Reengineering and Modifying Manual Lawn Mower into Automatic Lawn Mower

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STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

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ABSTRACT

REENGINEERING AND MODIFYING MANUAL LAWN MOWER INTO AUTOMATIC LAWN MOWER

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The objective of this thesis is to implement automatic system on manual lawn mower. To be able to add the automatic system in manual lawn mower, several things should be modified. The modification is done to the mechanic of lawn mower for the automatic system placement. Therefore the knowledge of lawn mower should be learned before. This automatic system is expected to make the lawn mower cut the grass with good result. In order to get a good result, a path planning should be implemented and the path planning result depends on the movement behavior of lawn mower. The lawn mower should have a straight direction. A compass electronic module is used to maintain the heading of the lawn mower. The straight movement will be achieved if the heading is same all time. This straight movement also can be achieved by maintaining the wheel in the same speed. The result is that the lawn mower is able to move however the deviation still occurs. This deviation appears because of the vibration created by the lawn mower. This vibration make the compass electronic reading is not accurate enough. Hence the need of other feedback for lawn mower navigation is needed.

Keywords: Lawn Mower, Compass Electronic, Automatic, Reengineering.

DEDICATION

I dedicate this works for God, my parents, my family, my friends, and also for Swiss German University.

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TABLE OF CONTENTS

Page