

MONITORING CRITICAL HEART PATIENT THROUGH SMS MEDICATION
REMINDER

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BORANG PENGESAHAN STATUS TESIS*

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MEDICATION REMINDER**

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MONITORING CRITICAL HEART PATIENT THROUGH SMS MEDICATION
REMINDER

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This report is submitted in partial fulfillment of the requirement for the
Bachelor of Computer Science (Computer Networking)

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DEDICATION

A special dedication goes to my beloved parents Mr. Othman Bin Hj Chik and Mrs. Kamariah Binti Hj Chek because giving support in completing my final year project which is entitled Development of Monitoring Critical Patient trough SMS Medication Reminder.

I also would like to dedicate to the special supervisor Miss Irda Binti Roslan and to the all people who help and support direct or indirect in finishing my project successfully.

Thank you very much for the fully support

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Thank you.

ABSTRACT

Medication Monitoring and Reminder System (MMRS) was developed specifically for Pharmacy at the Putra Medical Centre (PMC) at Alor Setar for reminder to heart patients to take medicines correctly at the time. Where the system will send an initial message 10 minutes from real time for patients and heir to alert about take medication. If patients do not respond with this reminder, but the heir give respond with this reminder, system it will consider the patient take medication on time, but if the patient and heir cannot respond to the reminder, then the system will treat these patients do not take medication on time. All information about patients will be stored in the database and can be monitored by a doctor who treated each patient. These systems are all managed by the Pharmacy; the doctor is able to use this system in part only, as well as the Receptionist. Object-Oriented Development Life Cycle (OODLC) was chosen as a methodology for MMRS. An analysis was conducted on the current system for identifying needs and problem statements. MMRS interface was designed based on needs. Implementation of this system implemented uses the Microsoft Visual Basic 2005. GSM modem and sim card. Trial system has been implemented with success by some users who are able.

ABSTRAK

Medication Monitoring and Reminder System (MMRS) telah dibangunkan secara khusus untuk Farmasi di Putra Medical Centre (PMC) di Alor Star untuk peringatan kepada pesakit jantung yang kritikal untuk mengambil ubat dengan betul pada masa yang telah ditetapkan. Di mana sistem akan menghantar mesej lebih awal 10 minit dari masa nyata kepada pesakit dan ahli waris untuk member peringatan tentang minum ubat. Jika pesakit tidak memberi tindakbalas dengan peringatan ini, tetapi ahli waris memberikan respon dengan peringatan ini, sistem akan mempertimbangkan pesakit minum ubat tepat pada masa, tapi kalau pesakit dan keluarga terdekat tidak memberi apa-apa tindakbalas, maka sistem akan menganggap pesakit tidak minum ubat tepat waktu. Semua maklumat tentang pesakit akan disimpan di dalam database dan boleh dipantau oleh doktor yang merawat setiap pesakit. Sistem ini semua dikendalikan oleh Farmasi, doktor boleh menggunakan sistem ini hanya pada bahagian tertentu sahaja, serta receptionist. Pembangunan Berorientasi Objek Life Cycle (OODLC) dipilih sebagai metodologi untuk MMRS. Sebuah analisis dilakukan pada sistem saat ini untuk mengenalpasti keperluan dan laporan masalah. MMRS antaramuka direka berdasarkan keperluan. Penerapan sistem ini dilaksanakan menggunakan Microsoft Visual Basic 2005. GSM modem dan kad sim. Percubaan system ini telah dilaksanakan dengan berjaya oleh beberapa pengguna yang berkemampuan.

