  </div>
</section>
```

```
  <!-- divider end -->




  <section class="footer-copy-right bg-f9">
   <div class="container">
    <div class="row">
     <div class="col-12 text-center">
      <p><a target="_blank" href="#">HAVE A NICE DAY</a></p>
     </div>
    </div>
   </div>
  </section>
  <!-- Footer Style End -->
  {% endblock  %}
```

**Admin_dashboard.html**

```
{% extends "base.html" %}
{% load static %}
{% block main %}
  <div class="preloader"></div>


  <!-- Header navbar start -->
  <div class="header-topbar style-2">
```

```
<div class="container padding-none">
  <div class="row">
    <div class="col-md-8 col-sm-6 welcome-top">
      <ul class="list-inline top-icon">
        <li><i class="fa fa-envelope"></i> 24 HR AT YOUR SERVICE</li>
      </ul>
    </div>
    <div class="col-md-4 col-sm-6">
      <ul class="list-inline text-right icon-style-1">
        <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-twitter" aria-hidden="true"></i></a></li>
        <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-instagram" aria-hidden="true"></i></a></li>
        <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-linkedin" aria-hidden="true"></i></a></li>
        <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-dribbble" aria-hidden="true"></i></a></li>
        <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-google-plus" aria-hidden="true"></i></a></li>
      </ul>
    </div>
  </div>
</div>
```

```
    </div>

    {% include "navbar.html" %}



    <!-- Header navbar end -->




    <section class="inner-bg over-layer-black" style="background-image: url('{%
static "img/bg/ad.jpg" %}')">

        <div class="container">

            <div class="row">

                <div class="col-md-4">

                    <div class="mini-title inner-style-2">

                        <h3>ADMIN DASHBOARD</h3>

                        <p><a href="{% url 'index' %}">Home</a> <span class="fa fa-
angle-right"></span> <a href="#">ADMIN DASHBOARD</a></p>

                    </div>

                </div>

            </div>

        </div>

    </section>



    <!-- depertment start -->

    <section class="depertment-area">

        <div class="container">
```

```
        <div class="section-content">

            <div class="row">

                <div class="col-md-4">

                    <div class="depertment-col">

                        <div class="depertment-list">

                            <a href="{% url 'user_profiles_list' %}"><i class="flaticon-
heart"></i> USER'S PROFILE</a>

                            <a href="{% url 'disease_view' %}"><i class="flaticon-
broken-bone"></i> Disease View</a>

                            <a href="{% url 'contact_list' %}"><i class="flaticon-
broken-bone"></i> Message View</a>

                            <a href="#"><i class="flaticon-broken-bone"></i>
Hospitals</a>

                            <a href="#"><i class="flaticon-broken-bone"></i>
Bookings</a>



                        </div>

                    </div>



                </div>

                <div class="col-md-8">



                    <h3 class="margin-top-30 margin-bottom-20"> <span
class="color-defult">Skin Care </span> Companion</h3>

                    <p>In Skin care <span class="color-defult">Companion</span>
admins should follow key guidelines for effective management and security.
```

Ensure only authorized personnel access the admin panel by using robust authentication methods and defining clear user roles with specific permissions. Maintain data integrity by validating and sanitizing inputs, and protect sensitive information through encryption and strict access controls. Regularly update the system to patch security vulnerabilities and keep backups to safeguard against data loss. Monitor system activity to detect and respond to any unauthorized access or anomalies promptly..</p>

```
            </div>
          </div>
        </div>
      </div>
    </section>
    <!-- depertment end -->

    <!-- Counter start -->
    <section class="funfact-field over-layer-default" style="background-image: url('{% static "img/bg/6.jpg" %}')">
      <div class="container-fluid">
        <div class="col-md-8 col-md-offset-2 text-center">
          <h2> Successful  Outcomes </h2>
          <div class="line-border-center bg-defult"></div>

        </div>
        <div class="row">
          <div class="col-md-3 col-sm-6 col-xs-6">
```

```
            <div class="counter-col text-center">
                <i class="flaticon-heart"></i>
                <div class="count">
                    <div class="start-count">250</div>
                    <h4>Morgellons Diseases</h4>
                </div>
            </div>
        </div>
        <div class="col-md-3 col-sm-6 col-xs-6">
            <div class="counter-col text-center">
                <i class="flaticon-human-lungs"></i>
                <div class="count">
                    <div class="start-count">979</div>
                    <h4>Erythropoietic Protoporphyria</h4>
                </div>
            </div>
        </div>
        <div class="col-md-3 col-sm-6 col-xs-6">
            <div class="counter-col text-center">
                <i class="flaticon-kidney"></i>
                <div class="count">
                    <div class="start-count">5264</div>
                    <h4>Leprosy</h4>
```

