

IOT Based Scavenging Crypton

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Abstract: One of the crucial issues in oodles of expanse of the world is sturdiness. Sturdiness in many ways like personnel security, bank security, locality, or a colony security. Hence, we put forward a scavenging bionic man utilizing Raspberry pi. This robot is used in places where there is less populated area or during less population predominantly where intendance is more vital. This robot possesses a camera for scavenging territory. As robot emanates moving in a direction it will start transmitting recorded video of its surroundings to the IOT website. Robot will respond to the sounds which are already predefined in robot and then immediately by utilizing Microphones. When robot has been started at first it will save photo to the desktop of raspberry pi. When sound in made robot recognizes the sound made, turns towards respective side, and starts transmitting live video to the IOT website. Here IOT website is used for receiving transmitted live videos and displaying them to receiver. Hence, we put forward a fully autonomous security robot that operates tirelessly and patrols large areas by accomplishing needs for security.

Index Terms: Raspberry PI, cameras, IOT, Microphones.

I. INTRODUCTION

Security has been one of the vital concerns of the world ergo to thitherto. To persist with security of turf predominantly patrolling is effectuated. Patrolling is a military tactic. Small groups or idiosyncratic cabinetwork are maneuvered from a loftier marshalling to procure a clearly defined pragmatic and then retrocede. The tactic of patrolling presumably pragmatical to naval units, ground troops, combat aircraft, and armored units. The perpetuation of a patrol will permutate from few hours to several weeks reckoning on the quiddity of the aloof and persuasion of possession intricate.

Impeccable ammunition for predominant turfs divulges that a security chief is ferrying foot patrol confetti in ammunition turf. Patrolling inevitably to be accomplished consistently, and the superfluous instant the turf is underneath servitude, the robuster is for an intruder to enact felonious acts. The mere occurrence of an ammunition officer virtuous in the demarcated turf, and not only on duty in an escort shack, but premonition also bestows to felonious trespassers. However, foot patrol is often a splurgy travail that relies on the sophistication and consignment of the personnel engaged; here after, it engages a costlier more-enduring contribution of wages, mileages, and stewardship endeavors. Escorted by the visitation of autarchical mobile robots contrived to abode the summonses of patrolling and invulnerability, reducing costs, and convalescent the quality of constrained-turf scavenging is instantly viable.



FIG 1: Robot module

II. HARDWARE COMPONENT

Hardwar components used to build the module:

- Raspberry PI is a microprocessor in this module type 3 has been used.
- Atmeg 328 is a microcontroller Arduino supporting board with drivers.
- L293H bridge driver has been used for driving motors.
- DC-DC converter to convert 6V to 5V as supply for raspberry pi.
- Lead acid battery of specifications 6V/4.8 AH.
- IR TX/TR Module for finding obstacles.

- USB based Microphones for taking in audio.
- Two motor specifications of 12V DC geared motor.

III. SOFTWARE USED

The software used in developing this robot are:

- Virtual networking computer (VNC) viewer used to see desktop of raspberry pi.
- Video LAN Client (VLC) player used to see transmitted video.
- Python to writing programming code for robot.

IV. WORKING AND BLOCK DIAGRAM OF MODULE

Initially when robot start moving it starts clicking pictures and saves on desktop of Raspberry PI. As Raspberry PI is a microprocessor which is basically a PC on chip, so it had its own desktop. When robot hears any sound immediately it checks from which side sound has come i.e., from either right side or left side. By using microphones on either side. then compares sound with word HELP from google. If sounded word matches with google word HELP it turns towards that respective side with help of two motors. These two motors are used to drive both the wheels. Now robot turns towards respective side after comparing the sound. Then turns on camera and starts transmitting its live video to the same network connected laptop or any monitoring screen. If this robot doesn't hear any sound it moves in that same direction and checks for any obstacles. If robot encounters any obstacle it turns towards it left side and moves forward. It doesn't encounter any obstacle it moves in same direction.

