PATIENT RECORD MANAGEMENT SYSTEM (PRMS)

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ABSTRACT

This Patient Record Management System is a renewal of the existing system in the Student Health Unit at the University Malaysia Pahang. This system involves the user of the staff at the health unit itself, which handles the registration of patients at the health unit. The purpose of this reform is that the patient record management system available to the health unit is no longer efficient use in the present day. The effect of these inefficient causing frequent errors when employee entering information to their patients that can affect the performance and quality of services at the student health unit. This patient record management system has three main modules, namely a new patient record, see the status of the number of patients who come to the unit each day and the type of disease that often encountered by students in the UMP and make a communication medium between patient and doctor. The development of this system has given an alternative to the Student Health Unit UMP to use computerized systems to manage their services.

ABSTRAK

Sistem Pengurusan Rekod Pesakit ini merupakan suatu pembaharuan terhadap sistem yang sedia ada di Unit Kesihatan Pelajar di Universiti Malaysia Pahang. Sistem ini membabitkan pengguna dari kakitangan di unit kesihatan itu sendiri yang mengendalikan urusan pendaftaran pesakit di unit kesihatan tersebut. Tujuan pembaharuan ini adalah kerana sistem rekod pesakit yang sedia ada di unit kesihatan tersebut tidak lagi efisyen digunakan pada zaman sekarang. Kesan daripada ketidakefisyenan ini menyebabkan kerap kali berlakunya kesilapan ketika kakitangan tersebut memasukkan maklumat untuk para pesakit mereka yang dapat menjejaskan prestasi dan mutu perkhidmatan di unit kesihatan pelajar tersebut. Sistem rekod pesakit ini mempunyai tiga modul utama iaitu merekodkan pesakit baru, melihat status bilangan pesakit yang dating ke unit tersebut setiap hari serta jenis penyakit yang kerap dihadapi oleh para pelajar di UMP dan membuat medium komunikasi antara doctor dan pesakit. Pembangunan sistem ini telah memberi alternatif kepada Unit Kesihatan Pelajar UMP untuk menggunakan sistem berkomputer dalam menguruskan perkhidmatan mereka itu.

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CHAPTER 1

INTRODUCTION

1.0 Introduction

Unit Kesihatan Pelajar (UKP) Universiti Malaysia Pahang (UMP) is the clinic that responsible to treat every patient in UMP. Everyday this clinic has received many patients that consist from students until staff in UMP itself. So, a lot of information will be record in each patient document for every time they come to the clinic such as their type of illness and medicine that they take. However, these traditional document systems seem not so efficient to use for today and give more weakness to the operation in the clinic.

So as the solution, the Patient Record Management System (PRMS) for Unit Kesihatan Pelajar UMP is develop for help staff in the clinic to smoothing the clinic management. This application is a new approach to information technology (IT) in a small running clinic like Unit Kesihatan Pelajar UMP. This system will replace the

traditional system that using manual system that caused a lot of problem for example like in searching the patient document in the rack that will take time and the document cannot keep many history or data information about the patient in a single paper. So after those scenarios have been detected, PRMS will improve to solve the problem and make the operation in clinic run smoothly.

1.1 Problem statements

Below are the problems that stated for the current system:

i. There is no Patient Record Management System develop in Unit Kesihatan Pelajar UMP yet.

ii. The current system is using the traditional or manual document to record all the patient information. There might expose the staff in the clinic for making a mistake on writing and be risk if the document lost or being misplaced.

iii. There will be plenty of documents if there are many patients register in the UKP UMP. So there might be problem to searching and find the document one by one manually.

iv. Patient hard to contact the doctor if they want to ask for further information about their problem or make an arrangement for appointment.

v. The manual document cannot keep many data and details information about the patient.

1.2 Objective

The objectives of this project are:

i. To develop the Patient Record Management System for UKP UMP.

ii. To record the information of patient in UKP UMP.

iii. To view the history and information details about patients that comes to the clinic.

iv. To make the communication via the system between UKP UMP staff, doctor and paticnts.

1.3 Scope

The project scopes are as below:

i. Patient Record Management System which is develops specifically for Unit Kesihatan Pelajar UMP.

ii. The environmental of this system is online web based application.

iii. Administrator, UKP staff and patient that have register are authorized to run the application but each of them has their own permitted area. Therefore unauthorized use of this system is restricted.

