**Dental Clinic Services System**

Software Requirement Specification

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**Software Requirement Specification**

**Revision Table**

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# Chapter One: Introduction

# Chapter One: Introduction

## 1. Introduction

### 1.1 Objectives

Dental clinic service system consists of a web application and mobile application, which support ios7. It offers most of the services needed by dental clinics into the web application and mobile application. This application supports patients, officers or dentists of a dental clinic. Furthermore, it allows visitors to use. This application will reduce officers’ work and save patients’ time also. Patient can find information about the dental clinic, personal information, and others from it. For visitors who want to get a dental treatment from the clinic, they can make an appointment with a dentist through the application and also the dentist can use it for checking patients’ schedule. When all these services are integrated into the system, it can provide much convenience to dental clinic users.

### 1.2 Purpose

This Software Requirement Specification has described in more detail of each requirement and each function that the system should have. The document includes the scope of the project, the system’s functionalities, user characteristic, functional requirements, and non-functional requirements.

### 1.3 Project Scope

Dental clinic services system is a website and mobile application for dental clinic’s patient. This program can reduce clinic’s officer works and convenient for patient. The dental clinic provides patientID and password for clinic’s patient use for login into the application and website. In the website and application.

**1.4 Definition and Acronyms**

**Definitions**

Feature Transformation of input parameters to output parameters based on a specified algorithm. It describes the functionality of a produce in the language of the product. Used for requirements analysis, design, coding, testing or maintenance. [IEEE90]

Design The period of time in the software life cycle during which the designs for architecture, software component, interfaces and data are created, documented, and verified to satisfy requirements. [IEEE90]

IEEE Institute for Electrical and Electronics Engineers. Biggest global interest group for engineers of different branches and for computer scientists. [IEEE90]

Requirement (1) A condition or capability needed by a user to solve a problem or achieve an objective. (2) A condition or capability that must be met or processed by system or system component to satisfy a contract, standard, specification, or other formally imposed document. (3) A documented representation of a condition or capability as in definition (1) or (2). [IEEE90]

Specification Precise description of an activity or work product which serves as basis or input for further activities or work product. A specification can comprise requirements to a product and how they will be solved. Different parts of a specification (e.g. what is to be done, how it will be done) must not be mixed. [IEEE90]

White box testing Testing process that focus on internal structure. The tester should know the code inside the program and test it through the code and determines the appropriate outputs.

Black box testing Process, device or system that focus on input, output and transfer characteristics without knowledge about it internal structure.

Unit Testing A level of the software testing process where individual units/components of a software/system are tested. The purpose is to validate that each unit of the performs as designed.

System testing A level of the software testing process where a complete, integrated system/software is tested. The purpose of this test is to evaluate the system's compliance with the specified requirements.

**Acronyms**

|  |  |
| --- | --- |
| **Acronyms** | **Stands for** |
| Registered User | Patient, Dentist, and Officer |
| Non-registered User | Visitor |
| PM | Project Management |
| PMP | Project Management Plan |
| URS | User Requirement Specification |
| SRS | Software Requirement Specification |
| VSE | Very Small Entity |
| QR code | Quick Response Code |
| UC | Use Case |
| AD | Activity Diagram |
| UI | User Interface |
| UTC | Unit Test Case |
| STC | System Test Case |
| CD | Class Diagram |
| SD | Sequence Diagram |

### 1.5 Operation Environment

Dental clinic services system provides web application and mobile application for iOS. All users must have the Internet connection. Mobile devices must support iOS version 7.

### 1.6 User Classes and Characteristics

The system divides users into 4 groups. Information and characteristics of each group are listed below.

* **Patient**

This group of user needs to be registered to the system at the dental clinic. They will get patientID and password from the clinic to use the services on the website or using their mobile phone. Patients use their patientID to login. Patients are able to:

* Patient can login to view own appointment
* Patient can view all appointment from Google calendar
* Patient can receive patientID and password form the dental clinic officer

**Officer**

This group of users has the highest privilege in the system. They are given access to management functions for maintaining the system. Officers are able to:

* Officer can login to create patient and dentist account
* Officer can login to create patient and dentist appointment
* Officer can login to create patient and dentist appointment in Google calendar

**Dentist**

This group of user needs to be registered to the system at the dental clinic. They will register their account at the clinic. Dentist use their dentistID and password to login to the system to use the services. Dentists are able to:

* Dentist can login to view own appointment
* Dentist can view all appointment from Google calendar
* Dentist can receive dentistID and password from the dental clinic officer

**Visitor**

This group of user can enter to the website without login

* Visitor can view all appointment from Google calendar

**1.4 Operation Environment**

Dental clinic services system provides a web application and a mobile application for iOS. All users must have the Internet connection. Mobile devices must support iOS version 7.

# Chapter Two: Overall Description

## 2. Overall Description

### 2.1 Product Perspective

The Dental clinic services system consists of a mobile application base on iOS and a web application. The system helps patients save their time to contact the dental clinic by providing features such as making an appointment, viewing upcoming appointment, and getting cost estimation. It helps dentist to follow up their patients and check their appointments and schedule. Also the system reduces works of officers by providing them with features such as using QR code to identify patients at the clinic, managing appointments for patients and dentists. This system combines most of dental clinics' services into one application.

### 2.2 Product Features

The dental clinic services system offers seven features.

* Feature 1: Schedule management
* Feature 2: User registration and authentication
* Feature 3: Appointment management
* Feature 4: Patient identification using QR code
* Feature 5: Dental care consulting and following up
* Feature 6: A dental clinic information and promotion
* Feature 7: Cost estimation of dental treatments

Each of features will create a step-by-step suit by priority. In this progress we will develop Feature 1, 2, and 3

### 2.3 Design and Implementation Constraints

### List of project constraints:

* The application works only on iOS version7.
* The application requires the Internet connection.
* The application is available for users who are already registered to the system to use all the services and who are not registered to the system will be a visitor whose can be able to use only some services.

# Chapter Three: User Requirement

## 3. User requirement

### 3.1 Dental clinic services system URS

**Feature 1: Schedule management**

1. URS-01: Patient can view own appointment in mobile application
2. URS-02: Patient can view all appointments from Google calendar in mobile application
3. URS-03: Patient can view own appointment in website
4. URS-04: Dentist can view own appointment in website
5. URS-05: Visitor can view all appointment from Google calendar in website
6. URS-06: Officer can view all appointments as a list in website
7. URS-07: Officer can view patients’ appointment as a list in website
8. URS-08: Officer can view dentists’ appointment as a list in website
9. URS-09: Registered User can view all appointments from Google calendar in website

**Feature 2: Appointment management**

URS-10: Officer can create new appointment into the database

URS-11: Officer can edit the appointment

URS-12: Officer can delete the appointment

URS-13: Officer can save the appointment to Google calendar

**Feature 3: User registration and authentication**

URS-14: Patient can login to the mobile application

URS-15: Registered User can login to the website

URS-16: Patient can logout from the mobile application

URS-17: Registered User can logout from the website

URS-18: Officer can create an account for new patient

URS-19: Officer can edit patients’ information

URS-20: Officer can delete patients’ account

URS-21: Officer can create an account for new dentist

URS-22: Officer can edit dentists’ information

URS-23: Officer can delete dentists’ account

URS-24: Officer can view all patients’ account as a list

USR-25: Officer can view all dentists’ account as a list

### 3.2 Dental clinic services system SRS

1. **SRS-01:** System shall connect with the database
2. **SRS-02:** System shall retrieve patients’ appointment data including appointmentID, patientID, dentistID, appointment date, start time, end time, dental treatment, and description from database
3. **SRS-03:** System shall provide patients’ appointment data from the database in appointment page in mobile application
4. **SRS-04:** System shall provide appointment calendar from Google calendar in appointment calendar page in the website
5. **SRS-05:** System shall provide appointment calendar form Google calendar in calendar page in mobile application
6. **SRS-06:** System shall provide patients’ appointment data from the database in patient appointment page in the website
7. **SRS-07:** System shall retrieve dentists’ appointment data including appointmentID, patientID, dentistID, appointment date, start time, end time, dental treatment, and description from database
8. **SRS-08:** System shall provide dentists’ appointment data from the database in dentist appointment page in the website
9. **SRS-09:** System shall retrieve all appointments’ data including appointmentID, patientID, dentistID, appointment date, start time, end time, dental treatment, and description from database
10. **SRS-10:** System shall provide all appointments’ data as a list from the database in all appointment page
11. **SRS-11:** System shall provide patients’ appointment data from the database in patient appointment page (for officer) in the website

**SRS-12:** System shall provide dentists’ appointment data from the database in dentist appointment page (for officer) in the website

**SRS-13:** System shall provide create appointment page in the website

**SRS-14:** System shall add appointments’ data including patientID, dentistID, appointment date, start time, end time, dental treatment, and description into the database

