AUTOMATIC BIKE PARKING SYSTEM WITH RFID RC522

By

Martin Thomas Sadmoko Adi Pribadi
1-1501-110

BACHELOR'S DEGREE
in

MECHANICAL ENGINEERING – MECHATRONICS CONCENTRATION
FACULTY OF ENGINEERING AND INFORMATION TECHNOLOGY

SWISS GERMAN UNIVERSITY
EduTown BSD City
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Revision after Thesis Defense on [16 February 2017]

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

**AUTOMATIC BIKE PARKING SYSTEM
WITH RFID RC522**

By

Martin Thomas Sadmoko Adi Pribadi
Edi Sofyan, B.Eng., M.Eng., Ph.D, Advisor
Dr. Ir. Gembong Baskoro, M.Sc. , Co-Advisor

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Bicycle as a mode of transportation has been used since the 18th century. Bike nowadays, still be first choice to mode of transport for those who want to shorten the time to short distances travel, especially in many big cities. Because the size of the bicycle which tend to be smaller than other modes of transport makes the bicycle more flexible to be taken and driven individuals. Bicycles in fact not only be a mode of transportation, but also as a means of hobby and sports activities. Unfortunately, the lack of a safety system on a bicycle, making the bicycle as an easy target while parking or is not being used.

This thesis discusses the use of RFID as an automatic lock to be fitted to a bicycle parking area to improve safety aspects. RFID will identify the user's identity through a tag that was brought in to turn on the system locking up when the user is finished using the bike rack so that the parking lot is ready for use by other users. RFID RC522 series chosen because it was felt superior in other RFID products especially in its integration with the arduino board. Arduino is best known as a microcontroller which has an attractive interface and programming which tend to be more easily understood.

Keywords: Bike, RFID, RC522, Security, Locking, Parking

DEDICATION

I dedicate this works for Yosephine Endang Susilowati and Ellya Mahardika.

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Cikarang, January 2017

Martin Thomas Sadmoko Adi Pribadi

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