```
                </div>
            </div>
        </div>
        <div class="col-md-3 col-sm-6 col-xs-6">
            <div class="counter-col text-center">
                <i class="flaticon-first-aid-kit"></i>
                <div class="count">
                    <div class="start-count border-none">1000</div>
                    <h4>Eruptive Xanthomas</h4>
                </div>
            </div>
        </div>
    </div>
</section>
<!-- Counter end -->

<!-- Team start -->

<!-- Team end -->

<!-- divider start -->
```

```
    <!-- divider end -->


    <!-- Footer Style start -->



    <section class="footer-copy-right bg-f9">
      <div class="container">
        <div class="row">
          <div class="col-12 text-center">
            <p><a target="_blank" href="#">HAVE A NICE DAY</a></p>
          </div>
        </div>
      </div>
    </section>
    <!-- Footer Style End -->
    {% endblock  %}
```

**Result_page.html**

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Prediction Result</title>
```

```
<style>
    body {
        font-family: Arial, sans-serif;
        background-color: #f4f4f4;
        margin: 0;
        padding: 0;
        display: flex;
        justify-content: center;
        align-items: center;
        height: 100vh;
    }
    .container {
        background-color: white;
        padding: 20px;
        border-radius: 10px;
        box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);
        text-align: center;
    }
    h1 {
        color: #333;
    }
    p {
        font-size: 1.2em;
```

```
        color: #555;
    }
    strong {
        color: #e74c3c;
        font-weight: bold;
    }
    .remedies {
        margin-top: 20px;
        font-size: 1.1em;
        color: #2c3e50;
    }
    a {
        display: inline-block;
        margin-top: 20px;
        padding: 10px 20px;
        background-color: #3498db;
        color: white;
        text-decoration: none;
        border-radius: 5px;
        transition: background-color 0.3s ease;
    }
    a:hover {
        background-color: #2980b9;
```

```
        }
    </style>
</head>
<body>
    <div class="container">
        <h1>Prediction Result</h1>
        <p>The Disease Predicted Is: <strong>{{ prediction }}</strong></p>
        <div class="remedies">
            <h2>Remedies and Medicines</h2>
            <p>{{ remedies }}</p>
        </div>
        <a href="{% url 'userdash' %}">Back to Dashboard</a>
    </div>
</body>
</html>
```