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LIST OF ABBREVIATIONS

| | |
|-------|--|
| PSM | Projek Sarjana Muda |
| MMRS | Medication Monitoring and Reminder |
| ERD | Entity Relationship Diagram |
| OODLC | Object-Oriented Development Life Cycle |
| SDLC | System Development Life Cycle |
| SSADM | Structured System Analysis and Design |
| GSM | Global System for Mobile Communication |
| SIM | Subscriber Identity Module |
| PMC | Putra Medical Centre |
| UM | Universiti Malaya |
| UPM | Universiti Putra Malaysia |
| UML | Unified Modeling Language |
| 1NF | First Normal Form |
| 2NF | Second Normal Form |
| 3NF | Third Normal Form |
| DBMS | Database Management System |
| DCL | Data Control language |
| DDL | Data Definition Language |
| IDE | Integrated Development Environment |

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CHAPTER 1

INTRODUCTION

1.1 Project Background

Short Message Service (SMS) a communications protocol that allows the interchange of short messages. Since 1991 in Europe, SMS has been appeared on the wireless where digital technology took root. The message a send and received by GSM modems, modules or server equipment with SMS capabilities. The SMS technology can give more ease in the development and growth of text messaging.

In the current marketing environment, a GSM modem can be in an external device, such as iTegno 3000. A SIM card or Subscriber Identity Module is a portable memory chip used in some models of cellular telephones. The SIM holds personal identity information, cell phone number, phone book, text message and other data. SIM cards are used with carriers that operate on the Global System for Mobile Communication (GSM) network. A SIM card will be inserted into the modem and then connect to the modem to an available serial port on the computer. A GSM modem can be a PC Card installed in a notebook computer, such as Celcom card phone. Nowadays, more applications were invented to run on our mobile hand phone via SMS. Among of these applications like game application, information service, download and so on. By using GSM modem, there are a lot of application that can be develop from SMS service, including SMS notification or reminder. This project is intended to develop a system that will integrate the SMS application as a reminder to critical patients to take their medications on a specific time. This system which is

named Medication Monitoring and Reminder System (MMRS) is developed to enhance the current problem in most hospitals or health institutions. This problem refers daily medication of facility to remind patients to take their daily medication. MMRS gives more advantages to patients and the doctor can give reminder to patients and can monitor patient's health.

This system will be used in Putra Medical Centre (PMC) focus on critical heart patients. Basically, this system was developed to be used by the pharmacist, receptionist, a heart specialist and heart patients. In which, the receptionist will register the patient and make an appointment with the doctor as appropriate. The doctor will examine the patient and thereafter, the pharmacist provides drugs according to the instructions given by the doctor. After that, the system will send an SMS reminder ten minutes early to the patients and the heir to take the correct medication at the time. If the patient or the heir reply SMS reminder sent, meaning that patients were taking medication at the time. However, if the patient or the patient does not respond to SMS reminder means patients are assumed that they do not take drugs at that time. In this way, doctors can monitor patients every day by analyzing the return message from the patients.

1.2 Problem Statements

For this project, there are several problems encountered that need to be handle that will enhance the service in Putra Medical Center (PMC). In the current system, patients often take drugs are not timely, but sometimes patients do not take drugs at all by the time specified. This is because, the patients or their heir own practice is very busy lifestyles and they forgot to take medication.

The main problem is now currently, patients often take drugs are not timely, but sometimes patients do not take drugs at all by the time specified. This is because, the patients or their heir own practice is very busy lifestyles and they forgot to take medication.

1.3 Objective

- .To develop a system that will manage critical heart patients medication record.
- To remind the patients and their heirs to take medication through SMS.
- To allow doctor monitor the patient's medication consumption.

1.4 Scope

The scope is the boundaries, constraints or limitations of the project want to develop. In this section, the system is targeted for and covered the system users and system modules.

1) Scope of System Users

- Patient and heir – will reply the SMS reminder using hand phone to the system.
- Doctor – to allow doctor monitor the patient's medication consumption.
- Pharmacist - will manage overall in this system.
- Receptionist – register new patients and set the appointment with doctor

2) Scopes of System Modules

- Registration Personal Profile - The receptionist, doctor and pharmacy will register the personal detail into the system to allow access the system