**SRS-15:** System shall update appointment table in the database

**SRS-16:** System shall provide appointments’ edit page in the website

**SRS-17:** System shall edit appointments’ data in appointment table in the database

**SRS-18:** System shall delete appointments’ data in appointment table in the database

**SRS-19:** System shall redirect to Google calendar page

**SRS-20:** System shall provide appointments’ data from the database in Google calendar form in Google website

**SRS-21:** System shall save appointments’ data into the Google calendar

**SRS-22:** System shall provide patient login page in the website

**SRS-23:** System shall validate patientID and password from input form matching with the data in patient table in the database

**SRS-24:** System shall redirect to patient login page if login fail

**SRS-25:** System shall redirect to index page in the website

**SRS-26:** System shall store session after login success

**SRS-27:** System shall provide patient login page in mobile application

**SRS-28:** System shall display error message if there are empty fields “Please input patientID and password” in mobile application

**SRS-29:** System shall display error message if login fail “You’re login fail” in mobile application

**SRS-30:** System shall redirect to index page in mobile application

**SRS-31:** System shall destroy session

**SRS-32:** System shall provide create patient account page in the website

**SRS-33:** System shall add patients’ data including patientID, password, first name, last name, age, gender, address, tel., email, and treatment into the database

**SRS-34:** System shall update patient table in the database

**SRS-35:** System shall provide patients’ edit page in the website

**SRS-36:** System shall edit patients’ information in patient table in the database

**SRS-37:** System shall delete patients’ account in patient table in the database

**SRS-38:** System shall retrieve patients’ data including patientID, password, first name, last name, age, gender, address, tel., email, and treatment from the database

**SRS-39:** System shall provide patients’ data as a list in the patient list page

**SRS-40:** System shall provide create dentist account page in the website

**SRS-41:** System shall add dentists’ data including dentistID, password, first name, last name, address, email, and tel. into the database

**SRS-42:** System shall update dentist table in the database

**SRS-43:** System shall provide dentists’ edit page in the website

**SRS-44:** System shall edit dentists’ information in dentist table in the database

**SRS-45:** System shall delete dentists’ account in dentist table in the database

**SRS-46:** System shall retrieve dentists’ data including dentistID, password, first name, last name, email, and tel. from the database

**SRS-47:** System shall provide dentists’ data as a list in the dentist list page

**SRS-48:** System shall display alert message “Invalid patientID or password”

**SRS-49:** System shall display alert message “Invalid officerID or password”

**SRS-50:** System shall display alert message “Invalid dentistID or password”

1. **SRS-51:** System shall retrieve all patients’ appointment data including appointmentID, patientID, dentistID, appointment date, start time, end time, dental treatment, and description from database
2. **SRS-52:** System shall retrieve all dentists’ appointment data including appointmentID, patientID, dentistID, appointment date, start time, end time, dental treatment, and description from database

**SRS-53:** System shall redirect to dentist login page if login fail

**SRS-54:** System shall redirect to officer login page if login fail

**SRS-55:** System shall validate dentistID and password from input form matching with the data in dentist table in the database

**SRS-56:** System shall validate officerID and password from input form matching with the data in officer table in the database

**SRS-57:** System shall retrieve appointments’ data including including appointmentID, patientID, dentistID, appointment date, start time, end time, dental treatment, and description from database

**SRS-58**: System shall provide appointments’ data in appointment edit page

**Chapter Four: System Features**

## 4. System Features

### 4.1 User requirement specification with system requirement specification

**URS-01: Patient can view own appointment in mobile application**

1. **SRS-01:** System shall connect with the database
2. **SRS-02:** System shall retrieve patients’ appointment data including appointmentID, patientID, dentistID, appointment date, start time, end time, dental treatment, and description from database

**SRS-03:** System shall provide patients’ appointment data from the database in appointment page in mobile application

**URS-02: Patient can view all appointments from Google calendar in mobile application**

1. **SRS-05:** System shall provide appointment calendar form Google calendar in calendar page in mobile application

**URS-03: Patient can view own appointment in website**

1. **SRS-01:** System shall connect with the database
2. **SRS-02:** System shall retrieve patients’ appointment data including appointmentID, patientID, dentistID, appointment date, start time, end time, dental treatment, and description from database
3. **SRS-06:** System shall provide patients’ appointment data from the database in patient appointment page in the website

**URS-04: Dentist can view own appointment in website**

1. **SRS-01:** System shall connect with the database
2. **SRS-07:** System shall retrieve dentists’ appointment data including appointmentID, patientID, dentistID, appointment date, start time, end time, dental treatment, and description from database
3. **SRS-08:** System shall provide dentists’ appointment data from the database in dentist appointment page in the website

**URS-05: Visitor can view all appointment from Google calendar**

1. **SRS-04:** System shall provide appointment calendar from Google calendar in appointment calendar page in the website

**URS-06: Officer can view all appointments as a list in website**

1. **SRS-01:** System shall connect with the database
2. **SRS-09:** System shall retrieve all appointments’ data including appointmentID, patientID, dentistID, appointment date, start time, end time, dental treatment, and description from database

**SRS-10:** System shall provide all appointments’ data as a list from the database in all appointment page

**URS-07: Officer can view patients’ appointment as a list in website**

1. **SRS-01:** System shall connect with the database
2. **SRS-11:** System shall provide patients’ appointment data from the database in patient appointment page (for officer) in the website
3. **SRS-38:** System shall retrieve patients’ data including patientID, password, first name, last name, age, gender, address, tel., email, and treatment from the database
4. **SRS-39:** System shall provide patients’ data as a list in the patient list page
5. **SRS-51:** System shall retrieve all patients’ appointment data including appointmentID, patientID, dentistID, appointment date, start time, end time, dental treatment, and description from database

**URS-08: Officer can view dentists’ appointment as a list in website**

1. **SRS-01:** System shall connect with the database
2. **SRS-12:** System shall provide dentists’ appointment data from the database in dentist appointment page (for officer) in the website
3. **SRS-46:** System shall retrieve dentists’ data including dentistID, password, first name, last name, email, and tel. from the database
4. **SRS-47:** System shall provide dentists’ data as a list in the dentist list page
5. **SRS-52:** System shall retrieve all dentists’ appointment data including appointmentID, patientID, dentistID, appointment date, start time, end time, dental treatment, and description from database

**URS-09: Registered User can view all appointments from Google calendar in website**

1. **SRS-04:** System shall provide appointment calendar from Google calendar in appointment calendar page in the website

**URS-10: Officer can create new appointment into the database**

1. **SRS-01:** System shall connect with the database
2. **SRS-10:** System shall provide all appointments’ data as a list from the database in all appointment page

**SRS-13:** System shall provide create appointment page in the website

**SRS-14:** System shall add appointments’ data including patientID, dentistID, appointment date, start time, end time, dental treatment, and description into the database

**SRS-15:** System shall update appointment table in the database

**URS-11: Officer can edit the appointment**

1. **SRS-01:** System shall connect with the database
2. **SRS-09:** System shall retrieve all appointments’ data including appointmentID, patientID, dentistID, appointment date, start time, end time, dental treatment, and description from database
3. **SRS-10:** System shall provide all appointments’ data as a list from the database in all appointment page
4. **SRS-16:** System shall provide appointments’ edit page in the website
5. **SRS-15:** System shall update appointment table in the database
6. **SRS-17:** System shall edit appointments’ data in appointment table in the database
7. **SRS-57:** System shall retrieve appointments’ data including including appointmentID, patientID, dentistID, appointment date, start time, end time, dental treatment, and description from database
8. **SRS-58**: System shall provide appointments’ data in appointment edit page

**URS-12: Officer can delete the appointment**

1. **SRS-01:** System shall connect with the database
2. **SRS-09:** System shall retrieve all appointments’ data including appointmentID, patientID, dentistID, appointment date, start time, end time, dental treatment, and description from database
3. **SRS-10:** System shall provide all appointments’ data as a list from the database in all appointment page
4. **SRS-15:** System shall update appointment table in the database
5. **SRS-18:** System shall delete appointments’ data in appointment table in the database

**URS-13: Officer can save the appointment to Google calendar**

1. **SRS-01:** System shall connect with the database
2. **SRS-09:** System shall retrieve all appointments’ data including appointmentID, patientID, dentistID, appointment date, start time, end time, dental treatment, and description from database
3. **SRS-10:** System shall provide all appointments’ data as a list from the database in all appointment page
4. **SRS-19:** System shall redirect to Google calendar page
5. **SRS-20:** System shall provide appointments’ data from the database in Google calendar form in Google website
6. **SRS-21:** System shall save appointments’ data into the Google calendar

**URS-14: Patient can login to the mobile application**

1. **SRS-01:** System shall connect with the database
2. **SRS-23:** System shall validate patientID and password from input form matching with the data in patient table in the database
3. **SRS-24:** System shall redirect to patient login page if login fail
4. **SRS-26:** System shall store session after login success
5. **SRS-27:** System shall provide patient login page in mobile application
6. **SRS-28:** System shall display error message if there are empty fields “Please input patientID and password” in mobile application
7. **SRS-29:** System shall display error message if login fail “You’re login fail” in mobile application
8. **SRS-30:** System shall redirect to index page in mobile application

