MULTI CONTROLLED I0T BASED QUAD-ROBOT

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Abstract - Multicontroled IOT based quad robot system is a four leg walking robot system which can used to identify the pressure,tempreature and unwanted gas in mining.Especially used for army based activity like spy and location sharing the robot can able to move forward, backward,left and right according to comments given to the servo motor from aurdino ESP 32 when we put in the following mode it will works as a line follower by our command

Key Words: **Bluetooth, Remote control, Wifi, IOT..**

1.INTRODUCTION

Robotics place an important role in this devloping world. These is a four leg walking robot, used to messure pressure,temperature gas in the mining.Why it is used mining means,there are lot unwanted gas present in the mining and its cause to occur accident.Sometimes death also so we made it to find aurdiono ESP 32,servo motor,sensor are the main equipments used in our project

2. METHODOLOGY

Aurdino is an open source platform and we can do many project with the use of it .We use it as brain of the robot.Aurdino ESP 32 is programmed for our project like the iot based quad robot need means ESP 32 is specially programmed for it.When the power supply given to the ESP 32,it will send signals are command to the servo motor based on the input used given through mobile or remote control.Output is taken by the mobile or servo motor which are specially made to receiver output from the quad robot.

3. WORKING

The working of quad robot system is simple .By sing components we made our kit.The ESP 32is programmed and connected to components which are used,battery is the power source.

Thing speak website is the website which is used to help iot based project for the freshers.

The output of the robot is show or appers in the think speak website.But the draw backs are only pc or laptop is used to get output and server is not relaiable for all the time.

3.1THINK SPEAK
  *For iot operation
  *Store data on cloud
 *Access from any ware

*To way communication

3.2 WHY ESP32
 * In built
  *Wifi
  *Bluetooth
  * Hall effect sensor
  *Touch sensor
 *520kb SRAM
  *More digital pins
  *Ultra low power working

MODES OF CONTROL

The robot is controlled by Four method.

1. Bluetooth

2. Wifi

3. Iot

4. Remote control

LINE FOLLOWING MODE

In line following mode the robot will acts as a line follower.By using ir sensor the robot walk above on the line to destination to get information .But we don't know any possibility about it bt we made it as a proto type.
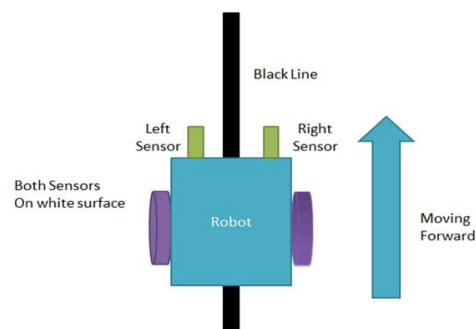

Fig-1.Line follower of quad robot

BLOCK DIAGRAM

This block diagram shows that:

➢ Sensors given the information esp32.
➢ ESP32 response it and give the output to think speak server and think speak respond for it.
➢ Based on the response the server motor. Work to move what the direction robot need.
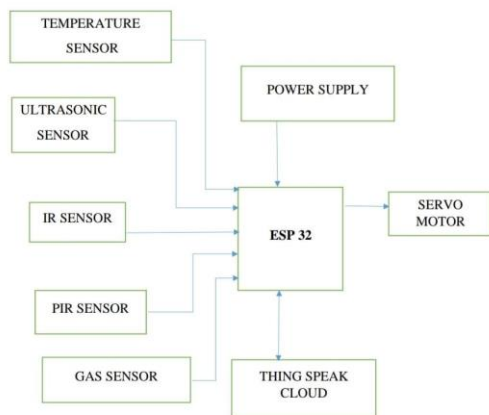

Fig -2: Block Diagram

QUAD ROBOT MOVEMENT CONTROL

Quad robot tends to change there gait patterns from walking to trotting and from trotting to bonding .Consider that walking is the first pattern to appear we select walking in the experiment in this experiment, the gait pattern is said to walking cycle time is said to 1 sec move.S1 and the experiment is conducted for 5 sec.
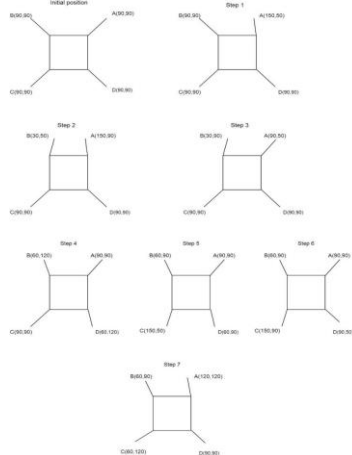

Fig-3. Quad robot movement

THING SPEAK MONITOR

Quad robot are lagged robots that can adobt to various structural micro controller ,inverse kinamatics, thing speak cloud, iot, light, sound sensor constantly monitors the sound.
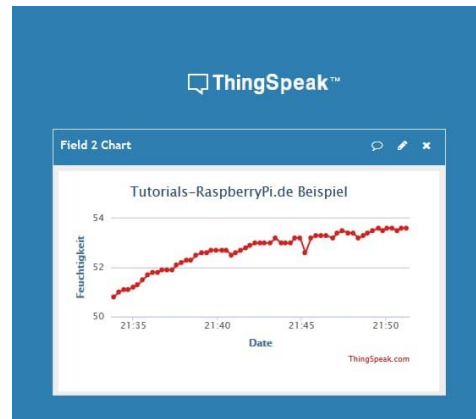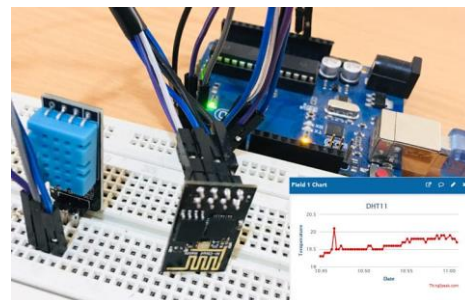

Fig-4.Thing speak monitor flow chart

Fig-5.Thing speak monitor

QUAD ROBOT APPLICATION

This robot is controlled by an iot application .We created this application using bluetooth, wifi, iot. In this application we used continous multi controlled to followed our commands we can save our comments in this application.

1.   Assembly
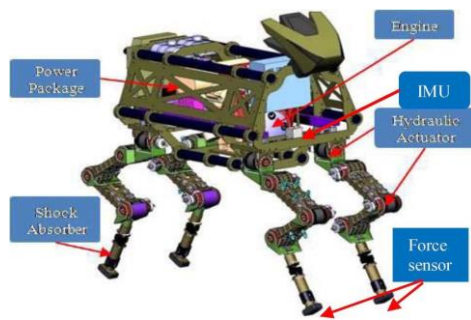2.   Mining
3.   Package
4.   Army filed
5.   Transport

FIG-6.Quad robot application(package)

FIG-7 Quad robot application(transport)

3. CONCLUSION

Our work of this project show that how can we make a robot using IOT-Multicontrolled combination using Bluetooth module and wifi,iot. The Multicontrolled commands are transmitted successfully via Bluetooth technology. This prototypic project review the miceo controlled system and iot application combined with a robot.

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