**Userprofile.html**

```
{% extends "base.html" %}
{% load static %}
{% block main %}




    <div class="preloader"></div>
```

```
<!-- Header navbar start -->
<div class="header-topbar style-2">
   <div class="container padding-none">
      <div class="row">
         <div class="col-md-8 col-sm-6 welcome-top">
            <ul class="list-inline top-icon">


            </ul>
         </div>
         <div class="col-md-4 col-sm-6">
            <ul class="list-inline text-right icon-style-1">
               <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-twitter" aria-hidden="true"></i></a></li>
               <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-instagram" aria-hidden="true"></i></a></li>
               <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-linkedin" aria-hidden="true"></i></a></li>
               <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-dribbble" aria-hidden="true"></i></a></li>
               <li class=" hvr-rectangle-out"><a href="#"><i class="fa fa-google-plus" aria-hidden="true"></i></a></li>
            </ul>
         </div>
      </div>
```

```
        </div>
    </div>
    {% include "navbar.html" %}


    <!-- Header navbar end -->



    <section class="inner-bg over-layer-black" style="background-image: url('{% static "img/bg/profile.jpg" %}')">
        <div class="container">
            <div class="row">
                <div class="col-md-4">
                    <div class="mini-title inner-style-2">
                        <h3 >PROFILE</h3>
                        <p><a href="{% url 'index' %}">Home</a> <span class="fa fa-angle-right"></span> <a href="#"><b>Profile</b></a></p>
                    </div>
                </div>
            </div>
        </div>
    </section>
{% comment %} {% for i in userprofiles  %}
{{i.password}}
{{i.password}}
```

```
{{i.password}}

{{i.password}}

{{i.password}}

{{i.password}}

{{i.password}}

{% endfor %} {% endcomment %}

   <!-- Team start -->

   <section class="team-area">

      <div class="container">

         <div class="section-content">

            <div class="row">

               <div style="background-color: white; padding: 20px; border-radius: 8px; box-shadow: 0 0 10px rgba(0, 0, 0, 0.1); width: 800px;">

                  <h2 style="text-align: center; margin-bottom: 20px; color: blue;">Profile</h2>

                  <div style="width: 50%; margin: 0 auto; background-color: #fff; border: 1px solid #ccc; border-radius: 10px; padding: 20px; box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);">

                     <ul style="list-style-type: none; padding: 0;">

                        <li style="border-bottom: 1px solid #ddd; padding: 10px 0;">

                           <span style="font-weight: bold; color: #555;">Full Name:</span>

                           <span style="color: #000;">{{ profile.FullName }}</span>

                        </li>
```

```
                    <li style="border-bottom: 1px solid #ddd; padding: 10px
0;">
                        <span style="font-weight: bold; color:
#555;">Email:</span>
                        <span style="color: #000;">{{ profile.email }}</span>
                    </li>
                    <li style="border-bottom: 1px solid #ddd; padding: 10px
0;">
                        <span style="font-weight: bold; color: #555;">Date of
Birth:</span>
                        <span style="color: #000;">{{ profile.DOB }}</span>
                    </li>
                    <li style="border-bottom: 1px solid #ddd; padding: 10px
0;">
                        <span style="font-weight: bold; color:
#555;">Password:</span>
                        <span style="color: #000;">{{ profile.password
}}</span>
                    </li>
                    <li style="padding: 10px 0;">
                        <span style="font-weight: bold; color:
#555;">Gender:</span>
                        <span style="color: #000;">{{ profile.gender }}</span>
                    </li>
                    <li style="padding: 10px 0;">
                        <span style="font-weight: bold; color: #555;">Created
at:</span>
```

```
                        <span style="color: #000;">{{ profile.created_at }}</span>
                    </li>
                </ul>

            </div>

        </div>
    </div>
</section>
<!-- Team end -->



<section class="footer-copy-right bg-f9">
  <div class="container">
    <div class="row">
      <div class="col-12 text-center">
        <p><a target="_blank" href=" ">HAVE A NICE DAY</a></p>
      </div>
    </div>
  </div>
```

```
    </section>
    <!-- Footer Style End -->    {% endblock  %}
```

