

CHAPTER 1

INTRODUCTION

1.1. Title Terminology

The title of this thesis is **OpenEMR's Add-on Application as Patient's Medication Review**. Below is the terminology of the title according to Cambridge English Dictionary and openemr.codeplex:

OpenEMR : a Free and Open Source electronic health records and medical practice management application.

Add-on : Piece of equipment that can be connected to a computer to give it an extra use.

Application : a computer program that is designed for a particular purpose.

Patients : people who are receiving medical care, or who is cared for by a particular doctor or dentist if necessary.

Medication : a medicine, or a set of medicines or drugs, used to improve a particular condition or illness.

Reviews : to think or talk about something again, in order to make changes to it or to make a decision about it.

1.2 Background

Nowadays, the development of technology is very rapid. Frequently we do not realize that many aspects in life depend on technology. In the medical sector,

technology is able to connect the paramedics to the patients. Along with the devices used to detect unseen disease, technology can also be used in the management of the hospital itself.

In its management, a lot of hospitals have their own system. It usually helps them to manage paramedics, staffs, patients' medical record, and their financial sector such as paramedics' salaries. It can also be used to control their medical supply in the hospital's pharmacy.

The system usually used for hospital's management is Electronic Health Records (EHR). Some examples of this system are Substitutable Medical Apps, Reusable Technologies (SMART), Virtual Medical Record, and OpenEMR. EHR's systems are developed from the existing ones, but they cover the whole sector and are made to be more integrated for patient. Another development of this site provides a section for the patients in order to know more about their physical condition and the medicine needed.

1.3 Problem Definition

Some problem that can be defined based on the background stated above are:

- 1) What kind of medical application that can help the doctors in gaining information about their patients' condition
- 2) How to provide the doctors to know more about patient's health condition

1.4 Application Limitation

In order to keep the research's focus in educational institutions, the writer formulates:

- 1) Constructing this add-on using OpenEMR
- 2) This add-on application can be accessed via web browser for the doctors and mobile application for patient
- 3) Designing this software using Java, JSON and PHP programming language
- 4) The patients are the main user of this application and doctors are the supervisor
- 5) This research will gain data from 10 patients with different medicine and will supervised with 2 doctors

1.5 Objectives

The objectives of this project are:

- 1) To create an application to provide a monitoring patient's prescriptions by the doctors.
- 2) The application can notify the patient when they need take the medicine and can share the after effects, their condition after finishing their medical treatment in a certain time period.

1.6 Methodology

In order to conduct this research, there are some methods to do, which includes:

- 1) Make medication reminder application add-on in OpenEMR with javascript and PHP programming and connect it to the database using PHPMyAdmin. After the add-on has been made, it will be connected to the mobile application using JSON programming. The notifications will use pop apps so the users can still receive them despite being offline.
- 2) After the doctor examines the patients, they will add their condition and the medication into OpenEMR. Doctors will forward the medication prescribed for the patients to the pharmacy in order to make the medicine and the details on how to use it.
- 3) Patients will receive the medicine from the pharmacy along with the details put on labels. After the patients log in into the application, they will get the pop up notification whenever they need to consume the medicine prescribed before. They have to click the sign that says “drink” so the data will be transferred to the server and also to the doctor.
- 4) Doctors can supervise whether the patients have frequently consumed the medicine in the right time. Afterward, patients can give a review about their condition after consuming the medication at the end of the period and they can also give a score for the medicine from scale one

to five (five is the highest score, means they're satisfied) to see how effective the treatment.

1.7 Writing Structure

This report will be compiled using these writing structures below:

CHAPTER I INTRODUCTION

This chapter starts with the title terminology and background explanation of this project, followed by problem discussion, boundaries of the project, explanation of objective, methods, and writing structure.

CHAPTER II THEORETICAL FOUNDATIONS

This chapter contains the theories used in this project to develop the OpenEMR add's on patients medication review. There are explain about main theories and also additional theories that will be used to support this thesis, the theories are Data Management Patient Medication, Prescriptions, OpenEMR theories, Development of Android, and JSON.

CHAPTER III SYSTEM DESIGN & ANALYSIS

This chapter contains the analysis of the OpenEMR add-on's patients medication review, how to use,

diagram Unified Modified Language (UML), application features, application interface, and application requirements summarizes.

CHAPTER IV IMPLEMENTING & TESTING

This chapter explains the implementation of the methods that form the system and the testing of the program, and also solution for the problem.

CHAPTER V CONCLUSION & FUTURE DEVELOPMENT

This chapter summarizes and concludes this project and gives suggestions for further development.

