Software Requirement Specification

Diabetes Care

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Chapter One | Introduction

1.1 Objective

The objective of the Software Requirement Specification document is out line overall requirement of "Diabetes Web application" project. This document has described clearly and accurately descriptively. About detail in Software Requirement Specification is included by function, performance, design consistency, and external interface. This document is based on the project proposal and project plan. It also constraint the general description of user type who is involved with the system.

The Software Requirement Specification document is also a guideline of design the "Diabetes Web application" system

1.2 Intended Audience and Reading Suggestions

This Software Requirement Specification is created for everyone who is involved with this "Diabetes web application" project. It will make convenience for those people as follow

1.2.1 Development Team

- To help the developer understand the requirement and plan how to work together.

1.2.2 Customer

- Help the customer to know the basic requirement of the "Diabetes Web application"

1.3 Project Scope

The main feature of "Diabetes Web application" are as follows:

- Authentication system.
- Account management.
- Nutritionists management.
- Admin management nutritionists.
- Health plan system.
- Statistics glycemic.
- Analyze diabetes.

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1.4 Acronyms and Definitions

1.4.1 Acronyms

SRS: Software Requirement Specification URS: User Requirement Specification

UC: Use Case

AD: Activity Diagram

1.4.2 Definitions

Feature

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

User Interface

User interface (UI) is everything designed into an information device with which a human being may interact including display screen, keyboard, mouse, light pen, the appearance of a desktop, illuminated characters, help messages, and how an application program or a Web site invites interaction and responds to it. [1]

UML

The Unified Modeling Language (UML) is a general -purpose modeling language in the field of software engineering, which is designed to provide a standard way to visualize the design of a system. [2]

Activity Diagram

Activity diagrams are graphical representations of the workflows of stepwise activities and actions with support for choice, iteration and concurrency. Activity diagrams show the overall flow of control. [3]

Use Case

A use case is a methodology used in system analysis to identify, clarify, and organize system requirements. The use case is made up of a set of possible sequences of interactions between systems and users in a particular environment and related to a particular goal. It consists of a group of elements (for example, classes and interfaces) that can be used together in a way that will have an effect larger than the sum of the separate elements combined. [4]

Use Case Diagram A use case diagram at its simplest is a representation of a user's interaction with the system and depicting the specifications of a use case. A use case diagram can portray the different types of users of a system and the various ways that they interact with the system. [5]

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Chapter Two | Overall Description

2.1 Product Perspective

"Diabetes Care Web application" is web application to help customer to take care the diabetic. Customer will be convenient to protect complication from diabetes. This system will help customer to be more convenient to organize because the customer will get info to be analyzed from system. In term of visitor, they can search for the information and detail about diabetes. This system will be much more helpful for patient diabetes.

2.2 Product Feature

Diabetes project has separated the whole project to one processors. The description is shown below:

Progress I: Feature#1: Authentication system.

Feature#2: Account management.

Feature#3: Nutritionists management.

Feature#4: Activity management.

Feature#5: Activity plan and recommend system.

Feature#6: Nutrition plan system. Feature#7: Health monitors system.

Feature#8: Behavior monitors system.

2.3 User Characteristics

User: User can direct access an application via their desktop, tablets, and phones to every part of this application by requesting internet connection. The patient is the person who can create a health plan and monitor nutrition behavior for preventing theirs from the complications disease. Admin is the person who can manage the account of doctor, nurse, and nutritionists. Doctor/Nurse is the person who can enter patient information into the system and management the activity in a part of insert/update/delete. And the nutritionist is the person who can control the nutrition in part of insert/update/delete.

2.4 Development Environment

Laptops

- DELI

Processor: Intel(R) Core(TM) i5-6200U CPU @ 2.30GHz 2.14 GHz

Memory: 4.00 GB (3.90 GB usable)

System type: window 10 64-bit Operating System.x64-based processor

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Chapter Three | Functional Requirement

3.1 User Requirement Specification

Feature#1: Authentication system.

URS-01: The patient, doctor, nurse and admin can login to a web application by using username and password.

URS-02: The patient, doctor, nurse and admin can log out from a web application.

Feature#2: Account management.

URS-03: The doctor and nurse can enter patient information (username, password, confirm password, first name, last name, age, gender, weight, height, address, city, zip code, diabetes type and date that start treatment) to the database server on a web application.

URS-04: The doctor and nurse can access to patient information (first name, last name, age, gender, weight, height, diabetes type, blood sugar value, and start treatment).

URS-05: The patient can view information include first name, last name, age, gender, weight, height, address, city, zip code, medicine, diabetes type, blood sugar value, and start treatment on profile page.

URS-06: The patient can edit information include first name, last name, age, gender, diabetes type, weight, and height on profile page.

URS-07: The patient can change the password for login.

URS-08: The admin can add nurse, doctor, and nutritionists account to the system on administrator page.

URS-09: The admin can edit nurse, doctor, and nutritionists account on administrator page.

URS-10: The admin can delete nurse, doctor, and nutritionists account from the system on administrator page.

Feature#3: Nutrition management.

URS-11: The nutritionists can add food information (food name, food calories and food glycemic index) to the system on nutrition management page.

URS-12: The nutritionists can edit food information (food name, food calories and food glycemic index) on nutrition management page.

URS-13: The nutritionists can delete food information (food name, food calories and food glycemic index) from the system on nutrition management page.

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Feature#4: Activity management

URS-14: The nurse and doctor can add the exercise recommend (symptom, suggestion, proper exercise, exercise inappropriate, and step exercise) to the system on exercise management page.

URS-15: The nurse and doctor can edit the exercise recommend (symptom, suggestion, proper exercise, exercise inappropriate, and step exercise) on exercise management page.

URS-16: The nurse and doctor can delete the exercise recommend from the system on exercise management page.

Feature#5: Activity plan and recommend system.

URS-17: The patient t can select the symptoms on health plan page.

URS-18: The patient can get the suggestion about exercise which include (symptom, suggestion, proper exercise, exercise inappropriate, and step exercise) from the system.

Feature#6: Nutrition plan system.

URS-19: The patient can add food from the database to record in a health plan.

URS-20: The patient can view the total of glycemic index and calorie of food that selected in health plan.

URS-21: The patient can delete a food from the health plan.

Feature#7: Health monitors system.

URS-22: The patient can record blood sugar value to the database.

URS-23: The patient can view body mass index.

URS-24: The patient can view basal metabolic rate.

URS-25: The patient can view the statistic line graph (x = blood sugar value, y = date) of blood sugar.

URS-26: The patient can view interpretation about blood sugar level from the system.

Feature#8: Behavior monitors system.

URS-27: The patient can select food name from the database.

URS-28: The patient can check the list of medicine.

URS-29: The patient can get analyze of nutrition behavior as image (, , , , ,).

URS-30: The patient can view the daily graph of the glycemic level.

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3.2 User Requirement specification and Software Requirement Specification

Feature#1: Authentication system.

URS-01: The patient, doctor, nurse and admin can login to a web application by using username and password.

Requirement

SRS-01: The system shall provide the login UI to receive username and password.

SRS-02: The system shall provide button "login".

SRS-03: The system shall verify username and password with the database.

SRS-04: The system shall display error message "Invalid login attempt", when user input username and password that not exist on the database.

SRS-05: The system shall validate field username and password.

SRS-06: The system shall display error message "The UserName field is required", when the user does not input username.

SRS-07: The system shall display error message "The Password field is required", when the user does not input password.

SRS-08: The system shall redirect to behavior page, when the patient login to the web application success.

SRS-09: The system shall redirect to index page and display nurse/doctor bar, when the doctor or nurse login to the web application.

SRS-10: The system shall redirect to index page and display nutritionists bar, when the nutritionists login to the web application.

SRS-11: The system shall redirect to index page and display admin bar, when admin login to the web application

URS-02: The patient, doctor, nurse and admin can log out from a web application. Requirement

SRS-12: The system shall provide button "Log out".

SRS-13: The system shall destroy session, when user click log out button.

SRS-14: The system shall redirect to home page, when user log out success.

Feature#2: Account management.

URS-03: The doctor and nurse can enter patient information (username, password, confirm password, first name, last name, age, gender, weight, height, address, city, zip code, diabetes type and date that start treatment) to the database server on a web application.

Requirement

SRS-15: The system provides the register UI which includes input fields to input username, password, confirm password, first name, last name, age, gender, weight, height, address, city, zip code, diabetes type and date that start treatment SRS-16: The system shall provide button "Submit".

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- SRS-17: The system shall verify email and provide error message "the email is already taken", when the user input email is already in the database.
- SRS-18: The system shall validate email and provide error message "the email is invalid", when user input wrong format e-mail.
- SRS-19: The system shall verify username and provide error message "the Username is already taken", when the user input username is already in the database.
- SRS-20: The system shall validate username and provide error message "the

Username field is required", when the user does not input username.

- SRS-21: The system shall validate password and provide error message "the Password field is required", when the user does not input password.
- SRS-22: The system shall validate password and provide error message "The password must be at least 6 characters long", when the user input password less than 6 characters.
- SRS-23: The system shall validate confirm password and provide error message "the confirm password field is required"
- SRS-24: The system shall validate confirm password and provide error message "the confirm password and password does not match.
- SRS-25: The system shall validate first name and provide error message "the First Name field is required", when the user does not input the first name.
- SRS-26: The system shall validate last name and provide error message "the Last Name field is required", when user does not input the last name.
- SRS-27: The system shall provide two select options male and female in the select box gender of the user.
- SRS-28: The system shall validate age and provide error message "the Age field is required", when the user does not input age.
- SRS-29: The system shall validate age and provide error message "age is must be a number", when user input wrong format age.
- SRS-30: The system shall validate address and provide error message the "Address field is required", when the user does not input address.
- SRS-31: The system shall provide two select options diabetes type 1 and diabetes type 2 in the select box diabetes type of user.
- SRS-32: The system shall validate height and provide error message "height must be a number", when user input wrong format height.
- SRS-33: The system shall validate height and provide error message the "Height field is required", when the user does not input height.
- SRS-34: The system shall validate weight and provide error message "weight must be a number", when user wrong input format weight.
- SRS-35: The system shall validate weight and provide error message the "Weight field is required", when the user does not input weight.
- SRS-36: The system shall provide error message the "Start Treatment field" is required. When the user does not input, start treatment.

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SRS-37: The system shall save user information to database, when nurse or doctor information success.

SRS-38: The system shall redirect to home page, when nurse or doctor registration is a success.

URS-04: The doctor and nurse can access to patient information (first name, last name, age, gender, weight, height, diabetes type, blood sugar value, and start treatment). Requirement

SRS-39: The system shall provide a search field.

SRS-40: The system shall provide a search button.

SRS-41: The system shall validate search field.

SRS-42: The system shall display error message "Please input patient name", when the doctor or nurse not input name of patient on search field.

SRS-43: The system shall search for the patient based on first name from the database.

SRS-44: The system shall display list of patients as a table providing first name, last name, age, gender, weight, height, diabetes type, blood sugar value, and start treatment, when finish SRS-40.

SRS-45: The system shall display error message "___", when the system can't find the patient name in the database.

URS-05: The patient can view information include first name, last name, age, gender, weight, height, address, medicine, diabetes type, blood sugar value, and start treatment on profile page.

Requirement

SRS-46: The system shall provide UI label which include first name, last name, age, gender, weight, height, address, medicine, diabetes type, blood sugar value, and start treatment

SRS-47: The system shall receive the information of current patient which include first name, last name, age, gender, weight, height, address, medicine, diabetes type, blood sugar value, and start treatment from the database.

SRS-48: The system shall display label which include first name, last name, age, gender, weight, height, address, medicine, diabetes type, blood sugar value, and start treatment on profile page.

URS-06: The patient can edit information include first name, last name, age, gender, diabetes type, weight, and height on profile page.

Requirement

SRS-49: The system shall provide UI, which includes input fields to input first name, last name, and select box to choose gender, age, select box to select diabetes type, height, weight, and start treatment for edit patient info.

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SRS-16: The system shall provide button "Submit".

SRS-50: The system shall validate input field first name, last name, a select box to choose gender, age, select box to select diabetes type, height, weight, and start treatment.

SRS-51: The system shall display error message "The field Height must be a number.", when user input wrong format height.

SRS-52: The system shall display error message "The field Weight must be a number.", when user wrong input format weight.

SRS-53: The system shall display error message "The Age field is required.", when the user does not input age.

SRS-54: The system shall display error message "The Weight field is required.", when the user does not input weight.

SRS-55: The system shall verify height and provide error message "The Height field is required.", when the user does not input height.

SRS-56: The system shall save change the information which include field first name, last name, a select box to choose gender, age, select box to select diabetes type, height, weight, and start treatment in the database.

SRS-57: The system shall redirect to a profile page, when patient edit information success.

URS-07: The patient can change the password for login. Requirement

SRS-58: The system shall provide input fields which include current password, new password, and confirm the password.

SRS-59: The system shall provide button "Change password".

SRS-60: The system shall verify the input field current password, new password, and confirm the password.

SRS-61: The system shall verify current password and provide error message "Incorrect password", when the patient input current password that not match the password on the database.

SRS-62: The system shall verify new password and provide error message "The New password field is required", when the patient not input new password.

SRS-63: The system shall validate the input field current password, new password, and confirm the password.

SRS-64: The system shall validate new password and provide error message "The New password must be at least 6 characters long", when the patient input new password less than 6 characters.