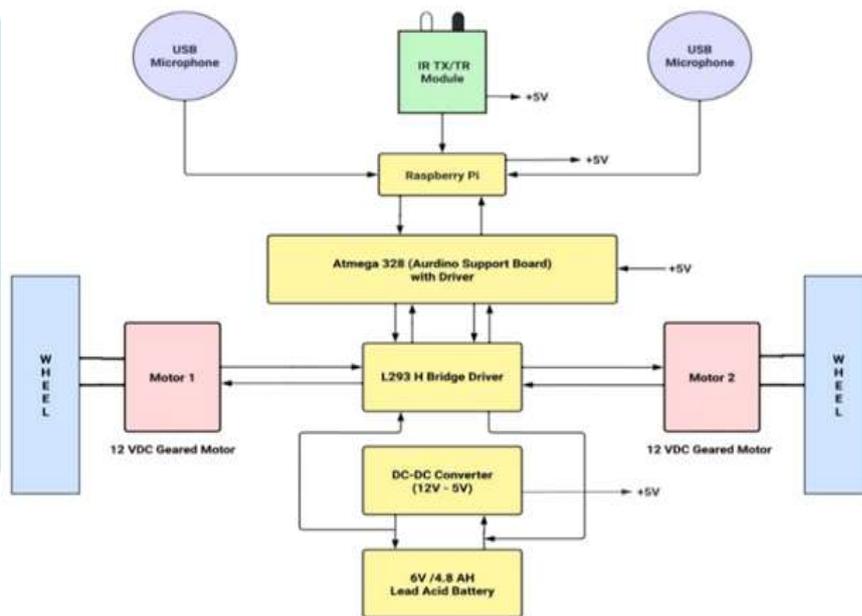
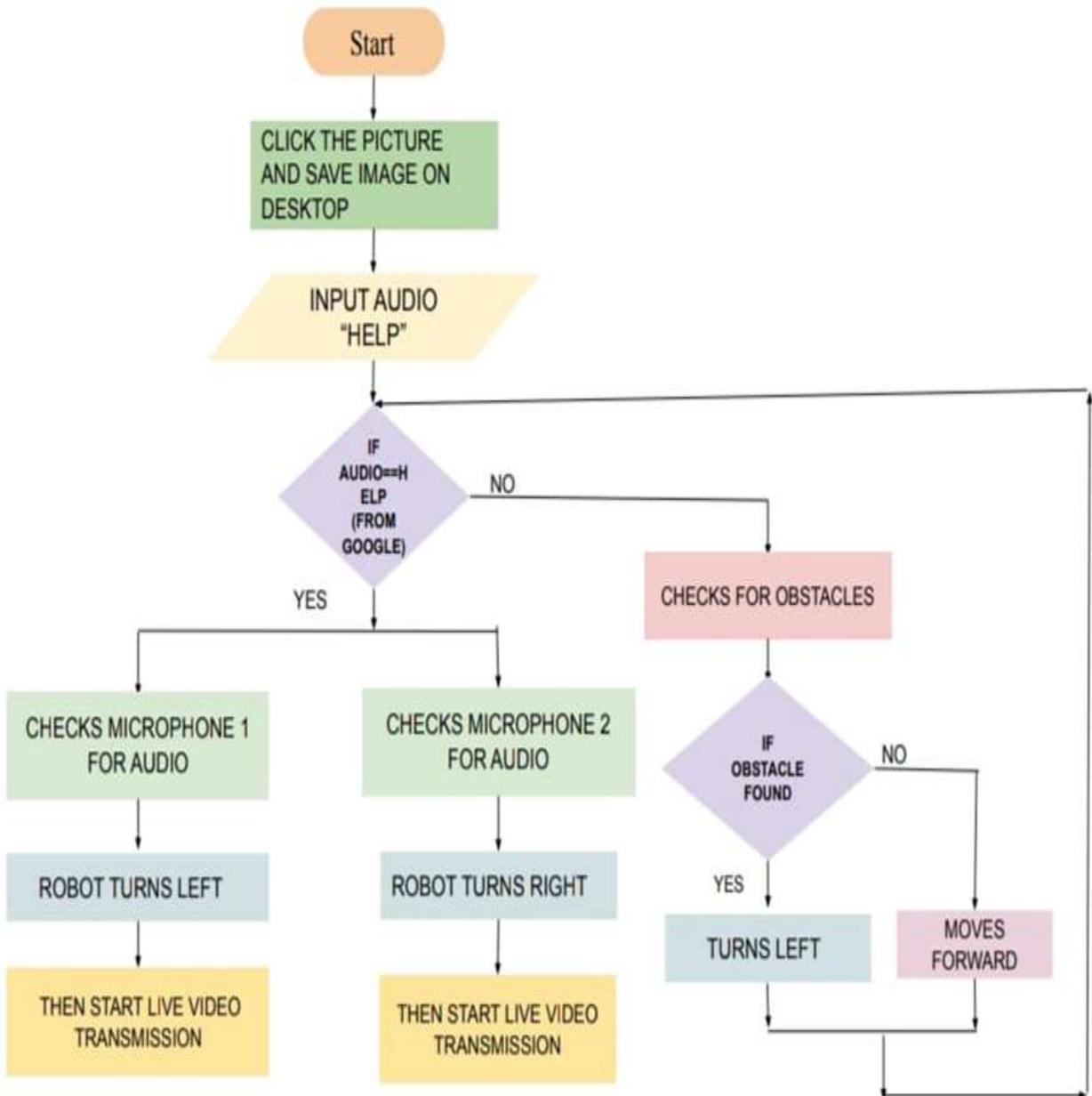