**Views.py**

```
from django.shortcuts import render,redirect
from .models import *
from django.contrib import messages
from django.http import HttpResponse
from tensorflow.keras.models import load_model
from tensorflow.keras.preprocessing.image import img_to_array, load_img
from sklearn.feature_extraction.text import TfidfVectorizer
from django.conf import settings
import pandas as pd
from PIL import Image
import pickle
import numpy as np
import os


def index(request):
    if 'user' in request.session:
        return render(request, 'index.html')
    elif 'admin' in request.session:
```

```
        return render(request, 'index.html')
    else:
        return redirect(login)


def registration(request):
    if request.method == 'POST':
        fullname = request.POST.get('fullname')
        email = request.POST.get('email')
        date_of_birth = request.POST.get('dob')
        password = request.POST.get('password')
        confirm_password = request.POST.get('confirmpassword')
        gender = request.POST.get('gender')

        # Basic validation
        if password != confirm_password:
            messages.error(request, "Passwords do not match")
            return redirect(registration)

        # Create a new Registration object and save it to the database
        registration = Registration.objects.create(
            FullName=fullname,
            email=email,
            DOB=date_of_birth,
```

```
            password=password,
            gender=gender
        )
        registration.save()


        return redirect('log')  # Redirect to a login page after registration
    else:
        return render(request, 'Registration.html')


def login(request):
    if request.method == 'POST':
        email = request.POST.get('email')
        password = request.POST.get('password')
        try:
            user = Registration.objects.get(email=email)
            # Check the hashed password
            if password == user.password:
                request.session['user'] = user.id  # Set session with user ID
                return redirect(userdash)  # Redirect to user dashboard
            else:
                messages.error(request, "Invalid password")
                return redirect(login)
        except Registration.DoesNotExist:
```

```
            messages.error(request, "Invalid Email/User does not exist")
            return redirect(login)
    else:
        return render(request, 'Login.html')


def userdash(request):
    if 'user' in request.session:
        return render(request, 'user_dashboard.html')
    return redirect(login)



def logout(request):
   if 'user' in request.session:
        del request.session['user']
   return redirect(login)


def contact(request):
    return render(request, 'contact.html')


def privacy(request):
    return render(request, 'privacy.html')


def admi(request):
```

```
if request.method == 'POST':
    # Get the username and password from the form
    username = request.POST.get('username')
    email = request.POST.get('email')
    password = request.POST.get('password')

    # Authenticate the user
    try:
        user = admin_login.objects.get(email=email)
        # Check the hashed password
        if password == user.password:
            request.session['admin_user'] = user.id  # Set session with user ID
            return redirect(admindash)  # Redirect to admin dashboard
        else:
            messages.error(request, "Invalid password")
            return redirect(admi)
    except admin_login.DoesNotExist:
        messages.error(request, "Invalid Email/admin does not exist")
        return redirect(admi)
else:
    return render(request, 'admin.html')
```

```
def admindash(request):
    admin_user_id = request.session.get('admin_user')

    if admin_user_id:
        admin_user = admin_login.objects.get(id=admin_user_id)
        context = {
            'admin_user': admin_user,
            # Add other context data if needed
        }
        return render(request, 'admin_dashboard.html', context)
    else:
        return redirect('admi')  # Redirect to admin login if no session is found



def profile(request):
    if 'user' in request.session:

    #Retrieve the current user's profile
        user_profile = Registration.objects.get(id=request.session['user'])

        #Pass the profile data to the template
        context = {
```

```
            'profile': user_profile,
        }

        return render(request, 'userprofile.html', context)

    return redirect(login)

# Create your views here.
def user_profiles_list(request):
    if request.user.is_staff:  # Ensure that only admin can access this view
        profiles = Registration.objects.all()
        return render(request, 'userlist.html', {'profiles': profiles})
    else:
        return render(request, 'admin_dashboard.htm.html')

disease_classes = {
    0: 'Acne',
    1: 'Actinic Keratosis Basal Cell Carcinoma',
    2: 'Atopic Dermatitis',
    3: 'cellulitis',
    4: 'impetigo',
    5: 'Bacterial Infection',
    6: 'Eczema',
```

```
    7: 'Exanthems',
    8: 'athlete-foot',
    9: 'nail-fungus',
    10: 'ringworm',
    11: 'Herpes HPV',
    12: 'cutaneous-larva-migrans',
    13: 'chickenpox',
    14: 'shingles'
    # Add more mappings as needed
}


disease_remedies = {
    'Acne': 'Medicines: Antibiotics (penicillin, cephalexin). Remedies: Rest, elevation, cool damp cloths.',
    'Actinic Keratosis Basal Cell Carcinoma': 'Medicines: Antibiotics (penicillin, cephalexin). Remedies: Rest, elevation, cool damp cloths.',
    'Atopic Dermatitis': 'Medicines: Antibiotics (penicillin, cephalexin). Remedies: Rest, elevation, cool damp cloths.',
    'cellulitis': 'Medicines: Antibiotics (penicillin, cephalexin). Remedies: Rest, elevation, cool damp cloths.',
    'impetigo': 'Medicines: Topical antibiotics (mupirocin, fusidic acid). Remedies: Wash affected area, keep skin dry.',
    'Bacterial Infection': 'Medicines: Topical antibiotics (mupirocin, fusidic acid). Remedies: Wash affected area, keep skin dry.',
    'Eczema': 'Medicines: Topical antibiotics (mupirocin, fusidic acid). Remedies: Wash affected area, keep skin dry.',
```

```
    'Exanthems': 'Medicines: Topical antibiotics (mupirocin, fusidic acid). Remedies: Wash affected area, keep skin dry.',