SRS-65: The system shall validate confirm password and provide error message "new password and confirm password does not match", when the patient input a new password and confirm password does not match.

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SRS-66: The system shall save change new password on the database, when user change password success.

SRS-67: The system shall redirect to the profile page, when user change password success.

URS-08: The admin can add nurse, doctor, and nutritionists account to the system on administrator page.

Requirement

SRS-68: The system shall provide UI to create new account include input fields to input username, password, email, and selection box to select the role of the user.

SRS-69: The system shall provide three select options doctor, nurse, and nutritionists in the select role of the user.

SRS-16: The system shall provide "Submit" button.

SRS-70: The system shall validate input field username, password, and e-mail.

SRS-71: The system shall display error message "the e-mail is invalid", when the admin input email wrong format.

SRS-72: The system shall verify input field username, password, and e-mail with database.

SRS-73: The system shall display error message the "email is already taken", when the admin input email is already in the database.

SRS-74: The system shall verify username error message "the username is already taken", when the admin input username is already in the database.

SRS-75: The system shall verify username and display error message the "username field is required", when the admin does not input username.

SRS-76: The system shall verify password and display error message the "password field is required", when the admin does not input username.

SRS-77: The system shall verify email and display error message the "email field is required", when the admin does not input username.

SRS-78: The system shall save data in the database, when admin click button "Submit".

SRS-79: The system shall redirect to the home page of account management, when admin creates new account success.

URS-09: The admin can edit nurse, doctor, and nutritionists account on administrator page.

Requirement

SRS-80: The system shall provide UI to edit account include input fields to input email, password, and selection box to select the role of the user.

SRS-81: The system shall provide three select options doctor, nurse, and nutritionists in the select role of the user.

SRS-16: The system shall provide "Submit" button.

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SRS-82: The system shall validate input field email and password.

SRS-83: The system shall display error message "the email is already in the database", when the admin input email is already in the database.

SRS-84: The system shall display error message "the email is invalid", when user input wrong format e-mail.

SRS-85: The system shall provide error message "The password must be at least 6 characters long", when the admin input new password less than 6 characters.

SRS-86: The system shall redirect to account management page, when the admin finish edit user account.

URS-10: The admin can delete nurse, doctor, and nutritionists account from the system on administrator page.

Requirement

SRS-87: The system shall provide UI label list of user account.

SRS-88: The system shall provide delete button.

SRS-89: The system shall provide confirm message, when the admin click delete button

SRS-90: The system shall cancel to delete user account, when admin click "cancel" on confirm message.

SRS-91: The system shall remove user account from the database, when admin click "yes" on confirm message.

SRS-92: The system shall redirect to account management page, when the admin delete account success.

Feature#3: Nutrition management.

URS-11: The nutritionists can add food information (food name, food calories and food glycemic index) to the system on nutrition management page.

Requirement

SRS-93: The system shall provide UI to create new foods which include input field to input food name, glycemic index, and calorie.

SRS-94: The system shall provide "create" button

SRS-95: The system shall validate input field food name, glycemic index, and calorie.

SRS-96: The system shall display error message "The glycemic index must be a number", when the nutritionists input character on glycemic index field.

SRS-97: The system shall display error message "The calorie must be a number", when the nutritionists not input calorie.

SRS-98: The system shall display error message "The glycemic index field is request", when the nutritionists input character on glycemic index field.

SRS-99: The system shall display error message "The calorie field is request", when the nutritionists not input calorie.

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SRS-100: The system shall save data of food name, food glycemic and food calories to the table "Foods" on the database, when nutritionists click button "Create".

SRS-101: The system shall redirect to nutrition management page, when the nutritionists create new foods success.

URS-12: The nutritionists can edit food information (food name, food calories and food glycemic index) on nutrition management page.

Requirement

SRS-102: The system shall provide UI to edit include input field to input food name, glycemic index, and calorie.

SRS-103: The system shall provide "save" button

SRS-104: The system shall validate input field food name, glycemic index, and calorie.

SRS-105: The system shall display error message "The glycemic index must be a number", when the nutritionists input character on glycemic index field.

SRS-106: The system shall display error message "The calorie must be a number", when the nutritionists not input calorie.

SRS-107: The system shall display error message "The glycemic index field is request", when the nutritionists input character on glycemic index field.

SRS-108: The system shall display error message "The calorie field is request", when the nutritionists not input calorie.

SRS-109: The system shall save change the data of food name, food glycemic, food calorie on the database, when nutritionists click button "Save".

SRS-110: The system shall redirect to nutrition management page, when the nutritionists edit foods success.

URS-13: The nutritionists can delete food information (food name, food calories and food glycemic index) from the system on nutrition management page. Requirement

SRS-111: The system shall provide UI label list of food to the nutritionists.

SRS-88: The system shall provide delete button.

SRS-112: The system shall provide confirm page, when the nutritionists click delete button.

SRS-113: The system shall cancel to delete food, when nutritionists click "cancel" on confirm message.

SRS-114: The system shall remove food from the database, when nutritionists click "yes" on confirm message.

SRS-115: The system shall redirect to nutrition management page, when the nutritionists confirm to delete account.

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Feature#4: Activity management

URS-14: The nurse and doctor can add the exercise recommend (symptom, suggestion, proper exercise, exercise inappropriate, and step exercise) to the system on exercise management page.

Requirement

SRS-116: The system shall provide UI to create the new activity which includes input field symptom, suggestion, proper exercise, exercise inappropriate, and step exercise.

SRS-94: The system shall provide "create" button

SRS-117: The system shall save data of symptom, suggestion, proper exercise, exercise inappropriate, and step exercise to the database.

SRS-118: The system shall redirect to exercise management page, when the doctor or nurse finish creates new exercise.

URS-15: The nurse and doctor can edit the exercise recommend (symptom, suggestion, proper exercise, exercise inappropriate, and step exercise) on exercise management page.

Requirement

SRS-119: The system shall provide UI to edit the data include input field symptom, suggestion, proper exercise, exercise inappropriate, and step exercise.

SRS-103: The system shall provide "save" button.

SRS-120: The system shall save change data of symptom, suggestion, proper exercise, exercise inappropriate, and step exercise in the database.

SRS-121: The system shall redirect to exercise management page, when the doctor or nurse creates new exercise success.

URS-16: The nurse and doctor can delete the exercise recommend from the system on exercise management page.

Requirement

SRS-122: The system shall provide UI label list of exercises to nurse or doctor.

SRS-88: The system shall provide delete button.

SRS-123: The system shall provide confirm page, when nurse or doctor click delete button.

SRS-124: The system shall cancel to delete exercise, when nurse or doctor click "cancel" on confirm message.

SRS-125: The system shall remove exercise from the database, when nurse or doctor click "yes" on confirm message.

SRS-126: The system shall redirect to exercise management page, when the doctor or nurse confirm to delete account.

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Feature#5: Activity plan and recommend system.

URS-17: The patient can select the symptoms on health plan page.

Requirement

SRS-127: The system shall provide a select box of symptoms.

SRS-128: The system shall provide select options for example peripheral neuropathy, diabetic retinopathy, heart disease, and The problems at knee, Ankles or feet in the select box symptoms of patient.

SRS-129: The system shall provide "select" button.

SRS-130: The system shall select the symptoms by symptoms name from the table "Exercises" on the database.

SRS-131: The system shall display detail of exercises, when select symptoms success.

URS-18: The patient can get the suggestion about exercise which include (symptom, suggestion, proper exercise, exercise inappropriate, and step exercise) from the system. Requirement

SRS-132: The system must finish on URS-17

SRS-133: The system shall display detail table of exercise which includes symptom detail, exercise appropriate, exercise inappropriate, and steps of exercise, when patient select the symptoms success.

Feature#6: Nutrition plan system.

URS-19: The patient can select food from the database to record in a health plan. Requirement

SRS-134: The system shall retrieve of all food names from the database.

SRS-135: The system shall provide a dropdown list displaying a list of food name.

SRS-136: The system shall provide "Add" button.

SRS-137: The system shall record the selected food into the database.

SRS-138: The system shall display list of food including food name, food glycemic, and food calories, when success process.

URS-20: The patient can view the total of glycemic index and calorie of food that selected on health plan.

Requirement

SRS-139: The system shall provide UI label to display the average value of glycemic index and calories of food.

SRS-140: The system shall get the data of glycemic index and calories of food from the database.

SRS-141: The system shall calculate the value of glycemic index and calories.

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SRS-142: The system shall display the average value of glycemic index of food that selected on health plan.

SRS-143: The system shall display the average value of calorie of food that selected on health plan.

URS-21: The patient can delete a food from the health plan.

Requirement

SRS-144: The system shall provide label list of food name to the patient.

SRS-88: The system shall provide delete button.

SRS-145: The system shall delete a food from the database, when the patient click delete button.

Feature#7: Health monitors system.

URS-22: The patient can record blood sugar value to the database.

Requirement

SRS-146: The system shall provide input field to input blood sugar.

SRS-147: The system shall provide button "add".

SRS-148: The system shall record the value to table "Glycemic" on the database.

SRS-149: The system shall validate input field blood sugar.

SRS-150: The system shall display error message "blood sugar must be a number", when the patient input character.

SRS-151: The system shall display error message "blood sugar cannot be negative", when the user input blood sugar minus value.

SRS-152: The system shall display blood sugar on graph.

URS-23: The patient can view body mass index.

Requirement

SRS-153: The system shall provide label to display BMI value.

SRS-154: The system shall get the data of weight and height of patient from the database.

SRS-155: The system shall calculate body mass (BMI) by

$$BMI = \frac{Weight(m)}{(Height(m) \times Height(m))}$$

SRS-156: The system shall display the BMI on the label.

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URS-24: The patient can view basal metabolic rate.

Requirement

SRS-157: The system shall provide label to display BMR value.

SRS-158: The system shall get the data of weight, height, gender, and age of patient from the database.

SRS-159: The system shall calculate basal metabolic rate (BMR) by

$$BMR(male) = 66 + (13.7 \times weight(kg)) + (5 \times (height(cm)) - (6.8 \times age)$$

$$BMR(female) = 665 + (9.6 \times weight(kg)) + (1.8 \times (height(cm)) - (4.7 \times age)$$

SRS-160: The system shall display result of BMR on the label.

URS-25: The patient can view the statistic line graph (x = blood sugar value, y = date) of blood sugar.

Requirement

SRS-161: The system shall provide UI to display line graph (x = blood sugar value, y = date).

SRS-162: The system shall get data after finish URS-22.

SRS-163: The system shall display blood sugar on line graph (x = blood sugar value, y = date).

URS-26: The patient can view interpretation about blood sugar level from the system. Requirement

SRS-164: The system shall provide UI to display the interpretation of blood sugar.

SRS-162: The system shall get data after finish URS-22.

SRS-165: The system shall display table include (levels of diabetes, Symptom, How to take care).

Feature#8: Behavior monitors system.

URS-27: The patient can select food name from the database.

Requirement

SRS-166: The system shall retrieve of all food names from the database.

SRS-167: The system shall provide a dropdown list displaying a list of food name.

SRS-168: The system shall provide "select" button.

SRS-169: The system shall record the selected food into the database.

SRS-170: The system shall display list of food.

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URS-28: The patient can daily record the consumed medicine.

Requirement

SRS-172: The system shall retrieve the list of medicine of a patient from the database.

SRS-173: The system shall display a check list of patient's medicine.

SRS-174: The system shall provide a "save" button.

SRS-175: The system shall save the consumed medicine into the database.

URS-29: The patient can view the nutrition consumption behavior as image



Requirement

SRS-129: The system shall retrieve consumed medicine and consumed foods from the database.

SRS-130: The system shall determine the average value of glycemic index.

SRS-130: The system shall display analyze result green color , when the user gets glycemic index value less than 120 and check all list of medicine.

SRS-131: The system shall display analyze result yellow color ¹⁰, when the user gets glycemic index value more than 120 and check all list of medicine or get glycemic index value less than 120 and not check all list of medicine.

SRS-132: The system shall display analyze result red color , when the user gets glycemic index value more than 120 and not check all list of medicine.

URS-30: The patient can view the daily graph of the glycemic level.

Requirement

SRS-106: The system shall provide UI to display line graph(x = glycemic value, y = date).

SRS-133: The system shall get data after finish URS-27.

SRS-134: The system shall calculate the total glycemic index of food.

SRS-135: The system shall display the total of glycemic value on line graph(x = glycemic value, y = date).

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Chapter Four | Specification Requirement

4.1 Use Case Scenarios

4.1.1 Use Case Diagram All Feature

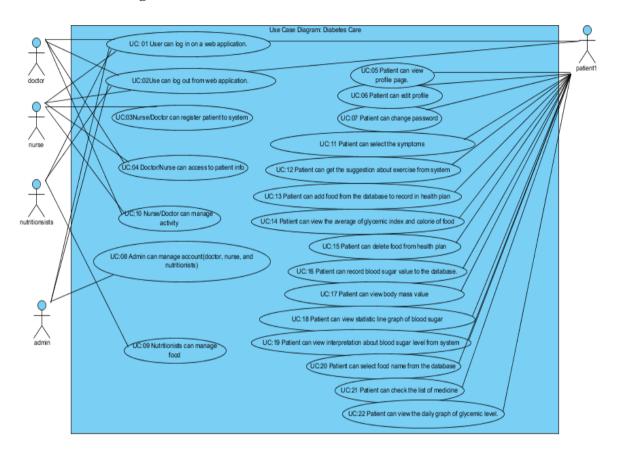


Figure 1: Use Case diagram of Diabetes

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Use Case Diagram: Authentication system.