**URS-15: Registered User can login to the website**

1. **SRS-01:** System shall connect with the database
2. **SRS-22:** System shall provide patient login page in the website
3. **SRS-23:** System shall validate patientID and password from input form matching with the data in patient table in the database

**SRS-24:** System shall redirect to patient login page if login fail

**SRS-25:** System shall redirect to index page in the website

**SRS-26:** System shall store session after login success

**SRS-48:** System shall display alert message “Invalid patientID or password”

**SRS-49:** System shall display alert message “Invalid officerID or password”

**SRS-50:** System shall display alert message “Invalid dentistID or password”

**SRS-53:** System shall redirect to dentist login page if login fail

**SRS-54:** System shall redirect to officer login page if login fail

**SRS-55:** System shall validate dentistID and password from input form matching with the data in dentist table in the database

**SRS-56:** System shall validate officerID and password from input form matching with the data in officer table in the database

**URS-16: Patient can logout from the mobile application**

1. **SRS-01:** System shall connect with the database
2. **SRS-30:** System shall redirect to index page in mobile application
3. **SRS-31:** System shall destroy session

**URS-17: Registered User can logout from the website**

1. **SRS-01:** System shall connect with the database
2. **SRS-25:** System shall redirect to index page in the website
3. **SRS-31:** System shall destroy session

**URS-18: Officer can create an account for new patient**

**SRS-01:** System shall connect with the database

**SRS-32:** System shall provide create patient account page in the website

**SRS-33:** System shall add patients’ data including patientID, password, first name, last name, age, gender, address, tel., email, and treatment into the database

**SRS-34:** System shall update patient table in the database

**SRS-38:** System shall retrieve patients’ data including patientID, password, first name, last name, age, gender, address, tel., email, and treatment from the database

**SRS-39:** System shall provide patients’ data as a list in the patient list page

**URS-19: Officer can edit patients’ information**

* **SRS-01:** System shall connect with the database
* **SRS-34:** System shall update patient table in the database
* **SRS-35:** System shall provide patients’ edit page in the website
* **SRS-36:** System shall edit patients’ information in patient table in the database
* **SRS-38:** System shall retrieve patients’ data including patientID, password, first name, last name, age, gender, address, tel., email, and treatment from the database
* **SRS-39:** System shall provide patients’ data as a list in the patient list page

**URS-20: Officer can delete patients’ account**

**SRS-01:** System shall connect with the database

**SRS-34:** System shall update patient table in the database

**SRS-37:** System shall delete patients’ account in patient table in the database

**SRS-38:** System shall retrieve patients’ data including patientID, password, first name, last name, age, gender, address, tel., email, and treatment from the database

1. **SRS-39:** System shall provide patients’ data as a list in the patient list page

**URS-21: Officer can create an account for new dentist**

**SRS-01:** System shall connect with the database

**SRS-40:** System shall provide create dentist account page in the website

**SRS-41:** System shall add dentists’ data including dentistID, password, first name, last name, address, email, and tel. into the database

**SRS-42:** System shall update dentist table in the database

**SRS-46:** System shall retrieve dentists’ data including dentistID, password, first name, last name, email, and tel. from the database

**SRS-47:** System shall provide dentists’ data as a list in the dentist list page

**URS-22: Officer can edit dentists’ information**

**SRS-01:** System shall connect with the database

**SRS-42:** System shall update dentist table in the database

**SRS-43:** System shall provide dentists’ edit page in the website

**SRS-44:** System shall edit dentists’ information in dentist table in the database

**SRS-46:** System shall retrieve dentists’ data including dentistID, password, first name, last name, email, and tel. from the database

**SRS-47:** System shall provide dentists’ data as a list in the dentist list page

**URS-23: Officer can delete dentists’ account**

**SRS-01:** System shall connect with the database

**SRS-42:** System shall update dentist table in the database

**SRS-45:** System shall delete dentists’ account in dentist table in the database

**SRS-46:** System shall retrieve dentists’ data including dentistID, password, first name, last name, email, and tel. from the database

**SRS-47:** System shall provide dentists’ data as a list in the dentist list page

**URS-24: Officer can view all patients’ account as a list**

**SRS-01:** System shall connect with the database

* **SRS-38:** System shall retrieve patients’ data including patientID, password, first name, last name, age, gender, address, tel., email, and treatment from the database
* **SRS-39:** System shall provide patients’ data as a list in the patient list page

**USR-25: Officer can view all dentists’ account as a list**

**SRS-01:** System shall connect with the database

**SRS-46:** System shall retrieve dentists’ data including dentistID, password, first name, last name, email, and tel. from the database

**SRS-47:** System shall provide dentists’ data as a list in the dentist list page

### 4.2 Use Case Diagram

#### 4.2.1 Dental clinic services system Use Case for Patient

**Patient and Visitor**

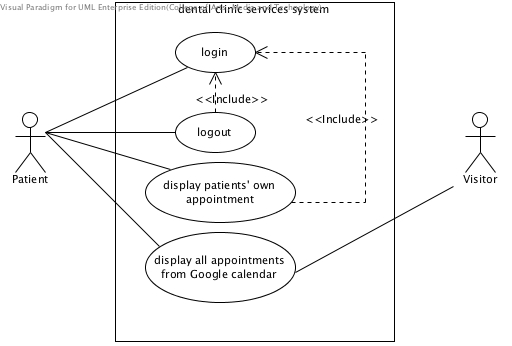


Figure 1: Dental clinic services system patient use case diagram

#### 4.2.2 Dental clinic services system Use Case for Officer

**Officer**

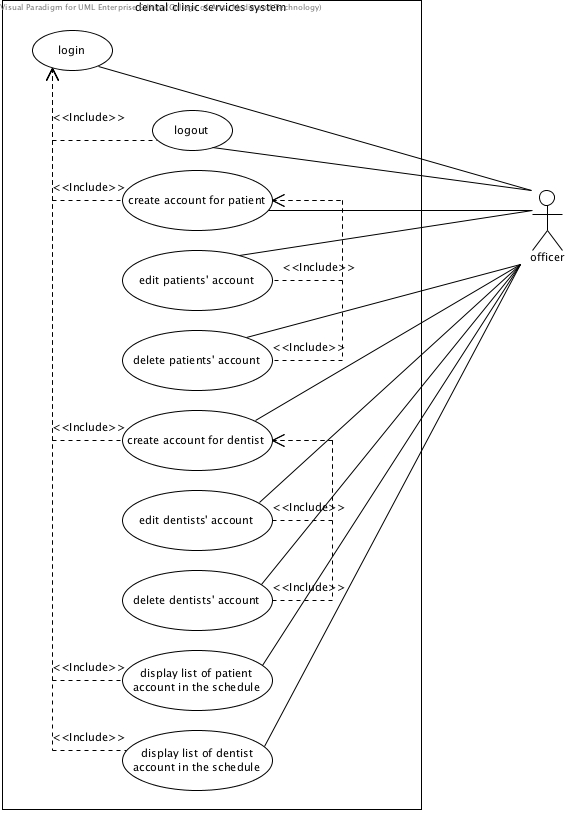
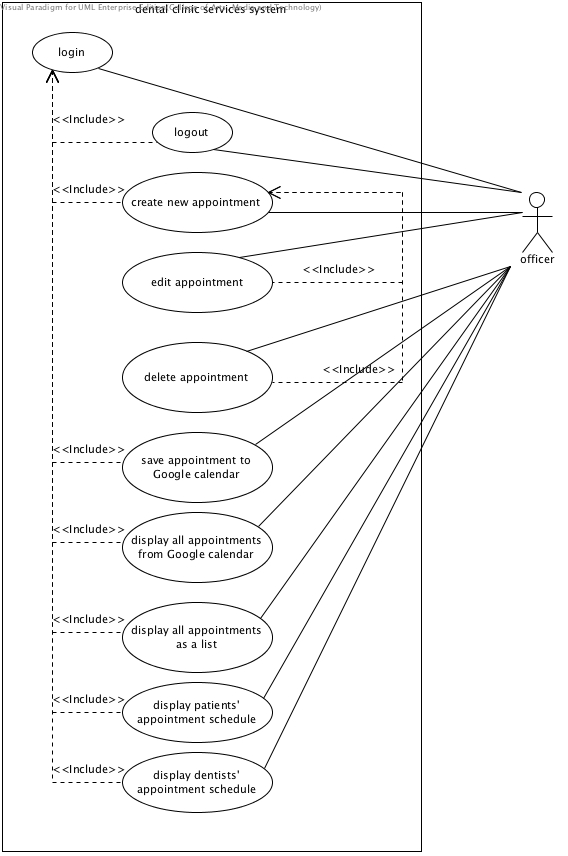
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Figure 2: Dental clinic services system officer use case diagram

