Ideation Phase

Brainstorm & Idea Prioritization

Date	07 October 2022
Team ID	PNT2022TMID31860
Project Name	Project – Real Time River 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 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.

Brainstorm & idea prioritization

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- 10 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

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 STATEMENT

Farmers put fertilizers and pesticides on their crop so that they grow better but these fertilizers and pesticides can be washed through the soil by rain to end up in the rivers.

If the large amount of fertilizers or the farm waste drain into river the concentration of nitrate and phosphate in the water increases considerably, algae uses these substances to grow and multiply rapidly turning the water green.

The massive growth of algae called Eutrophication that leads to pollution. When the algae die they broken down by the action of bacteria which quickly multiply using up all the oxygen in the water which leads to the death of many animal

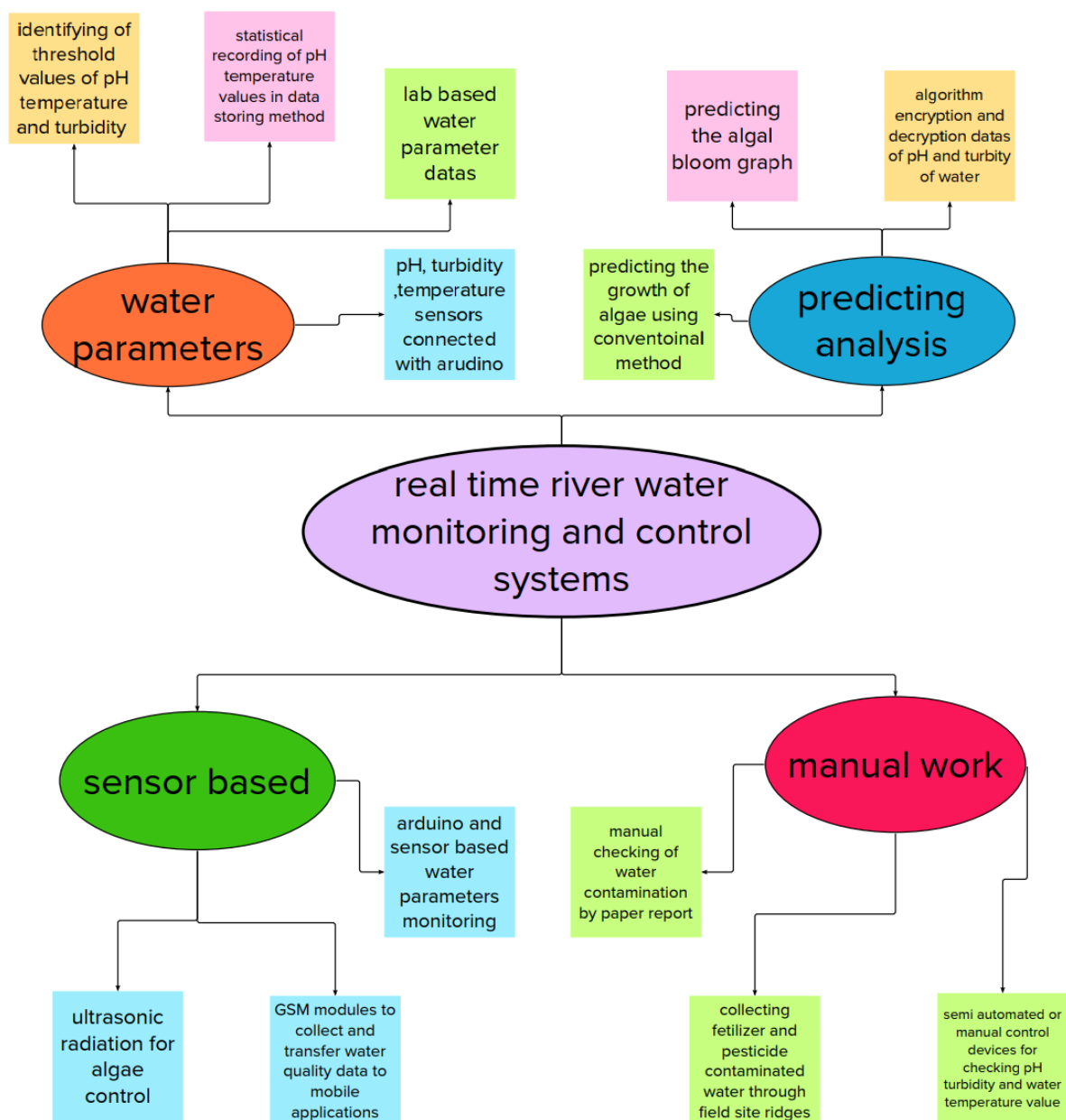## Step-2: Brainstorm, Idea Listing and Grouping

Group ideas

Take turns sharing your ideas while clustering similar or related notes as you go.
In the last 10 minutes, give each cluster a sentence-like label. If a cluster is bigger
than six sticky notes, try and see if you and break it up into smaller sub-groups.

🕐 **20 minutes**

Group ideas

identifying of threshold values of pH temperature and turbidity

statistical recording of pH temperature values in data storing method

lab based water parameter datas

predicting the algal bloom graph

algorithm encryption and decryption datas of pH and turbity of water

water parameters

pH, turbidity ,temperature sensors connected with arudino

predicting the growth of algae using conventoinal method

predicting analysis

real time river water monitoring and control systems

sensor based

arduino and sensor based water parameters monitoring

manual checking of water contamination by paper report

manual work

ultrasonic radiation for algae control

GSM modules to collect and transfer water quality data to mobile applications

collecting fetilizer and pesticide contaminated water through field site ridges

semi automated or manual control devices for checking pH turbidity and water temperature value

Step-3: Idea Prioritization

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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**

♡ **Importance**

If each of these tasks could get done without any difficulty or cost, which would have the most positive impact?

⚑ **Feasibility**

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

- arduino and sensor based water parameters monitoring
- app developing for detecting pH ,turbidity and temperature of river water
- UI web application for water monitoring
- ultrasonic radiation for algae control
- alerting water contamination of algae to locals through Wi-Fi
- nephelometer *for turbidity* measurement
- hydrophonics and aquaphonics technology for pH indicator