1.4 Thesis Organization

This thesis consists of five (5) chapters. Chapter 1 discussed on introduction to system/research that consists of objectives of the project, problem statements and scopes.

Chapter 2 will be discussing about the conventional system. The other aspect that will be discussed would be the comparison to the similar existing application.

The Chapter 3 discusses about the approach and system frameworks in the whole project development. The discussion will touch the System Development Life Cycle (SDLC) besides software and hardware that are needed in the development.

In Chapter 4, it will explain the process of the system implementation. Generally this chapter will give a bit explanation on system development that is designed. In other words, it describes the output of the Patient Record Management System in UKP UMP, constrains in developing the project and result and recommendations for further research of the system.

Then, Chapter 5 is about to explain the found and result and data analysis that are obtained.

The last chapter, Chapter 6 will be discussing on the project summarization and the information contented.

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

Patient Record Management System (PRMS) is a new approach to information Technology (IT) for a small running clinic like Unit Kesihatan Pelajar (UKP) Universti Malaysia Pahang (UMP). The purpose of this system is to provide systematic management for the information application. In other words to develop an electronic information application form so that the data can be handled easily. This system is developed because of the following problem that are the current system is still using the traditional document to record the information and this no reliable to the technology that have now. Besides that, there might expose the staff for making a mistake on writing and be risk if the document lost or being misplaced. Overall the conventional system is not systematically managed. Therefore, this system will be replacing the conventional system in order to smooth the running service.

In the mean time, the UKP staff can view the history and information details easily about patients and also they can trigger the statistic of patient that come regularly to the clinic. The UKP staffs also can communicate via these PIS with patients so they can send some advice for the patient health and also can make further appointment to the patient just in online only. This would achieve the objective of the project development.

2.1 Overview in the Conventional System

The patient information system using conventional method is quite unsatisfactory. This is because UKP staff must have to write each patient information details on the traditional document manually. There might expose the staff for making a mistake on writing and be risk if the document lost or being misplaced. Furthermore, if the staffs want to search for some patient document it will take time because the staffs much search one by one for each drawer in that rack. This will make operation in the clinic become slower. Then, the traditional document cannot keep many data about the patient so the other important information about the patient will not be including in that form. Lastly, there is no method or system that develops in the conventional system that can make UKP staff and patients can communicate with each other. This is important for the patient if they want to ask for further information about their problem or make an arrangement for appointment.

2.2 Studies On the Existing System

With the increasing usage of the Information Technology (IT) in life today there are a lot of application that have been develop to help people on managing their life and work. For the purposes of this research, here are stated three example of similar application for the comparison in term of operational features.

2.3 OpenEMR Free Records Medical Software [1]

Figure 2.2 and 2.3 shows the login page and the main page of OpenEMR Free Records Medical Software. OpenEMR is a free medical practice management, electronic medical records, prescription writing, and medical billing application. These programs are also referred to as electronic health records. OpenEMR is licensed under the General Gnu Public License (General GPL). It is a free open source replacement for medical applications such as Medical Manager, Health Pro, and Misys. It features support for EDI billing to clearing houses such as Availity, MD-Online, MedAvant and ZirMED using ANSI X12. The development tool used is web IDE such as Dreamweaver, Anjuta and others, the technology use is Php and Java Script and MySQL for the database. [1]

