Life Saving and Security Alert Human Friend Robot

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Abstract - *For man to be aware of all that is happening in a new place or the environment he should be able to go at that place and then experience what is taking place, but as we all know that the life if man is precious so the use of robots instead of man is done to give use information about that place. The main aim of this paper is to design and built a robot that is controlled by the man using the technologies like Bluetooth, internet, android mobile app. The transmitter is the mobile phone and it is placed within the robot and it will be handled through the internet from a computer system. Camera of the mobile will be used to click the images and gives us the live feed about any danger or hazard related to security etc. The GPS in the mobile will show the path we are traveling using the robot. The sensors on the robot will detect the harmful gases that are there in the environment that will be fatal to humans and give direct alert to the user. Thus this robot can be placed anywhere all over the world and help man to survive in worst situations.*

Key Words : **Micro-controller ,Image Processing, Device Drivers ,Sensors, Synchronous-Interaction, Image Database, Wireless Communication ,Client-Server.**

1.INTRODUCTION

It's not possible for man to reach out at all the places anytime, as there may be many situations were humans can't go at any cost so in such places robots are used instead of humans. As we all are aware of the attacks at Taj Mahal Palace in Mumbai, Nuclear power explosion in Japan, chemical factor in Dombivli. All these incidents had a bad impact on the environment and man, but it was very difficult for human to enter in such places and observe the scenario due to hazardous gases which were fatal for man's life. So this life saving robot is used at such situations and gives a live feed to the humans and helps in finding the solution in a faster way. Not only that it's a great help in terms of security when placed in organization like banks, companies, institutes etc. So the robot is easy to use and designed in a proper way to be controlled well through internet and using mobile app.

1.1 LITERATURE SURVEY

Bh.S.R.Phanindra Varma, R.Dhanabal, V.Bharathi "Remote Access of FPGA Robot via Internet" 2014.
Awareness of the environment that is new, humans need to go there and visualize what is happening; as we all know that the life of humans is precious, thus robots are used instead of humans. Main description of this paper includes, development of an FPGA based robot that can be handled remotely via internet. Robot route is forbidden by using Bluetooth unit and android mobile acts as a transmitter. The mobile is placed inside the robot and it will be handled via the internet from PC. Camera in the mobile can be used to visualize the route of robot. In the robot text to speech converter is used as a communication medium between the humans nearby. So thus the robot can be used as medium of communication and gathers information of all new places around the world.[1]

Stephan Gobel, Ruben Jubeh, Simon-Lennert Raesch and Albert Zundorf

"Using the Android Platform to control Robots"

By Google the Android Phone Level has becomes widely popular among developers, the reason behind this is its powerful capability, the open architecture, and in java language. Thus this paper is, outstanding platform for robotic systems manage, as it supply abundance resources,already integrates many sensors. The primary research topic of this paper is on the java that builds up the system more eye-catching to relate the state of the art software techniques .The issues in the paper are to make the android phone inter-operate with the other parts of robot that are like the actuators, sensors , processors etc. Here various connection methods & to connect Android with the LEGO Mindstorms NXT robotics system.[2]

Ritika Pahuja , Narender Kumar

"Android Mobile Phone Controlled Bluetooth Robot Using 8051 Microcontroller"

A robot device is habitually an electro-mechanical machine that is handled by computer and electronic programming via humans. Large number of robots have been designed for manufacturing purpose at different places like in factories around the world. Designing the ROBOT which can be managed using an android mobile app. In this paper the implementation of the remote buttons in the android app through which monitoring the robot motion can be done using Bluetooth communication to interface the controller and android. Controller can be interfaced to the Bluetooth unit though UART set of rules. As the information received from android app the robot motion can be forbidden. The robots can be reprogrammable or interchanged to provide for multiple applications.[3]

Andrew Whigham,Sebastian Delden

"Bluetooth based Architecture for Android Communication with a Articulated Robot".

Assistment of the man in unsafe work the commercial enterprise robotics system,and articulate are used by many factories. Teach Pendant is used to program and to manually control robotics system.Each robot manufacturer has given its own programming interfaces. This paper present a client and server architecture which helps android clients to view, edit,monitor, industrial robotics programming wireless using Bluetooth.[4]

Jake, Tom. dc jednotka.

