

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

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|---------------|--|
| Date          | 15 October 2022  |
| Team ID       | PNT2022TMID40599   |
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| Project Name  | Virtual eye – lifeguard for swimming pools for 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   | Installation                  | Needed to be fixed under the water without creating any disturbance to the people in the swimming pool. |
| FR-2   | Deduction                     | Either horrified or in unconscious  |
| FR-3   | Audio                         | Ask for help or stay quiet if the person is unconscious   |
| FR-4   | Support                       | Take swim tubes or take the help of rescuer   |
| FR-5   | Pulse rate sensor             | Detect the pulse rate of a swimmer  |
| FR-6   | Prior Alert                   | Send alert message to the lifeguard   |

**Non-functional Requirements:**

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

| FR No. | Non-Functional Requirement | Description  |
|--------|----------------------------|--|
| NFR-1  | <b>Usability</b>           | To ensure the safety of each and every person present in the pool. A Lifeguard should be present all the time in the pool. |

|       |                     |   |
|-------|---------------------|---|
| NFR-2 | <b>Security</b>     | Lifeguards should be aware of the alert message to save the life of the swimmer   |
| NFR-3 | <b>Reliability</b>  | Virtual eye lifeguard triggers an immediate prior alarm if a swimmer is in peril, helping to avoid panic even in critical situations.   |
| NFR-4 | <b>Performance</b>  | The alarm is triggered when the swimmer's pulse rate is decreasing  |
| NFR-5 | <b>Availability</b> | Equipment and accessories include lifesaver rings, inflatable vests, a Shepherd's Crook, life hooks, spine boards, rescue tubes, and a first aid kit. Remember to keep them accessible to quickly pull someone from the water safely. |
| NFR-6 | <b>Scalability</b>  | Virtual eye lifeguard detects potential drownings and promptly notifies you. It features the latest artificial intelligence technology and adapts to the needs of the user.   |