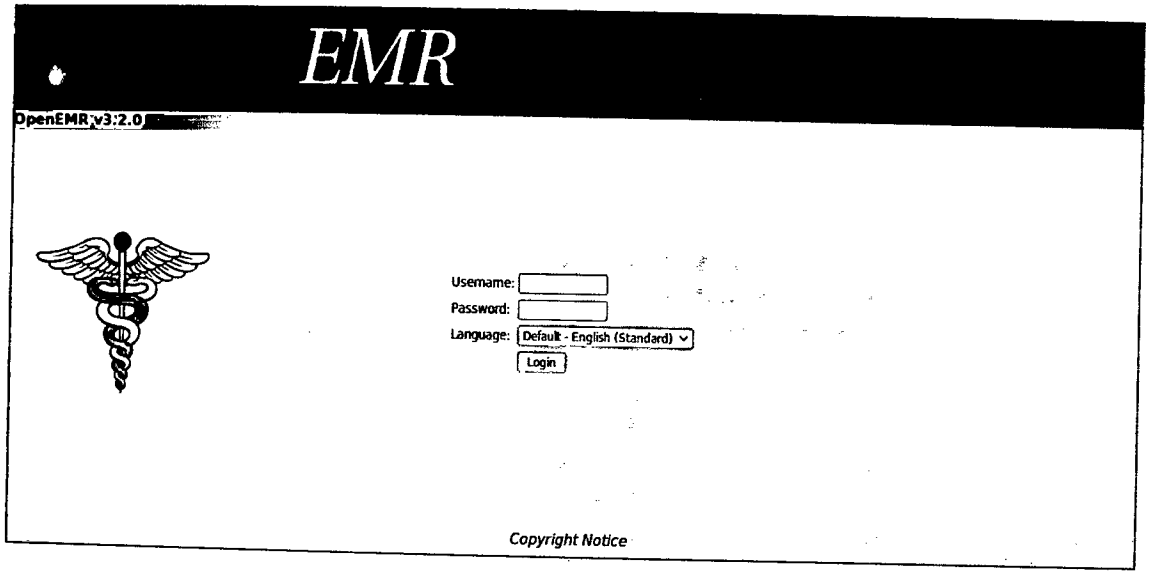

Figure 2.2 OpenEMR Free Records Medical Software (Login form).

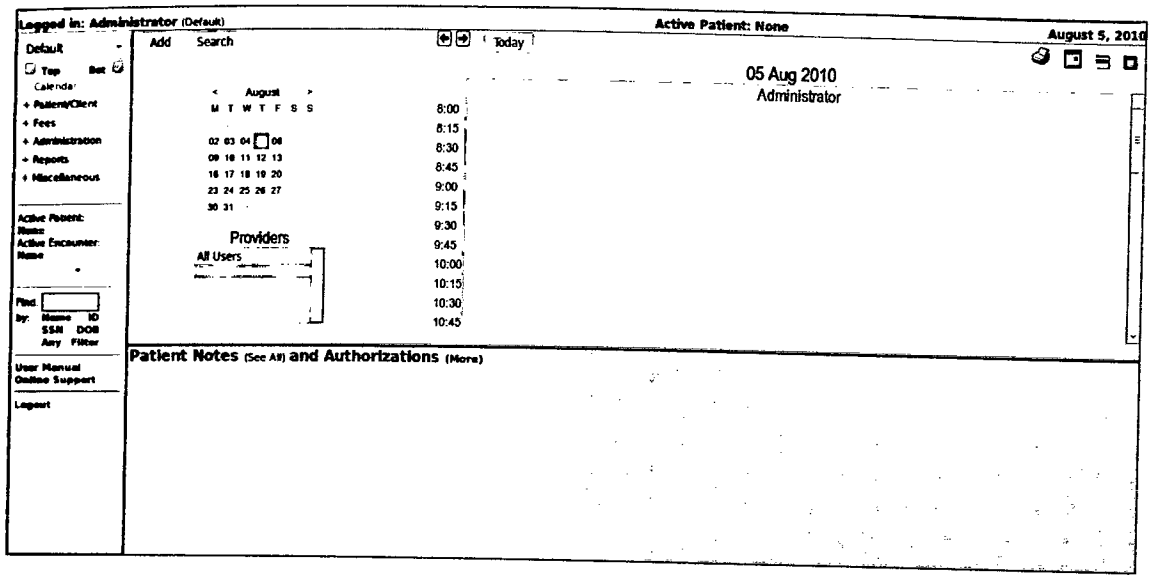

Figure 2.3 OpenEMR Free Records Medical Software (Main menu form).

