A

PROJECT REPORT

On

"DISEASE PREDICTION SYSTEM"

SUBMITTED TO

GODAVARI INSTITUTE OF MANAGEMENT AND RESEARCH, JALGAON

AFFILIATE TO

KBC NORTH MAHARASHTRA UNIVERSITY, JALGAON

2023-2024

GUIDANCE OF

Prof. Charushila Chaudhari

SUBMITTED BY

Miss. Kajal Yewale

Miss. Ankita Khole

(BATCH 2023-2024)

GODAVARI FOUNDATION'S
GODAVARI INSTITUTE OF MANAGEMENT & RESEARCH, JALGAON
NAAC ACCREDITED 'B+ INSTITUTION
Affiliated to Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon & Approved by All India Council for Technical Education New Delhi & Recognized by Govt. of India
Plot No. P-54, Nr. Bharat Patroleum, Addi MIDC, Bhusawal Road, JALGAON 425 003
雲:(0257) 2270731, 2270732 Fax-2272711

Ref .No. : Date- / / 202

C E R T I F I C A T E

This is to certify that the content of this Field project " DISEASE PREDICTION SYSTEM " by Miss. KAJAL SURESH YEWALE (50) & ANKITA RAJENDRA KHOLE(15) is the bonafide work of him/her submitted to the Godavari Institute of Management & Jalgaon, for consideration in the partial fulfillment of the requirement for the degree of Master of Business Administration under the Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon.

This work done by him/her is original and satisfactory.

(Project Guide) (Director)

Prof. Charushila Chaudhari Dr. Prashant S. Warke

ACKNOWLEDGEMENT

I have pleasure in successful completion on this field work/project report titled "WATER POLLUTION- SOURCES, EFFECTS & CONTROL IN ALL REGION" for academic year 2023-2024.

I would like to take this opportunity to express my sincere thanks & deep gratitude to Dr. Prashant Warke, Director of GIMR, JALGAON. For his constant encouragement & inspiration throughout the course & for having given me opportunity to undertake this project.

I am extremely delighted to express my deep hearted regards to my project guide Prof. CHARUSHILA CHAUDHARI, GIMR, JALGAON, She has spent her precious time to direct this academic undertakings, without her guidance & valuable suggestions, this work would not been completed.

I also pay my sincere thanks to all those who have directly or indirectly helped me in completion of my project till preparation of this report.

Place: JALGAON

Date:

Name: Miss. Kajal Yewale

Miss. Ankita Khole

Sign:

ABSTRACT

"Disease Prediction" system based on predictive modelling predicts the disease of the user on the basis of the symptoms that user provides as an input to the system.

The system analyses the symptoms provided by the user as input and gives the probability of the disease as an output. The disease prediction system predicts chance of presence of a disease present in a patient on the basis of their symptoms.

It will also recommend necessary precautionary measures required to treat the predicted disease. The system will initially be fed data from different sources i.e., patients, the data will then be per-processed before further process is carried out.

INDEX

CH 1: INTRODUCTION

It is estimated that more than 70% of people in India are prone to general body diseases like viral, flu, cough, cold. etc, in every 2 months.

Because many people don't realize that the general body diseases could be symptoms to something more harmful, 25 % of the population succumbs to death because of ignoring the early general body symptoms.

Hence identifying or predicting the disease at the earliest is very important to avoid any unwanted casualties.

“Disease Prediction” system based on predictive modelling predicts the disease of the user on the basis of the symptoms that user provides as an input to the system.

The system analyses the symptoms provided by the user as input and gives the probability of the disease as an output. The disease prediction system predicts chance of presence of a disease present in a patient on the basis of their symptoms.

It will also recommend necessary precautionary measures required to treat the predicted disease. The system will initially be fed data from different sources i.e., patients, the data will then be per-processed before further process is carried out.

CH 2: IMPORTANCE AND SIGNIFICANCE

A disease prediction system website is a valuable tool that can help individuals to assess their health risks and take proactive measures to manage their health. Here are some of the key importance and significance of a disease prediction system website:

1. Early detection: One of the most important benefits of a disease prediction system website is that it can help to detect potential health problems at an early stage. By identifying symptoms and risk factors for various diseases, individuals can take steps to prevent or manage the condition before it becomes more serious.
2. Improved outcomes: A disease prediction system website can help to improve health outcomes by enabling individuals to take action to manage their health risks. This may include making lifestyle changes, seeking medical treatment, or taking preventative measures to reduce the risk of developing certain conditions.
3. Accessibility: Disease prediction system websites can be accessed by anyone with an internet connection, making it easier for people to monitor their health and get the information they need to make informed decisions about their care.
4. Cost-effective: Disease prediction system websites can be a cost-effective way to manage health risks, as they can help to prevent expensive medical treatments and procedures that may be needed if a condition goes undetected or untreated.
5. Personalized care: Disease prediction system websites can provide personalized care by analysing individual symptoms and medical history to provide tailored recommendations and predictions.
6. Research: Disease prediction system websites can help to facilitate medical research by collecting data on symptoms and outcomes, which can be used to improve the accuracy of predictions and develop new treatments for various conditions.

Overall, a disease prediction system website can provide individuals with a valuable tool for managing their health risks and improving their health outcomes. By enabling early detection and personalized care, these systems can help to prevent serious health problems and reduce healthcare costs, while also facilitating medical research and innovation.

CH 3 : OBJECTIVE

It will also help the doctors analyse the pattern of presence of diseases in the society.

- Providing accurate and reliable information: The disease prediction system website should provide users with accurate and reliable information on various diseases, their symptoms, risk factors, and preventative measures.
- Offering personalized recommendations: The website should use a user's health information and history to provide personalized health recommendations, including lifestyle changes, preventative measures, and medical consultations.
- Facilitating early detection and prevention: The website should help users identify potential health issues early on, allowing them to take proactive measures to prevent or manage the disease. This can ultimately lead to better health outcomes and lower healthcare costs.
- Promoting health education: The website should also promote health education and awareness, providing users with resources and information to help them make informed decisions about their health.
- Improving healthcare access: The website can help individuals who may not have easy access to healthcare facilities or medical professionals by providing a platform for self-assessment and diagnosis.

CH 4: HYPOTHESES

H0 : The disease prediction system website does not accurately predict the likelihood of a person having a particular disease.

H1 : The disease prediction system website accurately predicts the likelihood of a person having a particular disease.

CH 5: ADVANTAGES AND DISADVANTAGES

Advantages:

1. Personalized risk assessment: This can help individuals identify their risk of developing a disease.
2. Improved access to healthcare: The website can be a valuable tool for individuals who do not have access to regular healthcare or who may be reluctant to seek medical care. By providing accurate and up-to-date information on diseases and their risk factors, the website can help individuals make informed decisions about their health.
3. Early detection and prevention: By providing personalized risk assessments and recommendations, the website can help individuals detect diseases earlier and take steps to prevent or manage them before symptoms appear. This can improve health outcomes and reduce healthcare costs.
4. Empowerment: The website can empower individuals to take control of their health and make informed decisions about disease prevention and management.

