

## Project Design Phase

### Solution Architecture

Date	15 February 2026
Team ID	LTVIP2026TMIDS74725
Project Name	Heart Disease Analysis
Maximum Marks	4 Marks

### Solution Architecture:

#### ◊ Goals of the Architecture

1.  Visualize relationships between lifestyle factors, medical conditions, and heart disease.
2.  Define a scalable and modular system using Tableau for analytics and visualization.
3.  Support interactive dashboards for doctors, policymakers, and individuals.
4.  Enable future expansion with predictive and AI-driven healthcare analytics.

#### Architecture Components

Layer	Component	Description
Data Layer	Source Data	Heart disease dataset (Heart_new2.csv) containing demographics, lifestyle, and medical attributes
Processing Layer	Data Preparation	Data cleaning, formatting, calculated fields, and derived metrics using Tableau
Application Layer	Analytics Engine	Tableau logic engine for filters, aggregations, and chart rendering
Presentation Layer	Visualization	Interactive and responsive Tableau dashboards
Users	End Users	Doctors, health analysts, policymakers, and individuals accessing via Tableau Public or reports

## Development Phases

Phase	Description
Phase 1 – Data Preparation	Clean dataset, handle missing values, and standardize data types
Phase 2 – Core Visuals	Build key charts such as Gender vs Heart Disease and Age vs Heart Disease
Phase 3 – Advanced Analysis	Multi-variable and correlation-based visuals (BMI, Diabetes, Stroke)
Phase 4 – Dashboard Design	Combine visuals into responsive dashboards with filters
Phase 5 – Final Output	Export dashboards and publish insights for stakeholders