

Ideation Phase

Brainstorm & Idea Prioritization Template

Date	19 September 2022
Team ID	PNT2022TMID35688
Project Name	REAL TIME WATER QUALITY MONITORING SYSTEM
Maximum Marks	4 Marks

Brainstorm & Idea Prioritization 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. Prioritizing 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 number 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

Template

Conducting a brainstorm

Executing a brainstorm isn't unique; holding a productive brainstorm is. Great brainstorms are ones that set the stage for fresh and generative thinking through simple guidelines and an open and collaborative environment. Use this when you're just kicking-off a new project and want to hit the ground running with big ideas that will move your team forward.

- 15 minutes to prepare
- 30-60 minutes to collaborate
- 3-8 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.

15 minutes

A

Choose your best "How Might We" Questions

Create 5 HMW statements before the activity to propose them to the team.

B

Set the stage for creativity and inclusivity

Go over the brainstorming rules and keep them in front of your team while brainstorming to encourage collaboration, optimism, and creativity.

1. **Encourage wild ideas** (If none of the ideas sound a bit ridiculous, then you are filtering yourself too much.)
2. **Defer judgement** (This can be as direct as harsh words or as subtle as a condescending tone or talking over one another.)
3. **Build on the ideas of others** ("I want to build on that idea" or the use of "yes, and...")
4. **Stay focused on the topic at hand**
5. **Have one conversation at a time**
6. **Be visual** (Draw and/or upload to show ideas, whenever possible.)
7. **Go for quantity**

C

Interested in learning more?

Check out the Meta Think Kit website for additional tools and resources to help your team collaborate, innovate and move ideas forward with confidence.

[Open the website →](#)

1

Define your problem statement

What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.

5 minutes

Problem

The main objective of the project is to monitor the river water ensuring its quality by the use of key IoT technologies.

The problem can be solved by continuously monitoring the water and taking the remedies as well as precaution.

Step-2: Brainstorm, Idea Listing and Grouping

2

Brainstorm

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

🕒 10 minutes

Sanjay Kumar L S

- Temperature measurements are statistically recorded and stored as data.
- Creating an app to measure the pH,turbidity and temperature of river water.
- Predicting the graph of the dust particles.
- Constructing a cloud database using graphs.
- Constructing a mesh network with sensors for improved monitoring.
- Analyse and find the current system of monitoring the water.
- Ion exchange technique upon detection.
- A machine that works like an engine and uses chlorine to remove dust particles.

Nitin A

- Water quality monitoring with an Arduino board and sensors.
- pH sensor,turbidity and temperature are connected to Arduino.
- Predetermined values in Arduino track the river quality indicators.
- Sensor data from the zig bee network.
- Tracking the location of an area with more dust using GPS.
- GSM modules for data collection and transmission on water quality to mobile application.
- Controlling the dust particle with ultrasonic radiation.

Antony Gunal P

- Image processing and two NBT cameras are used to measuring apparatus.
- Monitoring the water using a microcontroller node based on cloud data.
- Notifying residents of the presence of dust in the water in their water.
- Chemical and biological changes identification of water using traditional techniques.
- Methodology for removing air pollution to reduce dust particles.
- Before it effects the entire water body,jitte dams are built and cleaning the dust particles.
- Equipment for manually or semi-automatically controlling pH,turbidity and water temperature.
- pH indicator using hydrophobics and aquaphobics technology.

Mohamed Noufhal Abbas K

- Measuring the amount of suspended silt using a turbidity sensor.
- The level of water is measured using an ultrasonic sensor.
- Water-resistant temperature sensors prevent damage and electrical shock.
- Turbidity train sensors measure clarity.
- Data from numerous sensor nodes should be assembled.
- Any deviation in the water will be indicated by the buzzer.
- A remote server can analyse realtime data gathered from an active site.
- To automatically send an SMS to a designated person whenever water quality is detected to be below the predetermined standard.

