TE Minor Project
ON
AI BASED NIGHT PATROLLING ROBOT
USING IOT &CLOUD

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Introduction

At present the observation during night turned out to be exceptionally testing task. There are a few spots where people can't be engaged with watching. A fundamental prerequisite of this circumstance is a robot which consequently identifies trespassers in the territory like workplaces, home, building and so forth and report close by board security control unit. In the current work, A late evening guarding robot is created with upgraded capacity to recognize and alarm if there is any human movement in the territory to give exact observing framework.

The Night Patrolling Robotic vehicle moves in a random path while watching. The framework utilizes IR based way following framework for watching allocated zone.

Components Used

Hardware 1.Arduino UNO,
2.IR sensors,
3.Ultra-sonic Sensors:HC SR04,
4.L293D Motor driver,
5.PIR Sensors: HC SR501,
6.DC Motors (300 RPM),
7.Robotic Chassis,
8.Cables and Connectors,
9.ESP32 Camera Module,
10.FTDI Programmer,
11.Batteries (AA) 1.5V,
12.Battery Holder
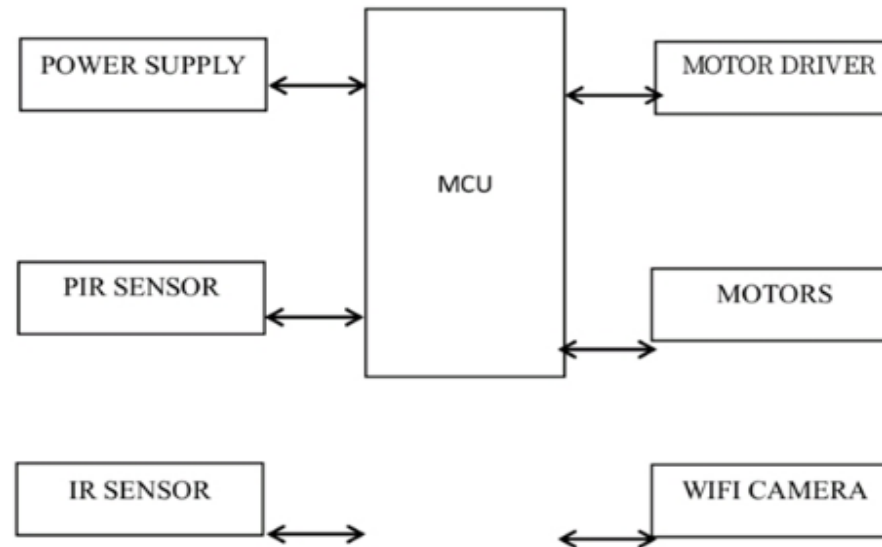
Software

