

2013-14

QUADCOPTER - SURVEILLANCE VEHICLE FOR RESCUE OPERATIONS

Our project deals with providing vision for surveillance during rescue operations using the help of an unmanned aerial vehicle – QUADCOPTER. The project mainly focuses on surveillance during fire accidents and transfer video from site to host laptop through which the UAV can be controlled. In this project we have coupled the QUADCOPTER along with temperature monitoring system to provide vision for rescue operations. We chose the Quad Rotor over other unmanned aerial vehicles because its advantages easily outweigh those of others. Also a quad is very environment friendly as there is zero emission of any kind of hazardous waste from it. Based on temperature monitoring system the areas with high temperature sensitivity are mainly focused so that victims in the area are saved initially from damage. The data regarding the temperature sensitivity and camera vision is transferred using wireless Radio Frequency technology.

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**AUTOMATED CONTROL SYSTEM FOR TRASH OVERFLOW DETECTION AND
NOTIFICATION THROUGH GSM NETWORKING**

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REAL TIME REMOTE FACE DETECTION SYSTEM WITH HAAR CLASSIFIER ON RASPBERRY PI

In this Project we intend to build Face detection system on SoC Architecture Raspberry Pi. This face detection framework that is capable of processing image or video fast while achieving high detection rate using Haar Classifier. Because face is a part of human body, a face-like image which does not belong to a human body can be detected using our technique. Experiment results show that our method has a low false detection rate. This algorithm is an extension of an algorithm from Open CV library. Access the face detection from remote network. Algorithm coding is written in Python-Open CV language since Raspberry Pi supports Linux and Python language very efficient at high speed for Image Processing applications the entire portion is done on Raspberry Pi-ARM11 Processor

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CONTROL AREA NETWORK USING MICRO CONTROLLER FOR MILITARY APPLICATION

In this project it is proposed to evaluate the MilCAN Network for Military vehicles and monitor its performance in real time, In Military automotive vehicles, there will be a number of embedded control systems which will perform different functionalities. The embedded control systems will be communicating with each other in common network called as bus, controller are a network (CAN) bus is widely used in automotive vehicle for in vehicle networking of different embedded systems. In this project, we are going to implement a real time protection system for Military vehicles using MilCAN. The real time protection system will able to counter the threat from different ammunitions fired from an enemy tank or vehicle. The protection system has a sensing controller to detect the threat, (its direction, distance and velocity). The sensing controller will send that information to the turret controller through MilCAN network and turret controller will actuator the weapon system at real time in order to counteract the threat. MilCAN network should work in real time in order to counteract the threat. MilCAN network should work in real time for the transfer of message from sensing controller to turret controller. The turret controller will provide the information in the display to the commander about the status of the threat. The implementation will be done in Microcontroller for the sensing and turret controller. The direction, distance and velocity sensor will be interface with the sensing controller. The information will be transferred through MilCAN network to the turret controller. The turret controller will be interface with the weapon system which will be driver by actuator. The movement of the weapon system will be demonstrated using stepper motor. The project deals with the study of real time performance of the system and the quantification of parameters like deterministic behavior, throughput and response time.

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PATTERN BASED CAR UNLOCKING SYSTEM WITH SELF-OPERATED GSM

Guarding a vehicle is one of the tough jobs in present scenario. This prototype is advancement of the present car keys with a touch panel to unlock the car. This prototype also has a self-operated GSM module which can operate independently without need of car's battery. Even thorough the car's battery goes off, this GSM module stays awaken and would be helpful to trace the car, thuds provoking car's safety. When a person tries to enter into the car without the right match of the pattern password, this GSM is triggered which in turn provides the necessary details about the car. We have planned to interface a touch panel with the AVR micro controller, acquire its co-ordinate and there by the write pattern match alone can unlock the car.

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