DESIGN OF WARMONGERING CYBORG

Mr. G. Sudhakar   **Mr. C. Balaji**   **Mr. S. Krishnamoorthy**   **Mr. S. Manoj kumar**   **Mr. D. Divakar**

Department of Mechanical Engineering,
KGiSL Institute of Technology,
Coimbatore, Tamilnadu, India

Abstract—The logic and imagination concept in contemporize about the military soldiers is always uncertain. The future drone was developed on the basis of the issues of a soldier while carrying the heavy duties, assistance for a soldier during the period of the occasions. The patient evacuation under fire and lethality. The aggrandize and unacknowledged neighborhood will be ubiquitous. A trivial involvement in communication between the robots and the soldier through global positioning system, gyroscope tracking system which tracks the profile of the soldier and vice versa the soldier to view the location of the drone presence. An infrared sensor to detect the obstacles via the IR communication technique. The main hindrance is that the detection of the target is sensitive guidelines through camouflage dress. The luggage carrying during the operations will be time consuming and a complicated activity. The provisions for the drinking water and the medical allotments sustenance an elucidation for a soldier in the deed. The drone is processed and the system controlled by the arduino code system. The system have a provision in overhead for several deed such as carrying heavy dews, canons, ancillary, etc.

Keywords— GPS, Camouflage Dress, Arduino Code, Military , Drone.

I. INTRODUCTION

The future Soldier shall bespoke with design considerations in automation. Augmenting this capability would be mental and physical readiness assessments that would monitor a Soldiers status in real time using a suite of behavioural[1]. Integrated nanotechnology based exoskeleton – improved speed, strength, and agility. Technology and warfare have been strongly.

Interconnected throughout the history since the age of antiquity.

II. PREAMBLE ON SLUGGARD

Reconnaissance, mine clearance, insurgency operations often cause human casualty often. To minimize human casualty, robots replacing human operant are a good option when threat discernment [2]. Unmanned ground vehicles would be the best choice for deployment in a hazardous environment. To perform this task accurately, robot needs a mechanism that enables it to visualize the person and act accordingly. An intelligent decision is being made by the robot control unit. Robots of such applications need to be transported to the scene of action and deployed.The ranges should be set properly for the desired

environment on which to perform the tracking [3]. The target should not be very far from the visual sensor as the distance matters a lot. The several different diverse combination of sensors i.e. light detection and ranging sensor, radio frequency identification module (RFID), laser ranger finder (LFR), infrared (IR) sensing modules, thermal imaging sensors, camera, wireless transmitter/receiver etc. for recognition and locating the target. An intelligent decision is being made by the robot control unit [1]. The major concern here is with the drive to produce systems which dispense with the human operator altogether.

2.1 Entity Peripheral

The cyborg is mounted with a separate microprocessor and control unit along with different sensors and modules i.e. ultrasonic sensor, magnetometer, infrared sensors, and camera[6]. The peripheral over the system evolves using their provisions in the sectors. The camera height is vertically self-adjusting and is initially mounted on robot at a height of 4 ft. from ground to enhance the visual capability and effectiveness. The data of the sensors combined with the information from the camera proved to be very helpful in carrying out the task. Wartime atrocities have occurred since the beginning of human. So we are not operating under the illusion that they can be eliminated altogether .

III. BLOCK DIAGRAM
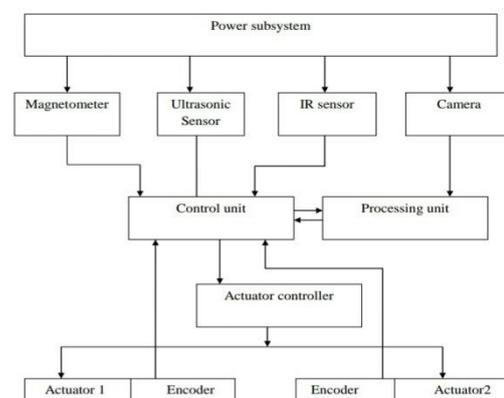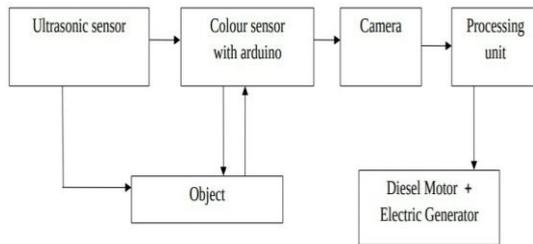
IV. METHODOLOGY

The ultimate goal of this cyborg is to follow the soldier's locusver they are going by both sensor and human remote control [5]. The decentralized approach, all modules and sensors act independently. Two separate units are used i.e. microprocessor and a controller. The processing is carried out by microprocessor and the information obtained by the sensors is controlled by a controller i.e. Arduino board. Soldiers say one of the biggest advantages to having this "Is the ability for this vehicle to stop out enemy snipers in the area.

