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ALIVE HUMAN BODY DETECTION AND TRACKING SYSTEM USING AN AUTONOMUS PC CONTROLLED RESCUE ROBOT BY USING RF TECHNOLOGY

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ABSTRACT

The principal purpose of this embedded application is to design a PC managed Robot that can hit upon stay humans and transmit the vicinity information wirelessly. It conflict fields and places in which disaster has occurred. Detection is also required in risky sectors like boilers, reactors wherein most effective legal man or woman can input. The stay body sensor in this venture is a special sort of sensor called PIR sensor. Any alive frame with a temperature above absolutetemperature emits radiations which can be invisible to the regular eye.It Senses those passive infrared rays to come across the live human.

Keywords: Arm7 Board, wireless cam, pir sensor, Lcd,L293d,rf module (tx,rx),robot base,robo free wheels,buzzer,robo wheels.

I. INTRODUCTION

Human identification is executed the usage of aHuman stay detection sensor.The PIR sensor is used to locate the motion in any kind and will tell to microcontroller. In this task we're the use of RF primarily based wi-fi machine for the efficientconversation. If the micro controller unit gets the detected sign, it's going tomonitor on pc.

II. EXISTING SYSTEM

Which existing for detecting stay human beings in destructed environments using an self sustaining. The Machine uses an ultrasonic sensor so that it will come across the existence of dwelling humans and a low-cost digital camera as a way to acquire a video of the scene as wished. Having detected a sign of a residing human, the ultrasonic sensor Triggers the camera to show stay scene. The video is then displayed at the screen. This method requires a rather small wide variety of records to be acquired and processed at some stage in the rescue operation.This Manner, the real-time value of processing and facts transmission is considerably decreased. This device has the capability to obtain excessive performance in detecting alive humans in devastated environments rather fast and value-successfully.

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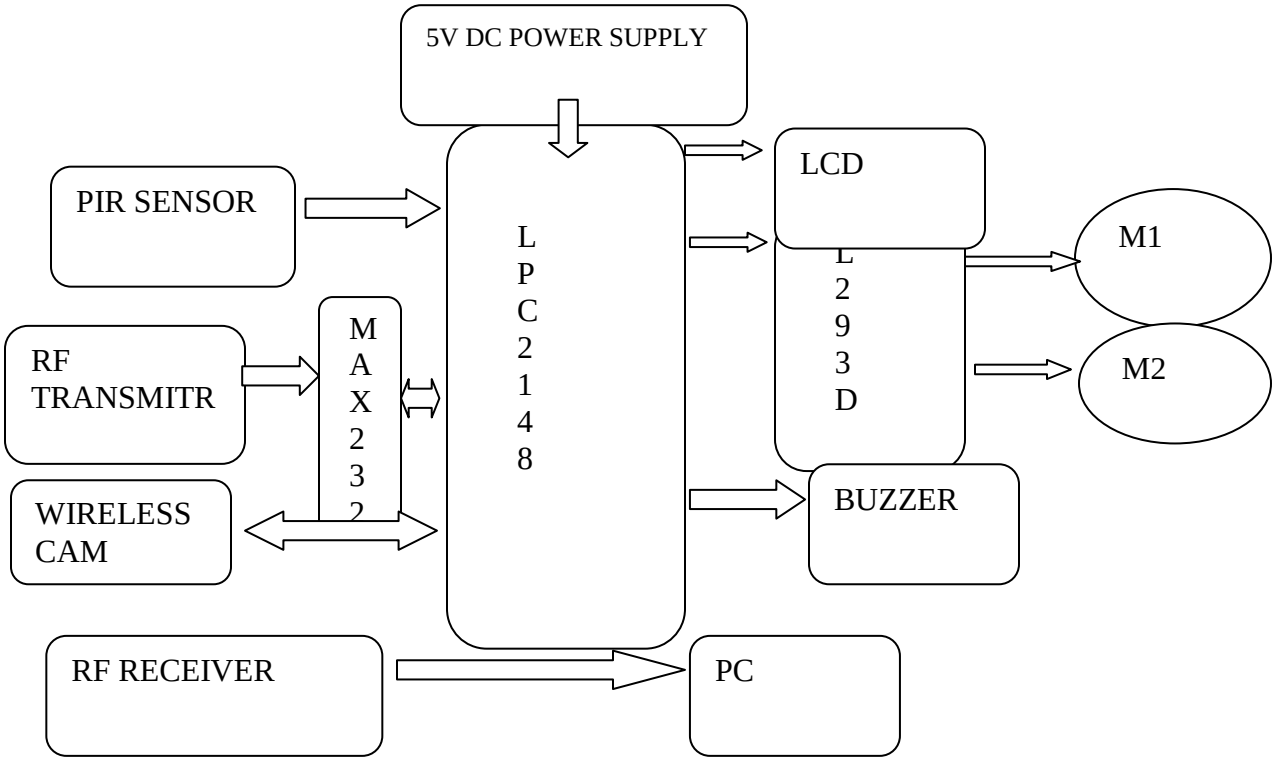
III. PROPOSED SYSTEM

