Project Design Phase-II

Solution Requirements (Functional & Non-functional)

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| Date | 24 October 2022 |
| Team ID | PNT2022TMID09949 |
| 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.

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| **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.

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| **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. |

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| 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. |