International Journal of Scientific Research and Engineering Development-– Volume 3 Issue 3, May – June 2020
Available at www.ijsred.com

RESEARCH ARTICLE OPEN ACCESS

Automation for Women's Safeguarding Using IOT

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ABSTRACT

In this era, we consider males and females equal in our society, and female safety and security are at great risk and biggest concern for people. We got to know many numbers of cases regarding harassment of females either in our newspapers or television. Keeping this concern in mind about the female security we tend to propose a security patrolling victimization Raspberry Pi or you can also call it Patrolling Robotic vehicle for monitoring. These monitoring systems use cameras and mic mounted on robotic vehicles for security and safety. These robotic vehicles move at a specific path and are supplied with special cameras and many more sensors. These patrolling robots change their paths on detecting the sound waves and then its camera scans to discover and monitors any human faces. These systems use IR primarily based paths following systems for patrolling assigned spaces. It then captures the faces and transmits the photographs right away to control centers or Police Booths who, in return try to solve the issue by going to the spotted areas and also by helping victims out there. Here IoT plays a most prominent role in performing the whole scenario. Therefore we tend to hints an autonomous security mechanism that operates indefatigably and patrols giant areas on its own to secure the females or any person in trouble.

***Keywords*:IoT, Patrolling robots, Cameras, Sensors, Raspberry Pi, GPS.**

I.INTRODUCTION

If we talk about the advancement of our country, then we must consider both males and females responsible for that in every platform not only in societal terms but also in life learning issues. But when this much of contributions are their by these females society then why always the word "CRIME" and the prevocational cases revolves around them . Actually they are not even revolving they are in fair words are expanding. So, considering all the very things and keeping them in mind I think that it is imperative for everyone to guarantee females security. Here the proposed model is totally for safeguarding females as they are autonomous patrolling victimization Raspberry Pi. It has various cameras, sensors mic mounted on them helping in return by analyzing situations and capturing victims from crime scenes clicking their photographs to the Control Centres, who in return will help the victim by reaching the crime scenes in time. We hope Police will reduce the crime with the help of this IoT based innovation.

Applying autonomy seems an easy task or we can say an easy trend but setting the innovations on ground is really a very difficult task. These robotic vehicles can be automatically or remotely controlled. These robots will move in a specific path with the help sensors that are being embedded on them. These robots have capability to capture the image from crime scenes in 360 degree angle turn. By these devices data that is being sent is being gathered and nobody except the people that too authorized people from Police Booths can handled the data leading to data security. These robotic vehicles can be proved useful in every possible fields. For example: Military, Streets, Industries, Complexes, especially in Big Cities and Rural Areas and many more.

II.LITERATURE REVIEW

J. Ghanem Osman Elhaj Abdalla, established an observation framework with a government operative robots based on Raspberry Pi with the use of web conventions. The outskirt armed forces need to watches the fringe territory circumspectly, however even by working with high carefulness it can't find each little episodes in the night without failure. Accordingly there is a need to plan a framework which can identify the movement right now give a message to the close by security control unit. The covert operative robotic framework is associated with three different types of hardware modules which are named as IoT based single on board Raspberry Pi,a night vision camera and various sensor. The gathered data is sent to the clients through the Web Servers afterwards from where required actions are to be taken. [1] Takato Saito and Yoji Kuroda actualized a Robot usually a Mobile utilizing GPS. This so called positioning system proved itself significant for following the device routes. Now a portion of the basic issues arises as of explained. For example: to get high precision and strength GPS needed an improvement in the limitations on the basis of its perceptions face. Other example to be discussed is about the losing Signs, particularly in the clogged and inclusive regions. We utilize double sorts of perceptions from worldwide situating frameworks and spot acknowledgment on frameworks based on versatile robotic limitation. This robot can be consistently checked and the dreadful loss of robots can be limited. [2] In 2013, Cheng Tang, Qunqun Xie, Guolai Jiang, Yongsheng Ou, made a street night based on a model using planar reflection. It has enhances different thoughts of street identification with various ideas of checking the screen. Streets and road checking is in every case significant for performing various exercises. For example: person on foot discovery, any faulty movement, and so forth. This strategy characterizes the pictures of the street. Till now, various structures are intended only for the daytime exercises but if we consider night time no researches are being made. This advancement centres are the unused movement location around evening time. Since this framework is vision based and can recognize the street relying upon the picture, it might confront trouble when some other pictures are seen. For example: Images of coming up vehicles in the area. Here the model based on planar reflection is proven useful for getting the power dissemination of various pixels with an infrared camera. With that, a pixel-based arrangement is utilized to check the various pixels whether the place is within the street or not. [3] In 2017, Kirk Mac Tavish, Michael Paton, and Timothy D. Barfoot, prepared a night rider which is usuallythe headlights using visual Odometry techniques. This innovation calculates the relative movement with the help of an arranged camera pictures for versatile automated framework. The camera embedded is then utilized for gathering huge amount of information and that too with the help of similar reasonable sensors. In any case, since it is a detached segment, it willrely upon outside force supply which will lessen their accessibility. A large number of different sources accessible for lightning reasons can be utilized for purposes. For example: Headlights can be utilized as other light source, with this the paper examines the open air sound system with VO execution of lightning for about 10 km of driving zone for 30 hrs atleast. Right now it incorporates the perceivability run, a unique light source, a force hotspots, and so on.

