Project Design Phase-II
Solution Requirements (Functional & Non-functional)

Date	24 October 2022
Team ID	PNT2022TMID34450
Project Name	Virtual Eye - Life Guard for Swimming Pools to Detect Active Drowning.
Maximum Marks	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	Camera Installation	Cameras should be installed inside water and in the walls of the building.
FR-2	Sensor Installation	Installed under the water without disturbing the people.
FR-3	Deduction	Detected by pulse rate and movements.
FR-4	Alert	Sends an alert message to the lifeguard.
FR-5	Support	Lifeguard help or swim tubes.
FR-6	Alarm	Rings alarm with drowning detected.

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	When someone is drowning, the sensor detects the pulse rate and locate the swimmer who is drowning and alert the people.
NFR-2	**Security**	Lifeguards will be present in the pool and the cameras are secured by the management and are safe.
NFR-3	**Reliability**	The process will be a reliable multimedia video-based surveillance system.
NFR-4	**Performance**	When the pulse rate of the swimmer reduces then the alarm will be triggered.
NFR-5	**Availability**	Detection equipment includes safety wheel, pool hook, rescue tubes, first aid box etc.

NFR-6	**Scalability**	Deep learning algorithm for the pulse rate detection helps the lifeguard for earlier prediction of drowning along with the reason behind their drowning.