Ideation Phase
Empathize & Discover

Date	19 September 2022
Team ID	PNT2022TMID18651
Project Name	LifeGuard for Swimming Pools through VirtualEye Using CNN
Maximum Marks	4 Marks

Empathy Map Canvas:

Swimming is one of the best exercises that helps people to reduce stress in this urban lifestyle. Swimming pools are found larger in number in hotels, and weekend tourist spots and barely people have them in their house backyard. Beginners, especially, often feel it difficult to breathe underwater which causes breathing trouble which in turn causes a drowning accident. Such kinds of deaths account for the third cause of unplanned death globally, with about 1.2 million cases yearly. To overcome this conflict, a meticulous system is to be implemented along the swimming pools to save human life. 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 analyses the position of swimmers to assess the probability of drowning, if it is higher then an alert will be generated to attract lifeguards' attention. The method uses convolution neural network object detector to generate confidence maps of object location in pool and non maximum suppression to extract head pixel coordinate. This project uses CNN architecture to classify different object with their dimension ,so we detect human from the video frame ,then we calculate height and width for that object. If the swimmer gets difficulty then the system throw alert for security.

Example:

Reference:https://app.mural.co/t/ibm00821/m/ibm00821/1665478931522/d3ddb1f10c2aa9243ac5a6bb5acb61dd3b6b9ce6?sender=u86889080090b6c9e84142019

Empathy Map Canvas

An empathy map is a collaboration tool teams can use to gain a deeper insight into their customers

In the event of a serious droning incident, swim eye can warn lifeguards much earlier than compared this technology

Swim eye can provide very stable monitoring and highly effecting drowning incident detection.

The live video stream from other underwater cameras is automatically monitored by our stage-of-arts object recognition software

It will raise a radio alarm to pool lifeguards and an visual alarm to our monitoring & control station

swim eye is secure, private and customizable to be compliant with regional and privacy regulations

life can visually assess the developing situation within seconds of the event first occurring

FEELS

DOES

USER

THINKS

SAYS

Angel Eyes life guards is customizable according to the customer needs

swim eye works like an extra lifeguard under the water of user pool

The live colour video stream is automatically processed by our object recognition software

The alarm is also provided directly to pool life guards via portable

Swim eye is a computer vision detection system for the prevention and drowning incidents in swimming pool.

our underwater camera will monitor and track the movements of all swimmers in the pool