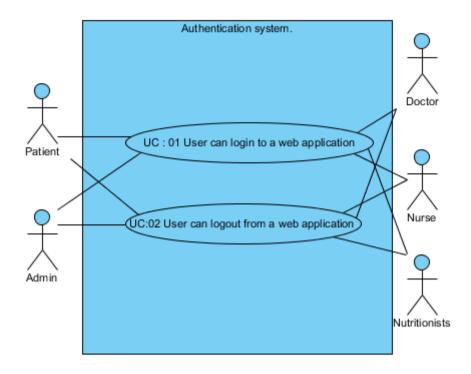


Figure 2: Use Case diagram of Authentication system.

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Use Case Diagram: Account management.

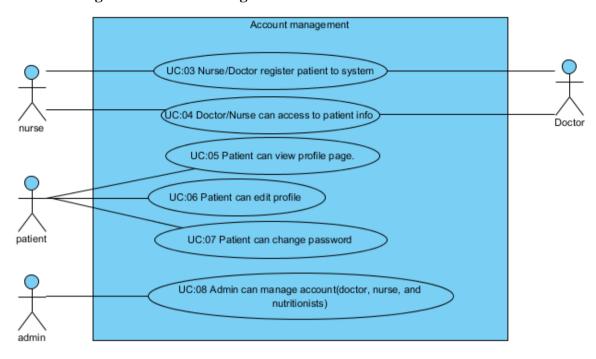


Figure 3: Use Case diagram of Account management.

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Use Case Diagram: Nutritionists management

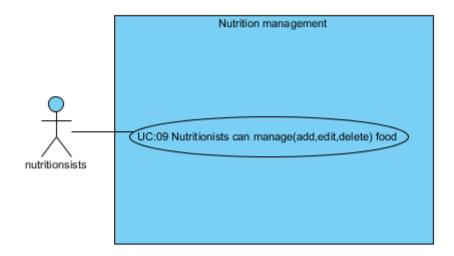


Figure 4: Use Case diagram of Nutritionists management.

Use Case Diagram: Activity management

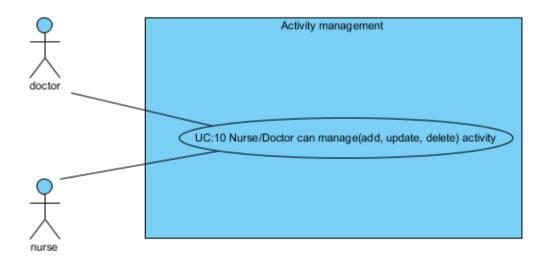


Figure 5: Use Case diagram of Activity management.

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Use Case Diagram: Activity plan and recommend system.

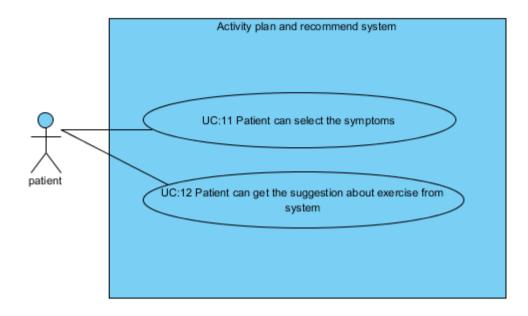


Figure 6: Use Case diagram of Activity plan and recommend system.

Use Case Diagram: Nutrition plan system.

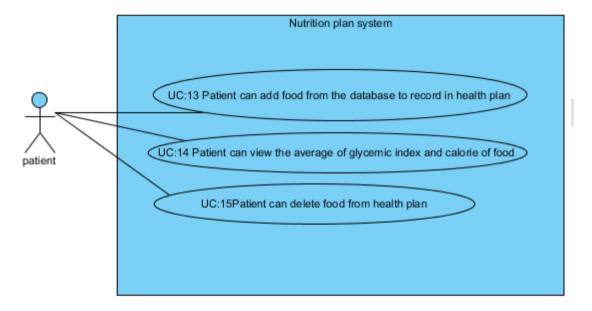


Figure 7: Use Case diagram of Nutrition plan system.

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Use Case Diagram: Health monitors system.

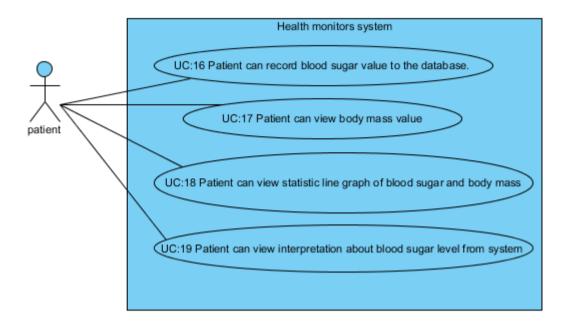


Figure 8: Use Case diagram of Health monitors system.

Use Case Diagram: Behavior monitors system.

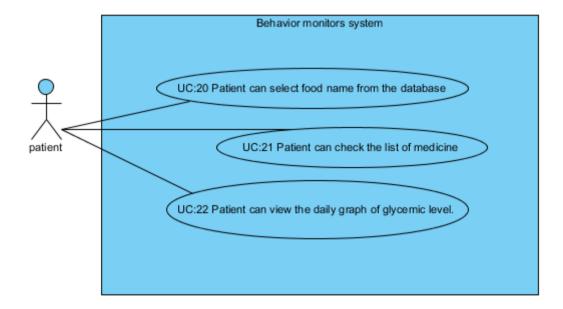


Figure 9: Use Case diagram of Behavior monitors system.

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4.2 Use Case Scenarios

Use Case ID	UC01			
Use Case Name	User can lo	og in on a Web Applicat	ion.	
Created By	Jirayu Chii			Jirayu Chinpongsuwan
Date Created	25/4/2016		Last Revision Date	25/4/2016
Actors	Patient, Nu	tritionists, Admin		
Description	User login	to web application by u	se username and pass	word
Trigger	- User sele	cts login button.		
Preconditions	- User mus	t register in the system		
		Use Case Input Specifi	ication	
Input	type	Const	raint	Example
UserName	string	Must not empty.Username was alread8-20 character.	usertest	
Password	string	Must not emptyPassword was alread6-20 characters of alphabet letters or num	passwordtest	
Post conditions	- User logi	n to system		
Normal Flows		User	Syste	em
		ast input data includes and password. ck login.	 The system shall includes username at the system shall wand password) The system shall range. 	nd password.
Alternative Flow	1. The atte 2. The In step of 5 1. The req 2. The req	of Normal Flow, if use e system shall display the empt". so system shall return to so of Normal Flow, if use e system shall display en uired", when user not in e system shall display en uired", when user not in e system shall return to so system shall return to so	ers input wrong usernate error message "Invastep 2 of normal flow. ers not input username error message "The username. error message "The pasteput password.	or password. rname field is

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Exception Flow	-
Assumption	1. Users understand English.
	2. Users must have username and password in system

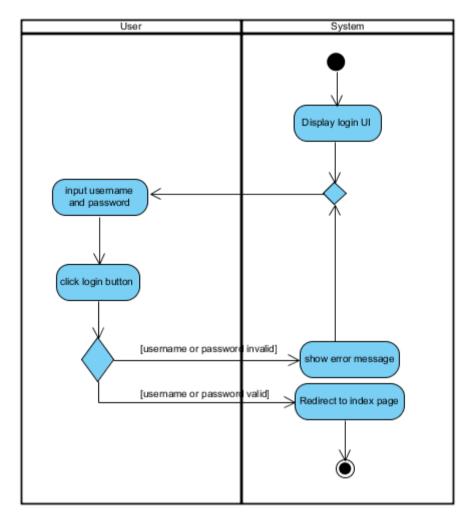


Figure 9: AD: 01: login.

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Use Case ID	UC02					
Use Case Name	User can lo	User can log out from system.				
Created By	Jirayu Chi	npongsuwan Last Update By Jirayu Chinpongsu				
Date Created	25/4/2016	Last Revision Date		25/4/2016		
Actors	Patient, Do	octor, Nutritionists, Adm	in			
Description	-	t, doctor, nurse and admame and password.	nin can login to a w	eb application by		
Trigger	- User selec	cts logout button.				
Preconditions	- User login to the Diabetes web application.					
		Use Case Input Specific	cation			
Input	type	Constr	aint	Example		
-	-	-		-		
Post conditions	- User logo	out from system				
Normal Flows		User	Syste	em		
	2. User clic	ck logout button.	 The system shall button The system shall of 			
	4. The system shall redirect to indepage.					
Alternative Flow	-					
Exception Flow	-					
Assumption	1. Users un	derstand English.				

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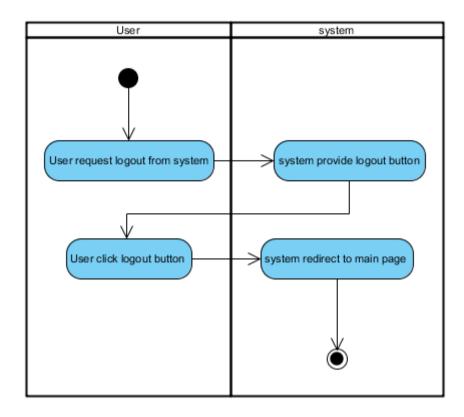


Figure 10: AD: 02: Patient logout.

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Use Case ID	UC03			
Use Case Name	Nurse/Do	octor can register patient to the web	applicati	ion
Created By	Jirayu C	hinpongsuwan Last Upo	late By	Jirayu Chinpongsuwan
Date Created	25/4/201	6 Last R Date	evision	25/4/2016
Actors	Nurse, Pa	ntient	'	
Description	email, fin	se can enter patient (username, est name, last name, age, gender, we start treatment) to the database serv	eight, hei	ight, address, diabete
Trigger	- Nurse o	r Patient selects register button on i	navigatio	n.
Preconditions	-			
		Use Case Input Specification		
Input	type	Constraint		Example
username	string	Must not empty.Must not already on the database8-20 character.		usertest
password	string	Must not empty6-20 characters of capital oalphabet letters or number	Password1	
Confirm password	string	 Must be same with password Must not empty 6-20 characters of capital of alphabet letters or number 	Password1	
e-mail	string	- email address format (made to local part, an @ symbol, than a part) - Must not empty	example@email.co m	
First name	string	Must not empty		Jirayu
Last name	string	Must not empty		Chinpongsuwan
age	int	 Must input to be number Must not empty		20
weight	double	Must input to be numberMust not empty		60.00
height	double	- Must input to be number - Must not empty	175.00	
Gender	boolean	- Must not empty - Must select between male = 0 and female = 1		
Diabetes type	boolean	 Must not empty Must select between type1=0 are 1 	0	
Start treatment	Date	- Must not empty		12/12/2012
	1			

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		- Must input to be date	format.	
address	String	-Must not empty		Mang phayao 56000
Post conditions	- Registr	ration success the data m	ust store on the datal	base.
Normal Flows		User	Sy	ystem
	includes confirm name, la address, weight, a 3. User button.	must input data username, password, password, e-mail, first st name, gender, age, diabetes type, height, and start treatment. must click "Submit"	username, passwor e-mail, first name, age, address, diabe weight, and start tro. The system shall probutton 4. The system shall probutton 4. The system includes use confirm pass name, last raddress, dia weight, and 5. The system information 6. The system home page	shall verify data ername, password, sword, e-mail, first name, gender, age, abetes type, height, start treatment. shall save user a to database shall redirect to
Alternative Flow	1. 7 r 2. 7 r 3. 7 r 4. 7 r 5. 7 r 7. 7	of 6 of Normal Flow, if use the system shall display equired", when the user the system shall display equired", when the user the system shall provide equired", when the user the system shall provide equired", when user does the system shall provide when the user does not in the system shall provide equired", when the user the system shall provide equired the system	error message the "I does not input userna error message the "I does not input passwerror message the "f does not input the finerror message the "I s not input the last nateror message the "a put age. error message the "a does not input addreserror message the "a does not input addreserror message the "I does not input ad	The username field is ame. The Password field is yord. First name field is rest name. ast name field is ame. age field is required", address field is ss. neight field is

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	8. The system shall provide error message the "Weight field is required", when the user does not input weight.9. The system shall return to step 2 of normal flow.
	 In step of 6 of Normal Flow, if users input wrong format. The system shall provide error message the "email is invalid", when user input wrong format e-mail. The system shall provide error message "age is invalid", when user input wrong format age. The system shall provide error message "height must be a number", when user input wrong format height. The system shall provide error message "weight must be a number", when user wrong input format weight. The system shall return to step 2 of normal flow.
	 In step of 6 of Normal Flow, if users input email that already in the database. 6. The system shall provide error message the "email is already taken", when the user input email is already in the database. 7. The system shall return to step 2 of normal flow. In step of 6 of Normal Flow, if users input password less than 6 character. 8. The system shall provide error message "The password must be at least 6 characters long", when the user input password less than 6 characters.
	9. The system shall return to step 2 of normal flow.
Exception Flow	1 Hears understand English
Assumption	1. Users understand English.