#### 4.2.3 Dental clinic services system Use Case for Dentist

**Dentist**

****

Figure 3: Dental clinic services system dentist use case diagram

### Use case description

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | UC-01 | | |
| **Use Case Name:** | Display patients’ own appointment in mobile application | | |
| **Created By:** | Worapun Wongkium | **Last Updated By:** | Kanokwan Maneerat |
| **Date Created:** | 17/04/2014 | **Last Revision Date:** | 24/06/2014 |
| **Actors:** | Patient | | |
| **Description:** | Patient can view his/her appointment in appointment page which provide in the mobile application | | |
| **Trigger:** | Patient selects appointment menu | | |
| **Preconditions:** | Patient is already logged into the application by using patientID and password | | |
| **Postconditions:** | Patient can view their appointment in appointment page | | |
| **Normal Flow:** | 1. Patient selects appointment menu 2. System shall connect with the database 3. System shall retrieve patients’ appointment data including appointmentID, patientID, dentistID, appointment date, start time, end time, dental treatment, and description from database 4. System shall provide patients’ appointment data from the database in appointment page in mobile application 5. Patient can view his/her appointment in appointment page | | |
| **Alternative Flows:** | N/A | | |
| **Exceptions:** | System will not connect to the database and deliver information. If there are no internet connection patient cannot view his/her appointment in mobile application. | | |
| **Includes:** | Steps 1-5 in the normal flow would be required for all types of display patients’ own appointment. | | |
| **Frequency of Use:** | On demand | | |
| **Special Requirements:** | N/A | | |
| **Assumptions:** | Patient understands English language. Patient has to have his/her patient ID and password first. The dental clinics’ officer provides patient ID and password. | | |
| **Notes and Issues:** | N/A | | |

Patient selects appointment menu

Patient view his/her appointment

Figure 4: Display patients’ own appointment (in mobile application) [AD-01]

#### 

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | UC-02 | | |
| **Use Case Name:** | Display all appointments from Google calendar in mobile application | | |
| **Created By:** | Worapun Wongkium | **Last Updated By:** | Kanokwan Maneerat |
| **Date Created:** | 17/04/2014 | **Last Revision Date:** | 25/06/2014 |
| **Actors:** | Patient | | |
| **Description:** | Patient can view all appointments from Google calendar in calendar page which provide in the mobile application | | |
| **Trigger:** | Patient selects calendar menu | | |
| **Preconditions:** | Patient enter to index page | | |
| **Postconditions:** | Patient can view all appointment from Google calendar in calendar page | | |
| **Normal Flow:** | 1. Patient select calendar menu 2. System shall provide appointment calendar form Google calendar in calendar page in mobile application 3. Patient can view all appointment form Google calendar in mobile application | | |
| **Alternative Flows:** | N/A | | |
| **Exceptions:** | System will not deliver information. If there are no internet connection so, patient cannot view all appointments from Google calendar. | | |
| **Includes:** | Steps 1-3 in the normal flow would be required for all types of display all appointments from Google calendar (in mobile application). | | |
| **Frequency of Use:** | On demand | | |
| **Special Requirements:** | N/A | | |
| **Assumptions:** | N/A | | |
| **Notes and Issues:** | N/A | | |

Patient select calendar menu

Patient view all appointments from Google calendar

Figure 5: Display all appointment from Google calendar (in mobile application) [AD-02]

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | UC-03 | | |
| **Use Case Name:** | Display patients’ own appointment (in website) | | |
| **Created By:** | Worapun Wongkium | **Last Updated By:** | Kanokwan Maneerat |
| **Date Created:** | 17/04/2014 | **Last Revision Date:** | 24/06/2014 |
| **Actors:** | Patient | | |
| **Description:** | Patient can view his/her appointment in the patients’ appointment page which provide in the website | | |
| **Trigger:** | Patient selects patients’ appointment menu | | |
| **Preconditions:** | Patient is already logged into the application by using patientID and password | | |
| **Postconditions:** | Patient can view their appointment schedule | | |
| **Normal Flow:** | 1. Patient selects patients’ schedule menu 2. System shall connect with the database 3. System shall retrieve patients’ appointment data including appointmentID, patientID, dentistID, appointment date, start time, end time, dental treatment, and description from database 4. System shall provide patients’ appointment data from the database in patient appointment page in the website 5. Patient can view his/her appointment in patients’ appointment page | | |
| **Alternative Flows:** | N/A | | |
| **Exceptions:** | System will not connect to the database and deliver information. If there are no internet connection patient cannot view his/her appointment in website. | | |
| **Includes:** | Steps 1-5 in the normal flow would be required for all types of display patients’ own appointment (in website). | | |
| **Frequency of Use:** | On demand | | |
| **Special Requirements:** | N/A | | |
| **Assumptions:** | Patient understands English language. Patient has to have his/her patient ID and password first. The dental clinics’ officer provides patient ID and password. | | |
| **Notes and Issues:** | N/A | | |

Patient select patients’ appointment menu

Patient view his/her appointment

Figure 6: Display patients’ own appointment (in website) [AD-03]

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | UC-04 | | |
| **Use Case Name:** | Display dentists’ own appointment (in website) | | |
| **Created By:** | Worapun Wongkium | **Last Updated By:** | Kanokwan Maneerat |
| **Date Created:** | 17/04/2014 | **Last Revision Date:** | 24/06/2014 |
| **Actors:** | Dentist | | |
| **Description:** | Dentist can view his/her own appointment in the dentists’ appointment page which provide in the website | | |
| **Trigger:** | Dentist selects dentists’ appointment menu | | |
| **Preconditions:** | Dentist is already logged into the application by using dentistID and password | | |
| **Postconditions:** | Dentist can view their appointment schedule | | |
| **Normal Flow:** | 1. Dentist selects dentists’ schedule menu 2. System shall connect with the database 3. System shall retrieve dentists’ appointment data including appointmentID, patientID, dentistID, appointment date, start time, end time, dental treatment, and description from database 4. shall provide dentists’ appointment data from the database in dentist appointment page in the website 5. Dentist can view dentists’ own appointment in dentists’ appointment page | | |
| **Alternative Flows:** | N/A | | |
| **Exceptions:** | System will not connect to the database and deliver information. If there are no internet connection dentist cannot view his/her appointment in website. | | |
| **Includes:** | Steps 1-5 in the normal flow would be required for all types of display dentists’ own appointment (in website). | | |
| **Frequency of Use:** | On demand | | |
| **Special Requirements:** | N/A | | |
| **Assumptions:** | Dentist understands English language. Dentist has to have his/her dentist ID and password first. The dental clinics’ officer provides dentist ID and password. | | |
| **Notes and Issues:** | N/A | | |

Dentist select dentists’ appointment menu

Dentist view his/her appointment

Figure 7: Display dentists’ own appointment (in website) [AD-04]

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | UC-05 | | |
| **Use Case Name:** | Display all appointments from Google calendar | | |
| **Created By:** | Worapun Wongkium | **Last Updated By:** | Kanokwan Maneerat |
| **Date Created:** | 17/04/2014 | **Last Revision Date:** | 25/06/2014 |
| **Actors:** | Visitor | | |
| **Description:** | Visitor can view all appointments from Google calendar in the appointment calendar page which provide in the website | | |
| **Trigger:** | Visitor selects appointment calendar menu | | |
| **Preconditions:** | Visitor enter to the website | | |
| **Postconditions:** | Visitor can view all appointment schedule | | |
| **Normal Flow:** | 1. Visitor selects appointment calendar menu 2. System shall provide appointment calendar from Google calendar in appointment calendar page in the website 3. Visitor can view all appointments from Google calendar in appointment calendar page | | |
| **Alternative Flows:** | N/A | | |
| **Exceptions:** | System will not deliver information. If there are no internet connection so, visitor cannot view all appointments from Google calendar. | | |
| **Includes:** | Steps 1-3 in the normal flow would be required for all types of display all appointment from Google calendar (in website). | | |
| **Frequency of Use:** | On demand | | |
| **Special Requirements:** | N/A | | |
| **Assumptions:** | N/A | | |
| **Notes and Issues:** | N/A | | |

Visitor select appointment calendar page

Visitor can view all appointment

Figure 8: Display all appointment from Google calendar (in website) [AD-05]

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | UC-06 | | |
| **Use Case Name:** | Display all appointments as list in website | | |
| **Created By:** | Worapun Wongkium | **Last Updated By:** | Kanokwan Maneerat |
| **Date Created:** | 17/04/2014 | **Last Revision Date:** | 25/06/2014 |
| **Actors:** | Officer | | |
| **Description:** | Officer can view all appointment as a list in website | | |
| **Trigger:** | Officer selects appointment list menu | | |
| **Preconditions:** | Officer is already logged into the application by using officerID and password | | |
| **Postconditions:** | Display all appointments as list in website | | |
| **Normal Flow:** | 1. Officer selects view appointment list menu 2. System shall connect with the database 3. System shall retrieve all appointments’ data including appointmentID, patientID, dentistID, appointment date, start time, end time, dental treatment, and description from database 4. System shall provide all appointments’ data as a list from the database in all appointment page 5. Officer can view all appointments in appointment list page which provide in the website | | |
| **Alternative Flows:** | N/A | | |
| **Exceptions:** | System will not connect to the database and deliver information. If there are no internet connection. | | |
| **Includes:** | Steps 1-5 in the normal flow would be required for all types of display all appointments as list in website. | | |
| **Frequency of Use:** | On demand | | |
| **Special Requirements:** | N/A | | |
| **Assumptions:** | Officer understands English language. Officer has to have his/her officer ID and password first. The dental clinics’ officer provides officer ID and password. | | |
| **Notes and Issues:** | N/A | | |

