

THE DEVELOPMENT OF SECURITY STATE
AND THE SECURITY CENTER OF THE
INDONESIA LEADERSHIP

AND THE SECURITY CENTER

INSTITUTE OF SCIENCE AND TECHNOLOGY
UNIVERSITY OF TULUNGWANGGARA
2010

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**THE DEVELOPMENT OF SECURITY SYSTEM IN A JUVENILE
DETENTION CENTER WITH THE APPLICATION
OF RFID AND PIC:**

By
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A thesis submitted in partial fulfillment of
the requirements for the award of the degree of
Bachelor of Applied Science
(Physics, Electronic and Instrumentation)

**DEPARTMENT OF PHYSICAL SCIENCES
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UNIVERSITI MALAYSIA TERENGGANU
2010**



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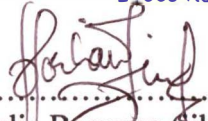
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DECLARATION

I hereby declare that this thesis entitled THE DEVELOPMENT OF SECURITY SYSTEM IN A JUVENILE DETENTION CENTRE WITH THE APPLICATION OF RFID AND PIC is the result of my own research except as cited in the references.

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THE DEVELOPMENT OF SECURITY SYSTEM IN A JUVENILE DETENTION CENTRE WITH THE APPLICATION OF RFID AND PIC

ABSTRACT

During the past decade, members of the public see juvenile detention centers as inhumane and a brutal problem solving action towards youth crime. Thus, most juvenile detention center conducts in a more “friendly” environment, instilling vocational and soft skills as well as training among its tenants. Thus, in order to keep the security in the juvenile detention center is maintain, a monitoring system that consists of Radio Frequency Identification (RFID) technology and Programmable Interface Controller is the foundation stone for a security system that was developed in this project, so as to be able to incorporate it in a juvenile detention centre. RFID tags serve as monitoring devices worn by detainees in a form of wrist bands. These tags transmit signals to RFID tag readers that send a signal to the host computer for display purposes, all the while, with PIC being the “heart” of the system. The tags on the other hand are incorporated with its own security circuit to prevent vandalism of the wrist bands by the detainees. The development of the subsystem that involves the RFID tags and readers as well as the PIC is based upon C language programming. This project ensures the top notch security in a juvenile detention center while maintaining a conducive environment for the juveniles in detention to feel less like convicts, which will be advancement from the current security measures taken by juvenile detention centers.

PEMBANGUNAN SISTEM SEKURITI DALAM PUSAT TAHANAN JUVANA DENGAN PENGAPLIKASIAN RFID DAN PIC

ABSTRAK

Sejak akhir dekad ini, ahli masyarakat menganggap pusat tahanan juvana sebagai tidak berperikemanusiaan dan merupakan penyelesaian masalah jenayah remaja yang brutal. Dengan demikian, kebanyakan pusat tahanan juvana mengambil pendekatan yang lebih "ramah" terhadap penghuninya dengan menanam kemahiran vokasional dan kemahiran insaniah di kalangan remaja bermasalah yang tinggal di sesebuah pusat tahanan juvana. Justeru itu, untuk mengekalkan tahap sekuriti yang tinggi di samping menyediakan persekitaran yang kondusif, sebuah sistem pemantauan yang terdiri daripada teknologi Identifikasi Frekuensi Radio (RFID) dan Pengawal Intermuka Perkeliling (PIC) adalah asas untuk sistem keselamatan yang dibangunkan di dalam pusat tahanan juvana. Tag RFID berfungsi sebagai alat pemantauan yang dipakai oleh tahanan juvana dalam bentuk gelang tangan. Tag ini menghantar isyarat kepada pembaca tag RFID yang seterusnya menghantar isyarat kepada computer utama untuk tujuan paparan, sementara PIC menjadi tunggak sistem. Tag ini akan disediakan dengan litar keselamatan bagi mencegah tahanan juvana dari memusnahkannya. Pembangunan subsistem yang melibatkan tag dan pembaca RFID serta PIC, akan didasarkan pada program Bahasa C. Projek ini memastikan sekuriti tahanan juvana sentiasa terjaga disamping menyediakan persekitaran yang "ramah" bagi tahanan-tahanan juvana demikian. Sistem ini merupakan suatu kemajuan dari system sekuriti dalam pusat tahanan juvana di masa ini.