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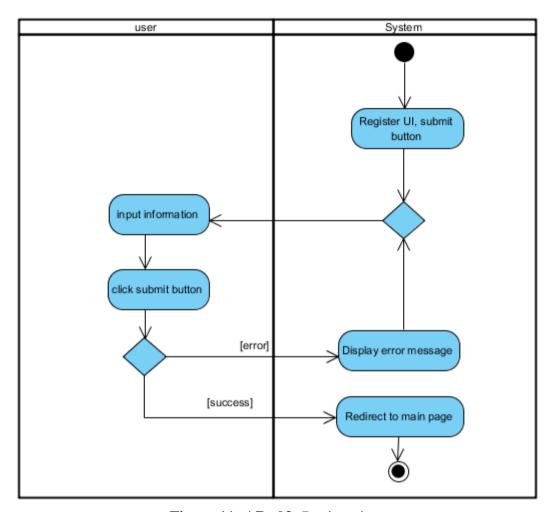


Figure 11: AD: 03: Registration.

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Use Case ID	UC04			
Use Case Name	Doctor/Nu	rse can access to patient	info.	
Created By	Jirayu Chi	npongsuwan	Last Update By	Jirayu Chinpongsuwan
Date Created	25/4/2016		Last Revision Date	25/4/2016
Actors	Doctor, Nu	irse		
Description		and nurse can access gender, weight, height, hent).	-	•
Trigger	- Doctor or	nurse selects patient lis	t link button.	
Preconditions		gin to the web application to the web application	n by nurse account.	
		Use Case Input Specifi	cation	
Input	type	Const	raint	Example
-	-	-		-
Post conditions		cess to patient info success to patient info succe		
Normal Flows		User	Syste	em
	in search fi	· input name of patient eld	1. The system shall provide a sea field. 2. The system shall provide a sea button 5. The system shall validate search field 6. The system shall search for the patient based on first name from database. 7. The system shall display list of patients as a table providing first name, last name, age, gender, we height, diabetes type, blood sugar value, and start treatment	
	4. The user	click "search"	field 6. The system shall patient based on first database. 7. The system shall patients as a table priname, last name, agheight, diabetes type	search for the t name from the display list of coviding first e, gender, weight, e, blood sugar
Alternative Flow	In step 5 or 1. The not	f Normal Flows, if user a system shall display er input name of patient of exystem shall return to see system shall return to see	field 6. The system shall patient based on first database. 7. The system shall patients as a table proname, last name, agheight, diabetes type value, and start treatment input name on searor message, when the search field.	search for the t name from the display list of roviding first e, gender, weight, e, blood sugar ment earch field.

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Assumption 1. Users understand English.

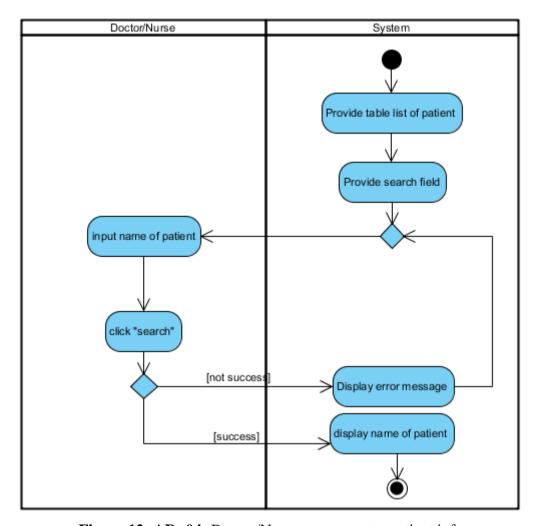


Figure 12: AD: 04: Doctor/Nurse can access to patient info.

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Use Case ID	UC05			
Use Case Name	View profi	le.		
Created By	Jirayu Chi	npongsuwan	Jirayu Chinpongsuwan	
Date Created	25/4/2016		Last Revision Date	25/4/2016
Actors	Patient			
Description	gender, we value, and	t can view information eight, height, address, start treatment on profile	medicine, diabetes t	
Trigger	- User sele	cts profile link button.		
Preconditions	- User logi	n to the Diabetes web ap	plication	
		Use Case Input Specific	cation	
Input	type	Constr	aint	Example
-	-	-		-
Post conditions	- User can	view the information of	user profile.	
Normal Flows		User	System	
	profile.		2. The system shall pushich include first nage, gender, weight, medicine, diabetes tyvalue, and start treats 3. The system shall rinformation of currestinclude first name, lagender, weight, heigh medicine, diabetes tyvalue, and start treats database. 4. The system shall which include first nage, gender, weight, medicine, diabetes tyvalue, and start treats age, gender, weight, medicine, diabetes tyvalue, and start treats page.	ame, last name, height, address, ype, blood sugar ment receive the nt patient which ast name, age, ht, address, ype, blood sugar ment from the display label ame, last name, height, address, ype, blood sugar ype, blood sugar height, address, ype, blood sugar
Alternative Flow	-			
Exception Flow Assumption	1 Hears un	derstand English.		
rissumption	1. Oscis un	derstand English.		

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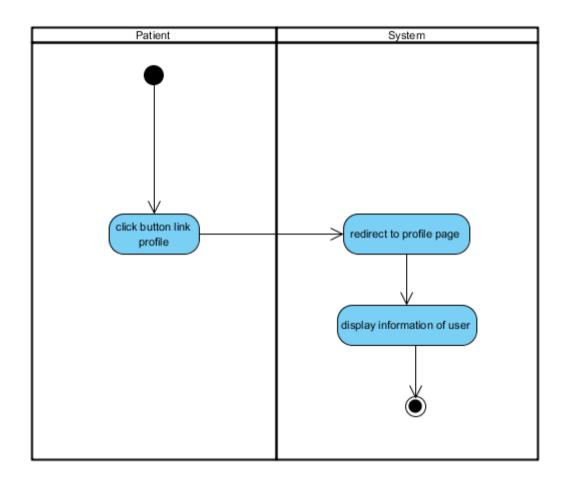


Figure 13: AD: 05: View information of his on profile page.

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Use Case ID	UC06				
Use Case Name	Edit profile	e			
Created By	Jirayu Chi	inpongsuwan	Last Update By	Jirayu Chinpongsuwan	
Date Created	25/4/2016		Last Revision Date	25/4/2016	
Actors	Patient				
Description	choose ger	n edit the information (nder, age, height, and we	·	e, a select box to	
Trigger	- User sele	ects profile link button.			
Preconditions	- User logi	n to the Diabetes web ap	pplication.		
		Use Case Input Specifi	cation		
Input	type	Constr	raint	Example	
First name	string	-		Jirayu	
Last name	string	-		Chinpongsuwan	
age	int	Must input to be numMust not empty		20	
weight	double	Must input to be numMust not empty	- Must input to be number - Must not empty		
height	double	- Must input to be num - Must not empty	175.00		
Gender	boolean	- Must not empty - Must select between	meal and female	male	
Post conditions	- User can	edit account success.			
Normal Flows		User	Syste	em	
	2 Patient i	anut nov information	1. The system provi information includes name, gender, age, h 2. The system shall p "Submit".	first name, last eight, weight.	
	includes fi gender, ag 4. User cli	input new information rst name, last name, e height, weight. icks "Submit".	5. The system shall vincludes first name, gender, age, height, 6. The system shall data base	last name, weight. save change in	
Alternative Flow	In step of 3	of Normal Flow, if use	rs input wrong format	t height, and	

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	 weight. The system shall provide error message "The field Height must be a number", when user input wrong format height. The system shall provide error message "The field Weight must be a number", when user wrong input format weight. The system shall return to step 3 of normal flow
Exception Flow	-
Assumption	1. Users understand English.

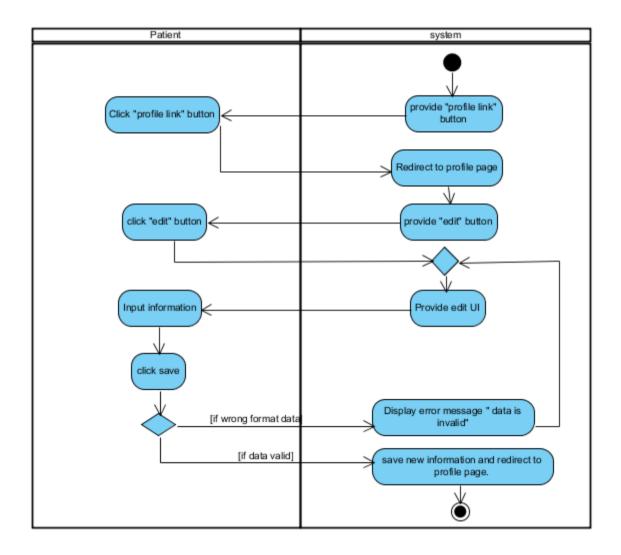


Figure 13: AD: 06: Edit account.

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Use Case ID	UC07				
Use Case Name	Chang pass	sword			
Created By	Jirayu Chi	npongsuwan	Last U	pdate By	Jirayu Chinpongsuwan
Date Created	25/4/2016		Last Date	Revision	25/4/2016
Actors	Patient				
Description	Patient can	change password for lo	gin.		
Trigger	- User sele	cts profile link button.			
Preconditions	- Patient lo	gin to the Diabetes web	applicatio	on.	
		Use Case Input Specifi	cation		
Input	type	Const	raint		Example
Current password	string	 Must already in the database Must not empty 6-20 characters of capital or small alphabet letters or number 			passwordtest
New password	string	- Must not empty - 6-20 characters of capital or small alphabet letters or number			passwordtest1
Confirm password	string	Must be same new pas	sword		passwordtest1
Post conditions	- Patient ca	n change password succ	cess		
Normal Flows		User		Syste	em
	3. Patient input data include current password, new password 4. Patient clicks "submit".		5. The system shall verify an validate input data include current password, new password6. The system shall redirect to user		includes current word and confirm provide button verify an validate arrent password,
Alternative Flow	profile page In normal flow step 5. If the patient input current password not correct. 1. The system shall provide error message "Incorrect password", when the patient input current password not correct. 2. The system shall return to step 3 of normal flow. In normal flow step 5. If the patient not input new password.				

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	1. The system shall provide error message "The New password field is
	required", when the patient not input new password.
	2. The system shall return to step 3 of normal flow
	In normal flow step 5. If the patient input new password less than 6
	character.
	1. The system shall provide error message "The New password must be
	at least 6 characters long", when the patient input new password less
	than 6 characters.
	2. The system shall return to step 3 of normal flow
	In normal flow step 5. If the patient input new password and confirm
	password dose not match.
	1. The system shall provide error message "new password and confirm
	password does not match", when the patient input a new password.
	2. The system shall return to step 3 of normal flow
Exception Flow	-
Assumption	1. Users understand English.

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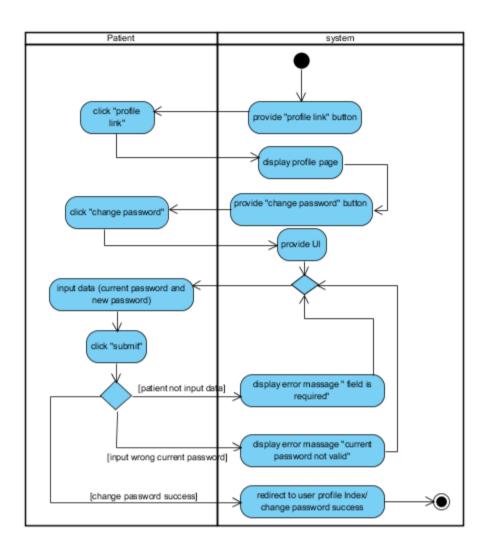


Figure 14: AD: 07: Chang password.

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Use Case ID	UC08			
Use Case Name	Admin add	user account		
Created By	Jirayu Chi	npongsuwan	Last Update By	Jirayu Chinpongsuwan
Date Created	25/4/2016		Last Revision Date	25/4/2016
Actors	Admin			
Description		add nutritionists, nurse password, email and se		system by input
Trigger	- Admin cl	icks account manageme	ent.	
Preconditions	- Admin lo	gin to the administration	n system.	
		Use Case Input Spe	cification	
Input	type	Constr	aint	Example
username	string	Must not empty		username
password	string	- Must not empty - 6-20 characters of capital or small alphabet letters or number		-
email	string	- email address format made up of a local part, an @ symbol, than a domain part - Must not empty		example@email.com
Post conditions	- Admin ac	ld account success.		
Normal Flows		User	S	ystem
	username, role.	nput info includes password, email and click " <mark>Submit</mark> " button.	new account includusername, password selection box to sel	lect the role of the I provide three select rse, and nutritionists in the user. I provide "Submit" I verify and validate
			_	username, password

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	page, when create new user account
	success.
Alternative	In normal flow step 6 If the admin input e-mail that already in the database.
Flow	1. The system shall provide error message the "email is already taken",
	when the admin input email is already in the database.
	2. The system shall return to step 4 of normal flow.
	In normal flow step 6 If the admin input wrong format e-mail.
	1. The system shall provide error message "the e-mail is invalid",
	when the admin input wrong format e-mail.
	2. The system shall return to step 4 of normal flow.
	In normal flow step 6 If the admin input password less than 6 characters.
	1. The system shall provide error message "The password must be at
	least 6 characters long", when the admin input new password less
	than 6 characters.
	2. The system shall return to step 4 of normal flow.
Exception Flow	-
Assumption	1. Users understand English.

