

LIVE HUMAN DETECTING ROBOT

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Abstract

Natural destructions that we cannot stop. But humans are becoming increasingly aware in the concept of intelligent rescue operations in such calamities cannot be stopped. Still there are lots of disasters that occur all of a sudden and Earthquake is one such thing. Earthquakes produce a devastating effect and they see no difference between human and material. Hence a lot of times humans are buried among the debris and it became impossible to detect them.

In the past, when victims were trapped under earthquake rubble, there was a little chance that they would be found. This was due to the fact that rescue techniques such as optical devices, acoustic devices or robotic systems were found to have limited applications for the detection of buried victims. If a victim was unconscious and was unable to shout for help then the existing rescue system would fail.

A life detection system based on microwave frequency detects the human body vibration by the Doppler shift effect.

Introduction

There are many different kinds of catastrophes in natural and man-made disasters: Earthquake, flooding, hurricane and they cause different disaster areas like collapsed buildings, landslides or craters during these emergency situations and especially in urban disasters many different people are deployed (policemen, fire fighters and medical assistance). They need to cooperate to save lives, protect structural infrastructure and evacuate victims to safety.

In these situations human rescuers must make quick decisions under stress and try to get victims to safety often at their own risk. They must gather, determine the location and status of victims and the stability of the structures as quickly as possible so that medics and firefighters can enter the disaster area and save victims.

All of these tasks are performed mostly by humans and trained dogs often in very dangerous and risky situations. This is why since some years ago mobile robots have been proposed to help. We will focus only on robots which will work in a disaster environment of man-made structures like collapsed buildings.

The National Science Foundation is investigating the use of semi-autonomous robots for urban search and rescue. These robots will assist firemen, police and disaster agencies with reconnaissance, site evaluation and human detection. The goal of this research is to develop

mobile robot hardware (sensors) and software systems (user interfaces and navigation planning and coordination module) to support these tasks. Compare to the other projects these robots should have sufficient autonomy to maximize limited capabilities and attention of the human operator.

OBJECTIVES

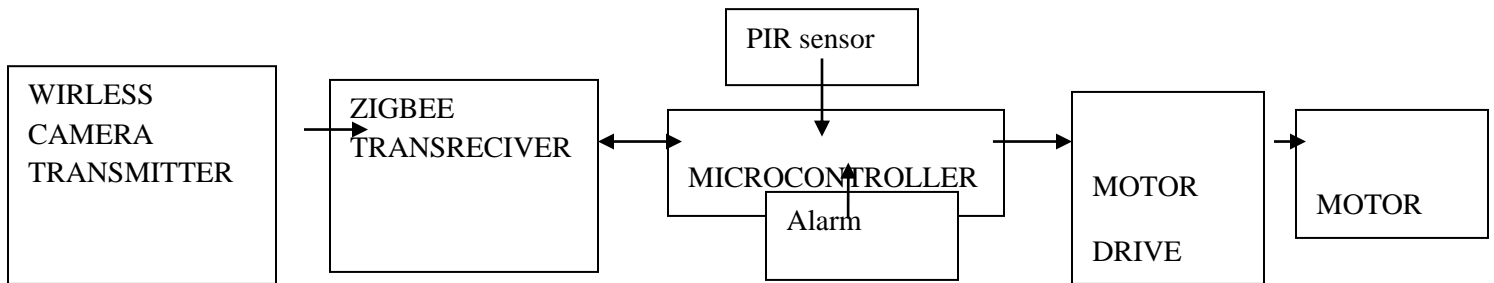
- To help in identifying the alive people & rescue operation
- To propose a wireless robot that is controlled form distance
- Less time required for rescue operation
- Quick help is possible