Arduino,
Chrome

3. BLOCK DIAGRAM
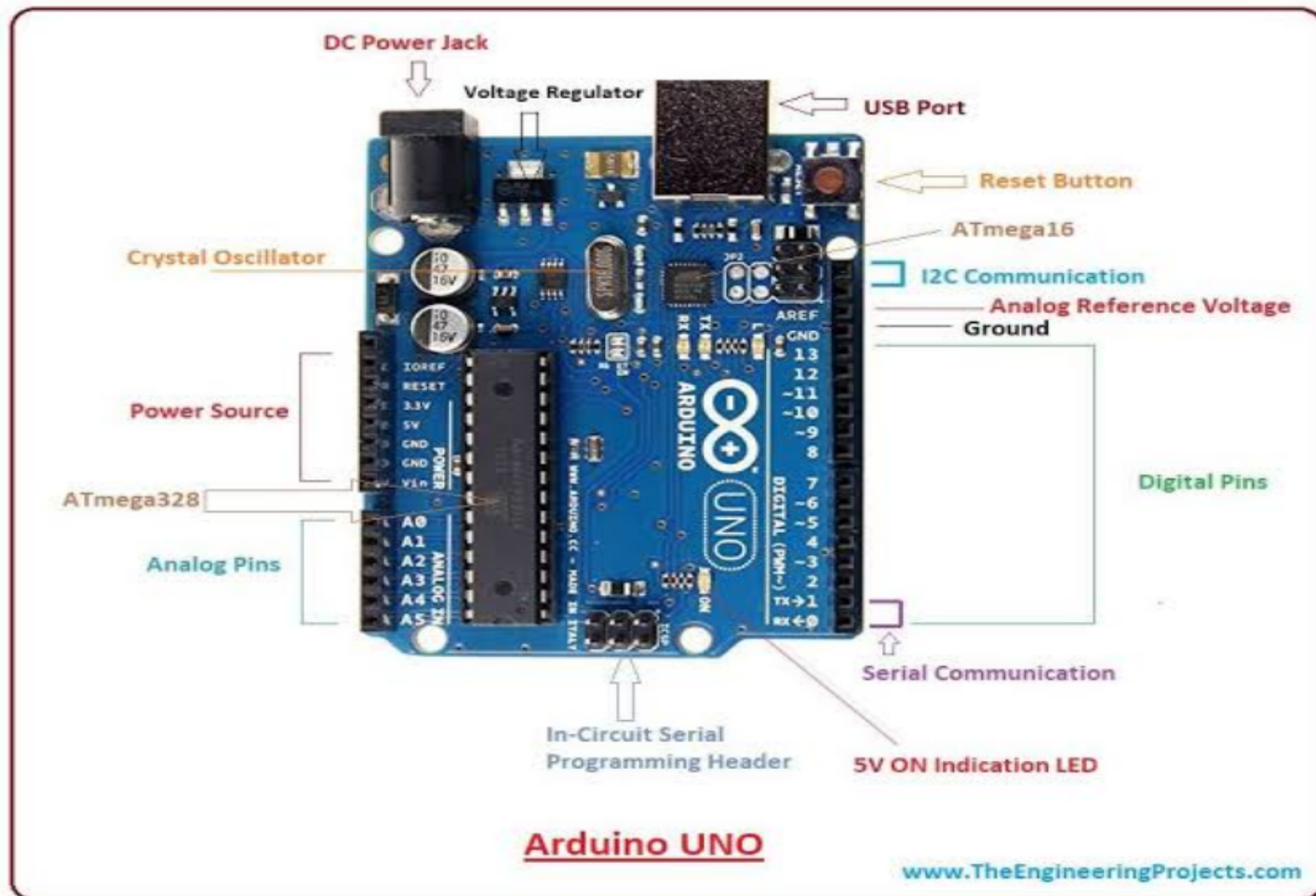
```
  POWER SUPPLY  <---->          <---->  MOTOR DRIVER

                        MCU

  PIR SENSOR    <---->          <---->  MOTORS

  IR SENSOR     <---->          <---->  WIFI CAMERA
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Fig:-IoT Based Night patrolling Robot

Arduino uno

DC Power Jack

Voltage Regulator

USB Port

Crystal Oscillator

Reset Button

ATmega16

I2C Communication

Analog Reference Voltage

Ground

Power Source

IOREF
RESET
3.3V
5V
GND
GND
Vin

13
12
~11
~10
~9
8

Digital Pins

ATmega328

A0
A1
A2
A3
A4
A5

7
~6
~5
4
~3
2
TX→1
RX←0

Analog Pins

In-Circuit Serial
Programming Header

5V ON Indication LED

Serial Communication

Arduino UNO

www.TheEngineeringProjects.com

CONCLUSION/ SUMMARY

Structuring of security robot for watching which utilizes night vision camera to make sure about its premises. Improvement will surely give an enormous Security enhancement. In this paper, the system for making a robot for observation design is proposed. It conquers the issue of constraining extent observation by utilizing the idea of IOT. We can control the robot with the assistance of PC/portable physically like catching wanted pictures and changing settings of the camera like Brightness, Shutterspeeds, Exposure and so forth. Programmed checking should likewise be possible. This Robot is little in size along these lines moving into territory where human access is unimaginable. The Robot is difficult to perceive and nearly mixes in the environment. Remote innovation is one of the most vital advances in the gadgets field.

REFERENCES

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Thank you

Any Questions?