

## Ideation Phase

### Brainstorm & Idea Prioritization Template

Date	12 October 2022
Team ID	PNT2022TMID45622
Project Name	Efficient water quality analysis and prediction using machine learning.
Maximum Marks	4 Marks

### Brainstorm & Idea Prioritization Template:

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

Template

## EFFICIENT WATER QUALITY ANALYSIS AND PREDICTION USING MACHINE LEARNING

Water is the most important of sources, vital for sustaining all kinds of life. Water covers about 71% of the Earth's surface, mostly in the form of ponds, lakes, rivers, seas, oceans and finally get saved as ground water. There are various sources such as urbanization, deforestation, industrial effluents, usage of fertilizers, insecticides, pesticides, etc. which results in the contamination or degradation of the quality of water. So, it is necessary to determine the quality of water samples so as to determine and detect the contaminants present in those water samples.

40 minutes to prepare

1 hour to collaborate

2-8 people recommended

### Before you collaborate

A little bit of preparation goes a long way with this session. Here's what you need to do to get going.

10 minutes

☐ A. Team gathering  
Define who should participate in the session and send an invite. Share relevant information or pre-work ahead.

☐ B. Set the goal  
Think about the problem you'll be focusing on solving in the brainstorming session.

☐ C. Learn how to use the facilitation tools  
Use the Facilitation Superpowers to run a happy and productive session.

Open article

### Define your problem statement

Water is perhaps the most precious natural resource after air. Though the surface of earth is mostly consists of water, only a small part of it is usable, which makes this resource very limited. Safe and readily available water is important for public health, whether it is used for drinking, domestic use, food production or recreational purposes. It is known that contaminated water and inadequate sanitation facilitate the transmission of diseases such as cholera, diarrhoea, dysentery, hepatitis, etc. Hence it is really important to predict the level of water quality and take preventive measures.

5 minutes

#### PROBLEM

To predict the water quality using ML algorithms.  
To provide various purification techniques based on the analysis of water quality.

#### Key rules of brainstorming

To run a 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

### Brainstorm

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

10 minutes

### 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

#### KANIMOZHI S

System should operate in all kinds of water.

Useful to people with no prior knowledge.

#### CELLCIA F

System should be compatible with future technologies.

Easy interpretation of results.

System should detect the essential minerals.

Easy access to predicted information.

Takes less time for prediction.

Predict the Potability of samples.

#### AJITHA S

System should analyse different volumes and no. of samples effectively.

Should sustain changes.

#### YOOSIKA

Recommend the purification techniques based on impurities present.

Classify the water based on parameters involved.

Create User Friendly GUI.

It should be trustworthy.

Provides results in a flawless way.

Detects the contaminants in water.

### Category 1

System should operate in all kinds of water.

Predict the Potability of samples.

Recommend the purification techniques based on impurities present.

### Category 2

System should be compatible with future technologies.

Takes less time for prediction.

System should detect the essential minerals.

Should sustain changes.

### Category 3

It should be trustworthy.

Easy access to predicted information.

Provides results in a flawless way.

Useful to people with no prior knowledge.

## Step-3: Idea Prioritization

### 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

### After you collaborate

You can export the mural as an image or pdf to share with members of your company who might find it helpful.

#### Quick add-ons

- Share the mural  
Share a view link to the mural with stakeholders to keep them in the loop about the outcomes of the session.
- Export the mural  
Export a copy of the mural as a PNG or PDF to attach to email, include in slides, or save in your drive.

#### Keep moving forward

- Strategy blueprint  
Define the components of a new idea or strategy.  
[Open the template](#)
- Customer experience journey map  
Understand customer needs, motivations, and obstacles for an experience.  
[Open the template](#)
- Strengths, weaknesses, opportunities & threats  
Identify strengths, weaknesses, opportunities, and threats (SWOT) to develop a plan.  
[Open the template](#)

[Share template feedback](#)

#### Importance

If each of these tasks are done without any difficulty or cost, which ones have the most positive impact?

#### Feasibility

Regardless of other dependencies, which tasks are more feasible than others? (Cost, time, effort, complexity, etc.)