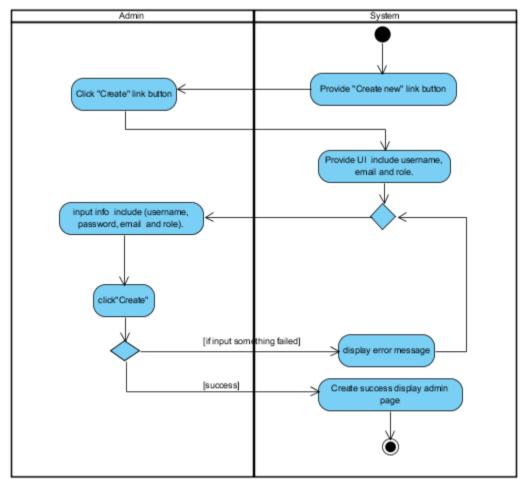


Figure 15: AD: 08: Admin add account.

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Use Case ID	UC09				
		1:4			
Use Case Name	Admin ed	lit user account			
Created By	Jirayu Cl	ninpongsuwan	Last Update By	Jirayu Chinpongsuwan	
Date Created	25/4/2016	5	Last Revision Date	25/4/2016	
Actors	Admin				
Description	Admin ca				
Trigger	- Admin	- Admin clicks account management.			
Preconditions	- Admin l	ogin to the administration	on system.		
		Use Case Input Spec	cification		
Input	type	Constra	aint	Example	
password	string	- Must not empty - 6-12 characters of capital or small alphabet letters or number		-	
email	string	- email address format (made up of a local part, an @ symbol, than a domain part) - Must not empty		example@email.com	
Post conditions	- Admin 6	edit account success.			
Normal Flows		User	S	ystem	
	includes e role. 5. Admin button.	input new info e-mail, password, and click "Submit"	account include ingemail, password, a select the role of the 2. The system shall options doctor, nurthe select role of the 3. The system shall button. 6. The system shall includes e-mail, parange, when edit us	I validate input data assword, and role. I redirect to adminer account success.	
Alternative Flow	In normal database.	flow step 6. If the adm	in input e-mail that	already in the	

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	1. The system shall provide error message the "email is already
	taken", when the admin input email is already in the database.
	2. The system shall return to step 3 of normal flow.
	In normal flow step 6. If the admin input wrong format e-mail.
	1. The system shall provide error message "the e-mail is invalid",
	when the admin input wrong format e-mail.
	2. The system shall return to step 3 of normal flow.
	In normal flow step 6. If the admin input password less than 6 characters.
	1. The system shall provide error message "The password must be at
	least 6 characters long", when the admin input new password less
	than 6 characters.
	2. The system shall return to step 3 of normal flow.
Exception Flow	
Assumption	1. Users understand English.

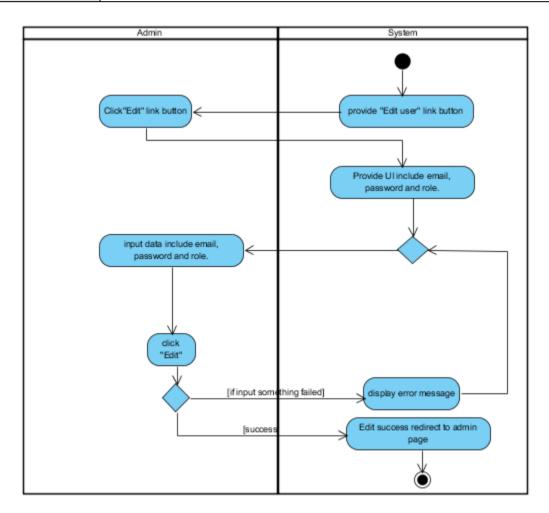


Figure 15: AD: 09: Admin edit account.

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Use Case ID	UC10				
Use Case Name	Admin de	lete user account.			
Created By	Jirayu Chinpongsuwan Last Upd			Jirayu Chinpongsuwan	
Date Created	25/4/2016		Last Revision Date	25/4/2016	
Actors	Admin				
Description	Admin car	n delete nutritionists, n	urse, and doctor from	m the system.	
Trigger	- Admin c	licks account managem	nent.		
Preconditions	- Admin lo	ogin to the administrati	on system.		
	Use Case Input Specification				
Input	type	Constra	Example		
-	-	-		-	
Post conditions	- Admin d	eletes account success.			
Normal Flows		User	System		
		click "delete" button. must confirm delete.	of user account. 2. The system shall button. 3. The system shall message. 5. The system shall from the database.	I display confirm I remove user account I redirect to account	
Alternative Flow Exception Flow Assumption	In step 4 of Normal Flows, if user confirm delete select "yes". 1. The system shall delete success. In step 4 of Normal Flows, if user confirm delete select "cancel". 2. The system shall cancel delete data process. - 1. Users understand English.				

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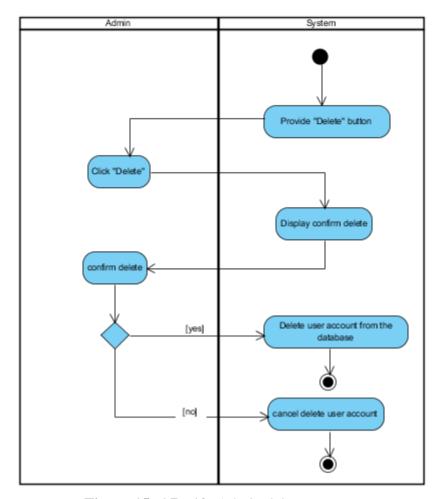


Figure 15: AD: 10: Admin delete account.

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Use Case ID	UC11					
Use Case Name	Add food					
Created By	Jirayu Chi	Chinpongsuwan Last Update By			Jirayu Chinpongsuwan	
Date Created	25/4/2016		Last Date	Revision	25/4/2016	
Actors	Nutritionis	ts				
Description	Nutritionis	ts can add food on nutrit	ion mana	gement page	2 .	
Trigger	- Nutrition	ists click nutrition mana	gement.			
Preconditions	- Nutrition	ists login to the diabetes	web appl	ication.		
		Use Case Input Specific	cation			
Input	type	Constr	raint		Example	
Food name	string	- Must not empty.			foodtest	
Glycemic index	double	Must not empty.Must be a number.			60.00	
Calorie	double	- Must not empty Must be a number.		100.00		
Post conditions	- Nutrition	- Nutritionists can add food success.				
Normal Flows		User		Syste	m	
	includes for glycemic in calorie.	nists input info ood name, the ndex of food, and food nists click "create"	food name food, and 2. The sybutton 5. The sydata including glycemic calorie. 6. system name, for calories to 7. The sy	estem shall values food glycemic the databasestem shall r	validate input ame, the od, and food tand food tase	
	i					

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	index field
	1. The system shall provide error message "The glycemic index
	must be a number", when the nutritionists input character on
	glycemic index field.
	2. The system shall return to step 3 of normal flow.
	In normal flow step 5. If the nutritionists not input calorie.
	1. The system shall provide error message "The calorie must be a
	number", when the nutritionists not input calorie.
	2. The system shall return to step 3 of normal flow.
	In normal flow step 5. If the nutritionists input character on glycemic
	index field.
	1. The system shall provide error message "The glycemic index field
	is request", when the nutritionists input character on glycemic
	index field.
	2. The system shall return to step 3 of normal flow.
	In normal flow step 5. If the nutritionists not input calorie.
	1. The system shall provide error message "The calorie field is
	request", when the nutritionists not input calorie.
	2. The system shall return to step 3 of normal flow.
Exception Flow	_
Assumption	1. Users understand English.
_	

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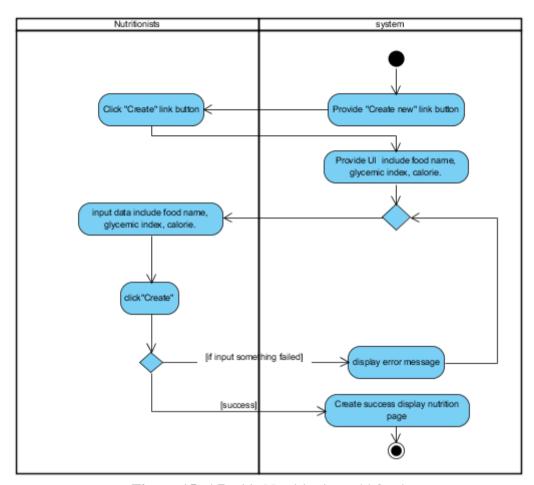


Figure 15: AD: 11: Nutritionists add food.

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Use Case ID	UC12						
Use Case Name	Edit food						
Created By	Jirayu Chi	npongsuwan	Last U	pdate By	Jirayu Chinpongsuwan		
Date Created	25/4/2016		Last Date	Revision	25/4/2016		
Actors	Nutritionis	Nutritionists					
Description	Nutritionis	Nutritionists can edit food on nutrition management page.					
Trigger	- Nutrition	ists click manage foods.					
Preconditions	- Nutrition	ists login to the Diabete	s web appl	ication.			
		Use Case Input Specifi	cation				
Input	type	Const	raint		Example		
Food name	string	- Must not empty.			newfood		
Glycemic index	double	- Must not empty.			61.00		
G 1 . '	1 11	- Must be a number.			110.00		
Calorie	double	- Must not empty.			110.00		
Post conditions	- Nutrition	- Must be a number Nutritionists can edit nutrition success.					
	rudition	ists can can natition su					
Normal Flows		User		Syste	em		
	which included glycemic in calorie.	4. The nutritionists click "save"					
Alternative Flow	index field	flow step 5. If the nutrition. e system shall provide expressions.	_				

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	must be a number", when the nutritionists input character on
	glycemic index field
	2. The system shall return to step 3 of normal flow.
	In normal flow step 5. If the nutritionists not input calorie.
	1. The system shall provide error message "The calorie must be a
	number", when the nutritionists not input calorie.
	2. The system shall return to step 3 of normal flow.
	In normal flow step 5. If the nutritionists input character on glycemic
	index field.
	1. The system shall provide error message "The glycemic index field
	is request", when the nutritionists input character on glycemic
	index field.
	2. The system shall return to step 3 of normal flow.
	In normal flow step 5. If the nutritionists not input calorie.
	1. The system shall provide error message "The calorie field is
	request", when the nutritionists not input calorie.
	2. The system shall return to step 3 of normal flow.
Exception Flow	-
Assumption	1. Users understand English.

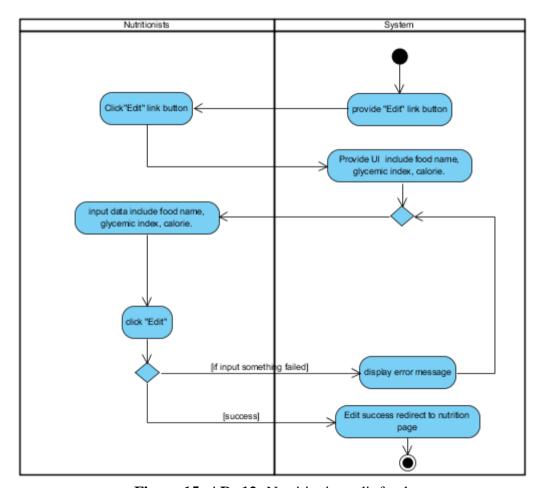


Figure 15: AD: 12: Nutritionists edit food.

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Use Case ID	UC13					
Use Case Name	Delete food	d				
Created By	Jirayu Chi	Jirayu Chinpongsuwan Last Update By Jirayu Chinpongsu				
Date Created	25/4/2016		Last Revision Date	25/4/2016		
Actors	Nutritionis	ts	·			
Description	Nutritionis	ts can delete food on nu	trition management pa	age.		
Trigger	- Nutrition	ists click manage foods	•			
Preconditions	- Nutrition	ists login to the diabetes	s web application.			
		Use Case Input Specif	ication			
Input	type	Const	raint	Example		
-	-	-		-		
Post conditions	- Nutrition	ists can delete nutrition	success.			
Normal Flows		User	System			
	3. The nutritionists click "delete" button. 5. The nutritionists confirm delete food.		 The system shall provide UI label list of food to the nutritionists. The system shall provide delete button. The system shall display confirm delete. The system shall remove food from the database. The system shall redirect to nutrition management page 			
Alternative Flow	In step 5 of Normal Flows, if user confirm delete select "yes". 1. The system shall delete success. In step 5 of Normal Flows, if user confirm delete select "cancel". 2. The system shall cancel delete data process.					
Exception Flow Assumption	1 Users ur	nderstand English				
1 issumption	1. Users understand English.					

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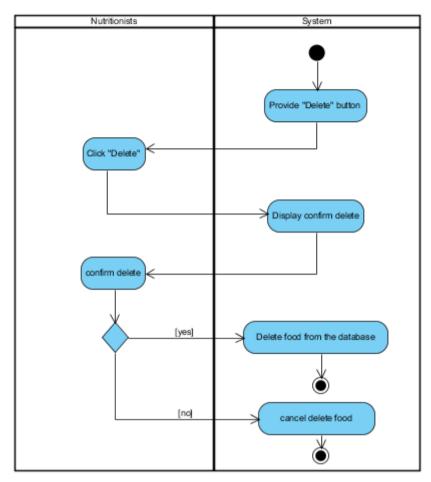


Figure 15: AD: 13: Nutritionists delete food.