This project "**Alive Human Body Detection gadget the usage of an Autonomous Mobile Rescue Robot**" The essential intention of this embedded software is to design a PC tracking Robot which can stumble on live people and and rf transmit the signals wirelessly. It Can also be used in war fields and locations wherein disaster has came about. Human detection is likewise required in dangerous sectors like boilers, reactors wherein only authorized person can enter. The stay body sensor on this venture is a unique sort of sensor called PIR sensor. It senses those passive infrared rays to hit upon the stay humanIdentity is accomplished the usage of a Human stay detection sensor. The PIR sensor is used to discover the movement in any type and could inform to micro controller.

Block Diagram



HARDWARE REQUPIREMENTS

LPC2148 Microcontroller:

The ARM7 (advanced RISC gadget) pressers board primarily based complete on a 16/32-bit ARM7 its method of sixteen/32-bit ARM7 TDMI-S microcontroller, 8 computer reminiscence unit to forty pc reminiscence unit of on-chip static RAM and 32 laptop memory unit to 512computer reminiscence unit on-chip flash memory; 128-bit In-gadget Programming (ISP). 32-bit timers/out of doors occasion counters, PWM pulse width modulation unit (six outputs) and watchdog, Low electricity of actual-Time Clock (RTC), a couple of serial interfaces which has 2

UARTs , fast I2C-bus (400kbit/. There are sixty 4 pins of ARM7 processer and a couple of ports (port0, port1) forty five pins are enter/output.

