A Review on Public Safety system using Raspberry Pi method

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ABSTRACT

Across the world, public safety is the most vital task facing city governments. Automation is becoming more and more popular day by day due to its many advantages. In this paper we are proposing an innovative device which gives a little healable solution to the human society from natural calamities, terrorist attacks, nuclear weapon strikes, human disasters, and accidental deaths in the seashores and in the under water. Raspberry Pi makes network security as a cost effective and easy to implement. Raspberry pi are open and well documented as well and the things you can build and modify yourself. This also promotes a good informative appliance for fisherman and scuba drivers for their sustainable fishing by satellite and research activities in the under water.

KEYWORDS: Raspberry Pi, control room, Automated Vehicle, Artificial intelligence, under water surveillance.

1. INTRODUCTION:

This innovation consists of a raspberry pi kit which is inserted in an automated vehicle. The advantageous benefits are obtained for under water surveillance, natural calamities, and etc. These are detected and transmitted to the base station. The identification of tsunamis, earthquakes, volcanoes, are to be detected and intimated to the weather forecasting departments, this will be an accurate Information. Sustainable fishing facility is given with a specified application to their respective gadgets for fisherman. By this application users can obtain their desired achievements. Accidental deaths can be prevented. Levels of contaminants in the water can be observed. Preventing the death of underwater living creatures by examining of water samples.

2. LITERATURE SURVEY:

The living creatures by regular examining of water samples. In this proposed system as smart as a pencil idea which makes safer than earlier existed systems. This is made by using GSM and GPS technology.

In this project usage of a DC Motor in which real time system is related to the ignition system of the diver[15]. In this proposed system the DC Motor turns on, only when the diver is utilizing the from the application the accurate application is done .Detection and alerting is done with the use of sensors camera, and e.t.c, which in turn will be connected to Raspberry Pi, GSM and GPS technology. This is specially developed as to improve the safety measures for the people. Divers will be alarmed when the speed limit is exceeded [13]. The project is designed to improve the safety and reduce accidents, especially fatal to the divers, boats and other water transport vehicles. This is the project with low cost and less complexity. Reduce the worked load of navy and police department. The scope of this project is for scuba drivers, fisherman's, researchers, under water divers and etc. that they care about their safety while operating their vehicles and professions.[2]In this purposed project an automatic recognition system is applied with raspberry pi camera and Mat lab R2014a version. The project includes raspberry pi 2 model B module with camera for capturing the human image and videos of the people who are in mental depression, or attempting any suicidal attempts. This face recognition management system is proposed here using Mat lab R2014a and Raspberry pi 2 using computer vision toolbox as:

- ✓ Formation of human database.
- ✓ Capturing of human depression activities, suicidal attempts video.
- ✓ Frame selection from the video and sending to departments for preventing any disaster.
- ✓ Face detection by Viola-Jones algorithm is done.
- ✓ Features extraction by LBP and HOG algorithms is made.
- ✓ Face recognition by comparing with database and taking prevention measures.
- ✓ Stored features and immediate transferring information to police department.
- ✓ Maintaining citizens in a safe and secure hygiene.

In this proposed system in automated vehicle using raspberry pi is discussed. It uses proximity sensor and Camera interfacing a proximity sensor is a sensor able to detect the presence of nearby objects without any physical contact. Proximity sensors can have a high reliability and long functional life because of the absence of mechanical parts and lack of physical contact between sensor and the any object. Its range could be varied by using pot. In our project we use of proximity sensors for door purpose (i.e. Opening and closing of door). For taking readings in the water for observing readings to prevent from tsunamis and earth quakes, water samples to check the toxicants in water for water living and non living creatures in water. All the equipments placed in the automated vehicle when needed to take readings it move from the vehicle chambers from door and that testing takes place. A web interface for the Raspberry Pi Cam that can be opened on any browser (smart phones included) .It takes single or multiple (time lapse) pictures and save them on the ROM. We are interfacing camera with raspberry pi which is used for home security purpose. It captures images of stranger entering in the water bodies without any permissions or any illegal vehicles carrying gun powders and weapons and the images are saved on ROM and could be send on

browser. The goal of the paper is to implement smart idea interfacing it with the kit and making the police department, navy to perform automated Operations which help them to take safety measures.[5] the proposed project is a security application for computers and networks that gather and analyze information by scanning all the inbound and outbound network activities. The usage of Raspberry Pi Honey pot as a decoy in the network represents a simple and an efficient solution for enhancing network security using raspberry pi and open source tools. A decoy based technology, Honey pot along with a Raspberry Pi makes network security cost effective and easy to implement. This proposed project is developed as a separate device (Raspberry Pi) physically present in the network. The rapport of this work is to introduce a new and cost effective mechanism for network security. This mechanism combines the security tools in order to minimize the disadvantages and maximize the security capabilities in the process of securing at A.I based technology, along with a Raspberry Pi makes network security cost effective and easy to implement.