Disadvantages:

1. Limited accuracy: Disease prediction systems, especially those that do not use machine learning, may have limited accuracy in predicting disease risk. This can lead to false positives or false negatives, which can have negative consequences for individuals.
2. Limited access: Disease prediction systems may be less accessible to certain populations, such as those who do not have access to the internet or who have limited health literacy. This can lead to disparities in healthcare access and outcomes.
3. Over-reliance on technology: Disease prediction systems may encourage individuals to rely too heavily on technology for healthcare decisions, potentially leading to neglect of other important factors, such as lifestyle and environmental factors.

CH 6: SYSTEM DESIGN & IMPLEMENTATION

SOFTWARE DEVLOPEMENT LIFE CYCLE:

SDLC is a process followed for a software project, within a software organization. It consists of a detailed plan describing how to develop, maintain, replace and alter or enhance specific software. The life cycle defines a methodology for improving the quality of software and the overall development process. The following figure is a graphical representation of the various stages of a typical SDLC.

A typical Software Development Life Cycle consists of the following stages –

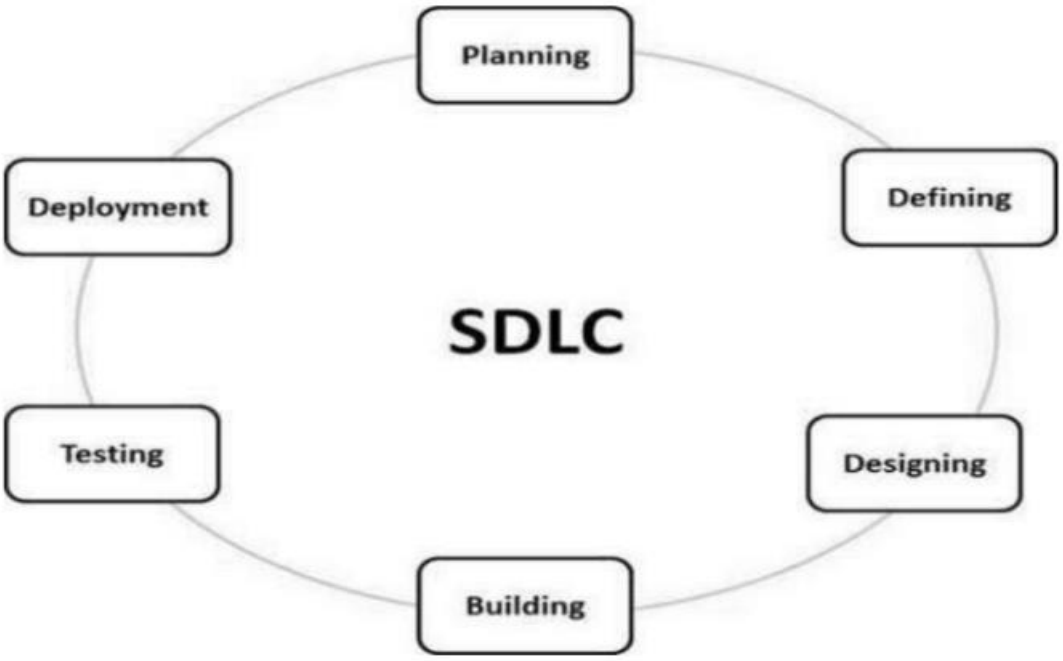


Fig 1: - Software Development Life Cycle.

1. Planning Phase:

➢ Define project goals and objectives.

➢ Gather requirements from stakeholders.

➢ Identify resources required for the project, including hardware, software, and personnel.

➢ Create a project plan that outlines the scope, timeline, and budget of the project.

2. Analysis Phase:

➢ Analyse the requirements gathered from stakeholders.
➢ Identify any potential risks and constraints.

➢ Create use cases and user stories to capture the user's requirements.

➢ Create a functional specification that outlines the application's features and functionality.

3. Design Phase:

➢ Create a design specification that details the application's architecture, components, and modules.

➢ Create a user interface design that meets the user's needs and requirements.

➢ Identify the database design and schema that supports the application's data storage and retrieval requirements.

➢ Define the encryption and decryption algorithms to be used to secure the application's data.

4. Implementation Phase:

➢ Develop the application's code based on the design specification.

➢ Use version control tools to manage changes to the code.

➢ Test each component of the application to ensure they function as expected.

➢ Integrate the components to create the final application.

5. Testing Phase:

➢ Develop test cases and test scripts that verify the application's functionality and performance.

➢ Conduct unit testing to verify the functionality of each component.

➢ Conduct integration testing to verify that the components work together.

➢ Conduct system testing to verify that the application meets the user's requirements.

➢ Conduct acceptance testing to verify that the application meets the stakeholder's requirements.

6. Deployment Phase:

➢ Prepare the application for deployment by creating an installer or package.

➢ Deploy the application to the target environment.

➢ Verify that the application works as expected in the target environment.

➢ Train users on how to use the application.

7. Maintenance Phase:

➢ Monitor the application's performance in the target environment.

➢ Fix any bugs or issues that arise in the application.

➢ Make updates and enhancements to the application based on user feedback or changing requirements.

SOFTWARE DEVLOPEMENT MODEL

AGILE MODEL:-

The meaning of Agile is swift or versatile."Agile process model" refers to a software development approach based on iterative development. Agile methods break tasks into smaller iterations, or parts do not directly involve long term planning. The project scope and requirements are laid down at the beginning of the development process. Plans regarding the number of iterations, the duration and the scope of each iteration are clearly defined in advance.

Phases of Agile Model:

Fig. Agile Model

Following are the phases in the Agile model are as follows:

1. Requirements gathering: In this phase, you must define the requirements. You should explain business opportunities and plan the time and effort needed to build the project. Based on this information, you can evaluate technical and economic feasibility.

2. Design the requirements: When you have identified the project, work with stakeholders to define requirements. You can use the user flow diagram or the high-level UML diagram to show the work of new features and show how it will apply to your existing system.

3. Construction/ iteration: When the team defines the requirements, the work begins. Designers and developers start working on their project, which aims to deploy a working product. The product will undergo various stages of improvement, so it includes simple, minimal functionality.

4. Testing: In this phase, the Quality Assurance team examines the product's performance and looks for the bug.

5. Deployment: In this phase, the team issues a product for the user's work environment.

6. Feedback: After releasing the product, the last step is feedback. In this, the team receives feedback about the product and works through the feedback.