III.METHODOLOGY

Block diagram of working of an autonomous robots are being described below in the methodology part of this paper.

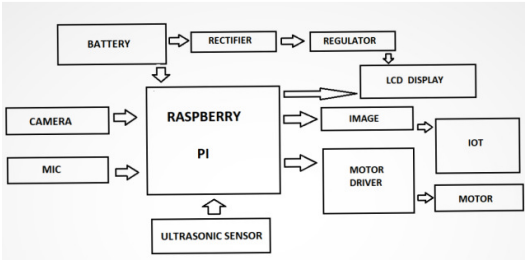

Figure 1: Block diagram of proposed system.

Automation has various intelligence level to cover up the smallest as well as the largest zones. The main component of this model is Raspberry Pi which is a single on-board multi-purpose platform mostly used now a days in IoT based projects. All the components embedded have some special features to work upon. Above diagram shows every possible elements used

in this model. Mic mounted on the top of the robotic vehicle will help in detecting the sound waves and in return these robotic vehicle moves at specific paths. The most important element other than Raspberry Pi is camera which help in capturing the pictures of victim and crime scenes afterwards it is sent to the Control Centres or Police Booths for further actions. We hope this innovation will help safeguarding the females making themselves feel free for working and moving anywhere and anytime.

IV.REQUIREMENTS

IV.1.HARDWARE

- **Ultrasonic Sensors:** calculatesthe distance of an object using sound waves with the help of transducer for sending and receiving signals.
- **Robotic Chassis:**body or platform used for creating robot.
- **Capacitors:**device to store electrical energy.It has two terminals.
- **Cables and Connectors:**help to make connections using wires etc.
- **Breadboards and PCB:**Printed circuit board and breadboards are simple devices to let you create circuits without soldering.
- **Adapters:**converts attributes of one device to those of an incompatible devices.
- **Switch:**small device that help in disconnecting and connecting the electrical circuits.
- **IC Sockets:** electrical connector used in field of electronic engineering.
- **Raspberry Pi:** is a single on-board multipurpose platform. It has every possible element such as CPU, memory, switches, connectors, LEDs, etc which help in developing autonomous projects especially in the field of IoT (Internet Of Things).
- **DC Motor:** rotary electrical motor that converts dc energy into mechanical energy.
- **Push Button:**it is basically a small simple switch like button used forcontrolling some parts of a machine or a process.
- **LED:** a semiconductor source that produce light when current flows through it.
- **Transistors:** a semiconductor device used for amplifying signals.
- **Diodes:**a two terminal component for conducting current in one direction.
- **GPS:** stands for global positioning system. As the name suggest it is helpful in locating the live position of things by using satellite signals. When GPS starts to work then there is communication between GPS transceiver and GPS satellite**.**

IV.2.SOFTWARE

- **Programming Language C:** general purpose computer language.

V.WORKING

Keeping women's safety in mind we have gone through many inventions and researches and after looking into not all but most of them we have tried innovating this IoT based model. So here we propose a security watching robot utilizing Raspberry Pi. The framework utilizes cameras, GPS and mics mounted on automated vehicle for making sure about any premises. The automated vehicle moves at specific way and is furnished with camera and sound sensors. It utilizes a predefined line to follow its way while watching. It stops at specific focuses and moves to next focuses if sound is recognized. The framework utilizes IR based way following framework for watching appointed region. It screens every region to distinguish any issue utilizing mix of two HD cameras. It can screen sound in the premises. Robot hears Any stable after zone is very and it begins moving towards the sound on its predefined way. It at that point filters the zone utilizing its camera to distinguish any human countenances recognized. It catches and starts transmitting the pictures of the circumstance quickly to the helping sites. Here we use IoT gecko for accepting transmitted pictures and showing them to client with ready sounds. In this way we set forward a completely self-governing security robot that works enthusiastically and watches huge regions all alone to make sure about the office.

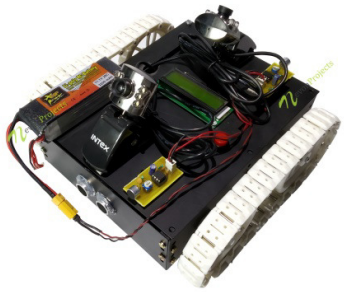

Figure 2. Patrolling Robot

VI.CONCLUSION

This paper concludes the designing of an autonomous security providing robots in different forms. These robots are been tested especially for females security but on other side of scenario you will see that these devices will help everybody with security. Day by day, researches and inventions are made in the security fields and with no doubts they are being proven good for peoples's life. Every component added to this work provides a usefulworking hand to the project. We hope this work will help understanding the upcoming innovations in IoT fields for the concerned topics.

ACKNOWLEDGMENT

We are thankful to the Galgotias University and its helpful Department of Computing Science and Engineering for providing the necessary resources to make this research work possible.

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