IS480 Project Proposal

HS EMR
Health Sciences, Electronic Medical Records
Training System

White Pinnacle

Version 4
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Team Members:

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- Gladys Khong Zhi Xuan (gladyskhong.2012@sis.smu.edu.sg) – Quality Assurance Analyst
- Jocelyn Ng (jocelyn.ng.2012@sis.smu.edu.sg) – Visual Interface Developer
- Khoo Hui Ping Grace (hpkhoo.2012@sis.smu.edu.sg) – System Analyst
- Ngow Wei Yi (weiyi.ngow.2012@sis.smu.edu.sg) – Lead Developer

Sponsor and Client:

Ngee Ann Polytechnic

- Andrew Tan (AndrewTan@np.edu.sg) - Sponsor
- Michelle Koh (kgm2@np.edu.sg) - Client

Project Overview

Project Description:

The team will build a training system called HS EMR for the School of Health Sciences (HS) in Ngee Ann Polytechnic (NP). The system will run on a website which comprises of similar functions to the EMR[1] in clinical industry, customized for education purposes. It can aid the lecturers in facilitating the case scenarios by reducing the paperwork. It will also enhance the students' learning by providing a more holistic learning experience.

Motivation:

Currently, many hospitals such as Singapore General Hospital and Tan Tock Seng Hospital, are using an EMR system to keep track of the ward and inpatient information. During the clinical attachments, nursing students from NP could face difficulty in adapting to the new system due to their unfamiliarity and lack of practice in using such system. The nursing students in NP are currently using paper-based documentations and medical records during their practical lessons in the simulation lab. Problems such as illegibility and handover issues surface during the practical lessons, which slows down the time taken to complete the tasks assigned to the student. Also, paper-based process makes it tedious for lecturers to facilitate lessons as they tend to be tied down by administrative work such as sorting of case studies, reports.

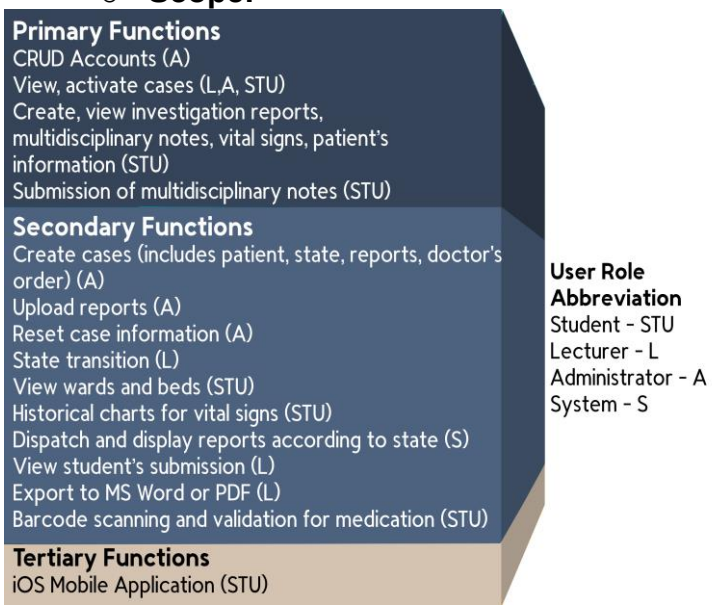
Stakeholders:

Sponsor	Andrew initiated the project after one of the teammates completed her internship under his supervision. Andrew is a lecturer from School of InfoComm Technology and acts as a middleman between the team and the client, Michelle.
Client	Michelle, a lecturer from Ngee Ann Polytechnic School of Health Sciences, engaged Andrew to seek for a development team to work on the project.
Users	• Year 2 HS students undertaking Nursing Skills Laboratory 2.1 module: Technology literate but unfamiliar with the hospital system, equipped with the knowledge of managing patients. • Lecturers of NP HS: Facilitate class to carry out the case scenario, equipped with past experience in the healthcare industry and have interacted with EMR.

Deliverables:

A fully functional website deployed on a local server in NP simulation lab. The website shall consist of several core and secondary functions such as User Management, Case Management, Patient Management, Student's Assessment and Medical Administration. The lecturers and students will only be able to access the website in the simulation lab. This system aims to benefit approximately 520 of students each academic year, by better preparing them for their clinical attachment at the end of year 2.

Scope:



1.5.1 Primary

The primary module focuses on the setting up of the system, basic update and retrieval of the cases and patient's information, and the submission of multidisciplinary notes.

1.1.1 Secondary

The secondary modules are built on top of the primary modules. These modules will allow the students to view wards and beds, charting features for the patient's vital signs, barcode scanning for medical administration and report retrieval of patient's health assessment based on the patient's state.

