Ideation Phase
Brainstorm & Idea Prioritization

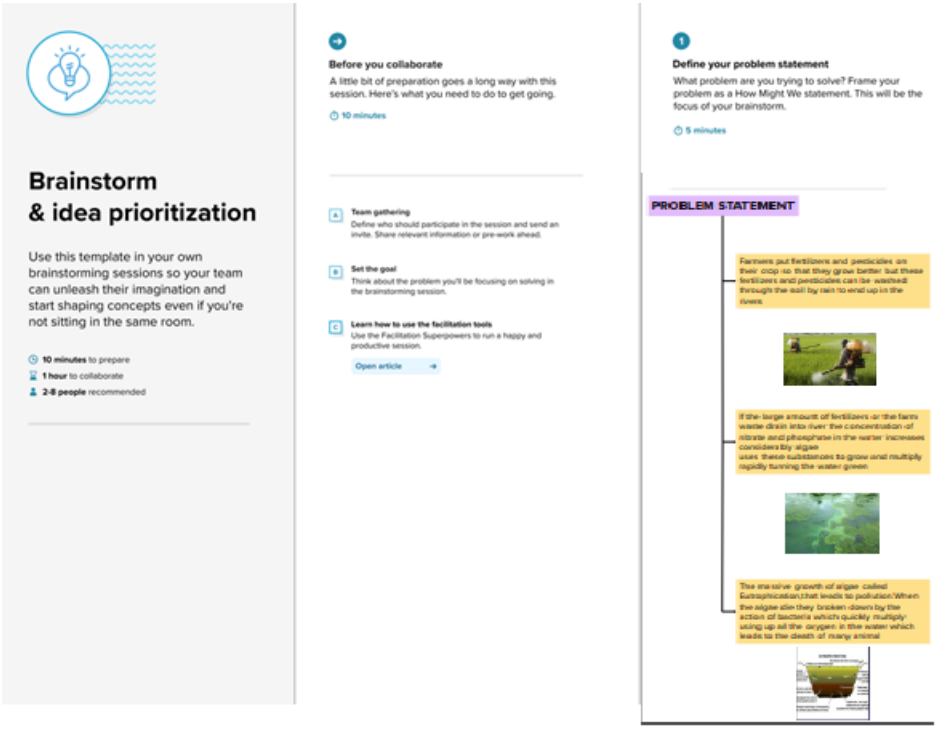
Date	17 September 2022
Team ID	PNT2022TMID48692
Project Name	Project – Real Time River Water Quality Monitoring System
Maximum Marks	4 Marks

Brainstorm & Idea Prioritization Template:

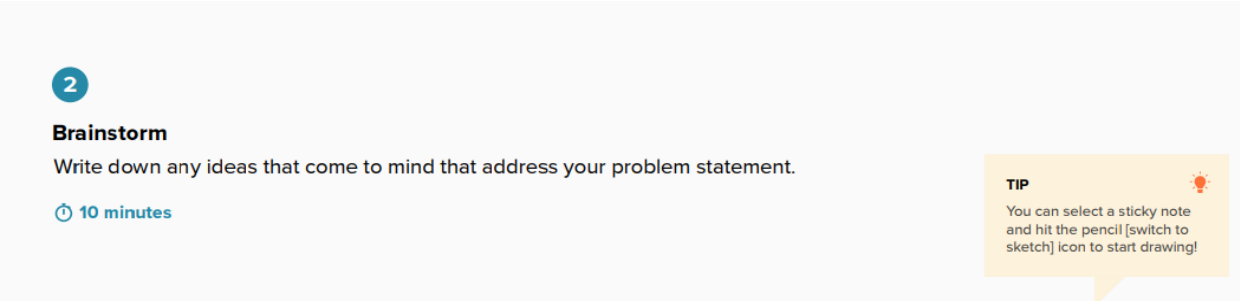
Brainstorming provides a free and open environment that encourages everyone within a team to participate in the creative thinking process that leads to problem solving. Prioritizing volume over value, out-of-the-box ideas are welcome and built upon, and all participants are encouraged to collaborate,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

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



Step-2: Brainstorm, Idea Listing and Grouping



Nandha Kumar G

- Each data needs to be in different measures to analyze the quality
- Prediction can also be taken from the historical dataset
- Keep the data design
- The proposed prediction system will iteratively test the model with training and testing datasets
- Data modeling to use the past dataset to inform the future effort
- The data mining techniques will be used for applying the classification method for water quality application

Nalinashree N

- The data distribution in the testing data should not affect the training data set.
- Various techniques can be included to predict the quality within the application.
- Use a minimal number of parameters with cheap sensors to predict water quality
- Using supervised learning algorithm, water quality class can be predicted
- Cross-validation can used to evaluate method for reducing scales of overfitting and increasing accuracy of the model
- Variable importance analysis can increase the accuracies of the models

Renuga Devi N

- Massive dataset and strong correlation between parameters will make the best prediction.
- Accurate model can be selected based on the outcome in the model evaluation
- Network structure selection method is proposed to identify the corelated input parameters
- A method like neuro-fuzzy interference system can be implemented which is capable of integrating linear and non-linear relationships in dataset.
- Evaluating the effect of substantial nutrient loads on overall water quality
- Some of the variables can be eliminated due to the meaningless analysis

Vikram S

- The size of training datasets should not be less than the number of training parameters required in the model.
- Stratified sampling strategy is used to mitigate the uneven distribution of training and testing dataset
- The timeline of the measurements must be recorded
- Parameters like temperature, turbidity, pH and dissolved solids can be used
- Feature selection helps to simplify the procedure and reduce computational cost of analysis
- The variable importance measure must be weighted sums of the absolute regression coefficients.

