

PATIENT MANAGEMENT SYSTEM

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UNIVERSITI TEKNIKAL MALAYSIA MELAKA

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PATIENT MANAGEMENT SYSTEM

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This report is submitted in partial fulfilment of the requirements for the Bachelor of
Computer Science (Software Development)

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
UNIVERSITI TEKNIKAL MALAYSIA MELAKA
2011

DECLARATION

I hereby declare that this project report entitled

PATIENT MANAGEMENT SYSTEM

is written by me and is my own effort and that no part has been plagiarized without citations.

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(DR. MOHD. KHANAPI ABD. GHANI)

DEDICATION

To my beloved parents, your love and support are my greatest inspiration.

To my friends, it is for your sacrifices, encouragement and support.

To my lecturer, for being receptive and critical, and challenging me to be a better and more talented as well as skilful student.

ACKNOWLEDGEMENTS

In order to be awarded a degree of Bachelor of Computer Science (Software Development), the students are required to complete a final year project namely “Projek Sarjana Muda” (PSM). PSM trained the students how to manage and develop software development project independently. In order to accomplish the PSM, students need to apply and incorporate the knowledge and skills that they have learned in their specialisation course. As a result, students gained useful experiences and skills in managing the software development project and this would give advantages in the real work environment or industry. In addition, preparation of PSM report indirectly improves the soft-skills in report writing. Therefore, I am grateful to UTeM for providing such important and adequate facilities as well as services prior completing my bachelor degree project.

For appreciation, I would like to express my fullest gratitude towards my supervisor, Dr Mohd Khanapi Bin Abd Ghani for the enthusiasm of conferring guidance for me to carry out PSM in the university. I am very grateful for the invaluable advices and time allocated by Dr Khanapi in leading me the right way for accomplished the project. Apart from that, I would like to thanks my parents that continuously support me morally. Last but not least, appreciation and gratefulness have to go to my fellow course mate as well as my friends for providing moral support and advice to lead me to complete the final year project.

ABSTRACT

This report mainly discussed and explained the process that required for developing Patient Management System (PMS). In order to develop a complete PMS, stages like analysis, design, implementation and testing were compulsory to be gone through. Chapter 1 in this report explained the background, objective, scope, project significance and expected output of PMS. Chapter 2 discussed the literature review and methodology that used to develop PMS. Domains, technique and project requirements like software requirements and hardware requirements were discussed in this chapter too. Chapter 3 discussed the analysis of PMS and there were two types of analysis being discussed, which include problem analysis and requirement analysis. Data requirements, functional requirements and non-functional requirements were discussed in the requirement analysis. Chapter 4 explained the design of the PMS and there were two types of design being discussed, which include high-level design and detailed design. System architecture, user interface design and database design were discussed in high-level design while software design and physical database design were discussed in detailed design. Chapter 5 discussed the implementation of PMS. Software development environment set up, software configuration management which include configuration environment setup and version control procedure, and implementation status were discussed in this chapter. Chapter 6 discussed the testing of PMS which include test plan, test strategy, test design and test result and analysis. Test cases were created to analyse PMS and check whether PMS meet user requirements. Lastly, chapter 7 explained the conclusion of this project. Strengths and weaknesses of PMS, propositions for improvements and contribution of PMS were explained in this chapter.

