

# Ideation Phase

## Empathize & Discover

**Date:** 28 June 2025

**Team ID:** LTVIP2025TMID41166

**Project Name:** *Revolutionizing Liver Care: Predicting Liver Cirrhosis Using Advanced Machine Learning Techniques*

**Maximum Marks:** 4 Marks

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### Empathy Map Canvas

An empathy map is a simple, easy-to-digest visual that captures knowledge about a user's behaviors and attitudes. It helps teams better understand their users. Creating an effective solution requires understanding the true problem and the person who is experiencing it.

The exercise of creating the map helps participants consider things from the user's perspective along with their goals and challenges.

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#### User Persona: Healthcare Professional (Doctor)

##### Thinks

"How can I detect cirrhosis earlier, before symptoms worsen?"

"I need a reliable, fast, and non-invasive tool."

"Can technology help improve early detection?"

##### Says

"We lose valuable time waiting for clear symptoms."

"I wish there were faster screening options."

##### Feels

Worried about patients not getting diagnosed in time.

Frustrated by limitations of traditional testing.

Eager but cautious about trusting ML predictions.

##### Does

Orders lab tests, refers to specialists.

Relies on liver function tests and imaging.

## Thinks

“Diagnosis comes too late in many cases.”

## Feels

Tries to interpret patterns in clinical reports manually.

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### User Persona: Liver Patient

## Thinks

“Is something wrong with my liver?”

## Feels

Anxious and confused about symptoms.

“I can’t afford to do multiple expensive tests.”

Helpless about financial and medical limitations.

“Why are my results inconclusive?”

Frustrated and scared of not knowing the truth.

## Says

“I just feel tired all the time.”

## Does

Googles symptoms, delays hospital visits.

“I don’t understand these medical terms.”

Tries home remedies or waits for more symptoms.

“It’s hard to get tested regularly.”

Avoids frequent clinic visits due to cost or fear.

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### Insights Gained from Empathy Mapping

- Doctors need an assistive tool to improve early diagnosis of liver cirrhosis.
- Patients want non-invasive, affordable, and understandable health evaluations.
- Machine learning can bridge the gap between delayed diagnosis and early detection.
- A model that interprets clinical data and flags risk early can empower both doctors and patients.