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Use Case ID	UC14					
Use Case Name	Add exerc	ise				
Created By	Jirayu Ch	inpongsuwan	Last Update By	Jirayu Chinpongsuwan		
Date Created	25/4/2016		Last Revision Date	25/4/2016		
Actors	Nurse, Do	rse, Doctor				
Description	Nurse or d	octor can add exercise of	on activity manageme	ent page.		
Trigger	- Nurse or	doctor click activity ma	nagement page.			
Preconditions	- Nurse or	doctor login to the diab	etes web application			
		Use Case Input Specif	ication			
Input	type	Constraint]	Example		
symptom	string	-	Symptom to	est		
suggestion	string	-	Suggestion	test		
proper exercise	string	-	Proper exer	Proper exercise test		
exercise inappropr	iate string	-	Exercise in	Exercise inappropriate test		
step exercise	string	-	Step exercis	se test		
Post conditions	- Nurse	or doctor can add exerc	cise success.			
Normal Flows		User	System			
	which is sympton exercise inappropriate exercise 5. Nurse	e or doctor input info ncludes input field m, suggestion, proper e, exercise opriate, and step e. e or doctor click "button.	1. The system shall create the new activincludes input field suggestion, proper inappropriate, and 3. The system shall button	vity which I symptom, exercise, exercise step exercise.		
			6. The system shall symptom, suggestive exercise, exercise is step exercise to the on the database. 7. The system shall exercise managements	on, proper nappropriate, and table "Exercises" redirect to		

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Alternative Flow	-
Exception Flow	-
Assumption	1. Users understand English.

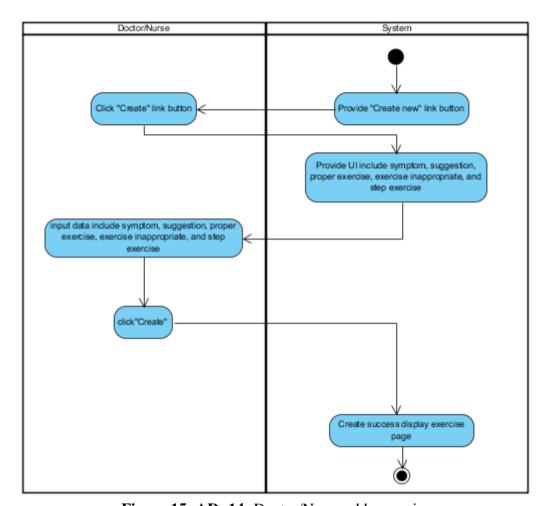


Figure 15: AD: 14: Doctor/Nurse adds exercise.

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Use Case ID	UC	C15					
Use Case Name	Edi	t exercise					
Created By	Jira	yu Chinpongsu	wan	Last Update By Jirayu Chinpongsus			
Date Created	25/-	4/2016		Last Date	Revision	25/4/2016	
Actors	Nu	rse, Doctor		•			
Description	Nui	rse or doctor can	edit exercise on	activity	managemen	t page.	
Trigger	- N	urse or doctor cl	ick activity man	agemen	t page.		
Preconditions	- N	urse or doctor lo	gin to the diabet	es web	application.		
		Use Cas	se Input Specific	ation			
Input		type	Constrain	nt	E	xample	
symptom		string	-		Symptom te	st2	
suggestion		string	-		Suggestion		
proper exercise		string	-		Proper exercise test2		
exercise inappropri	iate	string	-			Exercise inappropriate test2	
step exercise		string			Step exercis		
Post conditions		- Nurse or doct	or can edit exerc	cise succ	cess.		
Normal Flows		Us	er		Syste	m	
		3. Nurse or doo new info which input field sym suggestion, pro exercise inappro-	etor input n includes aptom, oper exercise,	the data suggesti inapproj	include inputon, proper expriate, and ste	provide UI to edit t field symptom, tercise, exercise ep exercise. provide "save"	
		step exercise. 4. Nurse or Do "save" button.		sympton exercise step exe 6. The s	rcise to the d ystem shall r	a, proper appropriate, and atabase. edirect to	
Alternative Flow		4. Nurse or Do		sympton exercise step exe 6. The s	n, suggestion e, exercise ina ercise to the d	n, proper appropriate, and atabase. edirect to	

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Assumption 1. Users understand English.

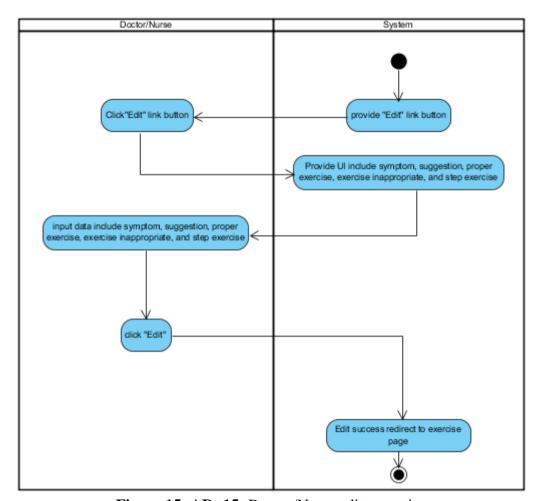


Figure 15: AD: 15: Doctor/Nurse edits exercise.

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Use Case ID	UC16					
Use Case Name	Delete exercise					
Created By	Jirayu Chinpongsuwan Last Update By			Jirayu Chinpongsuwan		
Date Created	25/4/2016		Last Revision Date	25/4/2016		
Actors	Nurse, Doc	etor				
Description	Nurse or do	octor can delete exercis	se on activity managem	ent page.		
Trigger	- Nurse or	doctor click activity ma	anagement page.			
Preconditions	- Nurse or	doctor login to the diab	petes web application.			
		Use Case Input Special	fication			
Input	type Constraint			Example		
-	-	-	-			
Post conditions	- Nurse or	doctor can delete exerc	rise success.			
Normal Flows	User Sys:			m		
	"delete" bu	se or doctor confirms	 The system shall provide UI label list of exercises to nurse or doctor. The system shall provide delete button. The system shall display confirm delete. The system shall remove exercise from the database. The system shall redirect to exercise management page 			
Alternative Flow Exception Flow	In step 5 of Normal Flows, if user confirm delete select "yes". 3. The system shall delete success. In step 5 of Normal Flows, if user confirm delete select "cancel". 4. The system shall cancel delete data process. -					
Assumption	4 77	1. Users understand English.				

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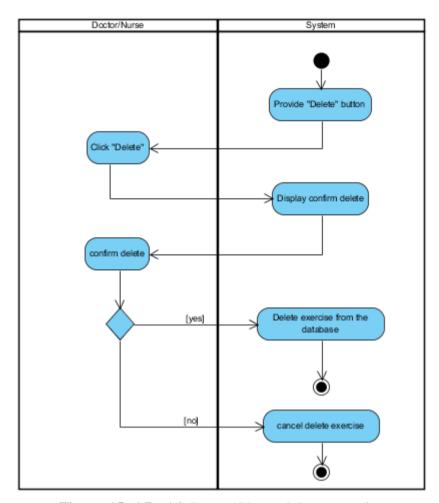


Figure 15: AD: 16: Doctor/Nurse deletes exercise.

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Use Case ID	UC17						
Use Case Name	Select the s	ymptoms					
Created By	Jirayu Chi	npongsuwan Last Update By			Jirayu Chinpongsuwan		
Date Created	25/4/2016		Last Rev Date	vision	25/4/2016		
Actors	Patient						
Description	Patient can	select the symptoms	on health plan pa	ige.			
Trigger	- Patient se	lects health plan link	button.				
Preconditions	- Patient lo	- Patient login to the web application.					
		Use Case Input Spec	cification				
Input	type	Cor	nstraint		Example		
-	-	-			-		
Post conditions	- Patient ca	n select the sympton	is success.				
Normal Flows		User		Syste	m		
	drop down	elect symptoms on list. lick "select".		m the constant shall performed display	<mark>latabase.</mark> provide a		
Alternative Flow	-						
Exception Flow	-						
Assumption		rs understand Englis ent must be member		n.			

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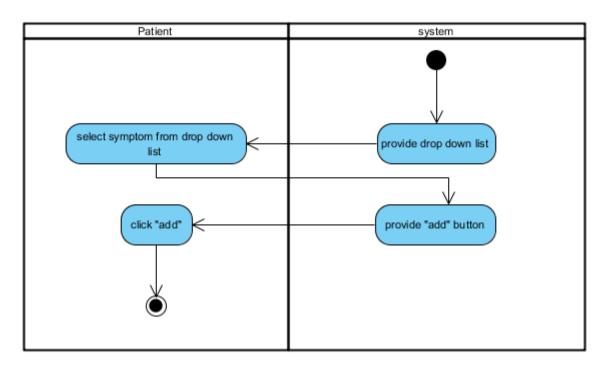


Figure 18: AD: 17: Select the symptoms.

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Use Case ID	UC18				
Use Case Name	Get exercis	e suggestion.			
Created By	Jirayu Chi	Tirayu Chinpongsuwan Last Update By Chinpongsuw			
Date Created	25/4/2016		Last Revision Date	25/4/2016	
Actors	Patient				
Description	Patient can	get the suggestion about	exercise from system	n.	
Trigger	- Patient se	lects health plan link but	ton.		
Preconditions	- Patient lo	gin to the web application	n.		
		Use Case Input Specific	ation		
Input	type	type Constraint Exan			
-	-	-		-	
Post conditions	- Patient ge	ets the suggestion about e	xercise from system.		
Normal Flows		User	Syste	m	
	drop down	elect symptoms on list. lick "select".	 The system shall retrieve of all symptoms from the database. The system shall provide a dropdown list displaying a list of symptoms. The system provide "select button" The system shall display detail table of exercise which includes symptom detail, exercise appropriate, exercise inappropriate, and steps of exercise, when patient select the symptoms success. 		
Alternative Flow	-				
Exception Flow	-				
Assumption	 Users understand English. Patient must be member of web application. 				

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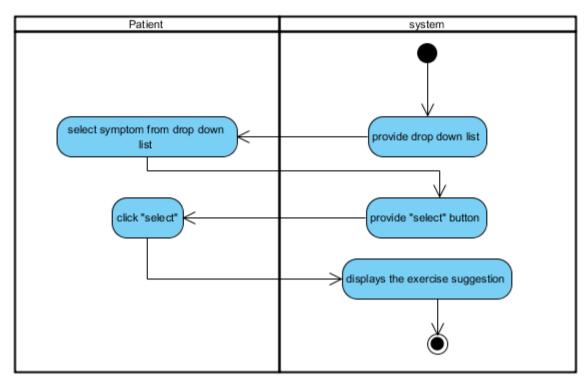


Figure 19: AD: 18: Get exercise suggestion.

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Use Case ID	UC19				
Use Case Name		o record health plan.			
Created By		npongsuwan	Last Update By	Jirayu	
	27/1/2011		5	Chinpongsuwan	
Date Created	25/4/2016		Last Revision Date	25/4/2016	
Actors	Patient				
Description	Patient can	add food from the databa	ase to record in healt	h plan.	
Trigger	- Patient se	lects health plan link butt	on.		
Preconditions	- Patient lo	gin to the Diabetes web a	pplication.		
	·	Use Case Input Specifica	ation		
Input	type	Constra	int	Example	
-	-	-		-	
Post conditions	- Patient ca	n record the foods to heal	Ith plan success.		
Normal Flows		User	Syste	m	
	<mark>dropdown</mark> 1	elect food on list. licks "Add".	 The system shall retrieve of all food names from the database. The system shall provide a dropdown list displaying a list of food name. The system shall provide "Add" button. The system shall record the selected food into the database. The system shall display list of food including food name, food glycemic, and food calories, when success process. 		
Alternative Flow	-				
Exception Flow	-				
Assumption		ers understand English. ers must be member of we	eb application.		

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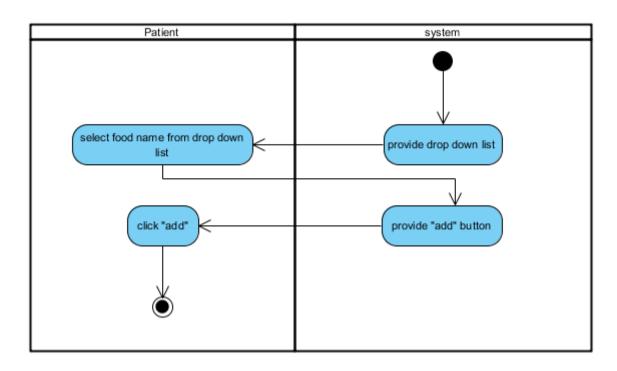


Figure 20: AD: 19: Add food to record health plan.

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Use Case ID	UC20						
Use Case Name	View the a	verage of glycemic index	and calorie.				
Created By	Jirayu Chi	npongsuwan	Last Update By	Jirayu Chinpongsuwan			
Date Created	25/4/2016		Last Revision Date	25/4/2016			
Actors	Patient						
Description	Patient can selected pla	view the average of glycan.	cemic index and calc	orie of food in the			
Trigger	- Patient se	lects health plan link butt	ton.				
Preconditions	- Patient lo	- Patient login to system.					
		Use Case Input Specifica	ation				
Input	type	Constra	nint	Example			
-	-	-		-			
Post conditions	- The syste	em displays the average of ted plan.	of glycemic index an	d calorie of food			
Normal Flows		User	Syste	m			
		riews the result	1. The system shall properties to display the average glycemic index and of the system shall graph glycemic index and of the from the database. 3. The system shall covalue of glycemic index.	e value of calories of food. get the data of calories of food calculate the			
Alternative Flow	-	,					
Exception Flow	-						
Assumption		ers understand English. ers must be member of we	eb application.				

