

Project Design Phase-I
Proposed Solution Template

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| Date | 22 october 2022 |
| Team ID | PNT2022TNID00276 |
| Project Name | VirtualEye - LifeGuard For Swimming Pools To Detect Active Drowning |
| Maximum Marks | 2 Marks |

Proposed Solution:

| S.No. | Parameter | Description |
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| 1. | Problem Statement (Problem to be solved) | Swimming is one of the best exercises that helps people to reduce stress in this urban lifestyle. 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 |
| 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 analyzes the position of swimmers to assess the probability of drowning, if it is higher than an alert will be generated to attract lifeguards' attention. |
| 3. | Novelty / Uniqueness | Inorder to detect the drowning person we use a combined software that includes AI,CNN,NLP,YOLO algorithm,Cloudant DB along with some hardware components like high resolution cameras, alarm, triggers etc. |
| 4. | Social Impact / Customer Satisfaction | Drowning globally has a higher death rate especially among children under the age of six. To overcome this conflict Our drowning detection system will have an impact on society. |

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| 5. | Business Model (Revenue Model) | Drowning is an major issue in recent days and it is causing unwanted deaths. So having a fully developed software model for drowning deection will yeild high demand and cost. |
| 6. | Scalability of the Solution | After setting up the software any normal people can understand the working procedure. Alarm triggering action is set active all the time and it will be audible to all the people near the pools and private messages are also automatically sent to the lifeguards. |