

**UNIVERSITI TEKNOLOGI MARA**

**PERSONALIZED MEDICATION  
REMINDER IN M-HEALTH  
ENVIRONMENT USING  
RULE-BASED EXPERT SYSTEM**

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**BACHELOR OF COMPUTER SCIENCE (Hons)**

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**Personalized Medication Reminder in  
M-health Environment Using  
Rule-Based Expert System**

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

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## **SUPERVISOR'S APPROVAL**

### **PERSONALIZED MEDICATION REMINDER IN M-HEALTH ENVIRONMENT USING RULE-BASED EXPERT SYTEM**

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

Approved by

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Project Supervisor

JULY 30, 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.

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## ABSTRACT

People have an intention to take medication as instructed, but failing to do so because of forgetful and careless. This is the major problem with unintentional medication non-adherence. Besides that, this problem will lead to slower recovery process and skew the clinical therapy. Moreover, non-adherence attitudes may increase when patient slowly lose their trust in medication and doctors because a patient may start to think that the diagnosis is wrong or prescribed medication is not effective on them. In addition, people with chronic illness where have to deal with multiple dosage at the different time everyday tends to have this kind of problem. Thus, in order to promote medication adherence among chronic illness patient, this project is going to build a personalized medication reminder in Malay language on Android mobile application. This application will provide a monitor or remind the user about medication time within safe interval time. Meanwhile, a rule-based expert system method is going to be used for implementing this project with emphasis on personalized medication reminder. Agile approach is used in the project framework because of the flexible adjustment in the future. As the result, the application is able to remind users on medication time intake together with instruction details. This application hopefully may be able to strengthen medication adherence among user. It also might helpful for users to sort medication schedule and easier to handle since it is on their smartphone. As for future work, there are several enhancements could be done like flexible in frequency intake not just for daily medicine, support time-critical scheduled medication, available in other native language and other mobile platform, associated with user daily activity to support event-based on memory and last but not least provide audio or visual guiding that friendly to senior and disable people.

Keyword: Unintentional, medication non-adherence, chronic illness, mobile application