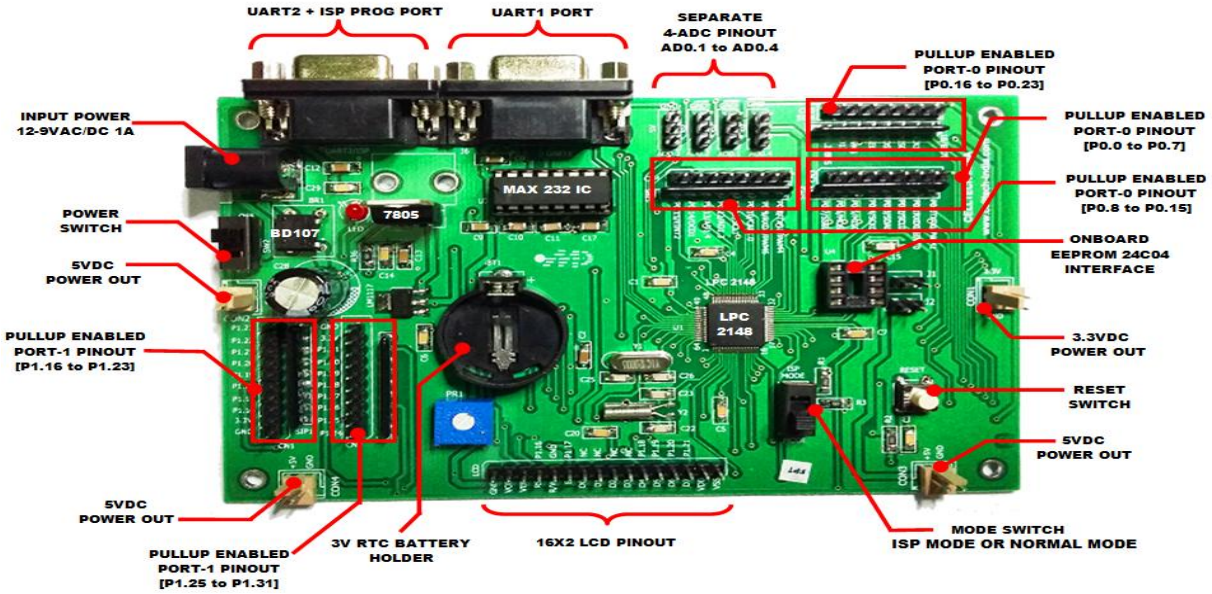


Fig2:-LPC2148 board

Passive Infrared sensor:

PIR Sensor Brief Introduction:

This PIR Sensor Switch Can Detect the Infrared Rays launched with the useful resource of Human Body Motion within the Detection Area (14 Meters), and Start the Load - Light Automatically. This Unit is Suitable for Outdoor Use (Corridor, Staircase), A PIR Sensor is a Passive Infrared Sensor which controls the switching on/off of the lights load when it detects a moving target.The constructed in sensor activates/off the related lighting load when it detects motion inside the insurance region.

Fig 3: Pir Sensor

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L293D:

The L293D is a quadruple high-contemporary half-H drivers, it also called as line driver circuit. The L293d is designed to offer bidirectional power currents of up to at least one A at voltages from 4.Five V to 36 V. The motive force carries definitely sixteen pins, in that four pins for enter and four pins for output.

Fig 4 :L293d ic

The output pins are linked to the vehicles and input pins are takes from the controller and l293d incorporates energy supply pins and two ground pins. The foremost use of the l293d IC is in addition up the voltage stages to run the D.C motor. Here we are taking the four enter pins and four output pins, the D.C motor calls for simplest pins so we will run two cars at a time by the use of the l293d driver IC.

DC MOTORS:

Motors are electro mechanical gadgets which are used for to transform the electrical alerts into mechanical indicators. The all D.C cars are having identical internal mechanism, both electromechanically to exchange the direction of modern-day glide in a part of the motor. In venture we're used for to transport the motor in unique course. We need to connect the motor to controller thru driving force IC handiest.

Fig5: DC motor

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RF MODULE

433 MHz RF Transmitter STT-433:

Overview The STT-433 is ideal for far flung manipulate applications in which low cost and longer range is needed. The transmitter operates from a 1.Five-12V deliver, making it ideal for battery-powered programs.The transmitter employs a SAW-stabilized oscillator, making sure correct frequency manage for satisfactory range overall performance.. Electricity and harmonic emissions are smooth to control, making FCC and ETSI compliance clean. The production-pleasant SIP style package deal and low-cost make the STT-433 suitable for excessive extent packages. Features · 433.Ninety two MHz Frequency · Low Cost · 1.Five-12V operation · 11mA modern consumption at 3V · Small length · 4 dBm output
energy at 3V.

Fig6 :RF Transmitter

· Remote Keyless Entry (RKE) · Remote Lighting Controls · On-Site Paging · Asset Tracking · Wireless Alarm and Security Systems · Long Range RFID.

433 MHz RF Receiver STR-433:

1. Overview

Overview The STR-433 is right for short-variety far flung manage packages wherein value is a primary concern. The receiver module requires no external RF components besides for the antenna. It generates truely no emissions, making FCC and ETSI approvals clean. The incredible-regenerative layout well-knownshows great sensitivity at a completely low fee.Manufacturing-friendly SIP fashion bundle and occasional-fee make the STR-433 appropriate for excessive volume packages.

