

ARMY DEFENCE ROBO GUN

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Abstract: As we know the surveillance is a difficult task of International border areas. It is not possible by the border guarding forces to watch the border at each and every moment. In this case the essential requirement is to have a system which automatically detects trespasser in the border and report nearby board security control unit. Nowadays, to carry out risky jobs the robots are used that cannot be done by the soldiers. In this present work, a Arduino operating system-based spy robot platform with remote monitoring and control algorithm through Internet of Things (IoT) has been developed which will save human live, reduces manual error and protect the country from enemies

Keywords: -Arduino uno, IOT, relay, ESP 32 Camera.

I INTRODUCTION

In military fields they always tried to use new gadgets and weapons for reducing the risk of their causalities and to defeat their enemies. The robotics product is used largely by the industries, defense, academic and research communities and it is growing exponentially. The robots can be reprogrammed faster and more efficient and its design and implementation cost is very less than hiring a human caregiver. The robot has sufficient intelligence to cover the largest area to provide a secured space and perform preferred tasks in unstructured environments with or without human direction. Basically, the surveillance systems are building up with multiple cameras which are placed in different angles of view to track human objects.

II. LITERATURE REVIEW

A robot which is usually an electro-mechanical machine that is guided by computer and electronic programming. Many robots have been built for manufacturing purpose and can be found in factories around the world. The design of the robot is such that it is controlled by a mobile app. We use Bluetooth communication to interface Arduino UNO and android. Arduino can be interfaced to the Bluetooth module though UART protocol. Many robots have been built for manufacturing purpose and can be found in factories around the world. The design of the robot is such that it is controlled by a mobile app. We use Bluetooth communication to interface Arduino UNO and android. Arduino can be interfaced to the Bluetooth module though UART protocol. According to commands received from android the robot motion can be controlled. Many of the military

departments now utilize the robots to carry out risky jobs that cannot be done by the soldiers. In this present work, a Arduino operating system-based spy robot platform with remote monitoring and control algorithm through Internet of Things (IoT) has been developed which will save human live, reduces manual error and protect the country from enemies.

III. MOTIVE

The motivation for developing military systems comes from many reasons, but the main reasons are convenience, security, terrorism and connectivity. The aim of this project is to build the system which will provide the security on border and protect the soldier life. The system will be combination of remote Operated machine gun and control room. In this project we will build wireless defensive machine gun which take decision as per defined by the user. We are using internet of things (IOT) to operate the smart e-soldier from anywhere of the world. That E-soldier Consist of 360 Degrees rotating Night vision camera. Machine gun will be controlled by mobile app. For operating Smart E-Soldier through internet, we are using ESP8266 Wi-Fi Module, which is also use to connect 360 degrees Wireless Night Vision Camera. Robots have replaced human in performing repetitive and dangerous tasks which humans prefer not to do, or are unable to do because of size limitations, or which take place in extreme environments such as outer space or the bottom of the sea. Nowadays spy-vehicles have been widely used in various kinds of fields like industries, academic, research and development, militaries and so on.

The spy-vehicles are small vehicles designed for spying, surveillance and inspection purposes. They can be customized

for specific applications and are made with some special features. They are remotely controlled vehicle, equipped with a camera, transmitting video data to the intervention troop. Most of them are designed for use in rough terrain. In brief, spy vehicles must be small and lightweight, robust, mobile, tele-operated (wireless). However, the technology is becoming better and cheaper, and this will help to make military systems an expense worth having when new technologies are being built. The biggest motivation behind these systems is the convenience. Convenience is really another way of saying "time saver", and into day's world where everything is moving faster, every second has value.

IV. PROBLEM STATEMENT

This prototype is based on IOT platform using Arduino is for tracing and attacking enemies by live streaming of videos using camera with Android application controlled by the user.

V. HARDWARE REQUIREMENTS

- 1.Arduino uno
- 2.ESP 32 camera
- 3.Dc Motor
- 4.L293d Driver
- 5.Proposed Model

VI. SOFTWARE REQUIREMENTS

- 1.Dip trace
 - 2.Proteus
 - 3.Arduino IDE
- ESP 32 Camera

The ESP32CAM is a tiny module based on ESP32 chip and OV2640. You can even program the ESP32CAM through the ESP-IDF by installing the ESP32 Core.