Officer select appointment list menu

Officer view all appointments in appointment schedule page

Figure 9: Display all appointments as a list [AD-06]

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | UC-07 | | |
| **Use Case Name:** | Display patients’ appointment list for officer | | |
| **Created By:** | Worapun Wongkium | **Last Updated By:** | Kanokwan Maneerat |
| **Date Created:** | 17/04/2014 | **Last Revision Date:** | 25/06/2014 |
| **Actors:** | Officer | | |
| **Description:** | Officer can view patients’ appointment as a list in patient appointment page(for officer) | | |
| **Trigger:** | Officer selects patientID to view his/her appointment in patient list page | | |
| **Preconditions:** | Officer is already logged into the application by using officerID and password | | |
| **Postconditions:** | Display patients’ appointment as a list in patient appointment page(for officer) | | |
| **Normal Flow:** | 1. Officer selects view patient list menu 2. System shall connect with the database 3. System shall retrieve patients’ data including patientID, password, first name, last name, age, gender, address, tel., email, and treatment from the database 4. System shall provide patients’ data as a list in the patient list page 5. Officer select patientID in the list 6. System shall retrieve all patients’ appointment data including appointmentID, patientID, dentistID, appointment date, start time, end time, dental treatment, and description from database 7. System shall provide patients’ appointment data from the database in patient appointment page (for officer) in the website 8. Officer can view patients’ appointment in patient appointment page(for officer) | | |
| **Alternative Flows:** | N/A | | |
| **Exceptions:** | System will not connect to the database and deliver information. If there are no internet connection. | | |
| **Includes:** | Steps 1-8 in the normal flow would be required for all types of display patients’ appointment list for officer. | | |
| **Frequency of Use:** | On demand | | |
| **Special Requirements:** | N/A | | |
| **Assumptions:** | Officer understands English language. Officer has to have his/her officer ID and password first. The dental clinics’ officer provides officerID and password. | | |
| **Notes and Issues:** | N/A | | |

Officer select patient list menu

Officer view all patient account as a list in patient list page

Officer select patientID in the patient list

Officer view his/her appointment as a list in patient appointment page (for officer)

Figure 10: Display patients’ appointments list for officer [AD-07]

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | UC-08 | | |
| **Use Case Name:** | Display dentists’ appointment for officer | | |
| **Created By:** | Worapun Wongkium | **Last Updated By:** | Kanokwan Maneerat |
| **Date Created:** | 17/04/2014 | **Last Revision Date:** | 25/06/2014 |
| **Actors:** | Officer | | |
| **Description:** | Officer can view dentists’ appointment as a list in dentist appointment page(for officer) | | |
| **Trigger:** | Officer selects dentistrID(dentist) to view his/her appointment | | |
| **Preconditions:** | Officer is already logged into the application by using officerID and password | | |
| **Postconditions:** | Display dentists’ appointment as a list in dentists’ appointment page (for officer) | | |
| **Normal Flow:** | 1. Officer selects view dentist list interface 2. System shall connect with the database 3. System shall retrieve dentists’ data including dentistID, password, first name, last name, email, and tel. from the database 4. System shall provide dentists’ data as a list in the dentist list page 5. Officer select dentistID in the list 6. System shall retrieve all dentists’ appointment data including appointmentID, patientID, dentistID, appointment date, start time, end time, dental treatment, and description from database 7. System shall provide dentists’ appointment data from the database in dentist appointment page (for officer) in the website 8. Officer can view dentists’ appointment as a list in dentists’ appointment page**(**for officer**)** | | |
| **Alternative Flows:** | N/A | | |
| **Exceptions:** | System will not connect to the database and deliver information. If there are no internet connection. | | |
| **Includes:** | Steps 1-8 in the normal flow would be required for all types of display dentists’ appointment list for officer. | | |
| **Frequency of Use:** | On demand | | |
| **Special Requirements:** | N/A | | |
| **Assumptions:** | Officer understands English language. Officer has to have his/her officer ID and password first. The dental clinics’ officer provides officer ID and password. | | |
| **Notes and Issues:** | N/A | | |

Officer select dentist list menu

Officer view all dentist account as a list in dentist list page

Officer select dentistID in the dentist list

Officer view his/her appointment as a list in dentist appointment page (for officer)

Figure 11: Display dentists’ appointment for officer [AD-08]

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | UC-09 | | |
| **Use Case Name:** | Display all appointments from Google calendar | | |
| **Created By:** | Worapun Wongkium | **Last Updated By:** | Kanokwan Maneerat |
| **Date Created:** | 17/04/2014 | **Last Revision Date:** | 25/06/2014 |
| **Actors:** | Registered user | | |
| **Description:** | Registered user can view all appointments from Google calendar in the appointment calendar page which provide in the website | | |
| **Trigger:** | Registered user selects appointment calendar menu | | |
| **Preconditions:** | Registered user enter to the website | | |
| **Postconditions:** | Registered user can view all appointment schedule | | |
| **Normal Flow:** | 1. Registered user selects appointment calendar menu 2. System shall provide appointment calendar from Google calendar in appointment calendar page in the website 3. Registered user can view all appointments from Google calendar in appointment calendar page | | |
| **Alternative Flows:** | N/A | | |
| **Exceptions:** | System will not deliver information. If there are no internet connection so, Registered user cannot view all appointments from Google calendar. | | |
| **Includes:** | Steps 1-3 in the normal flow would be required for all types of display all appointment from Google calendar (in website). | | |
| **Frequency of Use:** | On demand | | |
| **Special Requirements:** | N/A | | |
| **Assumptions:** | N/A | | |
| **Notes and Issues:** | N/A | | |

Registered user select appointment calendar page

Registered user view all appointment in calendar page

Figure 12: Display all appointment from Google calendar (in website) [AD-09]

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | UC-10 | | |
| **Use Case Name:** | Create new appointment | | |
| **Created By:** | Worapun Wongkium | **Last Updated By:** | Kanokwan Maneerat |
| **Date Created:** | 17/04/2014 | **Last Revision Date:** | 25/06/2014 |
| **Actors:** | Officer | | |
| **Description:** | Officer can create a new appointment for patient and dentist | | |
| **Trigger:** | Officer selects make appointment menu | | |
| **Preconditions:** | Officer is already logged into the application by using officerID and password | | |
| **Postconditions:** | Officer can view the new appointment which is already added in all appointment page | | |
| **Normal Flow:** | 1. Officer selects make appointment menu 2. System shall provide create appointment page in the website 3. Officer input appointments’ data including patientID, dentistID, appointment date, start time, end time, dental treatment, and description 4. Officer press submit button 5. System shall connect with the database 6. System shall add appointments’ data including patientID, dentistID, appointment date, start time, end time, dental treatment, and description into the database 7. System shall update appointment table in the database 8. System shall provide all appointments’ data as a list from the database in all appointment page 9. Officer view all appointments as a list in all appointment page | | |
| **Alternative Flows:** | 4a. Officer press submit button and some field is empty   1. System show error message “Please fill out this field” for any field that require to not empty 2. Go back to normal flow 3 | | |
| **Exceptions:** | System will not connect to the database and deliver information. If there are no internet connection. | | |
| **Includes:** | Steps 1-9 in the normal flow would be required for all types of create new appointment. | | |
| **Frequency of Use:** | On demand | | |
| **Special Requirements:** | N/A | | |
| **Assumptions:** | Officer understands English language. Officer has to have his/her officer ID and password first. The dental clinics’ officer provides officer ID and password. | | |
| **Notes and Issues:** | N/A | | |

Officer select create new appointment

Officer input appointment information in the form

Invalid form

Valid form

Officer view all appointment as a list in all appointment page

Figure 13: Create new appointment [AD-10]

