

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

Date	03 October 2022
Team ID	PNT2022TMID53114
Project Name	VirtualEye - LifeGuard 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	User/Organization Registration and subscription	Registration through VirtualEye website and opting for a monthly or yearly plan
FR-2	User/Organization Confirmation	Confirmation via Email
FR-3	Drowning Detection	Perceive the depth and process the image captured by the system based on certain metrics to confirm drowning.
FR-4	Alarm and Alertion of services	Sound the alarm to notify the lifeguard when a case of drowning is confirmed by the system. Call emergency services in case of a critical situation.
FR-5	Flotation device deployment	Dispatch the flotation device in the direction of the drowning person.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	The system is user-friendly and self-explanatory. No specific training is required. On detection of drowning, the system performs the required actions automatically.
NFR-2	Security	Any footage recorded by the system will be kept confidential and safe from unauthorized access. Only in the case of an investigation, with prior consent, would any of the footage be accessed.
NFR-3	Reliability	The system is very accurate with reporting an incident. Once installed, the system could fail only if the basic maintenance is not done regularly.
NFR-4	Performance	With a quick response time, the performance of the system is hindered only by the speed at which the lifeguard responds to the alarm. Deploying a flotation device is immediate.

NFR-5	Availability	The system remains operational 24/7 as all the functions are automated and continue to work seamlessly without any hitch. The system goes offline only during maintenance or when the flotation device has to be reinstalled/replaced.
NFR-6	Scalability	The system can be deployed in a wide array of places ranging from personal swimming pools to large sports complexes.