

INTELLIGENT FROG ROBOT

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ABSTRACT

Nowadays robots are very commonly used in our life which can be found in the manufacturing industry, the military, space exploration, transportation, toys and medical applications. Typically robots are moved by using a motor and some program wired or even wireless.

The official name for this project is 'Intelligent Frog Robot'. Its aim is to make a robot that can react like a frog and has an intelligence to differentiate obstacle that it facing with and traversing the obstacle by using difference action depends on the height of the obstacle.

This project can be divided into 3 parts; they are the structural part, the sensor system and the programming part. This robot uses 2 infrared sensors which support the robot to go through the obstacle that it faces. The sensors give the feedback about the obstacle in front of the robot. The programming part consists of a microcontroller circuit that control the robot based on the feedback from the sensor. The microcontroller is programmed in such a way that it makes the robot to make its own decisions to jump through the obstacle base on the height of the obstacle that it is facing. At last, the structural part is about the placement and chosen of the DC motors which are used to perform the jumping for the robot, the amount of power that uses toward the DC motors is depends on the decision that made by the microcontroller. The expectation of this project is the robot can pass through any obstacles that place in front of it.