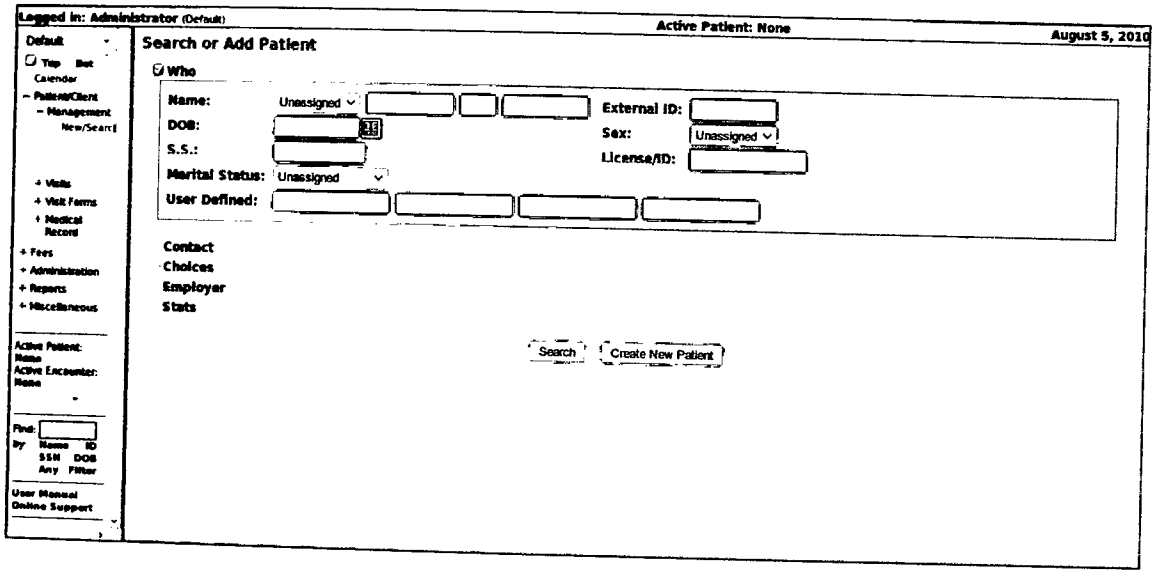

Figure 2.4 shows the search or add new patient form for OpenEMR Free Records Medical Software.

It is simple to display and easy to understand. The advantages of this system is it provide security with the login system that need only authorized user can use this system only. However this system does not provide the online communication between the clinic staff and patients.

2.4 Diabetic Data Analysis Software [2]

Diabetic Data Analysis Software aims to take the suggestions and complaints of diabetics and endocrinologists into consideration for an easy-to-use and helpful piece of software. This software has a searchable database with graphing capabilities, along with multi-patient options and a convenient flash interface. The development tool used is Macromedia Flash for designing the user interface and inserting the coding and embedded some of web programming in there. To store the information it uses Microsoft Access for the database.

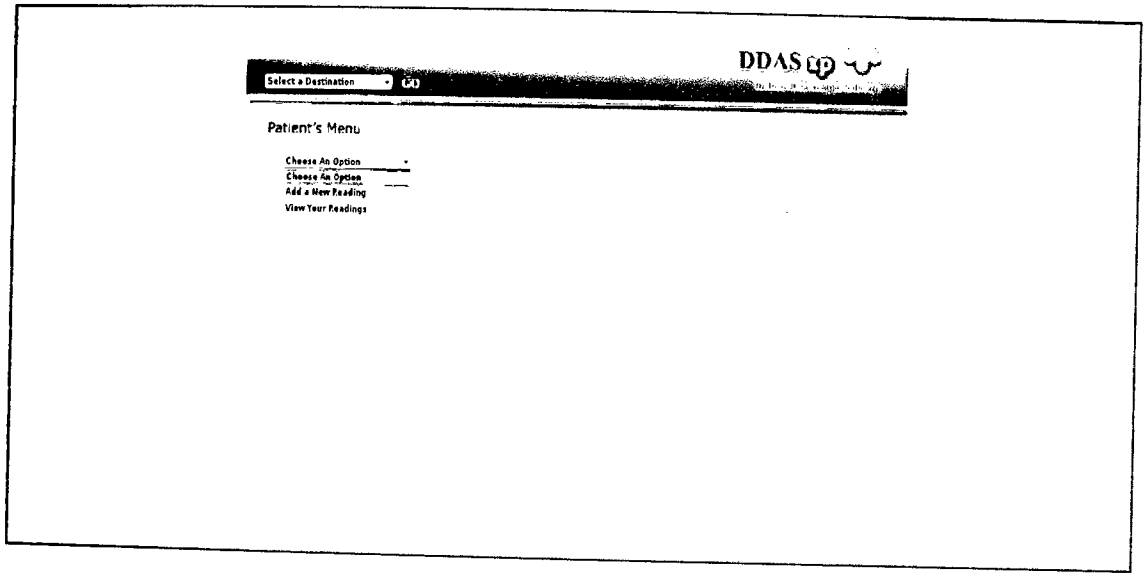

Figure 2.5 shows the patient menu of Diabetic Data Analysis Software.