- The ESP32CAM equips the ESP32 with everything necessary to program, run and develop on the wonder chip. It also features a LiPo charger (IP5306) , so your ESP32CAM project can be battery-powered and truly wireless. Additionally, the board reserved the MPU6050, BME280 and an analog MIC.
- ESP integrates WIFI, traditional Bluetooth and BLE Beacon, with 2 high-performance 32-bit LX6 CPUs, 7-stage pipeline architecture, main frequency adjustment range 80MHz to 240MHz, on-chip sensor, Hall sensor, temperature sensor,

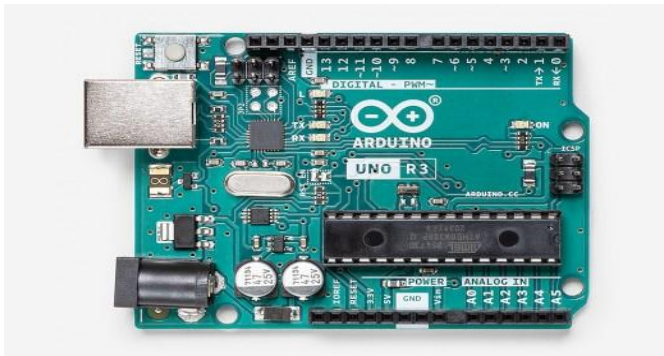


ARDUINO UNO

The Arduino uno is an open-source microcontroller board based on the microchip ATmega328P. the board is equipped with the sets of digital and analog input/output pins that may be interfaced to various expansion boards and other circuits. The board has 14 digital i/o pins,6 analog pins. Arduino Uno is a microcontroller board based on 8-bit ATmega328P microcontroller. Along with ATmega328P, it consists other components such as crystal oscillator, serial communication, voltage regulator, etc. to support the microcontroller. Arduino Uno has 14 digital input/output pins (out of which 6 can be used as PWM outputs), 6 analog input pins, a USB connection, A Power barrel jack, an ICSP header and a reset button. Arduino can be used to communicate with a computer, another Arduino board or other microcontrollers. The ATmega328P microcontroller provides UART TTL (5V) serial communication which can be done using digital pin 0 (Rx) and digital pin 1 (Tx).

VIII. REFERENCES:

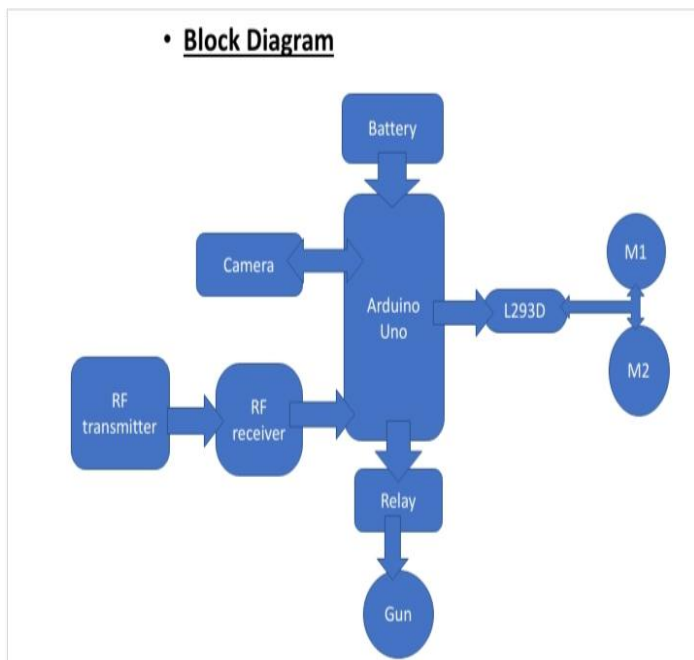
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ACTUAL IMPLEMENTATION.

An Arduino operating system-based spy robot platform with remote monitoring and control algorithm through Internet of Things (IoT) has been developed which will save human lives, reduce manual error and protect the country from enemies. The system comprises the Arduino (small single-board computer), camera, relay and shooting gun. The Arduino is the brain of the system. An Android app controls the moving to a specific direction and camera for live streaming videos of required areas for tracing and attacking. The user is able to access the system with control buttons on the Android app.

• Block Diagram



VII. CONCLUSION

Robotics and Automation will offer great benefits to humanity in the future. We can conclude after all research that the field of robotics has made serious and positive inroads in the field of space exploration.