BORANG PENGESAHAN STATUS TESIS

JUDUL: E-PREGNANCY SYSTEM

SESI PENGAJIAN: 2009/2010

Saya TAN KIT YEE

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E-PREGNANCY SYSTEM

TAN KIT YEE

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

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
UNIVERSITI TEKNIKAL MALAYSIA MELAKA
2010

DECLARATION

I hereby declare that this project report entitled

E-PREGNANCY SYSTEM

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

STUDENT : _____ Date : 25.6.2010

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DEDICATION

Special dedicated to my beloved parents.

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ABSTRACT

E-Pregnancy System (EPS) is mainly developed for the use of the maternity clinic staff and patients. The system is developed to automate the maternity clinic operation for more convenience and security. Beside, EPS could convenience maternity patient doing checkup without need to bring their checkup record manually. EPS is developed using PHP programming language, MySQL to create system database and Adobe Dreamweaver CS3 to develop user and system interface. The system is structured in three tier client architecture with each tier having a distinct function. Lastly, the system complete by allowing authorized user to login and do the management task based on user level. The task includes DSS consultation, general provider information and report generation.By using EPS, more comprehensive and faster outcomes for decision making could ease the doctor during consultation period. Statistical analysis result of the number of patient register in each clinic could be generated. Moreover, maternity patient could gain standard maternity care knowledge through this system.

ABSTRAK

Sistem E-Pregnancy (EPS) adalah terutamanya dibangunkan untuk penggunaan kakitangan kilnik ibu dan pesakit-pesakit. Sistem ini dibangunkan untuk mengautomasikan operasi klinik ibu untuk lebih kemudahan dan keselamatan. Di samping, EPS dapat memudahkan pesakit bersalin melakukan pemeriksaan tanpa perlu membawa rekod pemeriksaan secara manual. EPS dibangunkan menggunakan bahasa pengaturcaraan PHP, MySQL untuk membuat sistem pangkalan data dan Adobe Dreamweaver CS3 untuk membangunkan antara muka pengguna dan sistem. Sistem ini berstruktur dalam tiga tingkat seni bina pelanggan dengan setiap tingkat memiliki fungsi yang berbeza. Akhirnya, sistem yang lengkap membolehkan pengguna yang berwenang untuk login dan melakukan tugas pengurusan berdasarkan peringkat pengguna. Tugas itu termasuk konsultasi DSS, pembekal maklumat umum dan pembuatan laporan. Dengan menggunakan EPS, penghasilan keputusan yang lebih komprehensif dan cepat dapat memudahkan doktor semasa menjalani pemeriksaan. Keputusan analisis statistik jumlah pesakit mendaftar di klinik masing-masing dapat dihasilkan. Selain itu, pesakit ibu boleh mendapatkan pengetahuan standard berkaitan dengan penjagaan bersalin melalui sistem ini.

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DSS	-	Decision Support System
EPS	-	E-Pregnancy System
ERD	-	Entity Relationship Diagram
IES	-	Executive Information System
LAN	-	Local Area Network
MIS	-	Management Information System
OOAD	-	Object-oriented Analysis and Design
PHP	-	Hypertext Preprocessor
RAM	-	Random-access Memory
RDBMS	-	Relational Database Management System
SSAD	-	Structured Systems Analysis & Design
TPS	-	Transaction Processing System
UML	-	Unified Modeling Language
WAN	-	Wide Area Network

LIST OF ATTACHMENT

CHAPTER I

INTRODUCTION

1.1 Project Background

The "e-Pregnancy System" is mainly developed for the use of clinic staff (doctor and nurse) and patient (mother-to-be). It is mainly used to automate maternity clinic operations for more convenience, security and professionalism. Currently, this system has not exist where the patients have to go for further consultation at their first follow up clinic because their record is only kept by the particular clinic. Most clinics operate on the conventional method of handling patient medical records in paper form. This causes storage space constraint and difficult to find the patient information. They need to compile and rearrange the documentation in order to generate statistical report.

In order to make the process become easier, the proposed system will be built as a web-based system where the clinic staff at any government and private clinic can access patient's personal information and checkup record easily. The medical personnel can review the medical record progress for each particular patient systematically. Moreover, the system will be incorporates intelligent feature called as decision support system. The patient's condition will be diagnosed following the trimester test conducted.

Patient may access into the system to follow up their appointment schedule and checkup details as well as their delivery record by entering their identification number. At the same time, the patient can utilize the system to help them get suitable supplement information and knowledge during their pregnancy by entering relevant inputs.

In addition, admin can register the clinic and staff for using this system. Besides, admin can generate statistical report on number of patients visit to each clinic. This system enables admin to post some latest news as awareness regarding to pregnant women. For example maternity articles which suitable for mother-to-be.

1.2 Problem Statement(s)

The existing system and practices have many problems that are mentioned below:

i) Time consuming in handling a vast amount of patient record

- It is quite wasting time on the conventional method of handling patient medical records in paper form. The patient's information is difficult to search and might consume storage space.

ii) Lack of centralized patient's record for e-pregnancy

- Mostly, the patient need to go for further consultation at their first follow up clinic because their record is only kept by the particular clinic. It is much hassle if emergency happen to the patient and the patient not able to reach the particular clinic.

iii) Inconsistency of decision-making on some problem

- Doctor intuitively employ complex decision-making strategies based on common sense and past experience instead of fixed organizational and medical guidelines each time the consultation performed.

iv) Slow down the process of report analysis

- Currently, most of the clinics still using a manual system which causes difficulties to determine the analysis report for further research. They need to compile and rearrange the documentation in order to generate statistical report.

v) Lack of standardized maternity care knowledge

- There are some pregnant women do not exposed to maternity knowledge. It comes as a surprise to some of them about the standard maternity care as they might be new to be a mother.