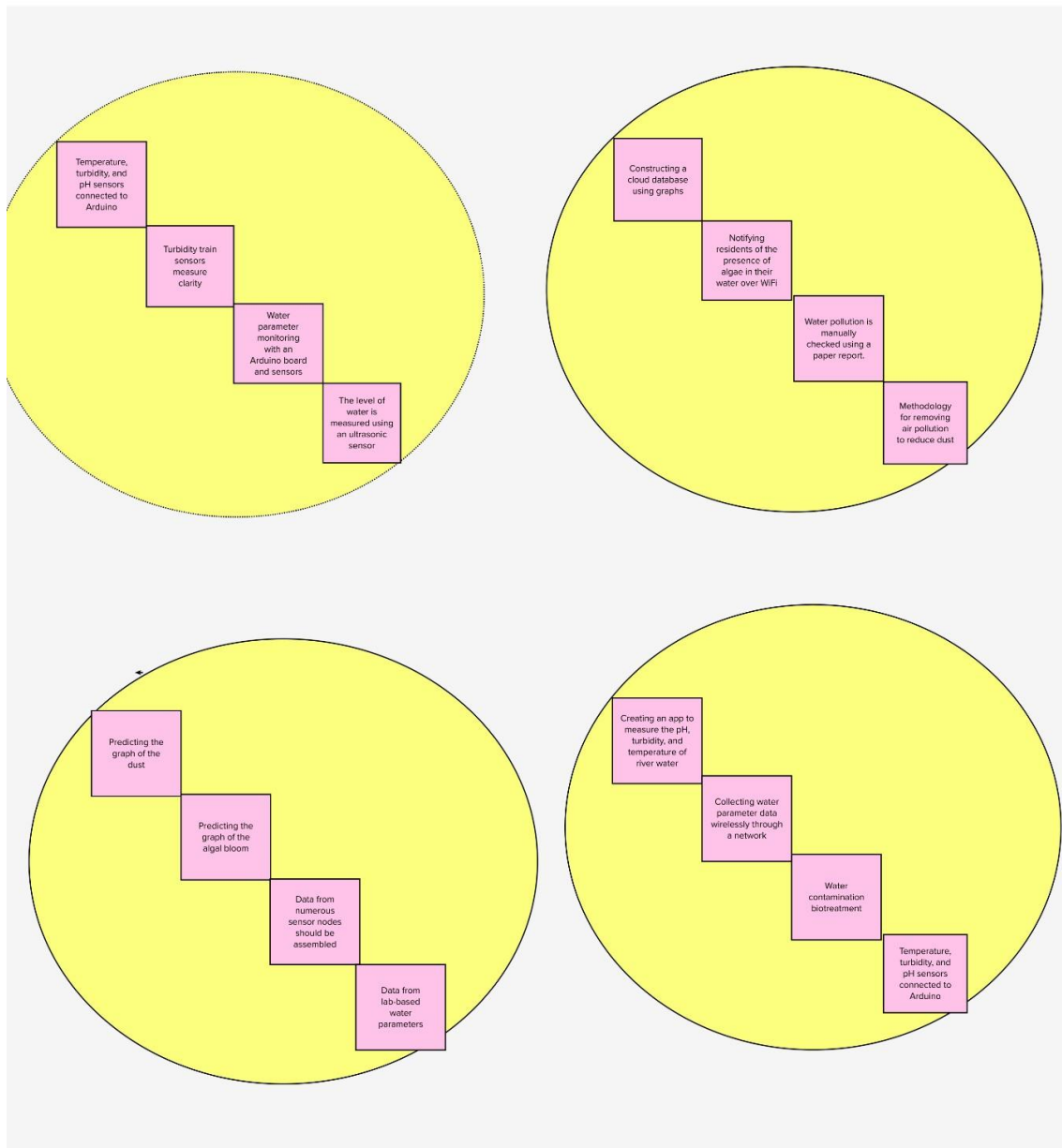
Step-3: Idea Prioritization

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



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