    'athlete-foot': 'Medicines: Topical antifungals (clotrimazole, miconazole). Remedies: Keep feet clean, use antifungal powder.',

    'nail-fungus': 'Medicines: Oral antifungals (terbinafine, itraconazole). Remedies: Keep nails trimmed and clean.',

    'ringworm': 'Medicines: Topical antifungals (clotrimazole, miconazole). Remedies: Keep skin dry, avoid sharing personal items.',

    'Herpes HPV': 'Medicines: Topical antifungals (clotrimazole, miconazole). Remedies: Keep skin dry, avoid sharing personal items.',

    'cutaneous-larva-migrans': 'Medicines: Albendazole, ivermectin. Remedies: Anti-itch creams, avoid walking barefoot.',

    'chickenpox': 'Medicines: Antihistamines for itching, antiviral (acyclovir). Remedies: Oatmeal baths, calamine lotion.',

    'shingles': 'Medicines: Antivirals (acyclovir, valacyclovir). Remedies: Cool compresses, pain relievers.'



}



# Default message for unknown diseases

default_message = "I don't know the correct medicine for this. Please refer to a doctor for proper diagnosis and treatment."




# Create your views here for the prediction form.

def predict(request):

    if 'user' in request.session:
```

```
# Fetch the user from the session


    if request.method == 'POST':
        image = request.FILES.get('image')
        description = request.POST.get('description')
        duration = request.POST.get('duration')
        itchiness = request.POST.get('itchiness')
        pain = request.POST.get('pain')
        discharge = request.POST.get('discharge')

        if not (image and description and duration and itchiness and pain and discharge):
            return HttpResponse("Some form fields are missing.", status=400)
        user_id = request.session['user']
        user = Registration.objects.get(id=user_id)

        # Save data to the database
        prediction_request = PredictionRequest(
            user=user,
            image=image,
            description=description,
```

```
            duration=duration,
            itchiness=itchiness,
            pain=pain,
            discharge=discharge
        )
        prediction_request.save()

        # Load your trained model (assumed to be an image-based model)
        model = load_model(os.path.join(settings.BASE_DIR, 'model', 'skin_disease_model.h5'))

        # Process the image
        img = Image.open(image).convert('RGB')
        img = img.resize((224, 224))
        img_array = img_to_array(img)
        img_array = np.expand_dims(img_array, axis=0)

        # Make prediction using the model (image only)
        prediction = model.predict(img_array)
        predicted_class_index = np.argmax(prediction, axis=1)[0]

        # Map the class index to the disease name
        predicted_disease_name = disease_classes.get(predicted_class_index, "Unknown Disease")
```

```
        # Modify your predict function logic to handle unknown diseases
        remedies_and_medicines = disease_remedies.get(predicted_disease_name, default_message)
        # Update the prediction_request instance with the predicted disease
        prediction_request.predicted_disease = predicted_disease_name
        prediction_request.remedies_and_medicines = remedies_and_medicines
        prediction_request.save()  # Save the updated instance


        # Redirect to the result page or return the prediction
        return render(request, 'result_page.html', {'prediction': predicted_disease_name,'remedies': remedies_and_medicines})


    return redirect('login')



def contact_view(request):
    if 'user' in request.session:
        if request.method == 'POST':
            name = request.POST.get('name')
            email = request.POST.get('email')
            subject = request.POST.get('subject')
            message = request.POST.get('message')


            # Create and save the Contact object
```

```
        contact = Contact(name=name, email=email, subject=subject, message=message)

        contact.save()



        # Optionally, redirect to a success page or back to the form

        return redirect('cont')  # Replace 'success_url' with the URL you want to redirect to



    return redirect(login)



def contact_list(request):

    contacts = Contact.objects.all()

    return render(request, 'message_view.html', {'contacts': contacts})



def disease_view(request):

    # Get all registrations and their associated predictions

    registrations = Registration.objects.all()

    predictions = PredictionRequest.objects.all()



    # Create a dictionary to map user IDs to their predictions

    user_predictions = {}

    for prediction in predictions:

        user_id = prediction.user.id  # Assuming you have a foreign key to Registration in PredictionRequest
```

```
        if user_id not in user_predictions:
            user_predictions[user_id] = []
        user_predictions[user_id].append(prediction)

    # Create a list of user details with their predictions
    user_details = []
    for registration in registrations:
        user_prediction_list = user_predictions.get(registration.id, [])
        user_details.append({
            'profile': registration,
            'predictions': user_prediction_list
        })

    context = {
        'user_details': user_details
    }
    return render(request, 'disease_view.html', context)
```

**Urls.py**

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



urlpatterns = [
```

```
    path('', views.index, name='index'),
    path('register/', views.registration, name='reg'),
    path('login/', views.login, name='log'),
    path('logout/', views.logout, name='logout'),
    path('contact/', views.contact, name='cont'),
    path('privacy/', views.privacy, name='priv'),
    path('admi/', views.admi, name='admi'),
    path('admindash/', views.admindash, name='admindash'),
    path('userdash/', views.userdash, name='userdash'),
    path('profile/', views.profile, name='profile'),
    path('user_profiles_list/', views.user_profiles_list, name='user_profiles_list'),
    path('predict/', views.predict, name='predict'),
    path('contact_view/', views.contact_view, name='contact_view'),
    path('contact_list/', views.contact_list, name='contact_list'),
    path('disease-view/', views.disease_view, name='disease_view'),
]
```

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