1.3 Objectives

Some of the project objectives are:

i) To automate clinic operations

- This system enables the doctor and nurse in any government or private clinic in Malacca to access patient's personal information and checkup record easily.

ii) To convenience the user and save time

- This system significantly reduces the time spent by the patient as there is no dedicated clinic for them to do checkup. They can go to any clinics which are near without the need to bring their checkup record manually.

iii) To provide more comprehensive and faster outcomes for decision-making.

- With the help of decision support system, a more complete recommendation or outcomes can be generated to ease the doctor during consultation period.

iv) To enable statistical analysis

- This system enables admin to get and view the statistical report on the number of patients visit to each clinic.

v) To provide standard maternity care knowledge

- This system enables mother-to-be to aware and get suitable supplement information from the maternity knowledge provided during pregnant.

1.4 Project Scope

The project scope describes the boundary or limit of the system.

Modules

a. Login Module

This module is used to manage the user access into the system. The system is intended to be used by all government and private clinics in Malacca. Patient can also access into the system by entering identification number.

b. Member Registration Module

This module is used by authorized user to register new patient's and new clinic staff's personal record.

c. Patient's Record Management Module

This module is used by authorized user to manage the patient's checkup record, delivery record and personal information.

d. Staff's Record Management Module

This module is used by authorized user to manage clinic staff's personal information.

e. Clinic's Detail Management Module

This module is used by authorized user to manage clinic's details.

f. Appointment Module

This module is for doctor/matron and patient use. Doctor/Matron can set the next appointment date and time for the patient. Then patient can retrieve and view their appointment timetable by inserting identification number.

g. Report Modules

This module enables admin to view analyzed and tabulated statistical result on the number of patients visit to each clinic.

h. Upload Modules

This module enables admin to post some latest news regarding to pregnant women. For example maternity articles which suitable for mother-to-be.

i. General Provider Information Module

Patients (mother-to-be) can get suitable supplement information by entering relevant information to the system. The system will recommend the possible outcomes based on the patient's input.

j. Consultation DSS Modules

This module helps medical personnel in deciding most accurate outcomes to best describe the patient health condition, treatment and appropriate medication according to patient's to-date condition.

Target User

The following user groups will be using the system.

1. Doctor
   a. This system will let the user to login to the system with the correct username and password.
   b. This system will let the user to view and manage patient's check up record and delivery record.
   c. This system will let the user to set appointment date and time for maternity patient.

d. This system will help the user in effective decision-making during consultation period.

2. Nurse
   a. This system will let the user to login to the system with the correct username and password.
   b. This system will let the user to view and manage patient's personal information and delivery record.

3. Patient (mother-to-be)
   a. This system will let the user to access the system by inserting their identification number.
   b. This system will let the user to check their previous and latest appointment.
   c. This system will let the user to view their check up information and delivery record.
   d. The system will let the user to utilize the tools in which can provides suitable supplement information based on user input.

4. Admin
   a. This system will let the user to login to the system with the correct username and password.
   b. This system will let the user to register clinic and register staff (doctor and nurse).
   c. This system will let the user to manage clinic and clinic staff details.
   d. This system will let the user to view the report on the number of patients visit to each clinic.

1.5 Project Significance

This system tries to contribute to the following aspects:

The e-Pregnancy system intends to benefits medical personnel to automate clinic operations. In this context, doctor and nurse in any government or private clinic in Malacca can retrieve patient's personal information and checkup record easily without much more hassle. By utilizing the computerized system, clinic's daily operation might be conducted efficiently especially during peak hour.

Besides, this system will be able to convenience the user and save time. Patients are allowed to go to any clinics which are near for them to do checkup. There is no compulsory dedicated clinic for patient as this system fully provides the inventory record for each patient. Medical personnel can follow up the checkup progress of patient at anytime. This will definitely reduce the time spent by the patient for each time checkup. Patients are able to check their appointment session as well.

Generally, most of the woman do not exposed to the standard maternity care knowledge. This system enables admin to post some latest news regarding to pregnant women. This will significantly let the mother-to-be to aware of the knowledge and get inspiration from those activities regarding on maternity care during pregnant.

This system helps to provide more comprehensive and faster outcomes for decision-making. Mother's condition will be diagnosed along each trimester with recommendations of colour card that represents patient's condition and treatment needed through this system. The system will recommend more accurate outcomes to ease the doctor during consultation period. On the other hand, patients or mother-to-be can get suitable supplement information by

entering relevant information to the system. The system will recommend the possible outcomes based on the user input.

Through the e-Pregnancy system, all the data can be handled systematically which enable statistical analysis in generating annually statistical report for further research. The number of patients' visits to each clinic will be analyzed and tabulated.

1.6 Expected Output

The e-Pregnancy system has not yet exists for the use of both government and private clinics. The development of the web-based e-Pregnancy system will definitely yields positive effects. The system is expected to deliver the following capabilities:

I. Security measures and access control on confidential files
   This system only enable authorized user to login and do the management task. Different user will have different views of data based on the users' position.

II. Consultation DSS features
   The system can be able to support medical consultation by recommending the probable colour card for patients based on the result of test conducted. Blood pressure, Albumin, HB and leg swell are to be tested.

III. General provider information