CLASS DIAGRAM

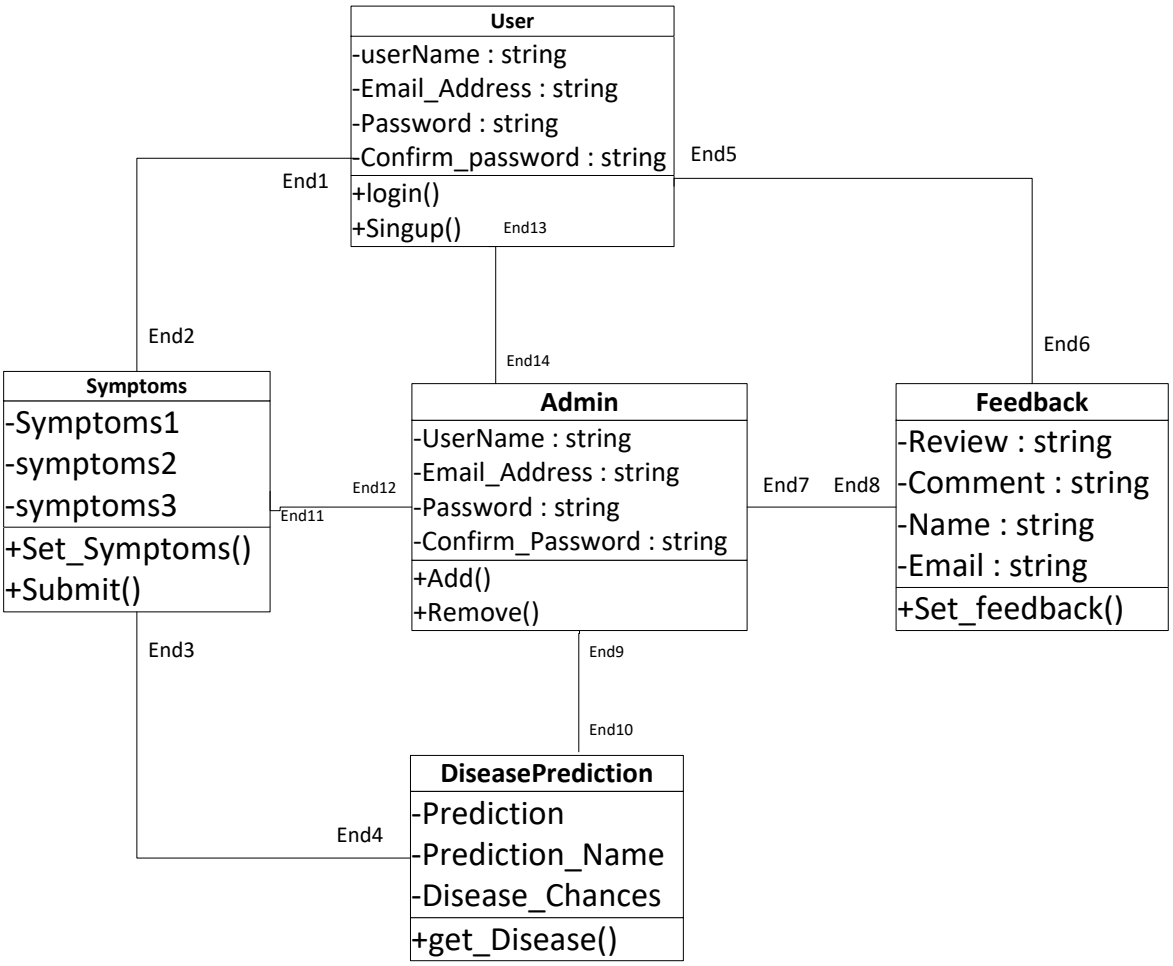


Fig 3: class diagram

In this diagram, the "User" class represents users of the website, who can log in and interact with the system. The "Admin" class represents administrators, who have additional privileges and can manage the system.

The "Feedback" class represents user feedback, which can be used to improve the system. The "Symptoms" class represents symptoms that users can select as inputs to the disease prediction.

The "Diseases" class represents diseases that the system can predict, with associated descriptions. Finally, the "Prediction" class represents a prediction for a specific user and disease, with an associated probability.

DFD ZERO LEVEL

In this diagram, the "User" and "Admin" entities are represented as external entities that interact with the "Website" system. The "Enter Symptoms" process allows users to input their symptoms into the system, which triggers the "Disease Prediction" process to predict potential diseases based on the input. The predicted diseases are then shown to the user through the "Disease Prediction" process.

The "View User Feedbacks" process allows admins to view feedback provided by users, which is stored in the "Feedback" entity. The "Manage Disease Database" process allows admins to add, update, or delete diseases in the "Disease Database" entity.

