

## ABSTRACT

Welly (08320020006)

### **Engineering Winsectronics with Ability Maneuvering to Obstacles**

(vii + 95 pages, 10 tables, 61 figures, 4 appendix)

This research deals with the design and implementation of walking robot named Winsectronics. The winsectronics is a robot with six legs and 3 servos motor, supported by infra red sensors placed at it's head and foot. It has the ability to maneuver to move forward, backward, turn left, and turn right. The tripod stability has been applied to robot so that robot can perform its walking gait without fall into unstable cycle. Hardware, mechanics construction and programming are integrated into engineering process to make full system robot.

Winsectronics uses its sensor to identify obstacles and gives avoidance responses based on behavior rules design. The control of a robot is shared between multiple behaviors with different and possibly incommensurable objectives through controller system programming.

As a result, Winsectronics has succeed performing its maneuver and gives appropriate responses to avoid obstacles. Stability achievement through tripod also showed by robot during its legged locomotion.

References : 21 (1999-2006)