"Lego mindstorms Nxt Robotick"

LEGO Mindstorms NXT it fundamentally robotic tool for robotics. It uses sensors, motors, micro-controller, Bluetooth and speaker. It uses different sensors like Ultrasonic sensor, Touch sensor, Sound sensor, Light sensor. Ultrasonic is used for obstacle detection sensors and touches sensors detects touch .e.g. touch keys of mobile phones and light sensors are basically used in mobile phones for automatically adjust brightness in the environment. [5]

Pavel Smutn. "Visual programming for smart phones"

On Android platform the visual development software is the App Inventor. In this paper the App Inventor helps the developer to utilize the visual language to build up application for smart phones via web browser and emulator or phone. It combines all control functions for Lego Mindstorm NXT which helps the developer to build up their own applications that can handle the robot along with its motors and sensors. This paper also says that how robot communicates with technologies and emphasis on designing robots with least cost and with greater sensing and computational capabilities.[6]

Arita Dey , Akash Pal , Sayantan Nandi , Lusika Roy

"Three way controlled android Smart-phone based robotic vehicle via Bluetooth"

Smart machines such as robots which can be programmed and utilized in numerous fields such as factories, manufacturing etc. Recently human-machine relations are moving away from mouse and pen and are approaching towards pervasive computing. Due to upcoming new technologies the standard of living has become easy. The rise in the smart phone usage has brought up modern android based application in existence. In this paper improvement of three way control for the robotic vehicle which has of Bluetooth communication to interact with the processor and the inbuilt sensors in the smart phone.[7]

GOLDSMITH,Ben.

"The Smartphone App Economy & App Ecosystems."

In 1985 Software application is shorthand as app,this is when the Apple released MacApp programming tool.App become commonly understood after the launch of App Store in July 2008.It is a software designed to run on mobile platforms and

devices.Growth rate of Android Market is increased since 2008 .Android Market is later renamed as Google Play in 2012.[8]

Sharath Sethu Raghavan+a , Jasim M+b , Aqib Saman K+c, Jisnu Thomas+d, Faheem E S +e , Lilly Raffy Cheerotha .

"Hazardous Gas & Mine Detecting Robot"

Now a days human work for the variety of heavy tasks is being done by robots,which reduces demand of human power required.In era where new generation types of robots are being developed.Researches are done to improve those areas where the robots can use to increase mobility to produce location independent results.To detect hazardous gas in coal mines,and mines in the war fields a wireless vehicle which is controlled attached with sensors and camera to capture detailed video of surrounding system.For the data transmission Bluetooth connectivity is used by the robot.To control the movement of robot,remote controller is used.[9]

2. PROPOSED SYSTEM
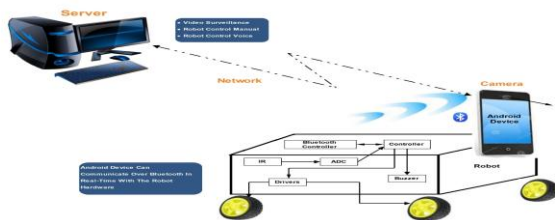
Fig -1: SYSTEM ARCHITECTURE
2.1 Description:

The robot will be moving at different locations has an android device that can communicate over Bluetooth with the robot hardware, and the internet is used to connect the mobile and the server where the live feeds and data is observed using display. Thus when the robot is send into any place it will detect the gas if it's safe for the humans if not will send alert to server and even when considering about security it clicks images and sends at the server where the unauthorized object if enters in that place will be seen by the server end.

Server: Computer system(this is used to store all the live feeds and actions taken on the robot).

Client: Mobile App(it will capture all the images and required information and send to the server through internet).
Hardware: It consists of the micro-controller , sensors ,buzzers etc.

Software: Java programming language, IDE:Eclipse.

3. CONCLUSIONS
Designing a robot that will give use the alerts of danger or security related matter. Even to detect the dangerous gases. This device will save the environment and humans from the harmful gas. And save the ecosystem and avoid the depletion of natural things

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[9] Sharath Sethu Raghavan+a , Jasim M+b , Aqib Saman K+c, Jisnu Thomas+d, Faheem E S +e , Lilly Raffy Cheerotha ."Hazardous Gas & Mine Detecting Robot"