Project Design Phase-I
Proposed Solution Template

Date	24 September 2022
Team ID	PNT2022TMID02240
Project Name	Project - VirtualEye - Life Guard for Swimming Pools to Detect Active Drowning
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Swimming is one of the best exercises that helps people to reduce stress in this urban lifestyle. Swimming pools are found larger in number in hotels, and weekend tourist spots and barely people have them in their house backyard. Beginners, especially, often feel it difficult to breathe underwater which causes breathing trouble which in turn causes a drowning accident. Worldwide, drowning produces a higher rate of mortality without causing injury to children. Children under six of their age are found to be suffering the highest drowning mortality rates worldwide. Such kinds of deaths account for the third cause of unplanned death globally, with about 1.2 million cases yearly. To overcome this conflict, a meticulous system is to be implemented along the swimming pools to save human life.
2.	Idea / Solution description	By studying body movement patterns and connecting cameras to artificial intelligence (AI) systems we can devise an underwater pool safety system that reduces the risk of drowning. Usually, such systems can be developed by installing more than 16 cameras underwater and ceiling and analyzing the video feeds to detect any anomalies. but AS a POC we make use of one camera that streams the video underwater and analyses the position of swimmers to assess the probability of drowning, if it is higher then an alert will be generated to attract lifeguards' attention. The system is not designed to replace a lifeguard or other human monitor, but to act as an additional tool. “It helps the lifeguard to detect the underwater situation where they can’t easily observe

3.	Novelty / Uniqueness	Instead of using 16 cameras we are using only a single camera to analyse the position of swimmers and to assess the probability of drowning.
4.	Social Impact / Customer Satisfaction	Saving people at the right time of drowning and active watching of the swimming pool for any such incidents. Due to increasing deaths in swimming people because of drowning our project will be very much useful in saving lives of people in a very short time.
5.	Business Model (Revenue Model)	Since there is a system to ensure the safety of swimmers, It will attract more people to learn swimming and boost the business.
6.	Scalability of the Solution	Since this system analyses the whole swimming pool it gives the best accuracy to detect the person drowning.