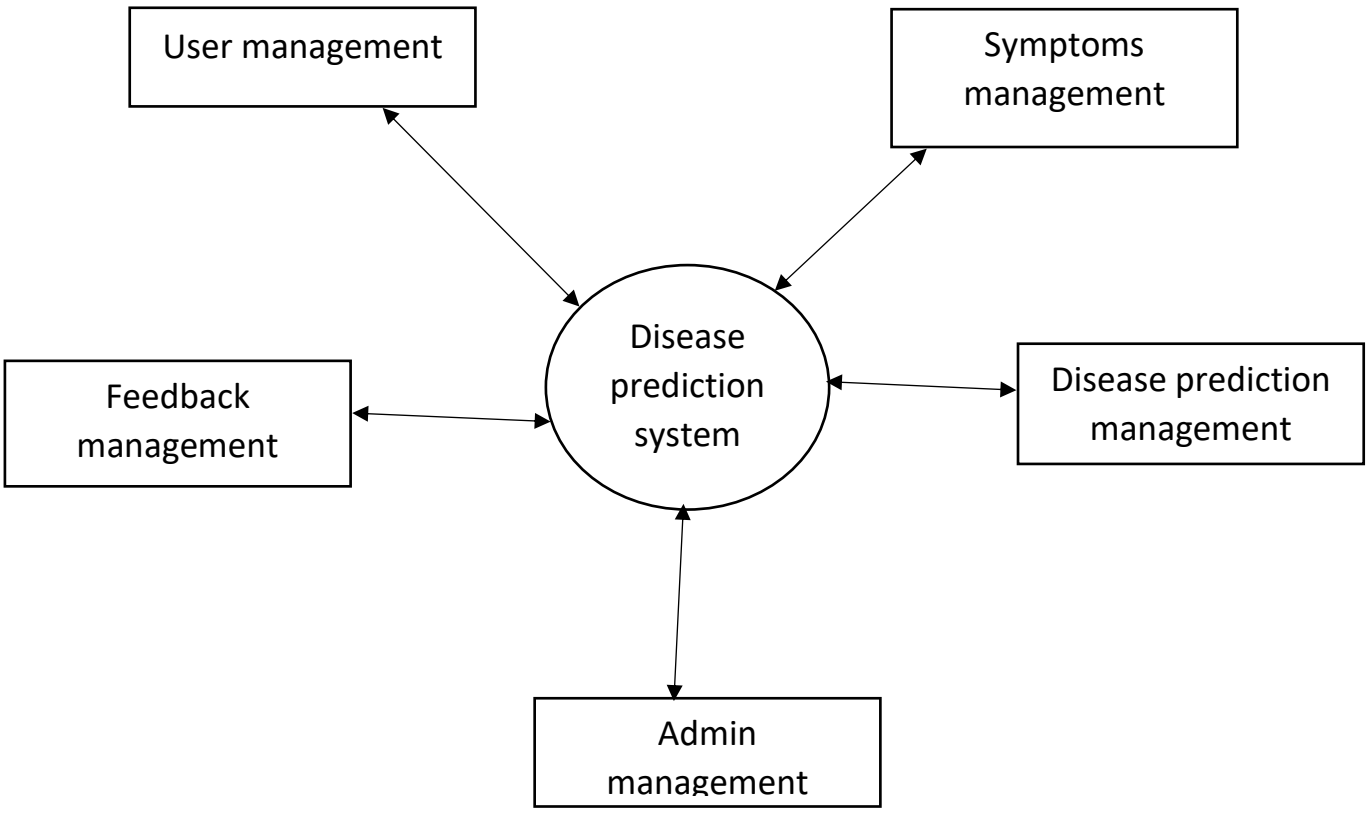


Fig 4: DFD zero level

FIRST LEVEL

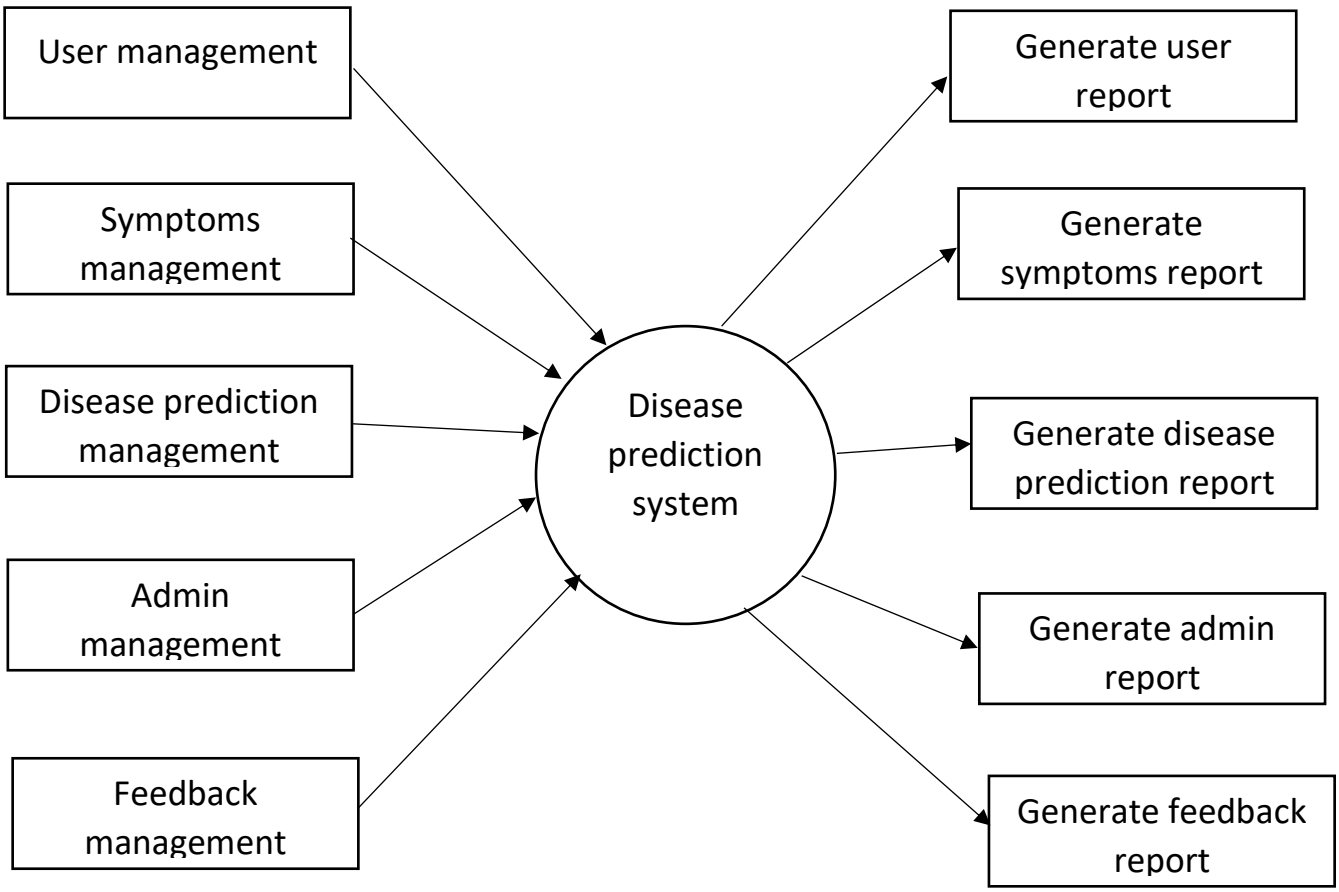


Fig 4: DFD first level

SECOND LEVEL

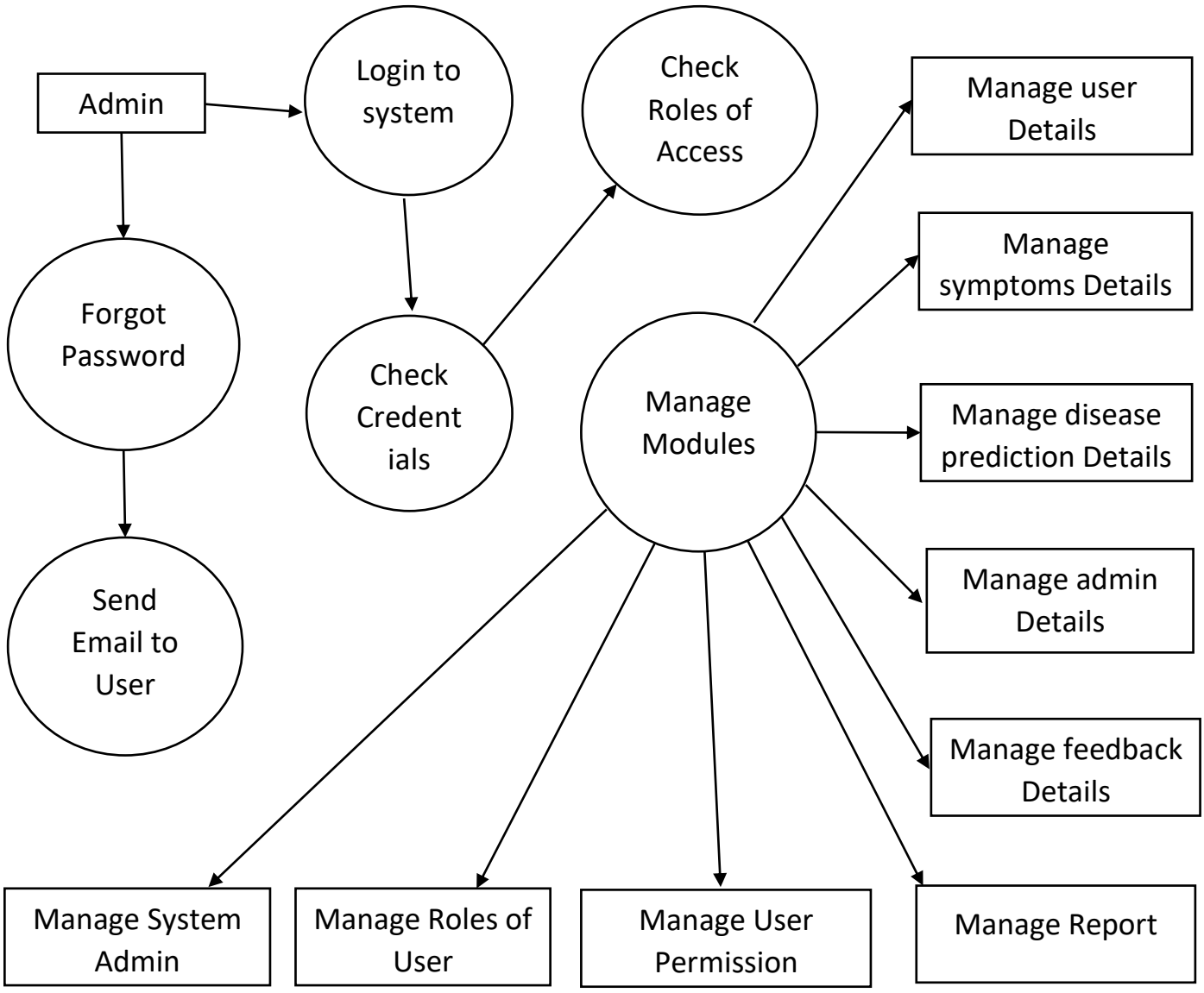


Fig 4: DFD second level

CH 7: SOFTWARE REQUIREMENT SPECIFICATION

MODEL DESCRIPTION

UI:

UI is the use to deal with perform operations on the data.

