**SMART PRESCRIPTION APPLICATION**

Project Plan

By

**Mr. Natthakan Kaeokanpai 552115020**

**Mr. Phithiwat   Sitthitun     552115051**

Department of Software Engineering

College of Arts, Media and Technology

Chiang Mai University

Project Advisor

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Dr.Prompong Sugunnasil**

**Document History**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Document Name** | **Version** | **Status** | **Date** | **Viewable** | **Editable** | **Responsible** |
| **Documents** | | | | | | |
| Smart Prescription Application \_Project Plan | Project Plan \_V1.0 | Reviewed | March 10th 2016 | NAT,PHI, PROM | NAT,PHI | NAT,PHI |
| Smart Prescription Application \_Project Plan | Project Plan \_V1.1 | Released | March 10th 2016 | NAT,PHI, PROM | NAT,PHI | NAT,PHI |

Acronym

NAT = Natthakan Kaeokanpai

PHI = Phithiwat Sitthitun

PROM = Prompong Sugunnasil

**Table of contents**

[Chapter One | Introduction 4](#_Toc448764433)

[1.1 Identification 4](#_Toc448764434)

[1.2 Project Scope 4](#_Toc448764435)

[Chapter Two | Overall Description 5](#_Toc448764436)

[2.1 Product Perspective 5](#_Toc448764437)

[2.2 Product Features 5](#_Toc448764438)

[Chapter Three | Management Procedures 7](#_Toc448764439)

[3.1 Project Team Structure 7](#_Toc448764440)

[3.2 Monitoring and Controlling Mechanisms 7](#_Toc448764441)

[3.2.1 Project Meeting 7](#_Toc448764442)

[4.1 Review/Responsibility 8](#_Toc448764443)

[4.2 Testing 8](#_Toc448764444)

[4.3 Quality Factors 8](#_Toc448764445)

[Chapter Four | Quality Planning 11](#_Toc448764446)

[Chapter Five | Schedule 12](#_Toc448764447)

[5.1 Project Schedule 12](#_Toc448764448)

[Chapter Six | Software Configuration Management 14](#_Toc448764449)

[6.1 Software Configuration Management 14](#_Toc448764450)

[6.2 Software configuration Item Table 14](#_Toc448764451)

[Chapter Seven | Estimate Effort and Cost 15](#_Toc448764452)

[Chapter Eight | Reference 15](#_Toc448764453)

# Chapter One | Introduction

**1.1 Identification**

This project plan is the document for planning, scheduling activities and evaluating overall of the project so that the project will complete as successfully as possible in spite of all risks. The project plan documents the plan before starting the project. When the project starts, the project plan is used to track the progress and monitor whether the project follows the plan.

**1.2 Project Scope**  
 “Smart prescription application” is an android application and web application that uses the electronic prescription in type of QR code that use for doctor, patient, and pharmacist. Smart prescription application require web application for generate QR code and android application to scan QR code pass built-in camera of a mobile phone to capture the QR code converts the QR code into text and numeric. Pharmacist can understand the prescription with name and detail of drug that doctor give to patient.

“Smart prescription application” can also can collect and report information of all prescriptions to the Food and Drug Administration, Ministry of Public Health organization or (FDA) for observing unusually dispensation in Thailand including report drug allergy that have been found in prescription of most of user that be allergic

The main features of “Smart prescription application” consist of:

Feature#1: Prescription system

Feature#2: Account management system

Feature#3: Authentication system

Feature#4: Prescription verification system

Feature#5: Report allergy system

Feature#6: Allergy drug summary report

# Chapter Two | Overall Description

2.1 Product Perspective

“Smart prescription application” is an android application and web application that uses the electronic prescription in type of QR code that use for doctor, patient, pharmacist, and FDA. Smart prescription application require web application create the prescription of patient by doctor. Android application creates QR code from prescription of patient and scan QR code by pharmacist. Pharmacist can get the prescription with name and detail of drug that doctor give to patient on android application.

“Smart prescription application” can also can collect and report information of all allergy of patient to the Food and Drug Administration, Ministry of Public Health organization or (FDA) for observing unusually dispensation that have been found in Thailand.