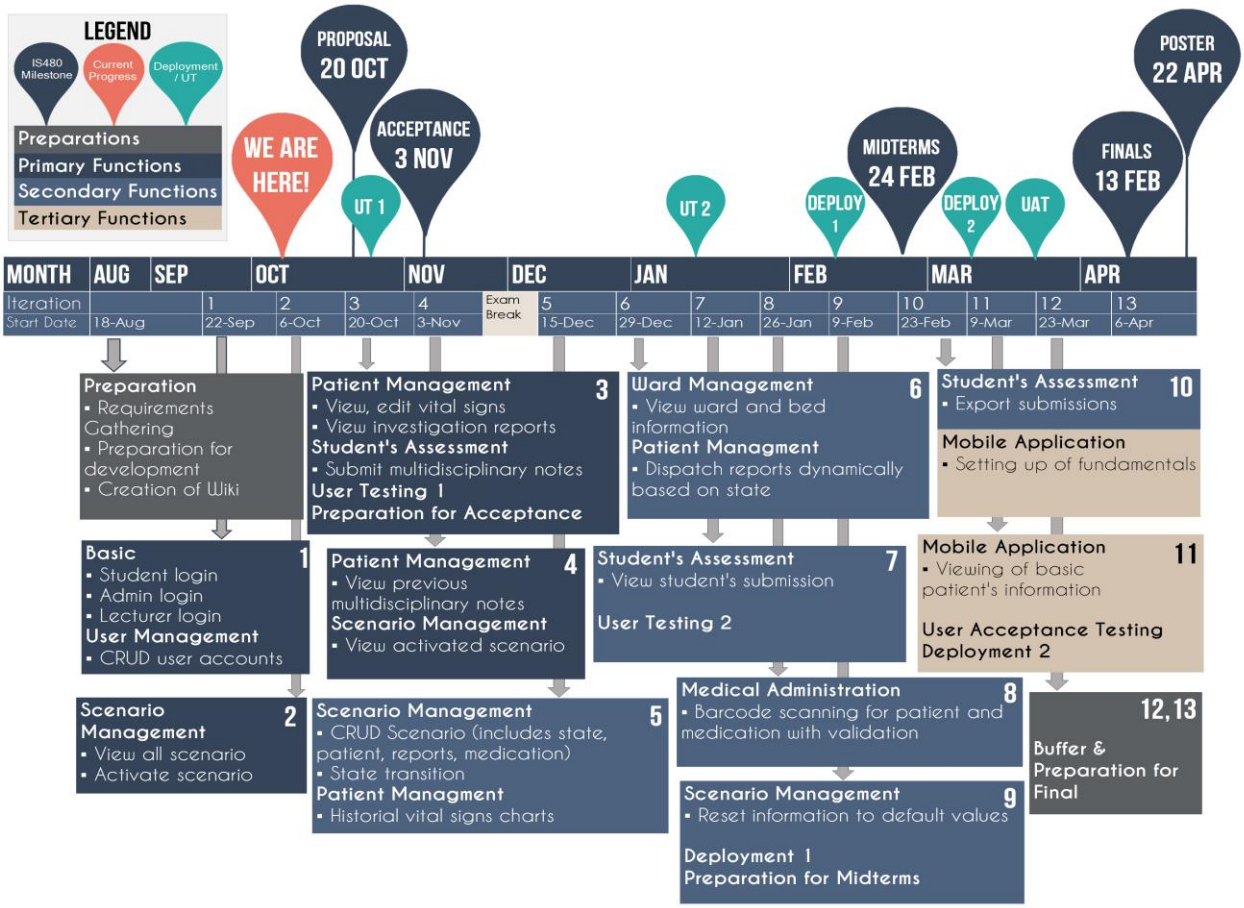
1.1.2 Tertiary

The tertiary module focuses on an iOS mobile application so that the students can view the patient's information anywhere in the ward without being bounded to the computer.

[1] Electronic Medical Record System. EMR stores the digital version of patient's medical history, reports and all basic information needed in a patient's care.

Project Plan:

- **Project milestone: For a clearer view of the project schedule, click here**



- **Risks: For the full list of risks, click here**

Risk Description	Impact	Mitigation Strategy
Team is unfamiliar with technology used (barcode scanning, charting, etc)	Project will be potentially delayed due to incorrect estimates. The quality of the system might not be as satisfactory as there might be more bugs.	Lead developer will research and discuss with the team. Project Manager to allocate more time to this task.
Failure to factor in minor coding tasks due to lack of experience. The schedule was planned closely to the BRD and it focuses on the macro functionalities of the whole system	Project will be potentially delayed because minor coding tasks were not planned for.	PM has to work closely with the lead developer and system analyst to bridge the gap between the business functions and the technical components.
Delay in getting necessary data or information (such as cases used in class, multidisciplinary notes, etc) from the client, hindering the team's progress of development	Project schedule will be affected	Team to use mock data to test the system instead. PM to keep steady communication with our client. Also, could call the client as we realised that the client prefers calls, face to face communication rather than emails.

- **Resource and reference:**

Application Development	NetBeans 8.0, WAMP Server, MySQL(phpMyAdmin), Xcode, Apache Tomcat, Java, Javascript
Graphical Design	Adobe Photoshop, Adobe Illustrator, Foundation Zurb
Other resources	MS Office, MS Project, GitHub