Fig 2: Block diagram of the robot

V. FLOWCHART

This flowchart is working of the scavenging crypton module.



VI. RESULT



FIG 3: ROBOT MODULE (ON STATE)

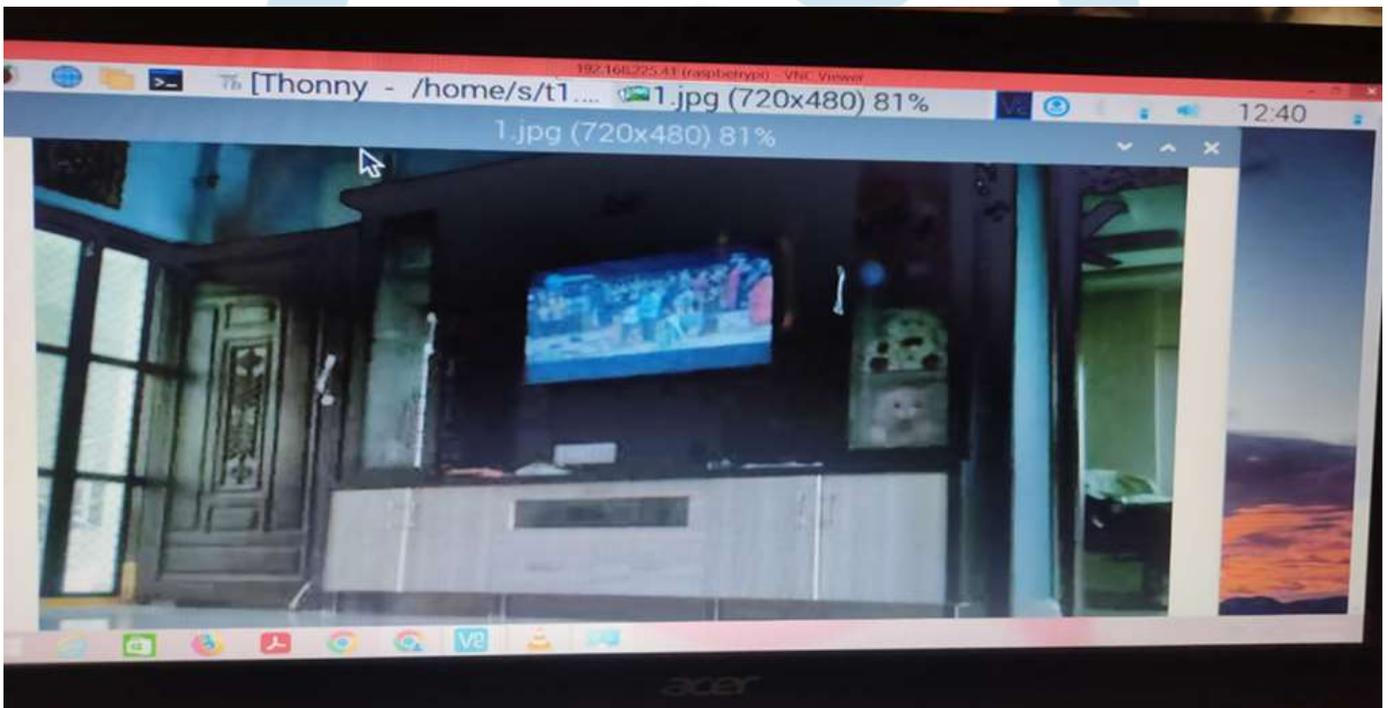


FIG 4: CLICKING PICTURE AND SAVING ON DESKTOP

As shown in fig 3 it is the on state of the robot and fig 4 is the picture clicked when robot is in on state which is been save on desktop.

VII. CONCLUSION

This work projects, this scavenging crypton can be mostly used as a security robot in places like bus stands, metro stations, railway stations, highly security needed places for monitoring purposes.

Adding security alarm at monitoring room, automatic human detection can be added as future scopes.

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