

Universiti Teknologi MARA

**Tracking Attendance for Reserve Army via Image
Processing**

Muhammad Adnin Bin Shahri

**Thesis submitted in fulfillment of the requirement for Bachelor of
Computer Science (Hons) Faculty of Computer and Mathematical
Sciences**

July 2015

SUPERVISOR'S APPROVAL

TRACKING ATTENDANCE FOR RESERVE ARMY VIA IMAGE PROCESSING

By

MUHAMMAD ADNIN BIN SHAHRI
2013843636

This report was prepared under the supervision of my project supervisor, Zainura Idrus. It was submitted to Faculty of Computer and Mathematical Sciences and was accepted in partial fulfillment of requirements for the degree of Bachelor of Computer Science (Hons) Computer Science.

Approved by

.....
Zainura Idrus
Project Supervisor

JULY 29, 2015

STUDENT'S DECLARATION

I certify that this report and the project to which it refers is the product of my own work and that any idea or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.

.....
MUHAMMAD ADNIN BIN SHAHRI
2013843636

JULY 29, 2015

ACKNOWLEDGEMENT

I am using this opportunity to express my deepest appreciation to everyone who supported and provided me the chances to complete the project proposal. A special thanks to my supervisor Zainura binti Idrus because of sharing her ideas and helped me coordinate my project especially in writing this project proposal report.

Furthermore, I cannot express enough thanks to my CSP600 lecturer Dr. Norhaslinda binti Kamaruddin for her continued support and giving a useful advice. I would also like to acknowledge with much appreciation to my beloved parents, my father Shahri bin Hashim , and my lovely mother Asmah binti Musa, because without them I might not finished the research report.

Finally, my completion of this research project could not have been accomplished without the support of my classmates for their continued support and encouragement in developing the proposal for the project and willingly helped me out with their abilities.

ABSTRACT

An attendance tracking system is the easiest way to keep track the attendance of staffs within a company or an organization. Currently, attendance tracking systems are using biometrics, barcode, Bluetooth and manual methods. However in Bukit Beruang Askar Wataniah camp, they are still using manually in taking attendance which is inefficient. The reserve army needs to write their names, the time arrives and then sign the in a log book. This process is time consuming and it take time to enter their particular and other reserve army has to wait for their turn. Besides, the reserve army has another commitment because some of them work in other places and outside the camp area. Thus, it causes them to wrongly write the time in the log book. Therefore, in order to overcome these problems, image recognition project is conducted. It captures the serial number from the reserve army from identification card. In this project, the image processing is focusing on binarization technique to convert grayscale image to black and white image for further processing. The binarization is preserving edges and high-frequency parts of an image. The result from this project is 83.33% accuracy and the user will be able to reduce the reserve army time while taking attendance. It will also improve the efficiency of taking attendance with less error. In future, it can be enhance by generating the report based on the reserve army attendance information stored in excel.

Keywords: Attendance tracking system, reserve army, image processing, binarization