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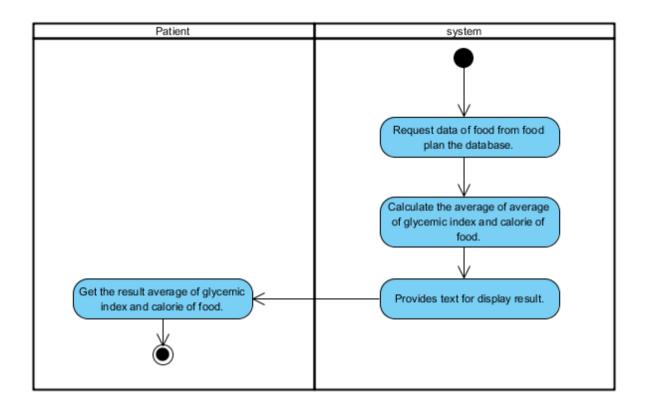


Figure 21: AD: 20: View the average of glycemic index and calorie.

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Use Case ID	UC21			
Use Case Name	Delete food	d from health plan		
Created By	Jirayu Chi	npongsuwan	Last Update By	Jirayu Chinpongsuwan
Date Created	25/4/2016		Last Revision Date	25/4/2016
Actors	Patient			
Description	Patient can	delete food from health	n plan.	
Trigger	- Patient se	lects health plan link bu	itton.	
Preconditions	- Patient lo	gin to system.		
		Use Case Input Specifi	cation	
Input	type	Const	Example	
-	-	-		-
Post conditions	- Patient ca	in delete food from his l	nealth plan success.	
Normal Flows		User	Syste	em
	3. Patient click delete.		 The system shall pof food name to the The system shall probutton. The system shall probutton. The system shall of from the database. 	patient. ovide delete
Alternative Flow	-			
Exception Flow	-			
Assumption		ers understand English.	1 1'	
	4. Use	ers must be Patient of w	eb application.	

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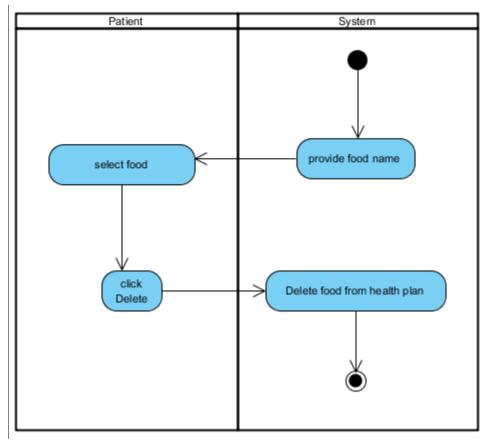


Figure 22: AD: 21: Delete food from health plan.

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Use Case ID	UC22			
Use Case Name	Add glycer	nic.		
Created By	Jirayu Chi	npongsuwan	Last Update By	Jirayu Chinpongsuwan
Date Created	25/4/2016		Last Revision Date	25/4/2016
Actors	Patient			
Description	Patient can	record blood sugar valu	e to the database.	
Trigger	- Patient se	lects health plan link bu	tton.	
Preconditions	- Patient lo	gin to system.		
		Use Case Input Specific	cation	
Input	type	Constr	raint	Example
Blood sugar	double	double - Must not input negative value 102.00 - Must input to be number		
Post conditions	- Patient can add the blood sugar value to the system success.			
Normal Flows	User System			m
	3. Patient ivalue.4. Patient o	nput blood sugar click add.	5. The system shall y data. 6. The system shall r database	provide button
Alternative Flow	In normal flow step 5. If the patient input wrong format blood sugar. The system display error message "blood sugar is invalid" 1. The patient must input data again. 2. The system shall resume to step 3 of normal flow In normal flow step 5. If the patient input blood sugar minus value. 1. The system display error message "blood sugar cannot be negative". 2. The system shall resume to step 3 of normal flow			
Exception Flow Assumption	1. Use	ers understand English.		
r		ers must be member of w	veb application.	

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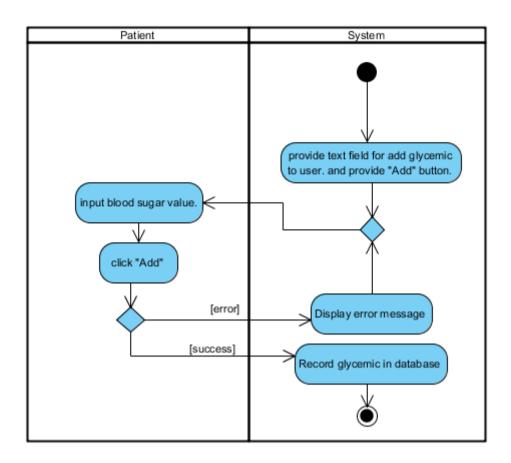


Figure 23: AD: 22: of Add glycemic.

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Use Case ID	UC23			
Use Case Name	View BMI			
Created By	Jirayu Chi	npongsuwan	Last Update By	Jirayu Chinpongsuwan
Date Created	25/4/2016		25/4/2016	
Actors	Patient			
Description	(Kg) / (heig	view body mass value ght (m) * height (m)).		ng BMI = weight
Trigger	- Patient se	lects health plan link b	utton.	
Preconditions	- Patient lo	gin to system.		
		Use Case Input Specif	ication	
Input	type	Const	traint	Example
-	-	-	-	
Post conditions	Patient can	view body mass value.		,
Normal Flows		User	Syste	em
	5. Patient v	riews the result of	1. The system shall provided in the system shall grade weight and height of database. 3. The system shall crusing BMI = weight (m) * height (m)). 4. The system shall cross the system shall cross the system shall cross the label.	get the data of patient from the calculated by (Kg) / (height
Alternative Flow	-		ı	
Exception Flow	-			
Assumption		ers understand English. ers must be member of	web application.	

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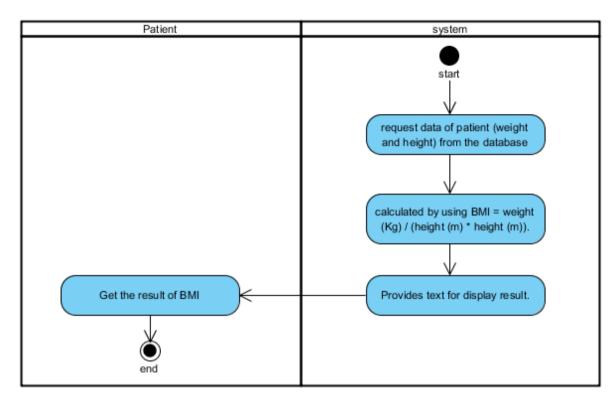


Figure 24: AD: 23: View BMI.

Document Name	Diabetes-SRS -v.0.2docx	Owner	Jirayu Chinpongsuwan	Page	78 / 90
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Use Case Name View BMR. Created By Jirayu Chinpongsuwan Last Update By Dirayu Chinpongsuwar Chinpongsuwar 25/4/2016 Date Created $25/4/2016$ Last Revision Date 25/4/2016 Actors Patient $25/4/2016$ Description Patient can view body mass value that calculated by using BMR(male) = $666 + (13.7 \times weight(kg)) + (5 \times (height(cm)) - (6.8 \times age)$ Or BMR(female) = $665 + (9.6 \times weight(kg)) + (1.8 \times (height(cm)) - (4.7 \times age)$ Trigger - Patient login to system. Use Case Input Specification Input type Constraint Example - - Post conditions Patient can view basal metabolic rate. Normal Flows User System 1. The system shall provide label to display BMR value. 2. The system shall get the data of weight, height, gender, and age of patient from the database. 3. The system shall calculated by using BMR(male) = $66 + (13.7 \times weight(kg)) + (5 \times (height(cm)) - (6.8 \times age)$ Or BMR(female) = $665 + (9.6 \times weight(kg)) + (1.8 \times (height(cm)) - (4.7 \times age)$ 4. The system shall display result of BMR on the label.	Use Case ID	UC24					
Date Created 25/4/2016 Last Revision 25/4/2016 Actors Patient Description Patient can view body mass value that calculated by using BMR(male) = $66 + (13.7 \times weight(kg)) + (5 \times (height(cm)) - (6.8 \times age)$ or BMR(female) = $665 + (9.6 \times weight(kg)) + (1.8 \times (height(cm)) - (4.7 \times age)$. Trigger - Patient selects health plan link button. Preconditions - Patient login to system. Use Case Input Specification Input type Constraint Example	Use Case Name	View BMR					
Date Created 25/4/2016 Last Revision Date Date Date Date Date Date Date Date	Created By	Jirayu Chin				Jirayu Chinpongsuwan	
Description Patient can view body mass value that calculated by using $BMR(male) = 666 + (13.7 \times weight(kg)) + (5 \times (height(cm)) - (6.8 \times age)$ or $BMR(female) = 665 + (9.6 \times weight(kg)) + (1.8 \times (height(cm)) - (4.7 \times age).$ Trigger - Patient selects health plan link button. Preconditions - Patient login to system. Use Case Input Specification Input type Constraint Example	Date Created	25/4/2016			Revision	i i	
$BMR(male) = \\ 66 + (13.7 \times weight(kg)) + (5 \times (height(cm)) - (6.8 \times age)) \\ or \\ BMR(female) = 665 + (9.6 \times weight(kg)) + (1.8 \times (height(cm)) - (4.7 \times age)). \\ Trigger - Patient selects health plan link button. \\ Preconditions - Patient login to system. \\ Use Case Input Specification \\ Input - type - Constraint - Example \\ Post conditions - Patient can view basal metabolic rate. \\ Normal Flows - User - System$	Actors	Patient					
	Description	BMR(male	e) =	$)+(5\times(he)$	-		
Preconditions - Patient login to system. Use Case Input Specification Input type Constraint Example		(height(d	(m) $-(4.7 \times ag)$	e).	(kg) + (1.	8 ×	
Use Case Input Specification Input type Constraint Example Post conditions Patient can view basal metabolic rate. Normal Flows User System 1. The system shall provide label to display BMR value. 2. The system shall get the data of weight, height, gender, and age of patient from the database. 3. The system shall calculated by using BMR(male) = $66 + (13.7 \times weight(kg)) + (5 \times (height(cm)) - (6.8 \times age)$ Or BMR(female) = $665 + (9.6 \times weight(kg)) + (1.8 \times (height(cm)) - (4.7 \times age)$ 4. The system shall display result of BMR on the label.	Trigger	- Patient se	- Patient selects health plan link button.				
Input type Constraint Example	Preconditions	- Patient login to system.					
Post conditions Patient can view basal metabolic rate. Normal Flows User System 1. The system shall provide label to display BMR value. 2. The system shall get the data of weight, height, gender, and age of patient from the database. 3. The system shall calculated by using BMR(male) = $66 + (13.7 \times weight (kg)) + (5 \times (height(cm)) - (6.8 \times age)$ Or BMR(female) = $665 + (9.6 \times weight (kg)) + (1.8 \times (height(cm)) - (4.7 \times age)$ 4. The system shall display result of BMR on the label.			Use Case Input Sp	ecification			
Post conditions Patient can view basal metabolic rate. Normal Flows User System 1. The system shall provide label to display BMR value. 2. The system shall get the data of weight, height, gender, and age of patient from the database. 3. The system shall calculated by using BMR(male) = $66 + (13.7 \times weight (kg)) + (5 \times (height(cm)) - (6.8 \times age)$ Or BMR(female) = $665 + (9.6 \times weight (kg)) + (1.8 \times (height(cm)) - (4.7 \times age)$ 4. The system shall display result of BMR on the label.	Input	type	C	onstraint	onstraint Example		
Normal Flows User System 1. The system shall provide label to display BMR value. 2. The system shall get the data of weight, height, gender, and age of patient from the database. 3. The system shall calculated by using BMR(male) = $66 + (13.7 \times weight(kg)) + (5 \times (height(cm)) - (6.8 \times age)$ Or BMR(female) = $665 + (9.6 \times weight(kg)) + (1.8 \times (height(cm)) - (4.7 \times age)$ 4. The system shall display result of BMR on the label. 5. Patient views the result of	-	-	-		-		
1. The system shall provide label to display BMR value. 2. The system shall get the data of weight, height, gender, and age of patient from the database. 3. The system shall calculated by using BMR(male) = 66 + (13.7 × weight (kg)) + (5 × (height(cm)) - (6.8 × age) Or BMR(female) = 665 + (9.6 × weight (kg)) + (1.8 × (height(cm)) - (4.7 × age) 4. The system shall display result of BMR on the label.	Post conditions	Patient can v	view basal metabol	ic rate.			
display BMR value. 2. The system shall get the data of weight, height, gender, and age of patient from the database. 3. The system shall calculated by using BMR(male) = 66 + (13.7 × weight (kg)) + (5 × (height(cm)) - (6.8 × age) Or BMR(female) = 665 + (9.6 × weight (kg)) + (1.8 × (height(cm)) - (4.7 × age) 4. The system shall display result of BMR on the label. 5. Patient views the result of	Normal Flows		User		System	1	
Alternative Flow -			ews the result of	display BM 2. The syste weight, heig patient from 3. The syste BMR(male) weight (kg (6.8 × age Or BMR(fer (9.6 × weig (height(cm 4. The syste	R value. Im shall get ght, gender, a the database m shall calcondrive $(x,y) + (5 \times 1)$ Imale	the data of and age of se. culated by using .3.7 × (height(cm)) - 5 + - (1.8 × × age)	

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Exception Flow	-
Assumption	1. Users understand English.
	2. Users must be member of web application.

