ABSTRACT

The objective of this project is to design a Robot which can find the target (example - a ball) and move towards the target. The ball transmits signal and blinking the light. The robot's head must be able to rotate right or left to find the target. Then it will move to the target, when it arrives near to the target, it will kick the ball. If it can kick the ball, it will make a sound like laughing. When it misses, it makes sound like crying. Every motion like moving, rotating or something else it will makes different sound. When the Robot collide the wall, it will turn in to another direction,

The whole system is controlled by PIC microcontroller 16F877A.The tracking system is uses infrared sensor. The target will send the infrared signal and the Robot itself have two infrared receiver. Two different type of infrared receiver are used. One is to detect in longer range and another one use to detect in shorter range. In addition, there were two limit switches at the right and left side thus it can prevent the Robot collides with the wall.

Besides that, two DC motors are used to move the Robot in forwards, backwards or even turning right and left direction. The dual full-bridge L298N is chosen to control the DC motor circuit. While the Robot reaches the target in certain range, the Robot will kick the target by using Servo motor which fixed on the Robot leg.

In addition, the Robot will make different sound when it is moving or kicking or even turning. The Voice playback and record device are use ISD2560 which can record different sound by applying different address.