Intelligent Security System for Defence

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Abstract- **this project is designed to enhance the border security. The security is enhanced by electronically with the help of automation. With the use of this system the work load on the solders is reduced to the greater extent. This project reduces the Human efforts on the border. The strangers or terrorist entering into the territory are identified easily.**

Keywords: **IR Transmitter, IR Receiver, PIR Trans-Receiver, Alarm, Arduino UNO, Light Emitting Diode.**

I. INTRODUCTION

In all countries the security of border is the main priority. In addition to the physical fences, smart fencing has been proposed to extend the eyes and ears of the Border Patrol. virtual fence consist of a large number of heterogeneous devices. The heterogeneous devices include cameras, sensors, and mobile stations. This stations provide the continuous security monitoring. The virtual fence is used by wireless sensor network. The same approach could be used in the critical infrastructure. In this security approach the nodes of sensors are deployed n the border. The sensors' information is collected through a network of communicating nodes on a controlled radio channel. Target tracking scheme is also involved in this project. Target tracking mainly deals with locating moving objects and finding the average speed of the moving object. The technique used for detection is by catching the signal at the Analog to Digital Converter (ADC) pin. The IR sensors are placed in static position.

Usinginformation from the sensor nodes, moving path, average speed and direction of themovement are predicted

II. IMPLEMENTATION SETUP COMPONENTS

2.1 Arduino Board:

Arduino is a simple microcontroller board based on an open-source physical computing platform. The Arduino Uno is a microcontroller board based on the ATmega328 (datasheet). It has 14 digital input/output pins (of which 6 can be used as PWM outputs), 6 analog inputs, a 16 MHz crystal oscillator, a USB connection, a power jack, an ICSP header, and a reset button. It contains everything needed to support the microcontroller; simply connect it to a computer with a USB cable or power it with an AC-to-DC adapter or battery to get started. The Uno differs from all preceding boards in that it does not use the USB-to-serial driver chip.

Fig. Arduino Board

III. OBJECTIVES

The main objective is to develop a border security system with wireless sensor and gunfire unit. This minimize casualties and economic losses due to terrorism. Four photo sensors are placed at four different border check post. BC547 transistor is used in this project. The input to the transistor BC547 is the output of the photo sensor. The central control units consist of microcontroller.two relays are connected through Relay driver At the output of controller.the status of each Check postisdisplayed by LCD. The output of relays is given to buzzer and gun firing unit respectively. Whenever any intruder try to cross the border, photo sensor will sense the signals and give it to transistor.

. Relays will get activated and they activate the buzzer and firing unit at the same time. In this way the attack will be done on intruder as soon as he try to cross the border at any check post.

IV. ADVANTAGES

1. Long range (> 100km).
2. Provides three layer protection
3. Low power loss and low power consumption
4. Quick communication between border and control room.
5. Underground protection.

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