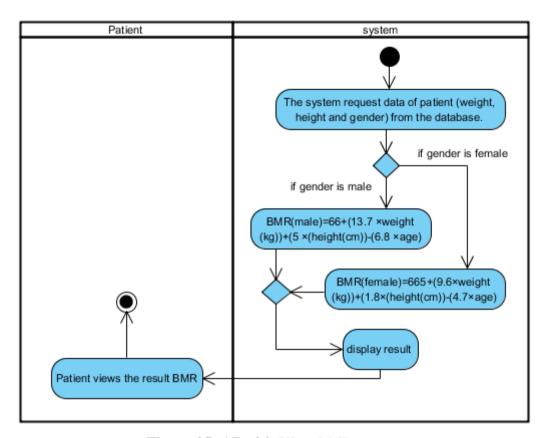


Figure 25: AD: 24: View BMR.

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Use Case ID	UC25					
Use Case Name	View blood sugar graph.					
Created By	Jirayu Chi	npongsuwan	Jirayu Chinpongsuwan			
Date Created	25/4/2016		Last Revision Date	25/4/2016		
Actors	Patient					
Description	Patient can blood sugar	view statistic line graph r.	x = x = x = x = x = x = x = x = x = x =	alue, $y = date$) of		
Trigger	- Patient se	lects health plan link butt	ton.			
Preconditions	- Patient lo	gin to system.				
		Use Case Input Specifica	ation			
Input	type Constraint			Example		
-	-	-		-		
Post conditions	- Display b	lood sugar value and bod	y mass value on grap	oh.		
Normal Flows		User	Syste	m		
	4. The pation of the graph.		1. The system shall predisplay line graph (xwalue, y = date). 2. The system requesting sugar value from the 3. The system shall contained are graph (walue, y = date).	= blood sugar at data of blood database. lisplay blood		
Alternative Flow	-					
Exception Flow	- 4 77					
Assumption		ers understand English. ers must be Patient of web	application.			

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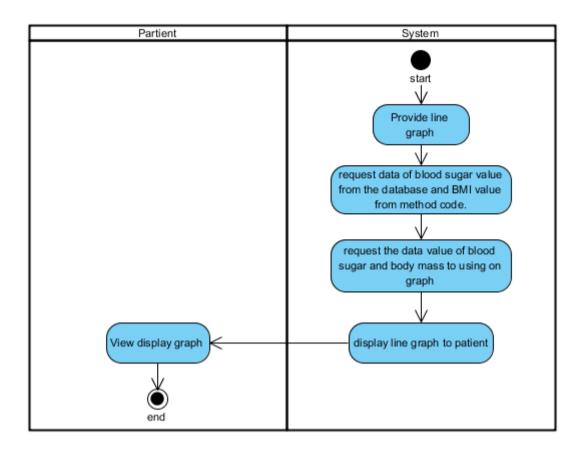


Figure 26: AD: 25: View glycemic graph.

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UC26						
View interp	View interpretation of blood sugar.					
Jirayu Chi	npongsuwan	Jirayu Chinpongsuwan				
25/4/2016		Last Revision Date	25/4/2016			
Patient						
Patient can	view interpretation about	out blood sugar level fi	rom system.			
- Patient se	lects health plan link bu	utton.				
- Patient lo	gin to system.					
-L	Use Case Input Specif	ication				
type	Const	Example				
-	-		-			
- Patient ge	ets interpretation about	blood sugar level from	system.			
	User	Syste	m			
4. The patient view display of		 The system shall provide text area. The system request data for gets interpretation about blood sugar level from database. The system display data on text area. 				
level on tex	kt area.					
-						
-						
	_					
	View interpolation View interpolation View interpolation Chiral Patient Can Patient can Patient see Patient look type - Patient get 4. The patient get - Look Chiral Patient get -	View interpretation of blood sugar Jirayu Chinpongsuwan 25/4/2016 Patient Patient can view interpretation about Patient selects health plan link by Patient login to system. Use Case Input Specification about User 4. The patient view display of interpretation about blood sugar level on text area. - 1. Users understand English.	View interpretation of blood sugar. Jirayu Chinpongsuwan Last Update By 25/4/2016 Last Revision Date Patient Patient can view interpretation about blood sugar level form. - Patient login to system. Use Case Input Specification type Constraint - Patient gets interpretation about blood sugar level from User System 1. The system shall properties of the system request interpretation about blood sugar level from database. 3. The system displate area. 4. The patient view display of interpretation about blood sugar level on text area.			

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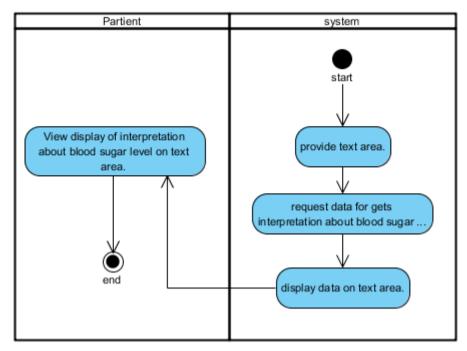


Figure 27: AD: 26: View interpretation of blood sugar.

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Document Type	Software Requirement Specification	Release Date	November 3,2016	Print Date	November 3,2016

Use Case ID	UC27					
Use Case Name	Patient sele	ect food name from the	database.			
Created By	Jirayu Chinpongsuwan Last Update By			Jirayu Chinpongsuwan		
Date Created	25/4/2016	25/4/2016 Last Revision Date				
Actors	Patient					
Description	Patient can	select food name eat in	that day from the data	abase.		
Trigger	- Patient se	elects behavior monitor	link button.			
Preconditions	- Patient login to system.					
		Use Case Input Specif	ication			
Input	type Constraint Ex					
-	-	-		-		
Post conditions	- Patient se	elect food success.				
	User System					
Normal Flows		User	Syste	m		
Normal Flows		User must select food. must click "select".	Syste 1. The system shall refood names from the 2. The system shall redropdown list display name. 3. The system shall rebutton. 4. The system shall reselected food into the 5. The system shall of food.	etrieve of all database. brovide a ying a list of food brovide "select"		
Normal Flows Alternative Flow		nust select food.	 The system shall refood names from the 2. The system shall pedropdown list display name. The system shall pedropdown. 	etrieve of all database. brovide a ying a list of food brovide "select"		
	3. Patient r	nust select food.	 The system shall refood names from the 2. The system shall pedropdown list display name. The system shall pedropdown. 	etrieve of all database. brovide a ying a list of food brovide "select"		

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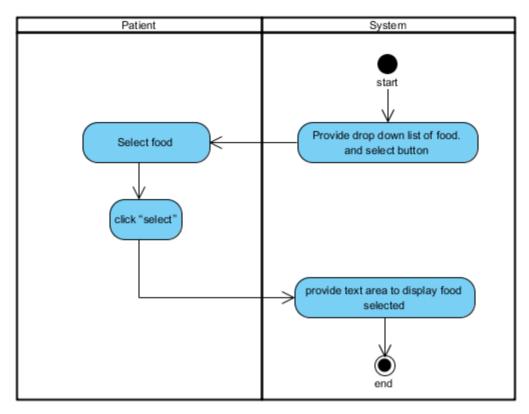


Figure 28: AD: 27: Patient select food name from the database.

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Use Case ID	UC28						
Use Case Name	The patient	The patient can daily record the consumed medicine.					
Created By	Jirayu Chi	npongsuwan	Jirayu Chinpongsuwan				
Date Created	25/4/2016		Last Revision Date	25/4/2016			
Actors	Patient						
Description	Patient can	check the list of medic	ine on behavior monit	or page.			
Trigger	- Patient se	lects behavior monitor	link button.				
Preconditions	- Patient lo	gin to system.					
		Use Case Input Specif	ication				
Input	type	Const	raint	Example			
-	-	-		-			
Post conditions	- Patient ch	neck list medicine succe	ess.				
Normal Flows		User	Syste	m			
	4. Patient s	elect list of medicine.	 The system shall retrieve the list of medicine of a patient from the database. The system shall display a check list of patient's medicine. The system shall provide a "save" button. The system shall save the consumed medicine into the database. 				
Alternative Flow	-						
Exception Flow	-						
Assumption		ers understand English.					
	2. Use	ers must be member of	web application.				

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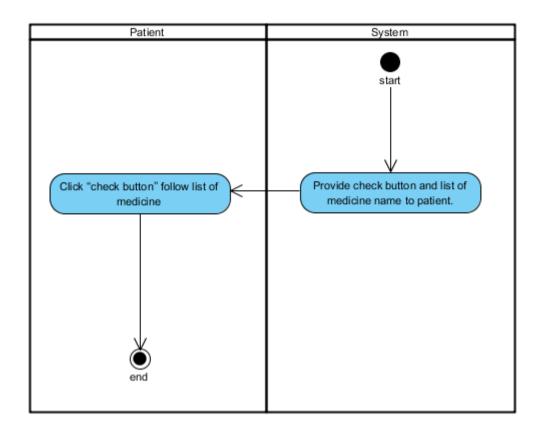


Figure 29: AD: 28: Patient can check the list of medicine.

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Use Case ID	UC29				
Use Case Name	Analyze.				
Created By	Jirayu Chi	npongsuwan	Last Update By	Jirayu Chinpongsuwan	
Date Created	25/4/2016		Last Revision Date	25/4/2016	
Actors	Patient				
Description	monitor pa			day on behavior	
Trigger	- Patient se	lects behavior monitor l	link button.		
Preconditions	- Patient lo	gin to system.			
		Use Case Input Specifi	cation		
Input	type	Const	raint	Example	
-				-	
Post conditions	- Patient ca	n get analyze of nutrition	on behavior from syste	em.	
Normal Flows		User	Syste	em	
	1. The system shall provide UI display analyze result 2. The system request data of for and medicine to analyze 3. The system display analyze on UI (color red, color yellow, green) 4. The patient get analyze result from the system.			t st data of food yze y analyze result	
Alternative Flow	 In normal flow step 3. The system shall display analyze result green color, when the user gets glycemic index value less than 120 and check all list of medicine. The system shall display analyze result yellow color, when the user gets glycemic index value more than 120 and check all list of medicine or get glycemic index value less than 120 and not check all list of medicine. The system shall display analyze result red color, when the user gets glycemic index value more than 120 and not check all list of medicine. 				
Exception Flow Assumption	- 1 Hee	ere understand English			
Assumption	 Users understand English. Users must be member of web application. 				

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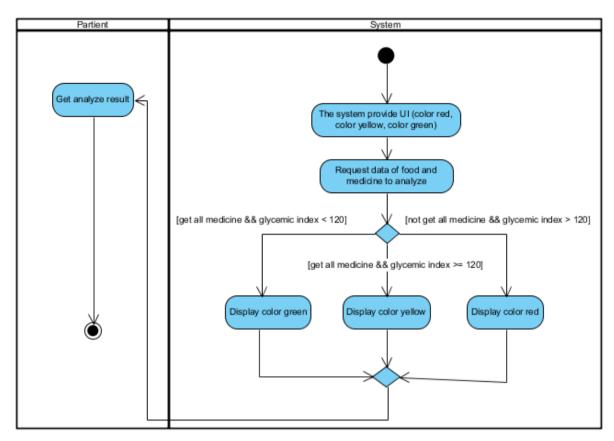


Figure 30: AD: 29: Analyze.

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Use Case ID	UC30					
Use Case Name	View the d	View the daily graph of glycemic level.				
Created By	Jirayu Chinpongsuwan		Last Update By	Jirayu Chinpongsuwan		
Date Created	25/4/2016		Last Revision Date	25/4/2016		
Actors	Patient					
Description	monitor pa	ge.	ly graph of glycemic lo	evel on behavior		
Trigger	- Patient se	lects behavior monit	tor link button.			
Preconditions	- Patient lo	gin to system.				
		Use Case Input Spe	cification			
Input	type	Co	onstraint	Example		
-	-	-		-		
Post conditions	- Patient ca	n view the daily gra	ph of glycemic level.	<u> </u>		
Normal Flows		User Syste		em		
	5. The patiegraph.	ent view display	 The system shall predisplay line graph(x value, y = date). The system gets daindex from the databes The system shall confidence index of form the system shall confidence index of glycemic index of glycemic value on glycemic value, y = 6 	e glycemic ata of glycemic ase. calculate the total od. lisplay the total a line graph(x =		
Alternative Flow	-		1			
Exception Flow	-					
Assumption						

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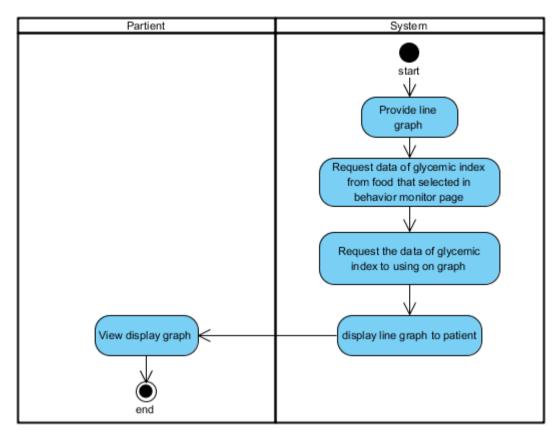


Figure 31: AD: 30: View the daily graph of glycemic level.

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