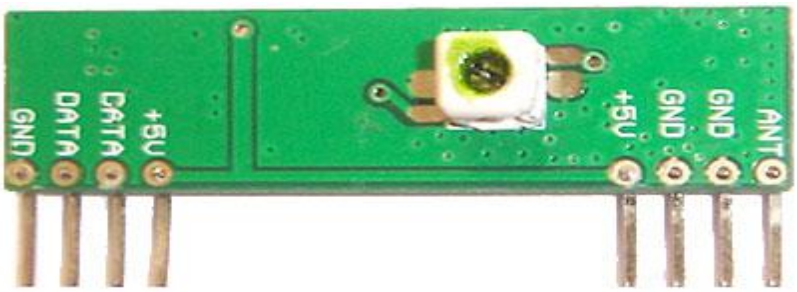

Fig 7 :RF RECEIVER

IV. SOFTWARE DESIGN

In this proposed contrivance, as we tend to used LPC2148 we wish to use following software package instrumentation to program for it.

1. Keil4 Vision
2. Flash Magic

The Keil4 Vision an IDE for Embedded c program languageperiod. In thisIDE, we preference to import the utilities and libraries constant with the controller. This IDEmay be very extra with out problem and in customer great way to follow,assemblers, and debuggers in it.It simplifies the way of embedded simulation and trying entering into conjunctionwith Hex file era. The flash magic is a programmingsoftware. The C/C++ software written in IDE could be processed into Hex record i.E. In .Hex layout. By the use of hex report we have a tendency to products the code into microcontroller and carry out utility.

V. WORKING PROCEDURE

In this project used robot by using this it continuously moving it depends on the operator,By using rf communication we have to pass the commands as per user requirments.In rf communication one rf transmitter and one rf receiver is present as per this communication in these 4 switches are present one switch is pressed in transmitter side corresponding switch in receiver side accept the transmitter signal based on that receiver side switch activated.in this we are controlled as per these switches in the range of 40m distances we operates the robot.According to robo moving around the rescue zones it will capture the figure in front of robo what are present.We arranged pir sensor and wireless cam to the robot,if the robo moving infront of that any moving objects is there its immediately capture and sends information to pc.And also gives the buzzer for alerting purpose.In this we are protect the any human beings are in danger situation in rescue zones like under ground coal mines and some milatery application it can be used.

VI. RESULT

The whole prototype as evolved changed into examined on special voltages and distinctive regions. It provided the correct end result at voltage of 230v to440v.We've got tested circuit in "Study on sensible automatic automobile Accident prevention & detection device." Total energy fed on via shop before installation of device is 22KW in month. But after set up of automatic light manipulate device it decreased to 18.26 KW(power consumption)

