VIRTUAL EYE LIFEGUARD FOR SWIMMING POOL TO DETECT ACTIVE DROWNING SYSTEM

LITERATURE SURVEY

TEAM MEMBERS

M. MAHESWARI (953119106011)

M. PARAMESHWARI (953119106017)

M. PRABHA (953119106023)

V. SIVARANJANI (953119106036)

TEAM ID:PNT2022TMID50752

LITERATURE SURVEY

Table 1: Literature Survey

Sl. No.	Title	Author & Publications	Year	Description
1.	Development of a Bathing Accident Monitoring System Using a Depth Sensor	Yoshiaki Endo, Chinthaka Premachandra & *IEEE Sensors Letters*.	2017	Intel RealSense D415 depth sensor is used. It measures distance by the active stereo method.

LITERATURE SURVEY (CONTD.)

Sl. No.	Title	Author & Publications	Year	Description
2.	Bathroom accident detection with 79GHZ-bandmillimeter wave sensor	Seiji Matsuguma, Akihiro Kajiwara & *IEEE Instrumentation and Measurement Society.*	2019	A bathroom monitoring system with a 79GHZ sensor has been suggested where a K- means clustering method to estimate some state of bathing person against waving in a bathtub and the other interference such as multipath.

LITERATURE SURVEY (CONTD.)

Sl. No.	Title	Author & Publications	Year	Description
3.	Tactile Paving Detection by Dynamic Thresholding Based on HSV Space Analysis for Developing a Walking Support System	YUKI ITO,CHINTHAKA PREMACHANDRA, SAGARA SUMATHIPALA, H. WARUNA H. PRAMACHANDRA, AND B. S. SUDANTHA *& IEEE Access.*	2021	Intel RealSense D435 depth camera used. The camera has stereo vision and measures depth by using infrared rays combined with millimeter radar based on the principle of triangulation.

LITERATURE SURVEY (CONTD.)

Sl. No.	Title	Author & Publications	Year	Description
4.	DESIGN OF A DROWNING RESCUE ALERT SYSTEM	Samuel Ndueso John, Ukpabio Imelda Godswill, Omoruyi Osemwegie, Godfrey Onyiagha, Etinosa Noma-Osaghae, and Kennedy Okokpujie & *International Journal of Mechanical Engineering and Technology (IJMET).*	2019	The design of the drowning alert system works on the principle of heart rate pressure.

LITERATURE SURVEY (CONTD.)

Sl. No.	Title	Author & Publications	Year	Description
5.	Smart System for Monitoring and Control of Swimming Pools	Goncalo Simoes, Carolina Dionisio, Andre Gloria, Pedro Sebastiao, Nuno Souto & *IEEE*.	2019	Architecture is based on WSN combining low-cost and low power hardware with long range communication modules, that allows the system to be more efficient and run on batteries for extensive time periods.

LITERATURE SURVEY (CONTD.)

Sl. No.	Title	Author & Publications	Year	Description
6.	Computer Vision Enabled Drowning Detection Systems	Upulie Handalage, Nisansali Nikapotha, Chanaka Subasinghe, Tereen Prasanga, Thusithanjana Thilakarthna, Dharshana Kasthurirathna & *3rd International Conference on Advancements in Computing (ICAC).*	2021	They proposed vision-based systems and wearable sensor-based systems are two types of existing drowning detection technologies.

LITERATURE SURVEY (CONTD.)

Sl. No.	Title	Author & Publications	Year	Description
7.	A Novel Method for Recognition, Localization, and Alarming to Prevent Swimmers from Drowning	Hanbing Liu, Mohamed Ben Haj Frej, Bo Wen & *IEEE Cloud Summit.*	2019	A method of monitoring the swimmer's condition in the swimming pool, using the ultrasonic device, hydraulic sensor, processor and alarm equipment is proposed.

LITERATURE SURVEY (CONTD.)

Sl. No.	Title	Author & Publications	Year	Description
8.	A Hybrid Camera System for high-resolutionization of Target Objects in Omnidirectional Images	Chinthaka Premachandra and Masaya Tamaki & *IEEE Sensors Journal.*	2021	To address the difficulty of object recognition due to low resolutions of omnidirectional cameras used in the context of object detection.

LITERATURE SURVEY (CONTD.)

Sl. No.	Title	Author & Publications	Year	Description
9.	Measurement of Water Level in a Monitoring System of a Bathroom	Satoshi Isonaga, Satochi Hattori, Masayuki Okamoto, and Shogo Tanaka & *SICE Annual Conference*.	2004	Proposed the method of measuring the water level of a bathtub monitoring system. The sensor was located at the point of 4.2 % below the pipe top end.

LITERATURE SURVEY (CONTD.)

Sl. No.	Title	Author & Publications	Year	Description
10.	Head posture estimation by deep learning using 3D point cloud data from a depth sensor	Seiji Sasaki and Chinthaka Premachandra & *IEEE Sensors Letters.*	2017	The RealSense D435 depth sensor was used.

LITERATURE SURVEY (CONTD.)

Sl. No.	Title	Author & Publications	Year	Description
11.	Drowning Detection System	Delaney C. Ofrecio, Patricia Mae M. Maño & *International Journal of Recent Technology and Engineering (IJRTE).*	2019	Displayed the time limit status of the person in the water using Arduino UNO interfaced to LCD screen.

LITERATURE SURVEY (CONTD.)

Sl. No.	Title	Author & Publications	Year	Description
12.	An Automatic Video-Based Drowning Detection System for Swimming Pools using Active Contours	Nasrin Salehi, Maryam Keyvanara, Seyed Amirhassan Monadjemmi & *International Journal of Image, Graphics and Signal Processing*.	2014	Provided a method to robust human tracking and semantic event detection within the context of video surveillance system capable of automatically detecting drowning incidents in a swimming pool.

LITERATURE SURVEY(CONTD.)

Sl. No.	Title	Author & Publications	Year	Description
13.	Automated Vision based Swimming Pool Surveillance System	Darshan V, Sai Anish R, Shiddaramanaguda T, Achinthya Holla, Swetha T & *International Research Journal of Engineering and Technology (IRJET).*	2021	This system do not have to wait until life guard comes to rescue because it has uplifting mesh. This is very fast process. More effective and cost efficient than previous other models.

THANK YOU