

Ideation Phase

Define the Problem Statements

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|---------------|--|
| Date | 26 September 2022 |
| Team ID | PNT2022TMID10134 |
| Project Name | VirtualEye - Life Guard for Swimming Pools to Detect Active Drowning |
| Maximum Marks | 2 Marks |

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

VIRTUAL EYE

Brainstorm & idea prioritization

In this session we aim to achieve a good base for beginning our project. With clear understanding of the task at hand, the next step would be to collectively put in our thoughts/ imagination and end with a proper feasibility study.

Ground Rules

- Be Creative
- Rule out every possible ideas and improvements
- Make your points clear and purposeful
- Don't hesitate. (Every point is noteworthy)
- Arguments are good ALA it is beneficial
- Have various perspectives towards the problem

1

Choose your best "How Might We" Questions

Share the top 5 brainstorm questions that you created and let the group determine where to begin by selecting one question to move forward with based on what seems to be the most promising for ideageneration in the areas you are trying to impact.

10 minutes

How might we detect a swimmer who is in trouble in the pool and provide an alert?

How might we achieve the ability to recognize the swimmer's position and alert the rescue team?

How might we explore the ability to detect a swimmer's position and alert the rescue team?

How might we improve the accuracy of the system?

How might we improve the accuracy of the system?

2

Brainstorm solo

Have each participant begin in the "solo brainstorm space" by silently brainstorming ideas and placing them into the template. This "silent-storming" avoids group think and creates an inclusive environment for introverts and extroverts alike. Set a time limit. Encourage people to go for quantity.

10 minutes

Kishore Kumar

- High level testing must be carried out before final deployment.
- Requires HD cameras for good quality frames to be processed.
- Provides clear and proper message to the rescue team.
- Proper typeface and font should be used for readability.
- Understand the camera as a possible solution for detecting the swimmer's position.
- Make sure the stakeholders know how the system works.
- 24/7 Power supply is must for the system to run & report.
- Make a team to take care of the system and report.

Barani

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Karthika

- The AI should be trained with more samples for better results.
- How will be the accuracy level in the system?
- For privacy purpose the video stream should not be stored.
- There should be a backup system in case of power cut.
- Will the system detect properly if the pool is empty?
- The system should not annoy others.
- More cameras should be used to improve accuracy.
- System should detect multiple drowning and should report the same.
- AI should be trained in such a way that it should detect multiple drowning.

Babhu Ganesh

- power backup should be there in case of power cut.
- What happens if an animal is in the pool?
- All should be trained in such a way that it should detect multiple drowning.
- Network connectivity should be maintained properly for good results.
- Use powerful algorithm to get the data from various datasets.
- Cameras should be maintained properly for good results.

3

Brainstorm as a group

Have everyone move their ideas into the "group brainstorm space" when the template and have the team silently read through them. As a team, sort and group them by themes/topics or similarities. Discuss and answer any questions that arise. Encourage "Yes, and..." and build on the ideas of other people along the way.

10 minutes

Privacy

For privacy purpose the video stream should not be stored.

User Perspective

The system should not annoy the swimmers.

Camera & Hardware

Cameras should be maintained properly for good results.

Power

power backup should be there in case of power cut.

AI and ML

The AI should be trained with more samples for better results.

Features

Will the system detect properly if the pool is empty?

Network and Connectivity

Network connectivity should be good for better results.

AI and ML

AI should be trained with more samples for better results.

Power

power backup should be there in case of power cut.

AI and ML

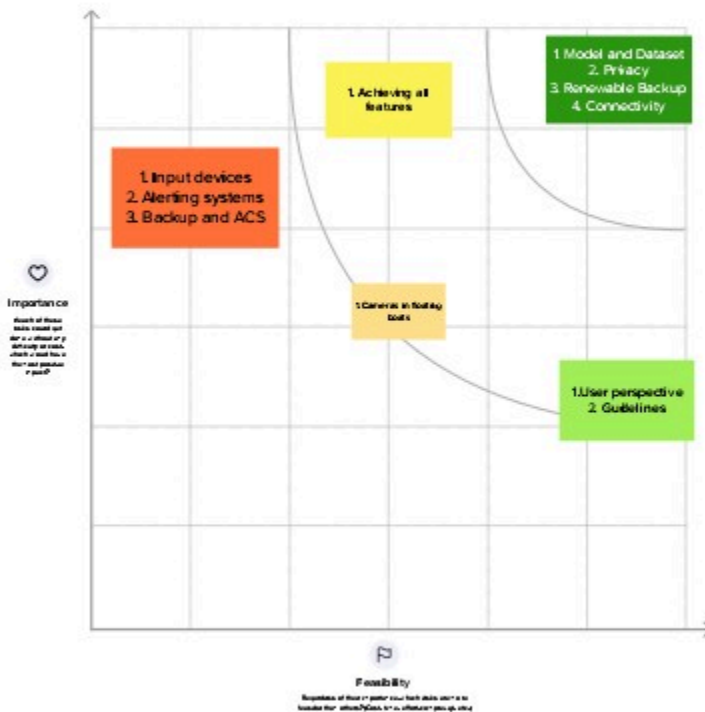
The AI should be trained with more samples for better results.

4

Prioritize

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

20 minutes



5

Decide your focus

Give each person two cards to vote which idea should your team focus on. Assign the duties & responsibilities.

5 minutes

| | |
|--|---------------------------|
| Kishore Kumar Backend and integration | Barani Backend and ML |
| Karthika Frontend and Design | Babhu Ganesh and UI/UX |

What's Next...

- Plan and code an efficient model and train it with the correct hyperparameters to produce a probable and accurate result.
- Enhance the system to work in a proper environment in an integrated manner to yield a cohesive solution.
- Create a proper front-end dash to give only information with almost clarity and least delay.
- Compare with the solution that is minimal, portable, less intrusive and cost effective.



Team

- Kishore Kumar
- Barani
- Karthika
- Babhu Ganesh