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | UC-11 | | |
| **Use Case Name:** | Edit appointment | | |
| **Created By:** | Kanokwan Maneerat | **Last Updated By:** | Kanokwan Maneerat |
| **Date Created:** | 25/06/2014 | **Last Revision Date:** | 25/06/2014 |
| **Actors:** | Officer | | |
| **Description:** | Officer can edit appointment | | |
| **Trigger:** | Officer selects edit menu in all appointment page | | |
| **Preconditions:** | Officer is already logged into the application by using officerID and password | | |
| **Postconditions:** | Officer can view the appointment which is already edited in all appointment page | | |
| **Normal Flow:** | 1. Officer selects all appointment menu 2. System shall connect with the database 3. System shall retrieve all appointments’ data including appointmentID, patientID, dentistID, appointment date, start time, end time, dental treatment, and description from database 4. System shall provide all appointments’ data as a list from the database in all appointment page 5. Officer selects edit menu at the appointment which want to change in all appointment page 6. System shall provide appointments’ edit page in the website 7. System shall retrieve appointments’ data including including appointmentID, patientID, dentistID, appointment date, start time, end time, dental treatment, and description from database 8. System shall provide appointments’ data in appointment edit page 9. Officer input some information that need to change 10. Officer press submit button 11. System shall edit appointments’ data in appointment table in the database 12. System shall update appointment table in the database 13. System shall provide all appointments’ data as a list from the database in all appointment page 14. Officer view all appointment as a list in all appointment page | | |
| **Alternative Flows:** | 10a. Officer press submit button and some field is empty   1. System show error message “Please fill out this field” for any field that require to not empty 2. Go back to normal flow 9 | | |
| **Exceptions:** | System will not connect to the database and deliver information. If there are no internet connection. | | |
| **Includes:** | Steps 1-14 in the normal flow would be required for all types of edit appointment. | | |
| **Frequency of Use:** | On demand | | |
| **Special Requirements:** | N/A | | |
| **Assumptions:** | Officer understands English language. Officer has to have his/her officer ID and password first. The dental clinics’ officer provides officer ID and password. | | |
| **Notes and Issues:** | N/A | | |

Officer selects all appointment page

Officer view all appointment as a list in all appointment page

Officer select edit menu at the appointment that need to change

Officer view the selected appointment in the edit form

Invalid form

Officer views all appointment as a list in all appointment page

Officer input some appointment information that needs to change

Valid form

Figure 14: Edit appointment [AD-11]

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | UC-12 | | |
| **Use Case Name:** | Delete appointment | | |
| **Created By:** | Kanokwan Maneerat | **Last Updated By:** | Kanokwan Maneerat |
| **Date Created:** | 25/06/2014 | **Last Revision Date:** | 25/06/2014 |
| **Actors:** | Officer | | |
| **Description:** | Officer can delete appointment | | |
| **Trigger:** | Officer selects delete menu in all appointment page | | |
| **Preconditions:** | Officer is already logged into the application by using officerID and password | | |
| **Postconditions:** | Officer can view the appointment which is already deleted in all appointment page | | |
| **Normal Flow:** | 1. Officer selects all appointment menu 2. System shall connect with the database 3. System shall retrieve all appointments’ data including appointmentID, patientID, dentistID, appointment date, start time, end time, dental treatment, and description from database 4. System shall provide all appointments’ data as a list from the database in all appointment page 5. Officer selects delete menu that need to delete 6. System shall delete appointments’ data in appointment table in the database 7. System shall update appointment table in the database 8. Officer can view all appointments as a list in all appointment page | | |
| **Alternative Flows:** | N/A | | |
| **Exceptions:** | System will not connect to the database and deliver information. If there are no internet connection. | | |
| **Includes:** | Steps 1-8 in the normal flow would be required for all types of delete appointment. | | |
| **Frequency of Use:** | On demand | | |
| **Special Requirements:** | N/A | | |
| **Assumptions:** | Officer understands English language. Officer has to have his/her officer ID and password first. The dental clinics’ officer provides officer ID and password. | | |
| **Notes and Issues:** | N/A | | |

Officer selects all appointment page

Officer view all appointment as a list in all appointment page

Officer select delete menu at the appointment that need to change

Officer views all appointment as a list in all appointment page

Figure 15: Delete appointments [AD-12]

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | UC-13 | | |
| **Use Case Name:** | Save the appointment to Google calendar | | |
| **Created By:** | Worapun Wongkium | **Last Updated By:** | Kanokwan Maneerat |
| **Date Created:** | 17/04/2014 | **Last Revision Date:** | 25/06/2014 |
| **Actors:** | Officer | | |
| **Description:** | Officer can save appointment to the Google calendar | | |
| **Trigger:** | Officer selects view all appointments page | | |
| **Preconditions:** | Officer is already logged into the application by using officerID and password | | |
| **Postconditions:** | New appointment added to Google calendar and can view in Google calendar | | |
| **Normal Flow:** | 1. Officer selects view all appointments page 2. System shall connect with the database 3. System shall retrieve all appointments’ data including appointmentID, patientID, dentistID, appointment date, start time, end time, dental treatment, and description from database 4. System shall provide all appointments’ data as a list from the database in all appointment page 5. Officer selects save appointment to Google calendar menu 6. System shall redirect to Google calendar page 7. System shall provide appointments’ data from the database in Google calendar form in Google website 8. Officer press save button in Google calendar page 9. System shall save appointments’ data into the Google calendar 10. Officer can view appointments’ data in Google calendar which is provide in appointment calendar page in DCSS website | | |
| **Alternative Flows:** | 5a.Officer press save button or cancel saving appointments’ data   1. Appointments’ data will not save to Google Calendar | | |
| **Exceptions:** | System will not connect to the database, Google website and deliver information. If there are no internet connection. | | |
| **Includes:** | Steps 1-10 in the normal flow would be required for all types of delete appointment. | | |
| **Frequency of Use:** | On demand | | |
| **Special Requirements:** | N/A | | |
| **Assumptions:** | Officer understands English language. Officer has to have his/her officer ID and password first. The dental clinics’ officer provides officer ID and password. | | |
| **Notes and Issues:** | N/A | | |

Officer selects all appointment page

Officer views all appointment as a list in all appointment page

Officer selects save appointment to Google calendar menu at the appointment that need to save

Officer enters to Google calendar page

Officer views appointments’ data in Google calendar form

Officer saves appointment in Google calendar

Cancel

Save

Officer views all appointment from Google calendar in appointment calendar page

Figure 16: Save appointment to Google calendar [AD-13]