HTML is the standard markup language for creating web page.

Cascading Style Sheet is a style sheet language used for describing the presentation of a document written in a markup Language Such as HTML or XML.

DATABASE: The Data Parsed from the PDF is then sent to Database to perform various operations. MySQL is an Oracle-backed open-source relational database management system (RDBMS) based on Structured Query Language (SQL).

HARDWARE REQUIREMENTS

1. Web Browser: Users will need a web browser to access the freelancing website. The website should be compatible with major web browsers like Google Chrome, Mozilla Firefox, Safari, and Microsoft Edge.
2. Operating System: The freelancing website should be compatible with popular operating systems like Windows, MacOS, and Linux.
3. Internet Connection: Users will need a stable and reliable internet connection to access the website.

SYSTEM REQUIREMENTS

Front End: -HTML, CSS, JAVA SCRIPT
Database: -My SQL
Back End: - PHP

Tools Required: -Visual studio code

CH 8: TESTING

Here are some test cases you can consider for each feature:

Login:

Verify that a user can successfully log in with valid credentials.

Verify that an error message is displayed when an invalid username or password is entered.

Verify that a user is redirected to the correct page after logging in.

Symptom selection:

Verify that a user can select one or more symptoms from a list.

Verify that a user can deselect a symptom that was previously selected.

Verify that the selected symptoms are saved when the user navigates to another page.

Disease prediction:

Verify that a user is presented with a list of possible diseases based on their selected symptoms.

Verify that the list of possible diseases is sorted by likelihood or severity.

Verify that the predicted diseases are accurate and consistent with the user's symptoms.

Feedback:

Verify that a user can submit feedback through a form on the website.

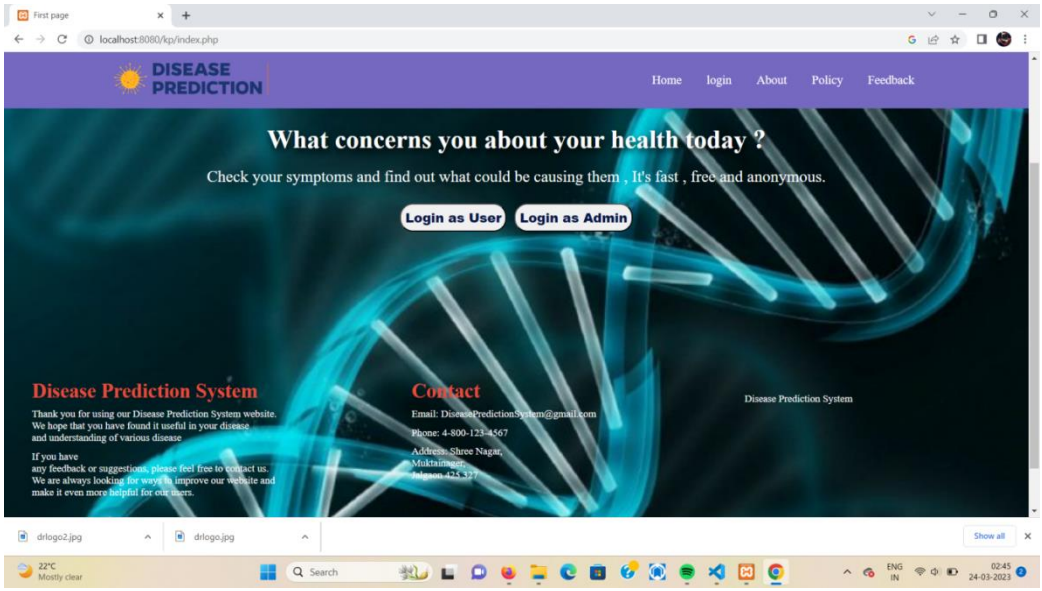
Verify that the feedback form includes all required fields.

Verify that an error message is displayed if the user tries to submit the form without completing all required fields.

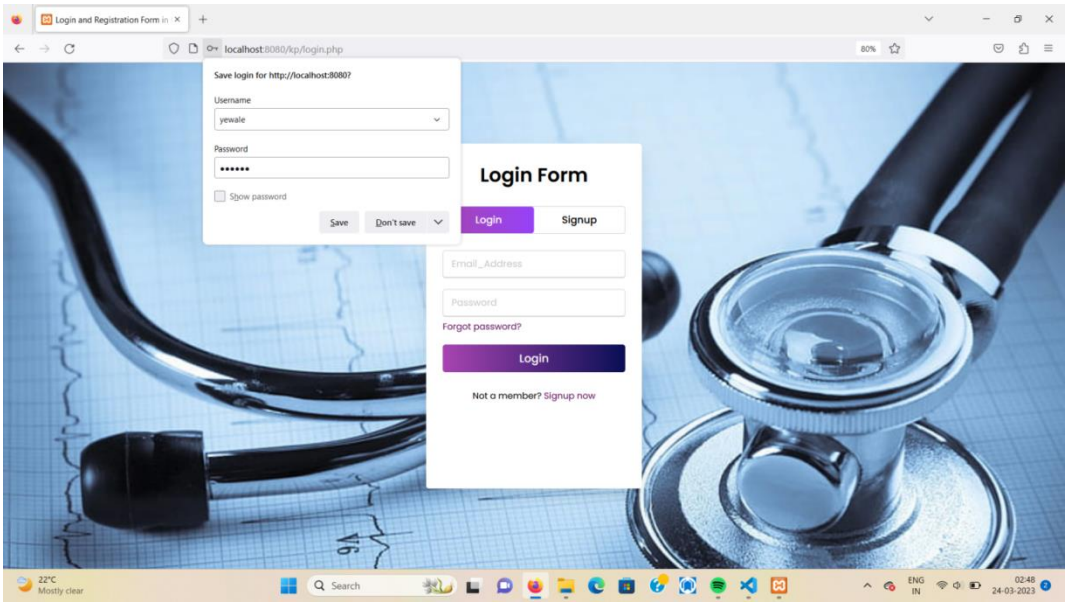
Verify that the user receives confirmation that their feedback was successfully submitted.

