

Ideation Phase

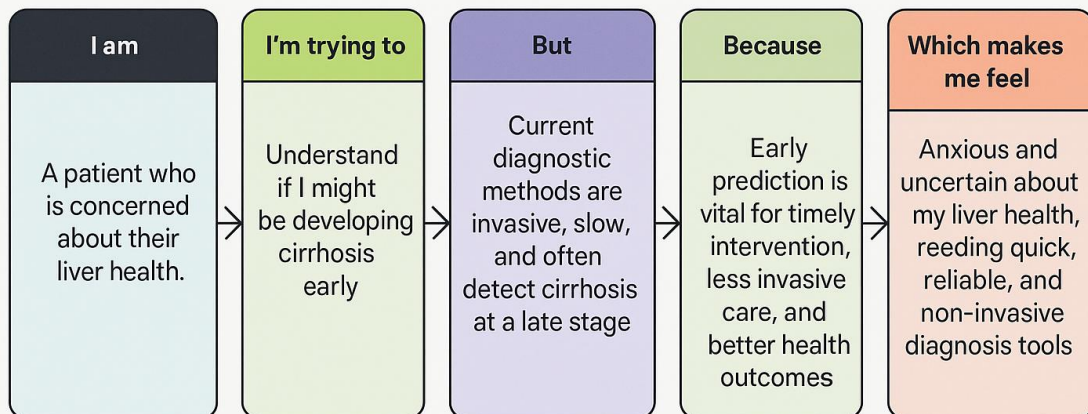
Define the Problem Statements

Date	31 January 2025
Team ID	LTVIP2025TMID35624
Project Name	Revolutionizing Liver Care: Predicting Liver Cirrhosis Using Advanced Machine Learning Techniques
Maximum Marks	2 Marks

Customer Problem Statement Template:

Liver cirrhosis is a life-threatening condition that often goes undetected until it reaches an advanced stage. Early diagnosis is critical for effective treatment and improved survival rates, yet traditional diagnostic methods are invasive, time-consuming, and costly. This project aims to transform liver care by applying advanced machine learning techniques to predict liver cirrhosis from non-invasive clinical and laboratory data. By uncovering hidden patterns in patient data, the system provides accurate, early-stage predictions-enabling timely interventions and personalized healthcare solutions.

Customer Problem Statement Template



Problem Statement (PS)	I am (Customer)	I'm trying to	But	Because	Which makes me feel
PS-1	A patient who is concerned about their liver health	Understand if I might be developing cirrhosis early	Current diagnostic methods are invasive, slow, and often detect cirrhosis at a late stage	Early prediction is vital for timely intervention, less invasive care, and better health outcomes	Anxious and uncertain about my liver health, needing quick, reliable, and non-invasive diagnosis tools
PS-2	A middle-aged person with a family history of liver disease	Know my risk of developing liver cirrhosis early	I don't get regular checkups because the tests are expensive and invasive	Knowing my risk early can help me make lifestyle changes and seek medical attention in time	Worried and helpless due to lack of affordable and accessible diagnosis
PS-3	A healthcare provider managing multiple liver patients	Identify early-stage cirrhosis in patients efficiently	Traditional diagnosis takes time and often misses early signs	Early and accurate predictions can improve patient care and outcomes	Frustrated and overwhelmed due to delays and limited diagnostic precision
PS-4	A patient with symptoms like fatigue and jaundice	Understand if it could be liver cirrhosis or something else	Symptoms are vague and doctors need invasive tests to confirm	A clear, data-driven prediction could reduce uncertainty and speed up diagnosis	Anxious and confused, needing clarity and fast results without invasive procedures