4.1 Arduino Code

The signal code from Arduino reaches to the ultrasonic's and the signal input to python.The hardware used to detect the signals is,

- Ultrasonic sensor, Arduino UNO
- Camera
- Light Glow

4.2 Arduino Uno

Arduino is an open-source prototyping platform based on easy-to-use hardware and software. The several Arduino systems prevails but we precise the Arduino UNO quiet easier act as a microcontroller board.

V. IMPLEMENATION

The implementation is seems to be an easy task but there are some problems related to it. There are several features of the project such as the mechanical structure, design of circuits, detection and intelligent tracking system.

5.1 Design of Mechanical Structure

The mechanical structure of the robot is comprised of two layers base and it consists of two wheel differential drive system and a free wheel.

It is designed keeping in view that the camera on robot has to be mounted over a certain height from the ground.

That makes the wheel alignment to travel in all traced path easily and makes the soldier quiet familiar.

Ground robots are not only required to perform combat roles, as they will also be used as support for medics, who have one of the most dangerous jobs on a battlefield [4].

5.2 Dsign of Relay Based Motor Driver Module

A relay based motor driver module is designed to control the differential drive of the robotic platform. The advantage of this relay based module is that it can easily drive the high torques motors that require large fluxes. The control unit is serially linked with the processor and it makes use of several sensors and modules. Localization can be classified into two major categories: relative localization, and absolute localization. Each category uses different techniques and sensors to achieve localization[7].

5.3 Image Processing Algorithm

We have used a computer vision camera for recognizing the tag at the back of person and an Open CV python Platform to develop this algorithm.These centre coordinates are then serially transmitted to control unit for further processing and to make an intelligent decision by fusing it with information obtained by the other sensors and modules.

5.4 Ideology

We The system design consists of separate processing and control unit.The processing unit only makes use of a camera and is linked with the control unit to serially transmit the visual information after bulk processing.
The above sensors and camera works in unison with each other and helps the robot in its operation and to navigate its path by avoiding the obstacles and maintaining a specific distance from the object. The cyborg project the path when the signal dead from the first soldier it shift the signal to other and vice versa.

5.5 Provisions in Cyborg

There are provisions for certain basic ethical necessary locus on drone as:
The luggage carrying makes the soldier into trouble where the coyote bags takes 20 to 40 kg makes the soldier in comfort to the battlefield. Water tank which makes the soldier to drink water in the mid range of forests. The medical allowances to the right sides which makes the military during the wars section for wounded soldiers.

I-section is arranged to make some changes to the top section of the system locus the removable provisions for placing riffles, gunshots, nuclear weapons, .etc.

The camera is set to the front and which makes the projection to be visually view by a soldier in their smart watch.

Corresponding Author: Mr. G. Sudhakar, KGISL Institute of Technology, Coimbatore, Tamilnadu, India.

The light glow once the motor stars the engine and drink the nightfall finds accessible. Lead acid battery can be rechargeable but it can last an hour longer and detect within the transmit range 100ft area.

VI. DESIGN

6.1 Overhead Provisions

VII. CONCLUSION

Robots are an important component in Acumen Environments Automate devices. Facilitate decision-making by providing war-gaming capability with expert system augmentation in the military robots as a casualty and assistance vehicle.

References

[1]   Peter Simon Sapaty, Military Robotics: "Latest Trends and Spatial Grasp Solutions",International Journal of Advanced Research in Artificial Intelligence, Vol. 4, No.4, 2015

[2]   Maki K. Habib and Yvan Baudoin ,"Robot-Assisted Risky Intervention", Search, Rescue and Environmental Surveillance,International Journal of Advanced Robotic Systems, Vol. 7, No. 1 (2010)

[3]   Haldorai, A. Ramu, and S. Murugan, "Social Aware Cognitive Radio Networks," Social Network Analytics for Contemporary Business Organizations, pp. 188–202. doi:10.4018/978-1-5225-5097-6.ch010

[4]   Haldorai and A. Ramu, "The Impact of Big Data Analytics and Challenges to Cyber Security," Advances in Information Security, Privacy, and Ethics, pp. 300–314. doi:10.4018/978-1-5225-4100-4.ch016

[5]   Vidya Palve, "Soldier robot",International Conference on Science,Technology & Management,February 2017.

[6]   M. Praveen Kumar , Dr. G. K. D. Prasanna Venkatesan," MIMO Based Transceiver System for Unmanned Ground Vehicle for Surveillance In War Field " International Journal on Recent Technologies in Mechanical and ctrical Engineering (IJRMEE) IS SN: 2349- 947Volume: 1 Issue: 3 008 IJRMEE | October 2014

[7]   M. Yagimli and H. S. Varol, "Mine Detecting GPSBased Unmanned Ground Vehicle", Proceedings of the International Conference on Recent Advances in Space Technologies, (2009) June 11-13; Istanbul, Turkey.