Project Design Phase

Solution Architecture

Date	29-06-2025
Team ID	LTVIP2025TMID39531
Project Name	Revolutionizing Liver Care: Predicting Liver Cirrhosis using Advanced Machine Learning Techniques
Maximum Marks	4 Marks

Solution Architecture:

Solution Architecture for Liver Cirrhosis Prediction System

1. Frontend (User Interface)

- Simple HTML/CSS form to collect patient data
- Hosted in Flask's templates folder
- Example fields: Age, Gender, Blood Test Results, Symptoms

2. Backend (Flask Server)

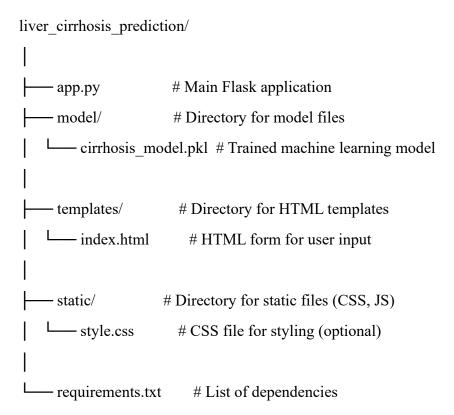
- app.py handles all web requests
- Receives form data → processes it → sends to ML model
- Displays prediction results back to the UI

3. Machine Learning Model

- Pre-trained cirrhosis prediction model (.pkl file)
- Loaded when Flask starts
- Makes predictions based on input data

How It Works - Simple Steps:

- 1. User fills out web form
- 2. Form sends data to Flask server
- 3. Flask prepares data for ML model
- 4. ML Model predicts cirrhosis risk
- 5. **Results** show back in the browser



Summary of Workflow

- 1. User Interface: User fills out the form in index.html.
- 2. Flask Server: app.py receives the data and processes it.
- 3. Model Prediction: The model in model/cirrhosis model.pkl predicts the risk.
- 4. **Display Results**: Results are shown back in the browser.