2.2 Product Features

From the architecture of our project with schedule we separated the whole project of develops application according to this. The description is shown below:

Feature#1: Prescription system

Feature#2: Account management system

Feature#3: Authentication system

Feature#4: Verify prescription system

Feature#5: Report allergy system  
Feature#6: Allergy drug summary report

**2.3 User Classes and Characteristics**

The intended users for this application. They have to know basic of how to use android application to scan QR code.

* 1. **Operation Environment**

**- Internet**

**- Laptops**

1. Dell inspiron 5220

Processor: Intel Core i5 3210M (3.1 GHz)

Processor Memory: 8GB DDR3

Memory Hard Disk: 1000GB

Operating System: Window 7 Home Basic

1. Asus X550DP-DS101

AMD A-Series A10-5750M (2.50GHz) 8GB

Memory 1TB

HDD AMD Radeon

Windows 8 64-Bit

**- Mobile phone: Android Operating System with camera**

1. Asus zenfone 4.5

Android 4.4.2 (KitKat)

Processor: Intel Atom Z2520DualCore

CPU Speed: 1.2 GHz

Memory 8GB (Internal)

RAM 1GB

1. Samsung galaxy J7

OS: Android OS, v5.1 (Lollipop)

Processor: Quad-core 1.4 GHz Cortex-A53 & quad-core 1.0 GHz Cortex-A53  
Octa-core 1.5 GHz

Memories 16 GB, 1.5 GB RAM 8GB (Internal)

# 

# Chapter Three | Management Procedures

* 1. **Project Team Structure**

|  |  |
| --- | --- |
| **Team** | **Activity** |
| Mr. Natthakan Kaeokanpai  Mr. Phithiwat  Sitthitun | Project Proposal |
| Project Requirements |
| Project Plan |
| Software Architectural Design |
| Software Detailed Design |
| Implementation |
| Testing |

* 1. **Monitoring and Controlling Mechanisms**
     1. **Project Meeting**

|  |  |
| --- | --- |
| **Participants** | **Roles** |
| Dr. Prompong Sugunnasil | Project Advisor |
| Mr. Natthakan Kaeokanpai | Development team member |
| Mr. Phithiwat  Sitthitun | Development team member |

* 1. **Review/Responsibility**

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Step** | **Review** | **Responsibility** |
| 1 | Requirement gathering | Project Proposal | NAT,PHI |
| 2 | Project Planning | Project Plan | NAT,PHI |
| 3 | Requirement Analysis and Specification | Software Requirement Specification | NAT,PHI |
| 4 | Architecture and Detailed Design | Software Design Document | NAT,PHI |
| 5 | Software Implementation | Coding | NAT,PHI |
| 6 | Unit Testing and Software Testing | Test Plan, Test Record | NAT,PHI |
| 7 | Project Monitoring and Control | Traceability Record | NAT,PHI |

* 1. **Testing**

|  |  |  |
| --- | --- | --- |
| **No** | **Test** | **Responsibility** |
| 1 | Unit Testing | NAT,PHI |
| 2 | System Testing | NAT,PHI |