3. PUBLIC SAFTY REVIEW: RASPBERRY PI

This system consists of seismometer, tsunami detector, camera for face recognition**,** e.t.c, transmitter, receiver, automated vehicle, raspberry pi, base station, communication related equipments.

3.1Raspberry Pi:

It is the heart of this innovation. The raspberry Pi is a series of small single board computers developed in the United Kingdom by the raspberry pi foundation to promote teaching of basic computer science and developing countries. Updated raspberry pi kits are utilized for research and development purposes.

3.2Working Principal of Raspberry PI:

From the automated vehicle the raspberry pi will be operated. The transmission and receiving of the data according to the user will be performed in this vehicle with this proposed system many applications can be performed. As it is a proposed system the specific idea of the system is protected for further research.

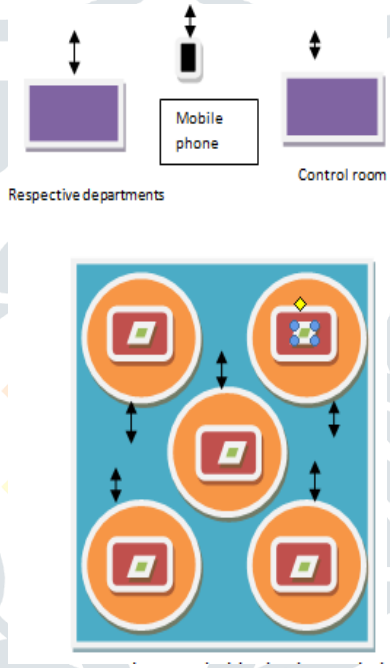
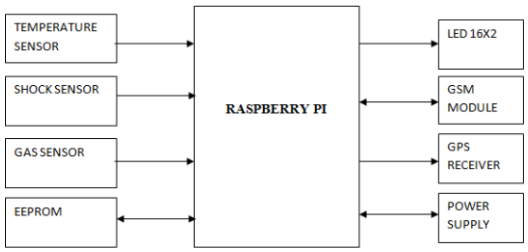


Fig1: raspberry pi kit

Raspberry pi kit is inserted in a automated vehicle. As it is a prototype, this automated vehicle is confined to a specific range and placed in the ocean. Raspberry pi operates and collects the information regarding symptoms of natural calamities, accidents in the water, under water surveillance, locations for fishing, identifying the gun powders, nuclear weapons, obtain the levels of toxic in water samples and e.t.c will



be done and sends this information to the control room later on to its prior departments to carry up the instant actions for those information.

Fig2: raspberry pi and its connection.

4. APPLICATIONS OF RASPBERRY PI

4.1 Easy to operate: with the help of an application used in the mobile phones can operate these projects beneficiaries. ex: if any person lost their family members ,in the sea shore or any fisherman in the middle of the ocean, that people will post a message in it, it is very easy to identify them and alert is to be obtained to this application, as making cautious to the people. In this way we find the people any prevent death.

4.2 Low manpower: No need to use the man power as it is an automated equipment, it can make all the operations based on the application oriented method, and artificial intelligence is a part of the project. Only on alerting and updating information to the emergency situations, a few humans are utilized.

4.3 High utilization of technology: It is a combination of the technologies as a result a healing prevention is to be seen.

4.4 Spontaneous output: The capture of the human facial and body expressions of the persons who are mentally depressed or trying to suicide attempts, natural calamities, and accidental incidents are to be identified and rapid measures are implemented.

5. CONCLUSION

This Paper deals the review of raspberry pi idea which begins a start-up and gives a solution to the recent problems in coastal areas. This application can educate the people and can inform them with immediate output as weather forecasting
In this way people, animal and plant wealth can be cautious and can be protected.

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