

## Ideation Phase

### Brainstorm & Idea Prioritisation Template


Date	19 September 2022
Team ID	PNT2022TMID26244
Project Name	Statistical Machine Learning Approaches to Liver Disease Prediction
Maximum Marks	4 Marks

#### Brainstorm & Idea Prioritisation Template:

Brainstorming provides a free and open environment that encourages everyone within a team to participate in the creative thinking process that leads to problem solving. Prioritising volume over value, out-of-the-box ideas are welcome and built upon, and all participants are encouraged to collaborate, helping each other develop a rich amount of creative solutions.

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

#### Step-1: Team Gathering, Collaboration and Select the Problem Statement



### Brainstorm & Idea Prioritization

Brainstorming is one of the primary methods employed during the Ideation stage of a typical Design Thinking process.

- 🕒 10 minutes to prepare
- 🕒 1 hour to collaborate
- 👥 2-8 people recommended

#### Collaborate

A collaborative environment can encourage employees to engage more with their work to support the team. Knowing that other employees are relying on them can create a sense of duty toward their work.

#### Team gathering

Our team consists of four individuals that are eager to collaborate towards the success of our project.

#### Set the Goal

Our project's objective is to analyse data from liver patients with a focus on the correlations between a vital list of liver enzymes, proteins, age and gender using them to try and predict the likelihood of liver disease.

We are creating a model in this instance by utilising different machine learning algorithms to identify the most accurate model, and incorporate into web applications built with flask. By entering certain parameters into the web application, users can predict the disease.

#### 1 Define your problem statement

This project aims to identify a suitable machine learning algorithm which is capable of identifying whether a person has liver disease or not.

#### Key rules of brainstorming

To run an smooth and productive session

- 😊 Stay in topic.
- 💡 Encourage wild ideas.
- 🙊 Defer judgment.
- 👂 Listen to others.
- 🗣️ Go for volume.
- 👁️ If possible, be visual.

## Step-2: Brainstorm, Idea Listing and Grouping

2

### Brainstorm

Write down any ideas that come to mind that address your problem statement.

🕒 10 minutes

#### Priyadharshini Arutselvan

The development of web-based software to forecast liver diseases in a new patient is done

By increasing awareness of risk factors and diagnostic variables, the application of ML approaches can aid in lowering the overall burden of liver disease on public health globally.

For those who are at a high risk of liver disease, suggest healthy foods.

The donor and recipient information that is needed for the transplantation of the liver and blood can be added to the system

#### Jeolin

The Project can reduce many of the limitations that occur in healthcare associated with inaccuracy in diagnoses, missing data, cost, and time

Can be used to distinguish other types of liver disease from healthy individuals.

Applying all of the mentioned methods to other areas of medicine could open the doors for AI/ML-facilitated diagnosis.

User friendly application for everyone to understand and easy to use

#### Sylvia Catherine

Recommending nearby medical professionals with liver expertise

One can collect data and visualize many hidden outcomes such as dealing with missing data in medical research

Increased convenience for predicting a liver disease

More accurate diagnosis of liver disease by the doctors

#### Vashni Sharon

Providing dietary guidelines to those at risk of liver problems

Detecting liver disease at earlier stages or in hidden cases by ML could decrease liver-related mortality, transplants, and/or hospitalizations.

You don't need to have any knowledge of medical science and liver diseases to predict the liver disease using this application.

The results here are predicted within seconds of entering the details. You don't need to wait for a doctor to come, unlike in traditional method.

3

### Group Ideas

Take turns sharing your ideas while clustering similar or related notes as you go. Once all sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you can break it up into smaller sub-groups.

🕒 20 minutes

#### Web Development

The development of web-based software to forecast liver diseases in a new patient is done

User friendly application for everyone to understand and easy to use

You don't need to have any knowledge of medical science and liver diseases to predict the liver disease using this application.

Providing dietary guidelines to those at risk of liver problems

#### Innovation

The donor and recipient information that is needed for the transplantation of the liver and blood can be added to the system

Recommending nearby medical professionals with liver expertise

For those who are at a high risk of liver disease, suggest healthy foods.

Applying all of the mentioned methods to other areas of medicine could open the doors for AI/ML-facilitated diagnosis.

#### advancement

By increasing awareness of risk factors and diagnostic variables, the application of ML approaches can aid in lowering the overall burden of liver disease on public health globally.

The results here are predicted within seconds of entering the details. You don't need to wait for a doctor to come, unlike in traditional method.

Increased convenience for predicting a liver disease

More accurate diagnosis of liver disease by the doctors

TIP  
Add customizable tags to sticky notes to make it easier to find, browse, organize, and categorize important ideas as themes within your mind.

### Step-3: Idea Prioritisation

4

#### Prioritize

Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

20 minutes