* 1. **Quality Factors**

|  |  |  |
| --- | --- | --- |
| **No** | **User Requirement Specification Name** | **Quality Factor** |
| URS-1: | Doctors can create patient’s profiles on the web application. | Correctness  Reliability  Testability |
| URS-2: | Doctors can update patient’s profiles on the web application. | Correctness  Reliability  Testability |
| URS-3: | Doctors can delete patient’s profiles on the web application. | Correctness  Reliability  Testability |
| URS-4: | Doctors can search patient’s profiles on the web application. | Correctness  Reliability  Testability |
| URS-5: | Doctors can view patient’s profiles on the web application. | Correctness  Reliability  Testability |
| URS-6: | Doctors can view a list of patient’s profiles on the web application | Correctness  Reliability  Testability |
| URS-7: | Administrations can create user’s profiles on the web application. | Correctness  Reliability  Testability |
| URS-8: | Administrations can update user’s profiles on the web application. | Correctness  Reliability  Testability |
| URS-9: | Administrations can delete user’s profiles on the web application. | Correctness  Reliability |
| URS-10: | Administrations can search user’s profiles on the web application. | Correctness  Reliability  Testability |
| URS-11: | Administrations can view user’s profiles on the web application. | Correctness  Reliability  Testability |
| URS-12: | Administrations can view a list of users on the web application | Correctness  Reliability  Testability |
| URS-13: | Doctors, Administrations, and FDAs can login to the web application. | Correctness  Reliability  Testability |
| URS-14: | Doctors, Administrations, and FDAs can logout from the web application. | Correctness  Reliability  Testability |
| URS-15: | Patients can login to the mobile application. | Correctness  Reliability  Testability |
| URS-16: | Patients can logout from the mobile application. | Correctness  Reliability  Testability |
| URS-17: | Patients can view the QR code on the mobile application. | Correctness  Reliability  Testability |
| URS-18: | Pharmacists can scan the QR code on the mobile application. | Correctness  Reliability  Testability |
| URS-19: | Pharmacists can change status of patient’s profile on the mobile application. | Correctness  Reliability  Testability |
| URS-20: | Doctors can create allergy reports on the web application. | Correctness  Reliability  Testability |
| URS-21: | Doctors can update allergy reports on the web application. | Correctness  Reliability  Testability |
| URS-22: | Doctors can delete allergy reports on the web application. | Correctness  Reliability  Testability |
| URS-23: | Doctors can search allergy reports on the web application. | Correctness  Reliability  Testability |
| URS-24: | Doctors can view allergy drug reports on the web application. | Correctness  Reliability  Testability |
| URS-25: | Doctors can view a list of allergy drug reports on the web application. | Correctness  Reliability  Testability |
| URS-26: | FDAs can view allergy reports on the web application. | Correctness  Reliability  Testability |
| URS-27: | FDAs can view a list of allergy reports on the web application. | Correctness  Reliability  Testability |

# Chapter Four | Quality Planning

**4.1 ISO 29110 for Very Small Entity (VSE)**

ISO 29110 is a guide applies to a very small entity, enterprise, organization, department or project up to 25 people dedicated to software development. The guide provides project management and software implementation process which integrate practice based on the selection of ISO/IEC 12207 systems and software engineering-software life cycle process and ISO/IEC 15289 software engineering-software life cycle process guideline for the content of software life cycle process information product (documentation) standards elements

**4.1.1 Project management process**

The purpose of the software management process is to establish and carry out in a systematic way the task of the software implementation project which allows complying with the project’s objectives in the expected quality. Time and cost

**Selected process**

3.1.1.1 Project planning process

3.1.1.2 Project plan execution process

3.1.1.3 Project assessment and control process

3.1.1.4 Project closer process

**4.1.2 Software implementation process**

The purpose of the software implementation process is the systematic performance of the analysis, design, construction, integration and test actives for new or modified software products according to the specified requirements.

**Selected process**

3.1.2.1 Software implementation process

3.1.2.2 Software requirement analysis process

3.1.2.3 Software architectural design process

3.1.2.4 Software construction process

3.1.2.5 Software integration process and test process

3.1.2.6 Software delivery process

# Chapter Five | Schedule

* 1. **Project Schedule**

**Process 1:** Proposal and Project plan

**Process 2:**

**Feature#1: Prescription system**

**Description:** This feature supports the doctor to manage patient’s profile. The doctor can create, delete, search, update and view patient’s profile on the web application.

**User:** Doctor

**Detail:** 1: Doctors can create patient’s profiles on the web application.

2: Doctors can update patient’s profiles on the web application.

3: Doctors can delete patient’s profiles on the web application.

4: Doctors can search patient’s profiles on the web application.

5: Doctors can view patient’s profiles on the web application.

6: Doctors can view a list of patient’s profiles on the web application.

**Feature#2: Account management system  
 Description:** This feature supports the administrator to manage user’s profile.

The administrators can create, delete, search, update, and view user’s profile on the web application.

**User:** Administrator

**Detail:** 1: Administrations can create user’s profiles on the web application.

2: Administrations can update user’s profiles on the web application.

3: Administrations can delete user’s profiles on the web application.