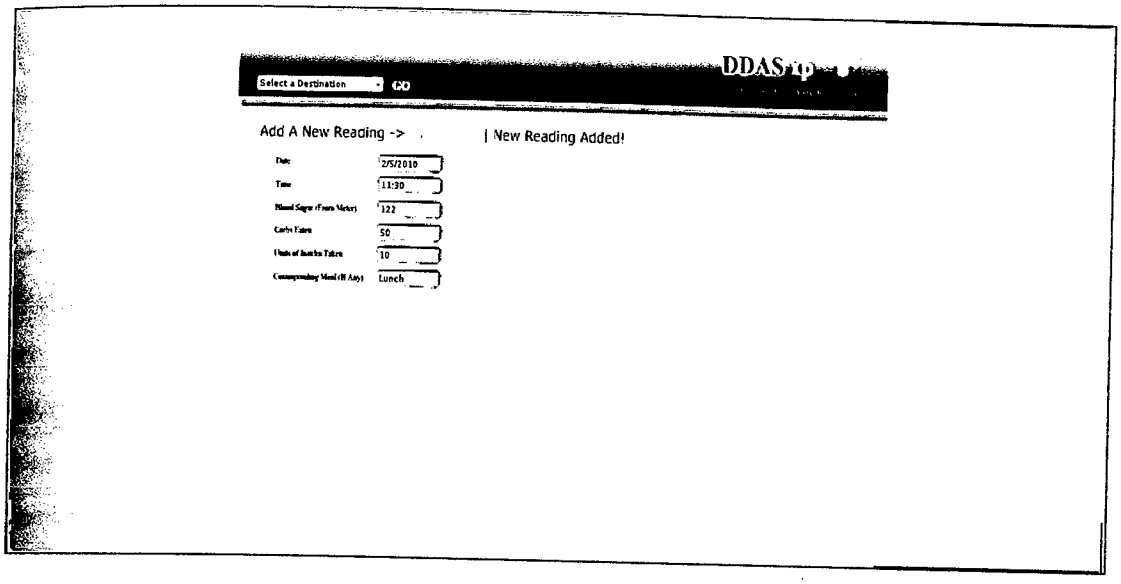

Figure 2.6 shows the entering a new blood sugar reading.

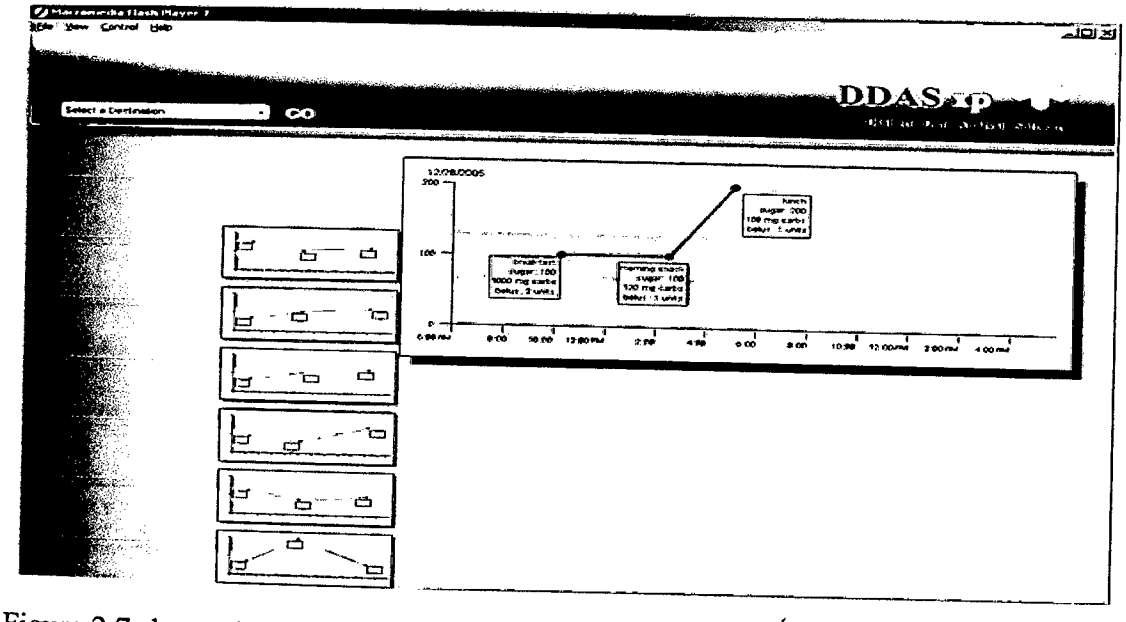

Figure 2.7 shows the graphs showing one week on the left and a single day on the right.