3

Group ideas

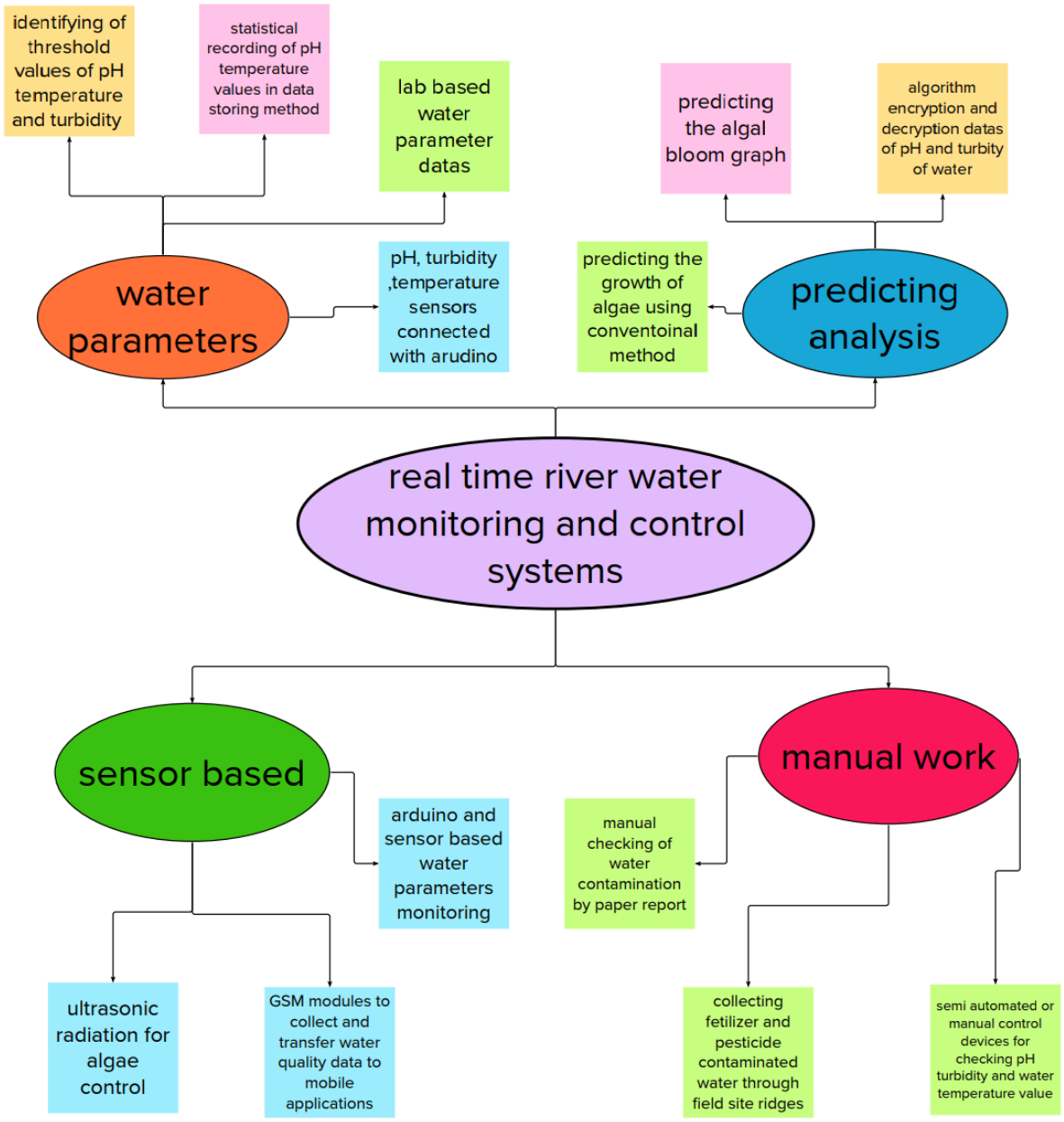
Take turns sharing your ideas while clustering similar or related notes as you go. In the last 10 minutes, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you and break it up into smaller sub-groups.

20 minutes

TIP

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

Group ideas



Step-3: Idea Prioritization

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

TIP

Participants can use their cursors to point at where sticky notes should go on the grid. The facilitator can confirm the spot by using the laser pointer holding the **H key** on the keyboard.