4: Administrations can search user’s profiles on the web application.

5: Administrations can view user’s profiles on the web application.

6: Administrations can view a list of users on the web application.

**Feature#3: Authentication system  
 Description:** This feature supports accessing to the system and exiting from the system Doctor, FDA, patients, pharmacists and administrator can login to the system and log-out from the system.  
 **User:** Doctor, FDA, patients, pharmacists and administrator  
 **Detail:** 1: Doctors, Administrations, and FDAs can login to the web application.

2: Doctors, Administrations, and FDAs can logout from the web application.

3: Pharmacists and patients can login to the mobile application.

4: Pharmacists and patients can logout from the mobile application.

**Feature#4: Verify prescription system  
 Description:** This feature supports the patient to view QR code on the mobile application and pharmacist can verify QR code by scan QR code function and can notify the time of dispensation to patient’s prescription on the mobile application.

**User:** Patient and pharmacist

**Detail:** 1: Patients can view the QR code on the mobile application.

2: Pharmacists can scan the QR code on the mobile application.

3: Pharmacists can notify the time of dispensation to patient’s profile on the mobile application.

**Feature#5: Report allergy system  
 Description:** This feature supports doctor to report a drug allergy to FDA.

**User:** Doctor

**Detail:**  
 1: Doctors can create allergy reports on the web application.

2: Doctors can update allergy reports on the web application.

3: Doctors can delete allergy reports on the web application.

4: Doctors can search allergy reports on the web application.

5: Doctors can view allergy drug reports on the web application.

6: Doctors can view a list of allergy drug reports on the web application.

**Feature#6: Allergy drug summary report  
 Description:** This feature support the FDA can view the allergy report.  
 **User:** FDA  
 **Detail:**

1: FDAs can view allergy reports on the web application.

2: FDAs can view a list of allergy reports on the web application.

.

FDA\*= Food and Drug Administration, Ministry of Public Health organization

# Chapter Six | Software Configuration Management

* 1. **Software Configuration Management**

Software Configuration Management or Software Control Managements the task of tracking and controlling changes in the software, part of the larger cross-disciplinary field of configuration management. SCM practices include revision control and the establishment of baselines. If something goes wrong, SCM can determine what was changed and who changed it. If a configuration is working well, SCM can determine how to replicate it across many hosts.[1]

* 1. **Software configuration Item Table**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Item** | **Filename** | **File Type** | **Owner** | **Path** | **Baseline Version** |
| 1 | Project Plan | Smart Prescription Application \_Project Plan\_V1.0 | .doc | NAT,PHI | Smart Prescription Application /Project Plan | 1.1 |
| 2 | Software Requirement Specification | Smart prescription application \_Software Requirement Specification \_V01.0 | .doc | NAT,PHI | Smart Prescription Application /Software Requirement Specification | 1.1 |
| 3 | Software Design | Smart prescription application \_Software Design \_V1.0 | .doc | NAT,PHI | Smart Prescription Application /Software Design | 1.1 |
| 4 | Test Plan | Smart prescription application \_Test Plan\_V1.0 | .doc | NAT,PHI | Smart Prescription Application /Test Plan | 1.1 |
| 5 | Test Record | Smart prescription application \_Test Record \_V1.0 | .doc | NAT,PHI | Smart Prescription Application /Test Record | 1.1 |
| 6 | Traceability Record | Smart prescription application \_Traceability Record \_V1.0 | .doc | NAT,PHI | Smart Prescription Application /Traceability Record | 1.0 |

# Chapter Seven | Estimate Effort and Cost

We develop this application with open source tools, so the cost of this project quite a few. Use only textbook and document.

# Chapter Eight | Reference

[1] Definition of Software\_configuration\_management

[https://en.wikipedia.org/wiki/Software\_configuration\_management](http://en.wikipedia.org/wiki)

[2] Definition of Use Case

http://searchsoftwarequality.techtarget.com/definition/use-case

[3] Definition of Activity Diagram

https://en.wikipedia.org/wiki/Activity\_diagram

[4] Definition of Use Case Diagram

http://www.uml-diagrams.org/use-case-diagrams.html