This system is simple and easy to use. Figure 2.6 shows the graphs showing one week on the left and a single day on the right and Figure 2.7 show the graphs showing one week on the left and a single day on the right. However, there are still weakness itself because there are no security provided such as login system to make sure there are only

authorized user can use this application. It is suitable for the all user to use it because the system is simple module for diabetic patients.

2.5 Dental Patient Record Management [3]

Dental Patient Record Management is the comprehensive and complete management system for use in the dental clinic. This system combine a lot of features such as patient record management, patients appointments, clinic chatting, treatment planning, comprehensive reporting, account and billing and many more. The development tool used is Microsoft Visual Studio for designing the user interface and inserting the coding in there. To store the data information it uses Microsoft SQL server for the database.

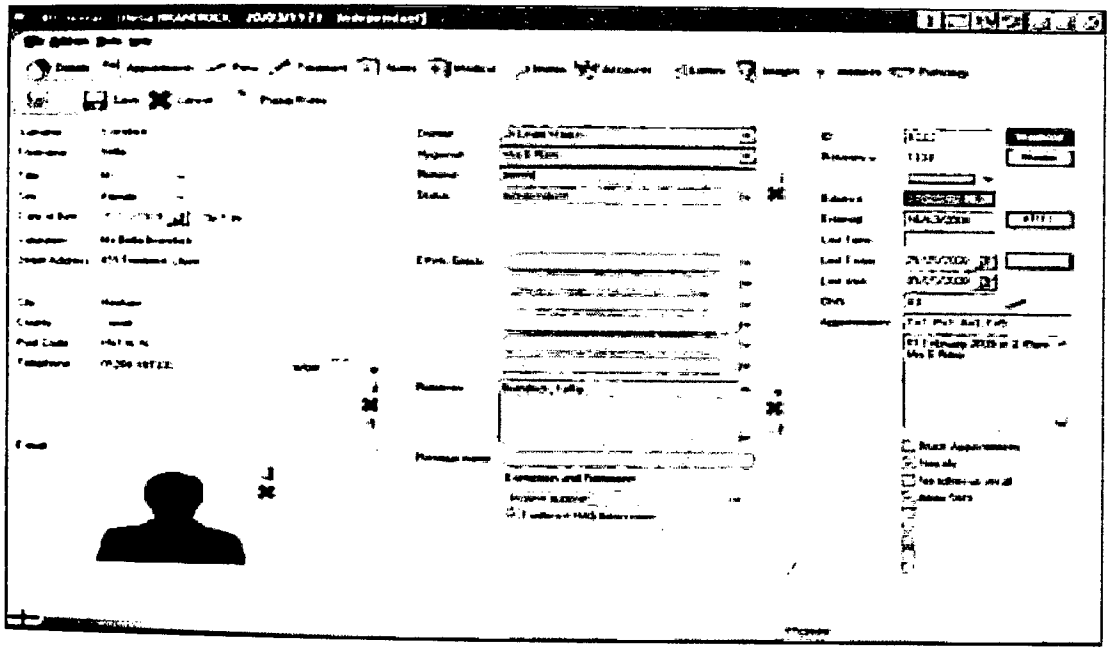

Figure 2.8 shows the add new patient record in the Dental Patient Record Management.