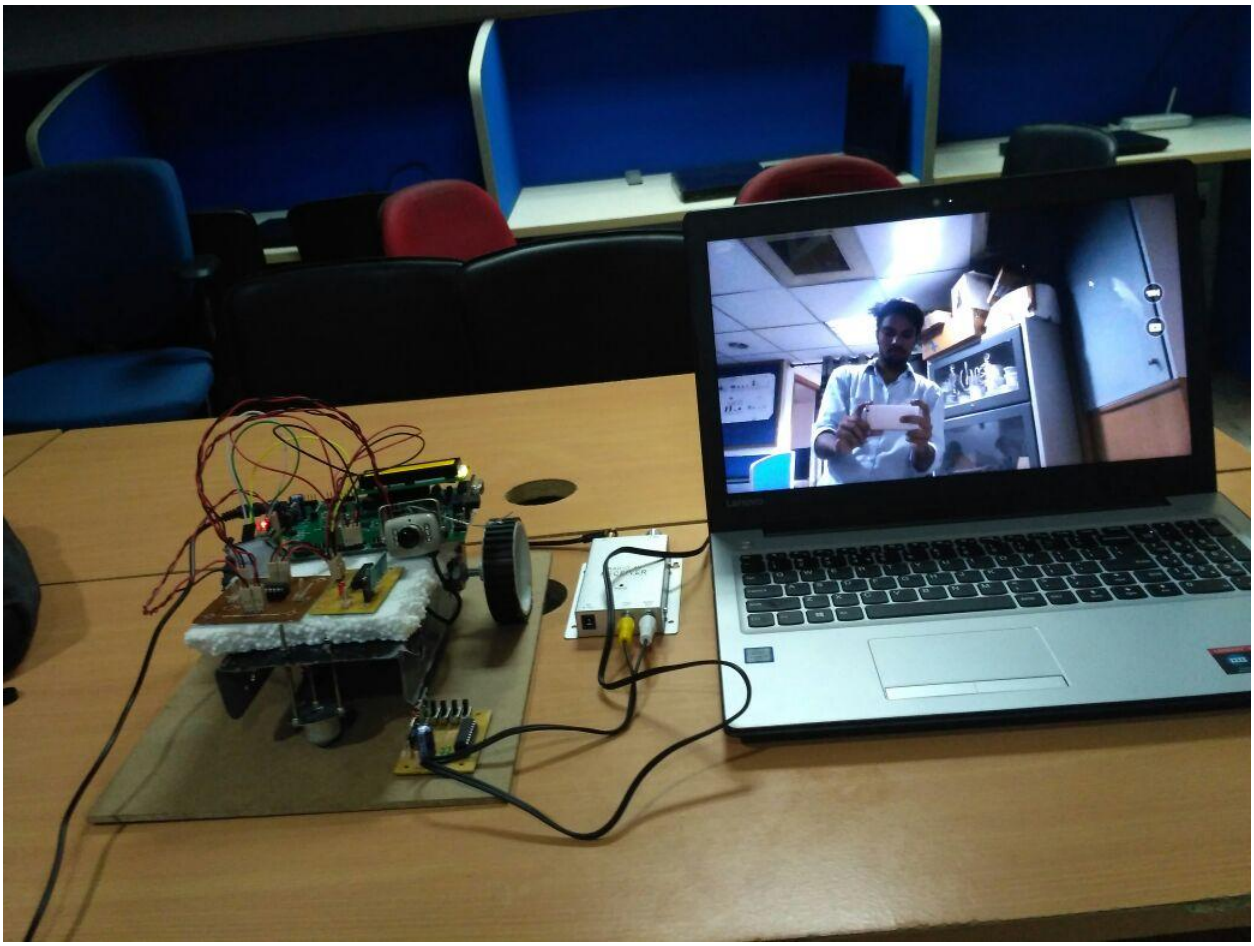

Fig 8 :Result diagram.

VII. CONCLUSION

The goal of this work changed into to provide a rescue robot for human detection in a disaster environment. Though, the existingUrban Search and Rescue Robots are prepared with diverse sensors, however the trouble with them is the cost andcomplexity of circuit. The sensor used within the improvement of this challenge is without difficulty to be had and price powerful. In this paper, a brand new method for detecting surviving people in destructed environments use of simulated self-sustaining robotic has been proposed. The robot uses two sections for this operation and those two sections are inter-associated with every other. The first segment is the Robot segment, which moves into the

particles and searches for the alive humans, moving objects with the help pir sensor. These results are shown in pc by attaching wireless cam.

REFERENCES:

[1] Abid Khan, Ravi Mishra ―GPS – GSM Based Tracking System‖ , International Journal of Engineering Trends and Technology, Volume3,Issue2, Pp: 161-169, 2012

[2] S.P. Bhumkar, V.V. Deotare, R.V.Babar ―Intelligent Car System for Accident Prevention Using ARM-7‖ , International Journal of EmergingTechnology and Advanced Engineering, Volume 2, Issue 4, Pp: 56-78, 2012

[3] Partheeban , R. Rani Hemamalini, ‖ Vehicular Emission Monitoring Using Internet GPS and Sensors‖ , International Conference onEnvironment, Energy and Biotechnology vol.33 , Issue5,Pp:80 -96,201

[4] C Grover, I Knight, F Okoro, I Simmons, G Couper, P Massie and B Smith"Automated Emergency BreakingSystems: Technical requirements cost and benefits", Published Project Report. 2008.

[5] Wan-Joo Park Dept. of Electr. Eng., Sogang Univ., Seoul Byung-Sung Kim; Dong-Eun Seo; Dong-Suk Kim;Kwae-Hi Lee "Parking space detection using ultrasonic sensor in parking assistance system", Intelligent VehiclesSymposium, 2008 IEEE.

[6] Zhiwei Luo ; Dept. of Mech. Eng., Xiamen Univ. of Technol., Xiamen, China "Research on automobile intelligentanti-collision system", Mechanic Automation and Control Engineering (MACE), 2011 Second International Conference on; 2011

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