

## **ABSTRACT**

On KRCI 2006 had been competed a fire fighting robot within many rules, such as capability of robot to tracking room in a building. This is a self-running robot which can mobile and by his sensors, it can monitor and detect of fire spot and doll.

In this final project, it will build a prototype of fire fighting robot which adopt the KRCI 2006 standard, the main duty is his capability to tracks rooms in a building that cover of how the robot movement does not crush with wall in continuously; detect all rooms and enter it. The author try to build robot as standards that had been decided before, included the field (expert division) to simulate it. It uses the body of robot which is already have before and AT89S52 as the microcontroller.

The focus is on sensors which has good function as the situation and condition. In this case,it uses ultrasonic sensor that consist of transmitter and receiver so that robot can anticipate the wall which facing him. It also uses infrared sensor which have similar method with ultrasonic sensor but it is for detection of white line that represent of door on every room. All system are controlled by microcontroller AT89S52 and it uses assembly language for programming.

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