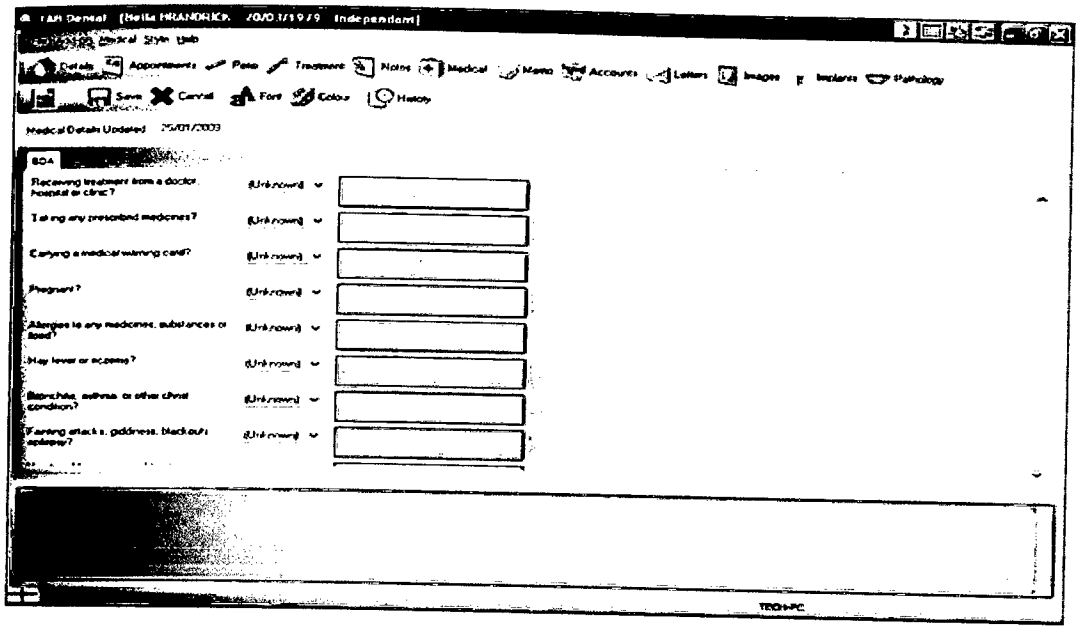

Figure 2.9 shows the medical history form in the Dental Patient Record Management.

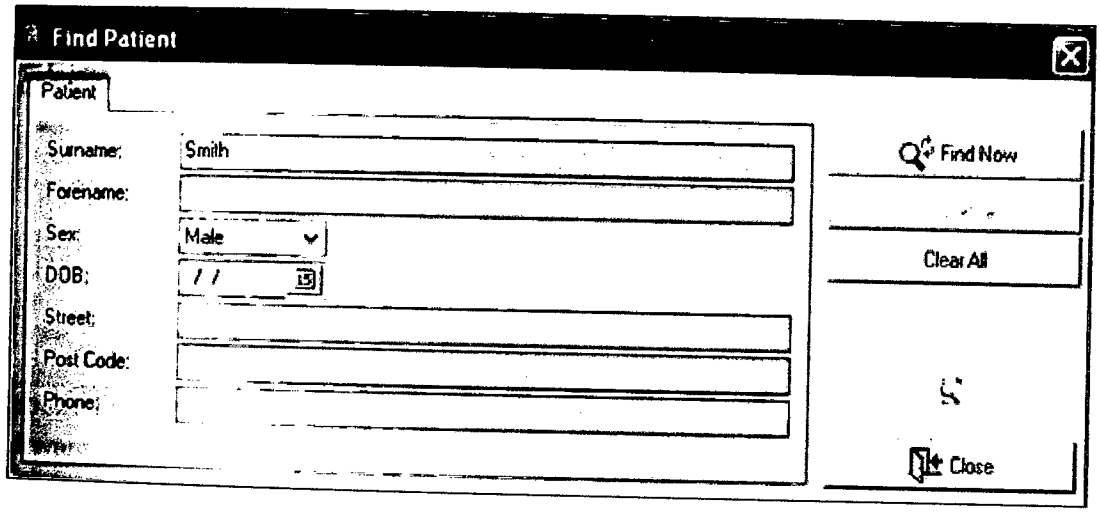

Figure 3.0 shows the search patient form for the Dental Patient Record Management.

This system is comprehensive and easy to use. Figure 2.8 shows the add new patient record in the Dental Patient Record Management, Figure 2.9 shows the medical history form in the Dental Patient Record Management and Figure 3.0 shows the search patient form for the Dental Patient Record Management . However, there are still weakness itself because this system is standalone application so there just only can be connected by a PC only and cannot be distributed to each other. Other than that, this system also does not provide online communication between the patient and the dental clinic staff.