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | UC-14 | | |
| **Use Case Name:** | Login (in mobile application) | | |
| **Created By:** | Worapun Wongkium | **Last Updated By:** | Kanokwan Maneerat |
| **Date Created:** | 17/04/2014 | **Last Revision Date:** | 23/06/2014 |
| **Actors:** | Patient | | |
| **Description:** | Patient can login for identifying him/herself to mobile application. | | |
| **Trigger:** | Patient selects login menu in dental clinic services application | | |
| **Preconditions:** | Patient enters to the dental clinic services application. | | |
| **Postconditions:** | Patient enter to the application | | |
| **Normal Flow:** | 1. Patient select at login menu 2. System shall provide patient login page in mobile application 3. Patient input patientID and password in login page 4. Patient press login button 5. System shall connect with the database 6. System shall validate patientID and password from input form matching with the data in patient table in the database 7. System shall store session after login success 8. System shall redirect to index page in mobile application 9. Patient enter to index page in mobile application | | |
| **Alternative Flows:** | 4a. Patient press login button and some field is empty   1. System shall display error message if there are empty fields “Please input patientID and password” in mobile application 2. System shall redirect to patient login page if login fail   5a. patientID or password are not match with the data in patient table in the database   1. System shall display error message if login fail “You’re login fail” in mobile application 2. System shall redirect to patient login page if login fail | | |
| **Exceptions:** | System will not connect to the database and deliver information. If there are no internet connection patient cannot login to the mobile application. | | |
| **Includes:** | Steps 1-9 in the normal flow would be required for all types of login(in mobile application). | | |
| **Frequency of Use:** | On demand | | |
| **Special Requirements:** | N/A | | |
| **Assumptions:** | Patient understands English language. Patient has to have his/her ID and password first. Patient id and password are provided by the dental clinics’ officer | | |
| **Notes and Issues:** | N/A | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | UC-15 | | |
| **Use Case Name:** | Login (in website) | | |
| **Created By:** | Worapun Wongkium | **Last Updated By:** | Kanokwan Maneerat |
| **Date Created:** | 17/04/2014 | **Last Revision Date:** | 23/06/2014 |
| **Actors:** | Patient, Officer, Dentist | | |
| **Description:** | Registered user can login for identifying him/herself to website | | |
| **Trigger:** | Registered user selects login menu in dental clinic website | | |
| **Preconditions:** | Registered user enters to the dental clinic website | | |
| **Postconditions:** | Registered user can use the services that requires log in. | | |
| **Normal Flow:** | 1. Registered user select at login menu 2. System shall connect with the database 3. System shall provide patient login page in the website 4. Registered user input ID (patientID,dentistID,officerID) and password (patient,dentist,officer) 5. Registered user press login button 6. System shall validate patientID and password from input form matching with the data in patient table in the database 7. System shall redirect to patient login page if login fail 8. System shall validate dentistID and password from input form matching with the data in dentist table in the database 9. System shall redirect to dentist login page if login fail 10. System shall validate officerID and password from input form matching with the data in officer table in the database 11. System shall redirect to officer login page if login fail 12. System shall store session after login success 13. System shall redirect to index page in the website 14. Registered user enter to index page in the website | | |
| **Alternative Flows:** | 6a. patientID or password are not match with the data in patient table in the database   1. System shall display alert message “Invalid patientID or password” 2. Go back to normal flow 4   7a. dentistID or password are not match with the data in dentist table in the database   1. System shall display alert message “Invalid dentistID or password 2. Go back to normal flow 4   8a. officerID or password are not match with the data in officer table in the database   1. System shall display alert message “Invalid officerID or password” 2. Go back to normal flow 4 | | |
| **Exceptions:** | System will not connect to the database and deliver information. If there are no internet connection Registered user cannot login to the website | | |
| **Includes:** | Steps 1-14 in the normal flow would be required for all types of login (in website). | | |
| **Frequency of Use:** | On demand | | |
| **Special Requirements:** | N/A | | |
| **Assumptions:** | Registered user understands English language. Registered user has to have his/her ID and password first. Registered user will get id and password from dental clinics’ officer | | |
| **Notes and Issues:** | N/A | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | UC-16 | | |
| **Use Case Name:** | Logout (in mobile application) | | |
| **Created By:** | Worapun Wongkium | **Last Updated By:** | Kanokwan Maneerat |
| **Date Created:** | 17/04/2014 | **Last Revision Date:** | 23/06/2014 |
| **Actors:** | Patient | | |
| **Description:** | Patient can logout from the system | | |
| **Trigger:** | Patient selects logout button | | |
| **Preconditions:** | Patient is already logged into the system | | |
| **Postconditions:** | Patient logged out of the system and redirect to index page | | |
| **Normal Flow:** | 1. Patient selects logout menu 2. System shall connect with the database 3. System shall destroy session 4. System shall redirect to index page in mobile application 5. Patient enter to index page in mobile application | | |
| **Alternative Flows:** | N/A | | |
| **Exceptions:** | System will not connect to the database and deliver information. If there are no internet connection patient cannot logout to the mobile application. | | |
| **Includes:** | Steps 1-5 in the normal flow would be required for all types of or logout(in mobile application). | | |
| **Frequency of Use:** | On demand | | |
| **Special Requirements:** | N/A | | |
| **Assumptions:** | Patient understands English language. Patient has to login into the website or application already. | | |
| **Notes and Issues:** | N/A | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | UC-17 | | |
| **Use Case Name:** | Logout (in website) | | |
| **Created By:** | Worapun Wongkium | **Last Updated By:** | Kanokwan Maneerat |
| **Date Created:** | 17/04/2014 | **Last Revision Date:** | 23/06/2014 |
| **Actors:** | Patient, Officer, Dentist | | |
| **Description:** | Registered User can logout from the system | | |
| **Trigger:** | Registered User selects logout button | | |
| **Preconditions:** | Registered User is already logged into the system | | |
| **Postconditions:** | Registered User logged out of the system and redirect to main home page | | |
| **Normal Flow:** | 1. Registered User selects logout menu 2. System shall connect with the database 3. System shall destroy session 4. System shall redirect to index page in the website 5. Registered user enter to index page in the website | | |
| **Alternative Flows:** | N/A | | |
| **Exceptions:** | System initiated: System unavailable the information will not deliver. If there are no internet connection user cannot logout to the website or the application. | | |
| **Includes:** | Steps 1- in the normal flow would be required for all types of logout (in the website). | | |
| **Frequency of Use:** | On demand | | |
| **Special Requirements:** | N/A | | |
| **Assumptions:** | Registered user understands English language. Registered user has to have his/her ID and password first. Registered user will get id and password from dental clinics’ officer | | |
| **Notes and Issues:** | N/A | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | UC-18 | | |
| **Use Case Name:** | Create new account for patient | | |
| **Created By:** | Worapun Wongkium | **Last Updated By:** | Kanokwan Maneerat |
| **Date Created:** | 17/04/2014 | **Last Revision Date:** | 25/06/2014 |
| **Actors:** | Officer | | |
| **Description:** | Officer can create an account for new patient to use the services from dental clinic | | |
| **Trigger:** | Officer selects create new patient menu | | |
| **Preconditions:** | Officer is already logged into the application by using officerID and password | | |
| **Postconditions:** | New patients’ account is add to the system and can view patient account as a list in patient list page | | |
| **Normal Flow:** | 1. Officer selects new patient menu 2. System shall provide create patient account page in the website 3. System shall connect with the database 4. Officer input patients’ data including patientID, password, first name, last name, age, gender, address, tel., email, and treatment in create form 5. Officer press submit button 6. System shall add patients’ data including patientID, password, first name, last name, age, gender, address, tel., email, and treatment into the database 7. System shall update patient table in the database 8. System shall retrieve patients’ data including patientID, password, first name, last name, age, gender, address, tel., email, and treatment from the database 9. System shall provide patients’ data as a list in the patient list page 10. Officer views a new patients’ account in patient list page | | |
| **Alternative Flows:** | 5a. Officer press submit button and some field is empty   1. System show error message “Please fill out this field” for any field that require to not empty 2. Go back to normal flow 4 | | |
| **Exceptions:** | System will not connect to the database and deliver information. If there are no internet connection. | | |
| **Includes:** | Steps 1-10 in the normal flow would be required for all types of Create new account for patient. | | |
| **Frequency of Use:** | On demand | | |
| **Special Requirements:** | N/A | | |
| **Assumptions:** | Officer understands English language. Officer has to have his/her officer ID and password first. The dental clinics’ officer provides officer ID and password. | | |
| **Notes and Issues:** | N/A | | |

Officer select create new patient menu

Officer input patients’ information

Invalid form

Valid form

User views patient account in patient list page

Figure 17: Create new account for patient [AD-14]

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | UC-19 | | |
| **Use Case Name:** | Edit patients’ information | | |
| **Created By:** | Kanokwan Maneerat | **Last Updated By:** | Kanokwan Maneerat |
| **Date Created:** | 25/06/2014 | **Last Revision Date:** | 25/06/2014 |
| **Actors:** | Officer | | |
| **Description:** | Officer can edit patients’ information | | |
| **Trigger:** | Officer selects edit menu in patient list page | | |
| **Preconditions:** | Officer is already logged into the application by using officerID and password | | |
| **Postconditions:** | New information of patient is edited and can view as a list in patient list page | | |
| **Normal Flow:** | 1. Officer selects patient list page 2. System shall connect with the database 3. System shall retrieve patients’ data including patientID, password, first name, last name, age, gender, address, tel., email, and treatment from the database 4. System shall provide patients’ data as a list in the patient list page 5. Officer selects edit menu 6. System shall provide patients’ edit page in the website 7. Officer input some patients’ information that need to change 8. Officer press submit button 9. System shall edit patients’ information in patient table in the database 10. System shall update patient table in the database 11. System shall provide patients’ data as a list in the patient list page 12. Officer view all patient accounts as a list in patient list page | | |
| **Alternative Flows:** | 8a. Officer press submit button and some field is empty   1. System show error message “Please fill out this field” for any field that require to not empty 2. Go back to normal flow 7 | | |
| **Exceptions:** | System will not connect to the database and deliver information. If there are no internet connection. | | |
| **Includes:** | Steps 1-12 in the normal flow would be required for all types of Edit patients’ information. | | |
| **Frequency of Use:** | On demand | | |
| **Special Requirements:** | N/A | | |
| **Assumptions:** | Officer understands English language. Officer has to have his/her officer ID and password first. The dental clinics’ officer provides officer ID and password. | | |
| **Notes and Issues:** | N/A | | |

Officer select patient list page

Officer view all patients’ accounts in patient list page

Officer selects edit menu

Officer input information in to the edit form

Invalid form

Valid form

Officer views patient account in patient list page

Figure 18: Edit patients’ information [AD-15]

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | UC-20 | | |
| **Use Case Name:** | Delete patients’ account | | |
| **Created By:** | Kanokwan Maneerat | **Last Updated By:** | Kanokwan Maneerat |
| **Date Created:** | 25/06/2014 | **Last Revision Date:** | 25/06/2014 |
| **Actors:** | Officer | | |
| **Description:** | Officer can delete patients’ account | | |
| **Trigger:** | Officer selects delete menu in patient list page | | |
| **Preconditions:** | Officer is already logged into the application by using officerID and password | | |
| **Postconditions:** | Patients’ account is deleted from the system | | |
| **Normal Flow:** | 1. Officer selects patient list page 2. System shall connect with the database 3. System shall retrieve patients’ data including patientID, password, first name, last name, age, gender, address, tel., email, and treatment from the database 4. System shall provide patients’ data as a list in the patient list page 5. Officer selects delete menu 6. System shall delete patients’ account in patient table in the database 7. System shall update patient table in the database 8. Officer view all patient accounts as a list in patient list page | | |
| **Alternative Flows:** | N/A | | |
| **Exceptions:** | System will not connect to the database and deliver information. If there are no internet connection. | | |
| **Includes:** | Steps 1-8 in the normal flow would be required for all types of delete patients’ account. | | |
| **Frequency of Use:** | On demand | | |
| **Special Requirements:** | N/A | | |
| **Assumptions:** | Officer understands English language. Officer has to have his/her officer ID and password first. The dental clinics’ officer provides officer ID and password. | | |
| **Notes and Issues:** | N/A | | |

Officer selects patient list page

Officer views all patients’ account in patient list page

User select delete menu

User views all patient accounts in patient list page

Figure 19: Delete patients’ account [AD-16]

