



ABSTRACT

The purpose of this project is to design a robot which is capable of detecting buried landmines and marking their locations, while enabling the operator to control the robot wirelessly from a distance. This is a pioneer project and therefore the development of the robot had to be initiated from the very basic steps. The project was started from the brain storming phase together with the research phase and then proceeded into the conceptualization or designing phase.

The ideas and concepts from the theoretical stages are shaped into the physical hardware components by fabrication of a prototype and then software programs are integrated into the system so as to test and experiment the concepts that had been developed.

The designed robot is capable of detecting a buried mine, marking the exact location of the buried mine, and controlling itself from stepping over it and detonating the mine. The detection of the buried mine is done by using reed switch sensors detectors since most land mines contain magnetic components. The marking of the location of the possible buried mine area will be done by spraying distinctive colour paint onto that location. With the use of interchangeable three pairs of wheels, the avoiding of the possible buried mine location can be executed without requiring the robot to dodge around that spot. I Landmine detection and marking robot Summary

The robot will travel in a straight line path, marking the possible buried mine spots and clearing 1.2 meter wide lane in one pass. The system allows the operator to stay at a safe distance by enabling him to control the robot wirelessly.

The reliability of the robot depends upon the type of sensors or detectors being used. Therefore, the robot platform has been designed to be versatile enough to work with any detectors installed onto it. This project has opened up a new area of research to be explored.