CH 9: SNAPSHOTS

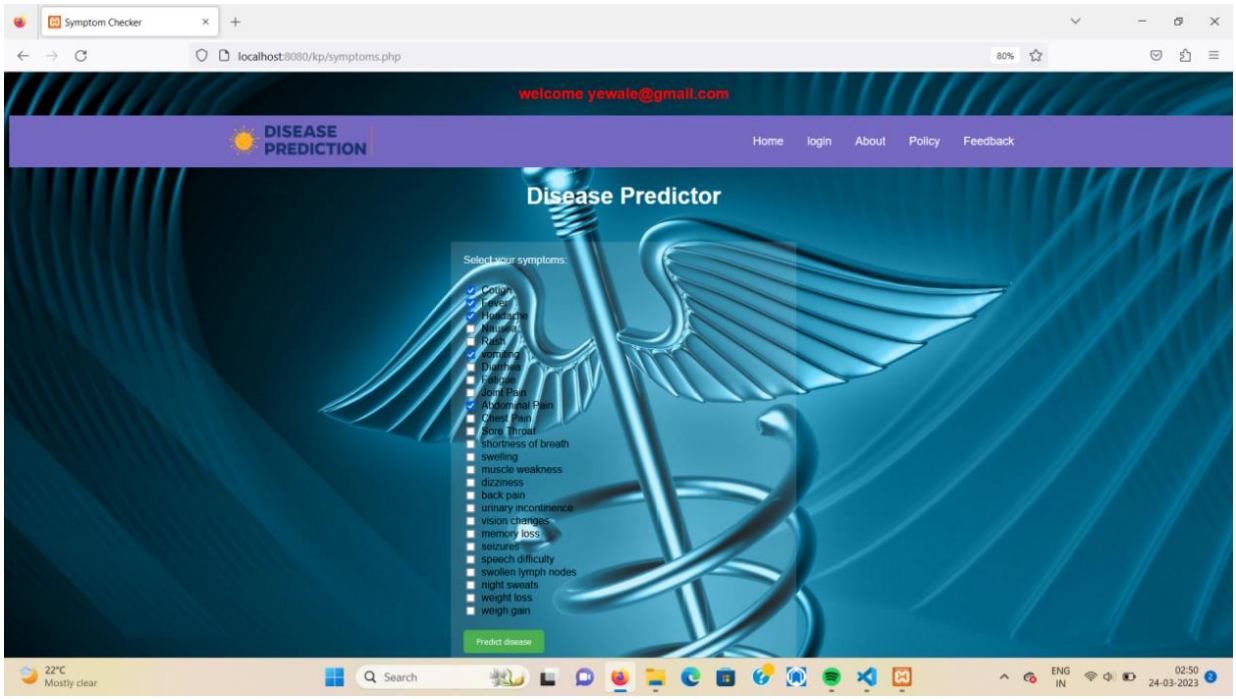
Home page:



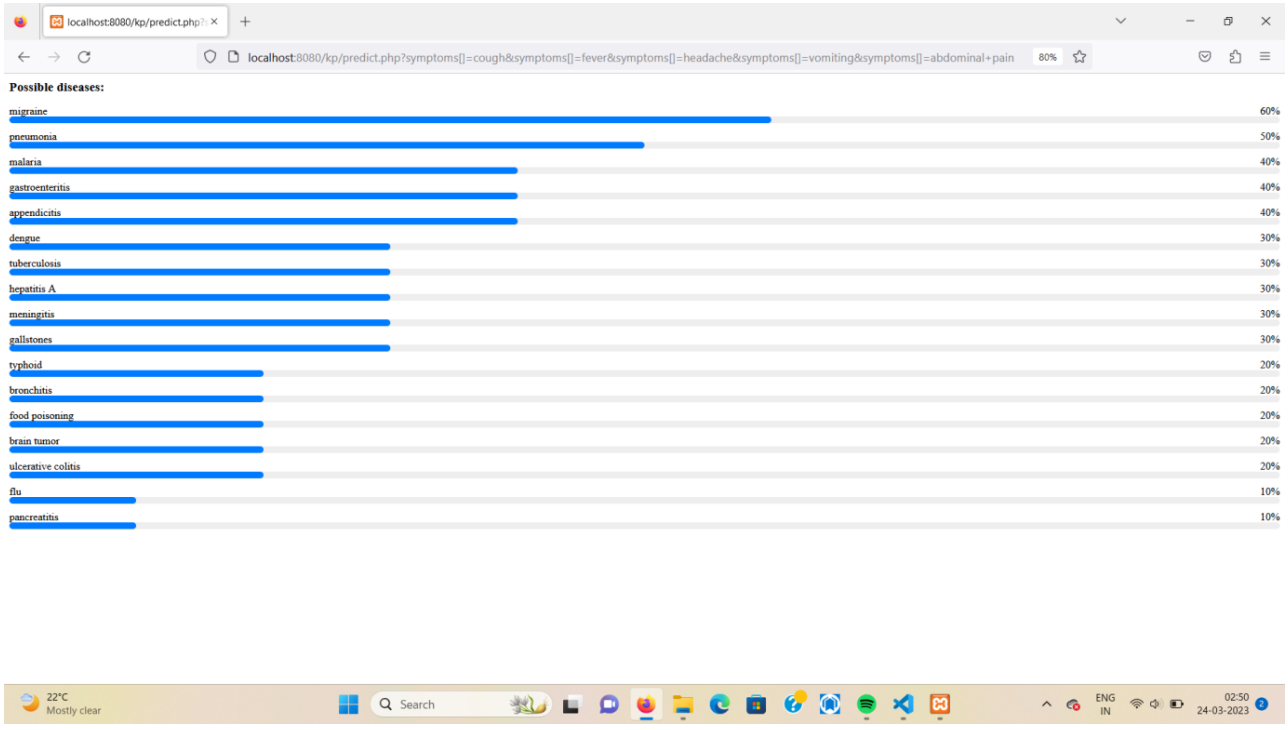
User Login/Signup:



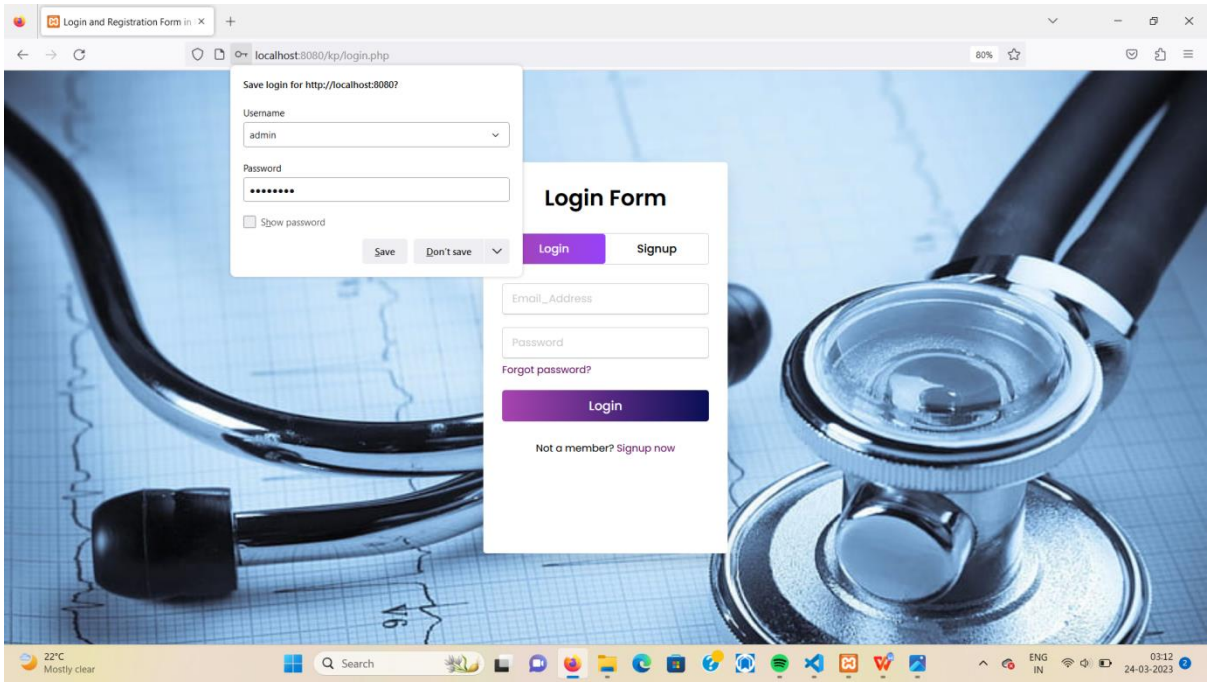
Symptoms Select:



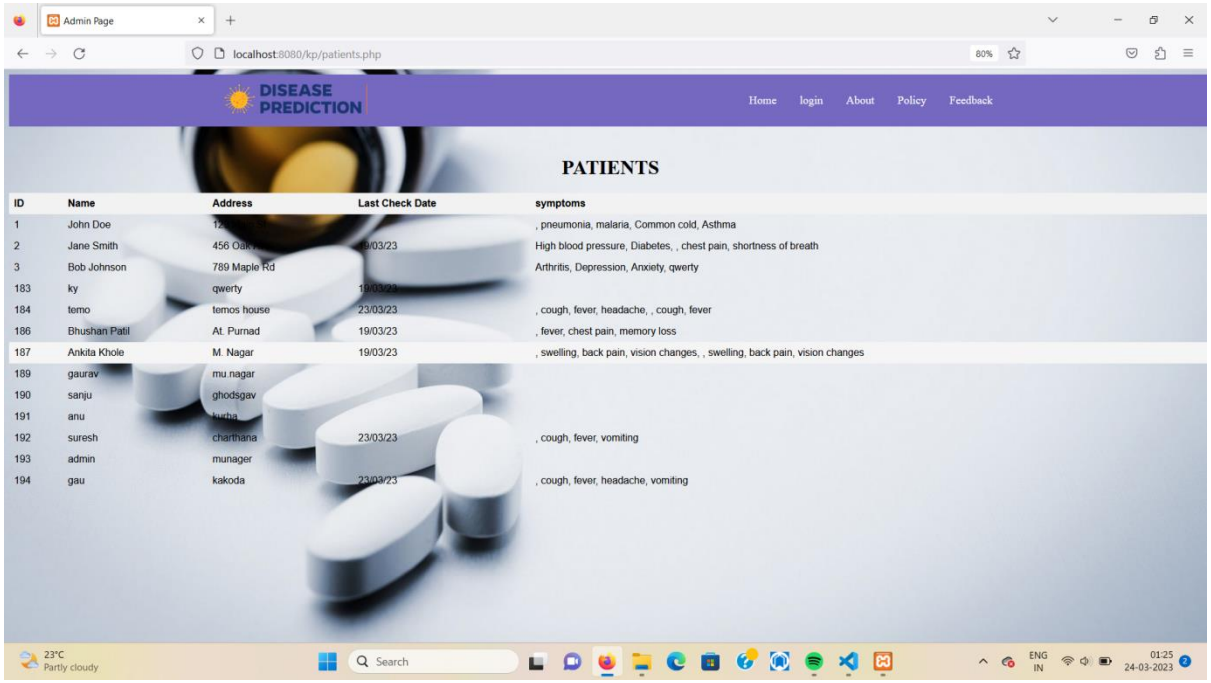
Possible Disease:



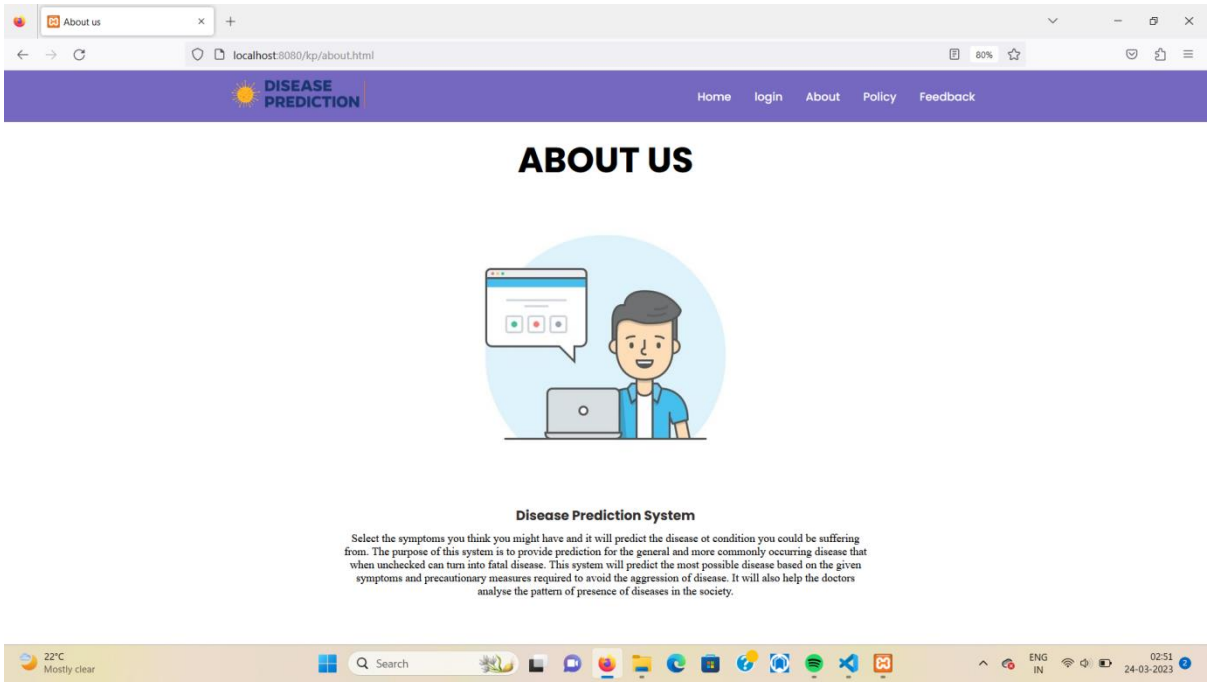
Admin login:



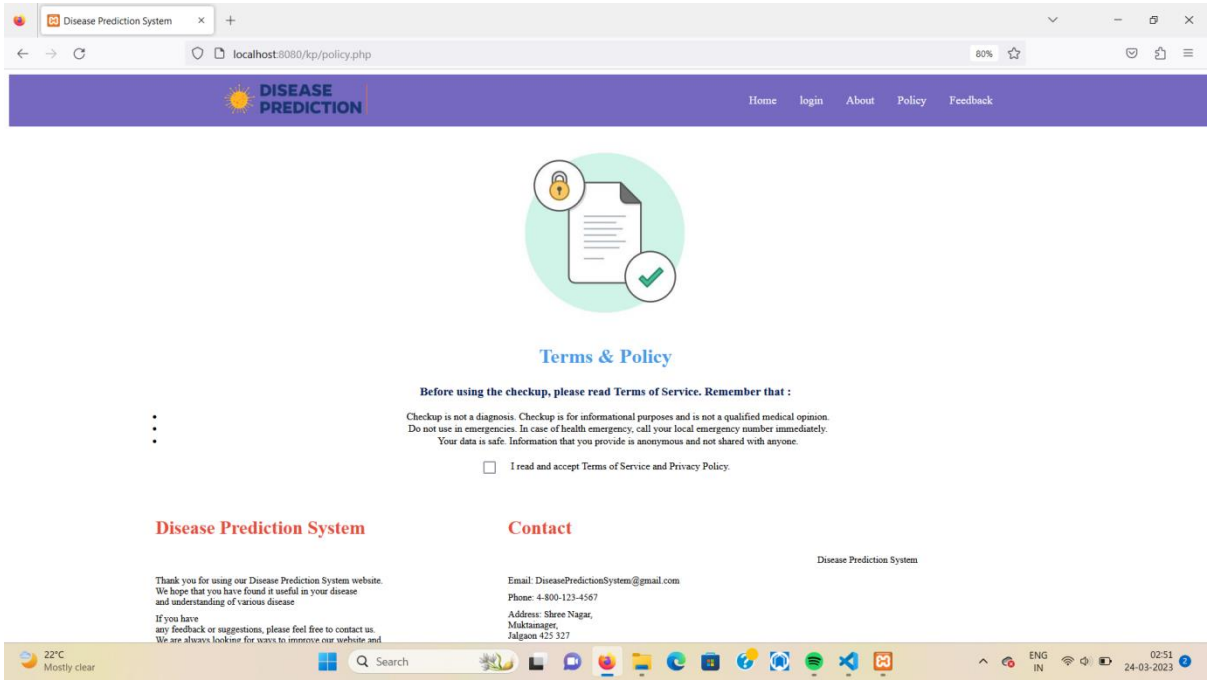
Patients Report:



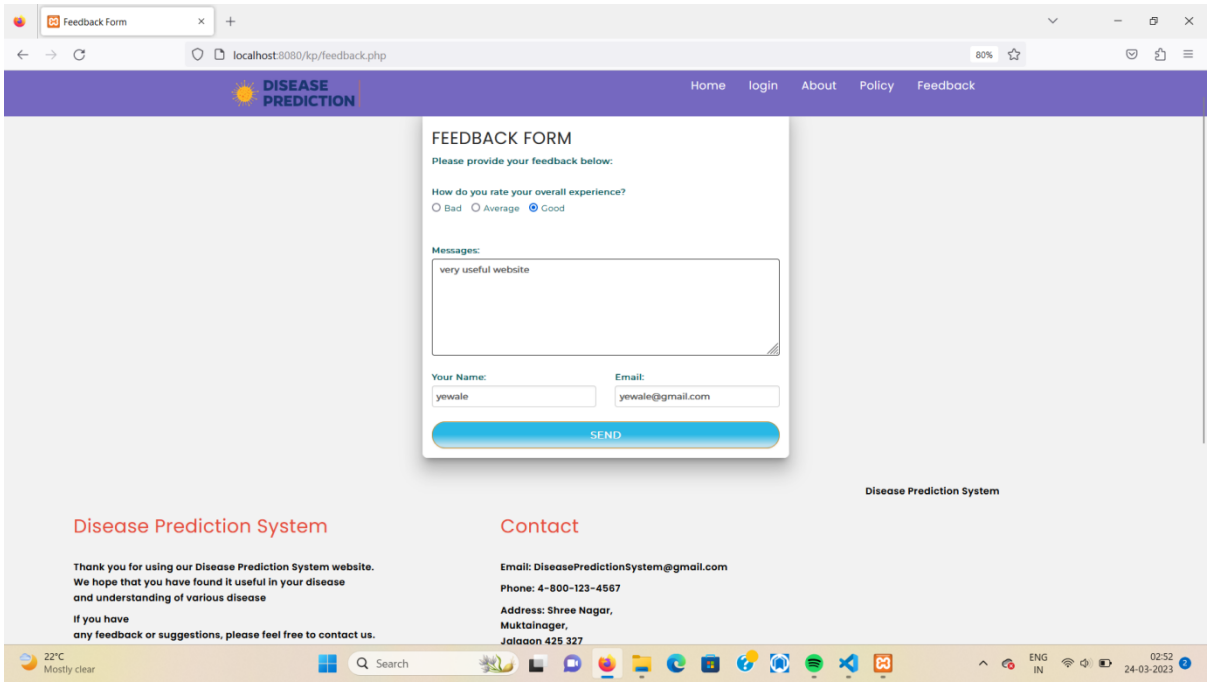
About Us:



Policy:



Feedback:


Feedback Form
localhost:8080/kp/feedback.php
DISEASE PREDICTION
Home
login
About
Policy
Feedback
FEEDBACK FORM
Please provide your feedback below:
How do you rate your overall experience?
Bad
Average
Good
Messages:
very useful website
Your Name:
yewale
Email:
yewale@gmail.com
SEND
Disease Prediction System
Disease Prediction System
Thank you for using our Disease Prediction System website.
We hope that you have found it useful in your disease
and understanding of various disease
If you have
any feedback or suggestions, please feel free to contact us.
Contact
Email: DiseasePredictionSystem@gmail.com
Phone: 4-800-123-4567
Address: Shree Nagar,
Muktainager,
Jalgaon 425 327
22°C
Mostly clear
Search
ENG
IN
02:52
24-03-2023

CH 10: CONCLUSION

The system covers the general diseases or the more commonly occurring diseases. It would help the people to get the early predication and precautions of the diseases by their symptoms that when unchecked can turn into fatal diseases.

The plan is to include diseases of higher fatality, like various cancers in future, so that early predication and treatment could be done, and the fatality rate of deadly diseases like cancer decreases, with the economic benefit in long sight as well.

a disease prediction system website has the potential to revolutionize healthcare by providing early and accurate predictions of disease outcomes, enabling timely interventions and personalized treatment plans.

The development and implementation of such a system require a multidisciplinary approach, including expertise in data mining, machine learning, and ethical considerations.

By conducting a literature review, identifying relevant data sources, and using appropriate pre-processing and modelling techniques, a disease prediction system can be developed with high accuracy and reliability.

The system can then be deployed on a website with a user-friendly interface, enabling easy access for healthcare professionals and patients.

With further research and refinement, disease prediction systems have the potential to improve patient outcomes and reduce healthcare costs.

CH 11: BIBLIOGRAPHY

 Patil, D., & Singh, A. (2019). Disease prediction system using data mining techniques: A review. Journal of Emerging Technologies and Innovative Research, 6(8), 341-348.

 Zhang, P., & Liu, K. (2017). Health information behaviour and health risk prediction systems: A conceptual framework. Journal of the Association for Information Science and Technology, 68(9), 2063-2074.

 You, S., Lee, K. H., Choi, J., & Park, Y. R. (2016). Development and validation of a predictive model for metabolic syndrome using data mining techniques. Healthcare informatics research, 22(1), 30-36.

 Aslam, S. K., Emmanuel, J., & Hussain, M. (2019). A framework for disease prediction using machine learning techniques. Journal of King Scud University-Computer and Information Sciences, 31(4), 514-520.