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | UC-21 | | |
| **Use Case Name:** | Create new account for dentist | | |
| **Created By:** | Worapun Wongkium | **Last Updated By:** | Kanokwan Maneerat |
| **Date Created:** | 17/04/2014 | **Last Revision Date:** | 25/06/2014 |
| **Actors:** | Officer | | |
| **Description:** | Officer can create an account for new dentist to use the services from dental clinic | | |
| **Trigger:** | Officer selects create new dentist menu | | |
| **Preconditions:** | Officer is already logged into the application by using officerID and password | | |
| **Postconditions:** | New dentist s’ account is added to the system and can view as dentist account as a list in dentist list page | | |
| **Normal Flow:** | 1. Officer selects create new dentist menu 2. System shall provide create dentist account page in the website 3. System shall connect with the database 4. Officer shall input dentists’ data including dentistID, password, first name, last name, address, email, and tel. in creating form 5. Officer press submit button 6. System shall add dentists’ data including dentistID, password, first name, last name, address, email, and tel. into the database 7. System shall update dentist table in the database 8. System shall retrieve dentists’ data including dentistID, password, first name, last name, email, and tel. from the database 9. System shall provide dentists’ data as a list in the dentist list page 10. Officer views dentist account in dentist list page | | |
| **Alternative Flows:** | 5a.Officer press submit button and some field is empty   1. System show error message “Please fill out this field” for any field that require to not empty 2. Go back to normal flow 4 | | |
| **Exceptions:** | System will not connect to the database and deliver information. If there are no internet connection. | | |
| **Includes:** | Steps 1-10 in the normal flow would be required for all types of Create new account for dentist. | | |
| **Frequency of Use:** | On demand | | |
| **Special Requirements:** | N/A | | |
| **Assumptions:** | Officer understands English language. Officer has to have his/her officer ID and password first. The dental clinics’ officer provides officer ID and password. | | |
| **Notes and Issues:** | N/A | | |

Officer select create new dentists’ account

Officer input dentists’ information

Invalid form

Valid form

User views dentist account in dentist list page

Figure 20: Create new account for dentist [AD-17]

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | UC-22 | | |
| **Use Case Name:** | Edit dentists’ information | | |
| **Created By:** | Kanokwan Maneerat | **Last Updated By:** | Kanokwan Maneerat |
| **Date Created:** | 25/06/2014 | **Last Revision Date:** | 25/06/2014 |
| **Actors:** | Officer | | |
| **Description:** | Officer can edit dentist s’ information | | |
| **Trigger:** | Officer selects edit menu in dentist list page | | |
| **Preconditions:** | Officer is already logged into the application by using officerID and password | | |
| **Postconditions:** | New information of dentist is edited and can view dentist account as a list | | |
| **Normal Flow:** | 1. Officer select dentist list page 2. System shall connect with the database 3. System shall retrieve dentists’ data including dentistID, password, first name, last name, email, and tel. from the database 4. System shall provide dentists’ data as a list in the dentist list page 5. Officer selects edit menu 6. System shall provide dentists’ edit page in the website 7. Officer input some dentists’ information that need to change in edit form 8. Officer press submit button 9. System shall edit dentists’ information in dentist table in the database 10. System shall update dentist table in the database 11. System shall provide dentists’ data as a list in the dentist list page 12. Officer views dentist account in dentist list page | | |
| **Alternative Flows:** | 8a. Officer press submit button and some field is empty   1. System show error message “Please fill out this field” for any field that require to not empty 2. Go back to normal flow 7 | | |
| **Exceptions:** | System will not connect to the database and deliver information. If there are no internet connection. | | |
| **Includes:** | Steps 1-12 in the normal flow would be required for all types of edit dentists’ information. | | |
| **Frequency of Use:** | On demand | | |
| **Special Requirements:** | N/A | | |
| **Assumptions:** | Officer understands English language. Officer has to have his/her officer ID and password first. The dental clinics’ officer provides officer ID and password. | | |
| **Notes and Issues:** | N/A | | |

Officer select dentist list page

Officer views all dentist account in dentist list page

Officer select edit menu

Officer input information in to the edit form

Invalid form

Valid form

Officer views dentist account in dentist list page

Figure 21: Edit dentists’ information [AD-18]

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | UC-23 | | |
| **Use Case Name:** | Delete dentist s’ account | | |
| **Created By:** | Kanokwan Maneerat | **Last Updated By:** | Kanokwan Maneerat |
| **Date Created:** | 25/06/2014 | **Last Revision Date:** | 25/06/2014 |
| **Actors:** | Officer | | |
| **Description:** | Officer can delete dentists’ account | | |
| **Trigger:** | Officer selects delete menu in dentist list page | | |
| **Preconditions:** | Officer is already logged into the application by using officerID and password | | |
| **Postconditions:** | Dentists’ account is delete from the system | | |
| **Normal Flow:** | 1. Officer select dentist list page 2. System shall connect with the database 3. System shall retrieve dentists’ data including dentistID, password, first name, last name, email, and tel. from the database 4. System shall provide dentists’ data as a list in the dentist list page 5. Officer selects delete menu 6. System shall delete dentists’ account in dentist table in the database 7. System shall update dentist table in the database 8. System shall provide dentists’ data as a list in the dentist list page 9. Officer views dentist account in dentist list page | | |
| **Alternative Flows:** | N/A | | |
| **Exceptions:** | System will not connect to the database and deliver information. If there are no internet connection. | | |
| **Includes:** | Steps 1-9 in the normal flow would be required for all types of delete dentist s’ account. | | |
| **Frequency of Use:** | On demand | | |
| **Special Requirements:** | N/A | | |
| **Assumptions:** | Officer understands English language. Officer has to have his/her officer ID and password first. The dental clinics’ officer provides officer ID and password. | | |
| **Notes and Issues:** | N/A | | |

Officer select dentist list page

Officer views all dentist account in dentist list page

Officer select delete menu

Officer views dentist account in dentist list page

Figure 22: Delete dentists’ account [AD-19]

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | UC-24 | | |
| **Use Case Name:** | Display patients’ list | | |
| **Created By:** | Worapun Wongkium | **Last Updated By:** | Kanokwan Maneerat |
| **Date Created:** | 17/04/2014 | **Last Revision Date:** | 25/06/2014 |
| **Actors:** | Officer | | |
| **Description:** | Officer can view list of patient from website | | |
| **Trigger:** | Officer selects patient list page | | |
| **Preconditions:** | Officer is already logged into the application by using officerID and password | | |
| **Postconditions:** | The list of patient is shown | | |
| **Normal Flow:** | 1. Officer selects patient list menu 2. System shall connect with the database 3. System shall retrieve patients’ data including patientID, password, first name, last name, age, gender, address, tel., email, and treatment from the database 4. System shall provide patients’ data as a list in the patient list page 5. Officer views all patients’ accounts in patient list page | | |
| **Alternative Flows:** | N/A | | |
| **Exceptions:** | System will not connect to the database and deliver information. If there are no internet connection. | | |
| **Includes:** | Steps 1-5 in the normal flow would be required for all types of display patients’ list. | | |
| **Frequency of Use:** | On demand | | |
| **Special Requirements:** | N/A | | |
| **Assumptions:** | Officer understands English language. Officer has to have his/her officer ID and password first. The dental clinics’ officer provides officer ID and password. | | |
| **Notes and Issues:** | N/A | | |

Officer select patient list page

Officer views all patient account in patient list page

Figure 23: Display dentists’ list [AD-20]

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | UC-25 | | |
| **Use Case Name:** | Display dentists’ list | | |
| **Created By:** | Worapun Wongkium | **Last Updated By:** | Kanokwan Maneerat |
| **Date Created:** | 17/04/2014 | **Last Revision Date:** | 25/06/2014 |
| **Actors:** | Officer | | |
| **Description:** | Officer can view list of patient from website | | |
| **Trigger:** | Officer selects dentist list page | | |
| **Preconditions:** | Officer is already logged into the application by using officerID and password | | |
| **Postconditions:** | The list of dentist is shown | | |
| **Normal Flow:** | 1. Officer selects dentist list page 2. System shall connect with the database 3. System shall retrieve dentists’ data including dentistID, password, first name, last name, email, and tel. from the database 4. System shall provide dentists’ data as a list in the dentist list page 5. Officer views all dentists’ accounts in dentist list page | | |
| **Alternative Flows:** | N/A | | |
| **Exceptions:** | System will not connect to the database and deliver information. If there are no internet connection. | | |
| **Includes:** | Steps 1-5 in the normal flow would be required for all types of display dentists’ list. | | |
| **Frequency of Use:** | On demand | | |
| **Special Requirements:** | N/A | | |
| **Assumptions:** | Officer understands English language. Officer has to have his/her officer ID and password first. The dental clinics’ officer provides officer ID and password. | | |
| **Notes and Issues:** | N/A | | |

Officer select dentist list page

Officer views all dentist accounts in dentist list page

Figure 24: Display dentists’ list [AD-21]