Project Report

1. Project Title

Multiple Disease Prediction System Using Machine Learning

2. Team Members

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3. Project Description

This project is a Machine Learning-powered web application that predicts three major health conditions: Diabetes, Heart Disease, and Parkinson's Disease based on user input parameters.

It uses Streamlit for frontend development and scikit-learn models for making predictions.

The application helps users receive quick and accessible health predictions by simply entering a few medical details.

4. Objectives

- To develop an easy-to-use web application for multiple disease predictions.
- To integrate Machine Learning models for real-time analysis.
- To enhance awareness regarding potential health risks through instant feedback.

5. Technologies Used

- Python 3
- Streamlit
- Scikit-learn

- Pickle

- Streamlit Option Menu

- HTML/CSS (for UI styling)

6. Project Workflow

Step 1: Data Collection and Preprocessing

- Public datasets related to Diabetes, Heart Disease, and Parkinson's Disease were cleaned and prepared.

Step 2: Model Training

- Trained Machine Learning models like Logistic Regression, Random Forest, and SVM.

Step 3: Building the Web Application

- Streamlit was used to create an interactive frontend.

Step 4: UI/UX Enhancement

- Sidebar navigation with a modern option menu.

7. Features

- User-Friendly Interface with sidebar-based navigation.

- Instant Disease Prediction after entering medical data.

- Three Health Predictions in one platform.

- Error Handling to prevent application crashes.

8. How to Run the Project

1. Clone the repository from GitHub.

2. Install dependencies:

pip install -r requirements.txt

3. Navigate to the project directory and run:

streamlit run app.py

4. Open the web application in browser.

9. Challenges Faced

- Finding accurate datasets.

- Integrating multiple models in a single Streamlit app.

- Designing a simple yet professional user interface.

10. Future Scope

- Adding more disease prediction modules.

- Allowing users to download detailed prediction reports.

11. Conclusion

The Multiple Disease Prediction System provides an accessible way for individuals to get quick preliminary insights into their health.

Annexure

- Project Code: Uploaded on GitHub.

- Video Demonstration: Link provided in the repository README.

- GitHub Repository: Public and accessible.