■ Heart Disease Analysis Dashboard

The Heart Disease Analysis Dashboard is a web-based tool designed to analyze patient health data such as age, cholesterol, and blood pressure to identify risk patterns and predict the likelihood of heart disease using data visualization and analytics.

■■ Tech Stack

- Frontend: HTML, CSS, JavaScript (or React)
- Backend: Python (Flask/Django)
- Data Visualization: Chart.js / Plotly / D3.js
- Dataset: UCI or Kaggle Heart Disease dataset

■ Key Features

- Upload patient data (CSV or manual entry)
- Visualize heart-related metrics (age, cholesterol, etc.)
- Correlation heatmap between parameters
- Risk prediction using ML algorithms
- Dynamic dashboard with interactive charts
- Summary statistics and insights
- Downloadable report (PDF or CSV)

■ Dashboard Sections

- Overview Tab: Summary stats (mean age, avg cholesterol, etc.)
- Visualization Tab: Charts showing risk trends
- Prediction Tab: ML model results (risk: Low / Moderate / High)
- Insights Tab: Health tips and recommendations

■ Step-by-Step Development Plan

1. Collect dataset (UCI or Kaggle Heart Disease dataset).
2. Preprocess data using Python (Pandas, NumPy).
3. Analyze correlations (cholesterol vs. age vs. heart disease).
4. Train ML model for heart disease prediction.
5. Build frontend dashboard (HTML/CSS/JS).
6. Integrate backend (Flask or API to handle model).
7. Add charts (Chart.js or Plotly).
8. Test with sample data.
9. Deploy (GitHub Pages or Streamlit Cloud).

10 Export reports (PDF summary of analysis).

■ Example Output

Input: Age = 58, Cholesterol = 250, Blood Pressure = 145
Output: Risk Level: **High**
Recommendation: 'Consult a cardiologist; reduce salt intake and exercise regularly.'