ABSTRAK

Laporan ini membincangkan dan menjelaskan proses yang diperlukan untuk membangunkan Sistem Pengurusan Pesakit (PMS). Untuk membangunkan PMS yang lengkap, peringkat seperti analisis, reka bentuk, pelaksanaan dan ujian wajib dilalui. Bab 1 dalam laporan ini menjelaskan latar belakang, objektif, skop, kepentingan projek and keputusan yang diharapkan daripada PMS. Bab 2 membincangkan kajian literatur dan kaedah yang digunakan untuk membangunkan PMS. Domain, teknik dan keperluan projek seperti keperluan perisian dan keperluan perkakasan juga dibincangkan dalam bab ini. Bab 3 membincangkan PMS analisis dan terdapat dua jenis analisis yang dibincangkan, termasuk analisis masalah dan analisis keperluan. Keperluan data, keperluan fungsi dan keperluan bukan fungsi telah dibincangkan dalam analisis keperluan. Bab 4 menjelaskan reka bentuk PMS dan terdapat dua jenis reka bentuk yang dibincangkan, termasuk reka bentuk peringkat tinggi dan reka bentuk terperinci. Seni bina sistem, reka bentuk antara muka pengguna dan reka bentuk pangkalan data telah dibincangkan dalam reka bentuk peringkat tinggi manakala reka bentuk perisian dan reka bentuk pangkalan data fizikal telah dibincangkan dalam reka bentuk terperinci. Bab 5 membincangkan pelaksanaan PMS. Penetapan persekitaran pembangunan perisian, pengurusan konfigurasi perisian yang termasuk konfigurasi penetapan persekitaran dan prosedur kawalan versi, dan status pelaksanaan telah dibincangkan dalam bab ini. Bab 6 membincangkan ujian PMS, termasuk pelan ujian strategi ujian, reka bentuk ujian dan hasil ujian serta analisis. Kes- kes ujian telah dicipta untuk menganalisis PMS dan periksa sama ada PMS memenuhi keperluan pengguna. Akhir sekali, bab 7 menjelaskan kesimpulan projek ini. Kekuatan dan kelemahan PMS, cadangan untuk penambahbaikan dan sumbangan PMS telah dijelaskan dalam bab ini.

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LIST OF ABBREVIATIONS

PMS	-	Patient Management System
OOAD	-	Object Oriented Analysis and Design
HSQLDB	-	Hyper Structured Query Language Database
PMI	-	Patient Master Index
IC	-	Identity Card
SDLC	-	Software Development Life Cycle
ERD	-	Entity Relationship Diagram
UML	-	Unified Modelling Language
DDL	-	Data Definition Language
CSS	-	Clinical Support System
MDA	-	Model Driven Architecture
DBMS	-	Database Management System
GUI	-	Graphical User Interface

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CHAPTER I

INTRODUCTION

1.1 Project Background

Patient Management System is an electronic healthcare system that developed to fasten the patient's registration process and reduce the waiting time of patient during registration. At the same time, this system enables the registration staff to manage and maintain patient's biodata more efficiently as well as effectively. When patient come to registration's counter of hospital, the registration staffs just need to insert patient's MyKad into MyKad reader in order to get and search the information as well as data of the patient. Then, patient can be registered immediately after patient profile has been verified and the receipt has been printed. In addition, Patient Management System enables the registration staff to update the patient information easily. In fact, this system enables registration staff to view and select the appointment list followed by registers the particular patient for treatment. Patient Management System was designed and developed using JAVA and HyperSQLDB has been used to keep and save the data as well as information of Patient Management System.

1.2 Problem Statements

In this modern day and age, more and more people go to hospital to seek the advice or treatment of the doctor. However, most of the hospital still uses the manual way to register and record the patient's information and data. Most of the information of the patients is done by just writing the patients name, age and gender. When the staffs want to find the record of particular patients, he/she need to spend a lot of time to search the cabinet to find out the record. It makes the registration process become longer and patient need to wait for longer time in order to seek for treatment. Thus, it is absolutely necessary to have a proper system to manage the data and information of patient.

1.3 Objective

The objectives of the project are as follows:

- To provide patient search facility.
- To provide fast registration system.
- To integrate smart card with registration system.
- To integrate appointment system with registration system.

1.4 Scope

- i. Register Patient Module
 - Register and record all information of the patient(Name, New IC No, Old IC No, Patient Category and others)

- ii. Search Patient Module
 - Search the patient's information by enter/key in PMI No or IC No or ID No of the patient.

- iii. Maintain Patient Master Index Module
 - Any changes or update of the patient's personal information can be made and save into database.

- iv. Integrate to MyKad Module
 - MyKad Reader will be used to capture the information of the patient followed by display patient's information on the screen of the system.

- v. Create Patient Queue Module
 - Assign patient to the particular treatment room and wait for treatment.

- vi. View & Select Appointment Module
 - View the appointment list and select the particular patient followed by registered and assigned them to queue.