LITERATURE REVIEW

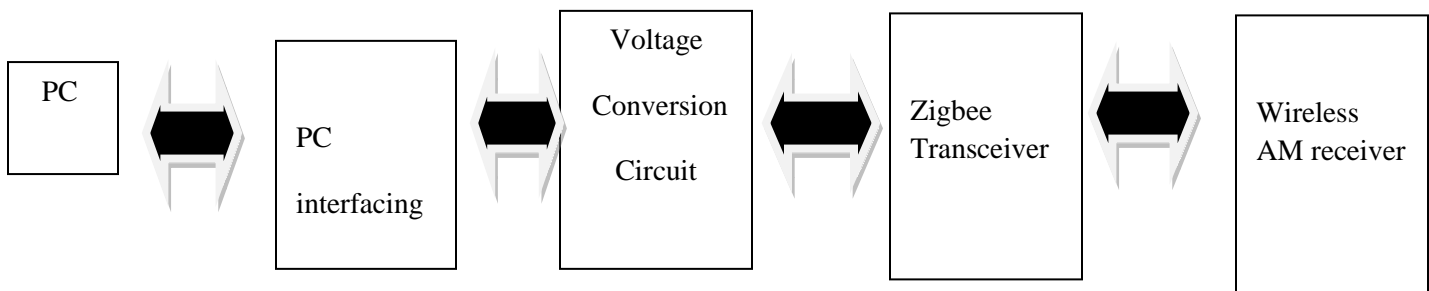
The paperwork “Design features and characteristics of a rescue robot” by Amon Tunwannarux and SupanuntHirunyaphisuthikul is about to design and implementation of rescue robot for a Thailand search and rescue robot such as the robot pattern ,type of sensor they use ,the robot controlling unit and the operator monitoring unit.

THEORY

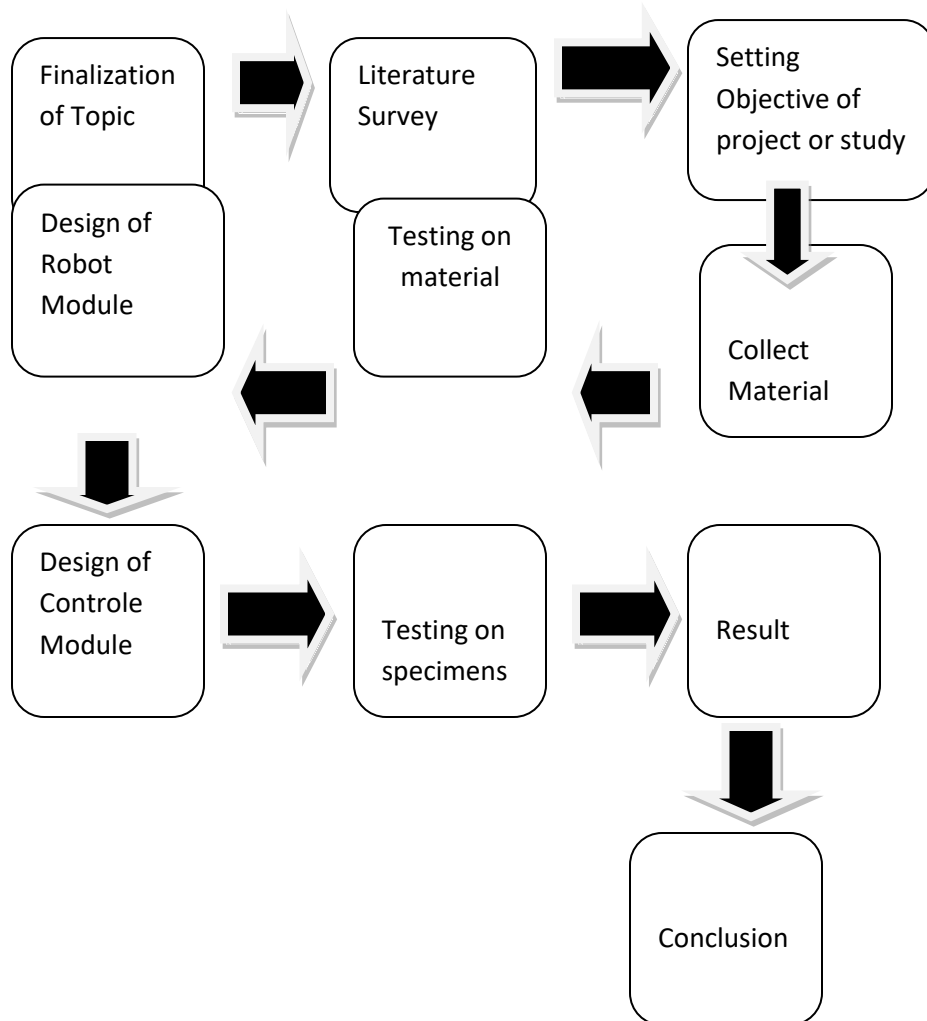
ROBOT MODULE



CONTROLE MODULE



Methology



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