Traceability

Diabetes Care

By

**Jirayu Chinpongsuwan 552115011**

Department of Software Engineering

College of Arts, Media and Technology

Chiang Mai University

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**Project Advisor**

Dr. Prompong Sugunnasil

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\*PS: Dr. Prompong Sugunnasil

\*JC: Mr. Jirayu Chinpongsuwan

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**Chapter One | Introduction**

**1.1. Purpose**

Traceability refers to the ability of the system (iOS & web application) requirements back to stakeholders’ rationales and forward to corresponding design artifacts, code, and test cases. The purpose of the traceability record document is to show the relationship between user requirement specification, system requirement specification, use case, activity diagram, user interface, sequence diagram and test cases.

**1.2. Project Scope**

"Diabetes Care" can help to control and follow the blood sugar level and get the recommend about the symptom, warning in each level of blood sugar from this application.

Diabetes Care is a Web application that can support all devices (desktops, tablets, and phones). “Diabetes Care” supports all devices are mean the web application can run on program web browser from desktops, tablets, and phones

The main feature of “Diabetes Care” are as follows:

* Authentication system.
* Account management.
* Nutrition management.
* Activity management.
* Activity plan and recommend system.
* Nutrition plan.
* Health monitor system.
* Behavior monitor system.

**Chapter Two | Traceability Record Table**

**2.1. Table: URS-UC-SRS-AD-SD-UI**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **URS** | **Description** | **UC** | **SRS** | **AD** | **SD** | **UI** |
| **1** | URS-01 | The user can log in to a web application by suing username and password | UC-01 | SRS-01, SRS-02, SRS-03, SRS-04, SRS-05, SRS-06, SRS-07, SRS-08, SRS-09, SRS-10 | AD-01 | SD-02 | UI-01 |
| **2** | URS-02 | The user can log out from a web application. | UC-02 | SRS-11, SRS-12 | AD-02 | SD-03 | UI-02 |
| **3** | URS-03 | The doctor and nurse can enter patient (username, password, name, age, gender, weight, height, diabetes type and date that start treatment) to the database server on a web application | UC-03 | SRS-13, SRS-14, SRS-15, SRS-16, SRS-17, SRS-18, SRS-19, SRS-20, SRS-21, SRS-22  SRS-23, SRS-24, SRS-25, SRS-26, SRS-27, SRS-28, SRS-29, SRS-30, SRS-31, SRS-32  SRS-33, SRS-34, SRS-35, SRS-36, SRS-37 | AD-03 | SD-01 | UI-03 |
| **4** | URS-04 | The doctor and nurse can access to patient information. | UC-04 | SRS-38, SRS-39, SRS-40, SRS-41, SRS-42, SRS-43, SRS-44 | AD-04 |  |  |
| **5** | URS-05 | The patient can view information of his on profile page. | UC-05 | SRS-45, SRS-46, SRS-47, | AD-05 | SD-04 | UI-04 |
| **6** | URS-06 | The patient can edit information on profile page. | UC-06 | SRS-14, SRS-48, SRS-49, SRS-50, SRS-51, SRS-52, SRS-53 | AD-06 | SD-05 | UI-05 |
| **7** | URS-07 | The patient can change the password for login. | UC-07 | SRS-14, SRS-54, SRS-55, SRS-56, SRS-57, SRS-58, SRS-59  SRS-60 | AD-07 | SD-06 | UI-06 |
| **8** | URS-08 | The admin can add nurse, doctor, and nutritionists account to the system on administrator page. | UC-08 | SRS-14, SRS-61, SRS-62, SRS-63, SRS-64, SRS-65, SRS-66,  SRS-67, SRS-68,  SRS-69 | AD-08 | SD-13 | UI-07. UI-08 |
| **9** | URS-09 | The admin can edit nurse, doctor, and nutritionists account on administrator page. | UC-09 | SRS-14, SRS-64, SRS-65, SRS-70, SRS-71, SRS-72, SRS-73,  SRS-74 | AD-09 | SD-14 | UI-07. UI-08 |
| **10** | URS-10 | The admin can delete nurse, doctor, and nutritionists account from the system on administrator page. | UC-10 | SRS-75, SRS-76,  SRS-77 | AD-10 | SD-15 | UI-07. UI-08 |
| **11** | URS-11 | The nutritionists can add food to the system on nutrition management page | UC-11 | SRS-78, SRS-79,  SRS-80, SRS-81, SRS-82,  SRS-83. SRS-84, SRS-85,  SRS-86 | AD-11 | SD-07 | UI-09 |
| **12** | URS-12 | The nutritionists can edit food on nutrition management page. | UC-12 | SRS-81, SRS-82,  SRS-83, SRS-84, SRS-87,  SRS-88. SRS-89, SRS-90,  SRS-91 | AD-12 | SD-08 | UI-10 |
| **13** | URS-13 | The nutritionists can delete food from the system on nutrition management page. | UC-13 | SRS-75, SRS-92,  SRS-93 | AD-13 | SD-09 | UI-11 |
| **14** | URS-14 | The nurse and doctor can add the exercise recommend to the system on exercise management page. | UC-14 | SRS-79. SRS-94, SRS-95,  SRS-96 | AD-14 | SD-10 | UI-13. UI-14 |
| **15** | URS-15 | The nurse and doctor can edit the exercise recommend on exercise management page. | UC-15 | SRS-88. SRS-96, SRS-97,  SRS-98 | AD-15 | SD-11 | UI-13. UI-15 |
| **16** | URS-16 | The nurse and doctor can delete the exercise recommend from the system on exercise management page. | UC-16 | SRS-75. SRS-97, SRS-98 | AD-16 | SD-12 | UI-13 |
| **17** | URS-17 | The patient t can select the symptoms on health plan page. | UC-17 | SRS-99. SRS-100, SRS-101 | AD-17 |  | UI-12 |
| **18** | URS-18 | The patient can get the suggestion about exercise from the system. | UC-18 | SRS-102 | AD-18 |  | UI-12 |
| **19** | URS-19 | The patient can add food from the database to record in a health plan. | UC-19 | SRS-103. SRS-104, SRS-105. SRS-106, SRS-107 | AD-19 | SD-16 | UI-12 |
| **20** | URS-20 | The patient can view the total of glycemic index and calorie of food that selected in health plan. | UC-20 | SRS-108, SRS-109 | AD-20 |  | UI-12 |
| **21** | URS-21 | The patient can delete a food from the health plan. | UC-21 | SRS-75, SRS-110, SRS-111 | AD-21 | SD-17 | UI-12 |
| **22** | URS-22 | The patient can record blood sugar value to the database. | UC-22 | SRS-112, SRS-113, SRS-114, SRS-115, SRS-116, SRS-117 | AD-22 | SD-19 | UI-12 |
| **23** | URS-23 | The patient can view body mass index. | UC-23 | SRS-118, SRS-119 | AD-23 | SD-18 | UI-12 |
| **24** | URS-24 | The patient can view [basal metabolic rate](http://kcal.memo8.com/bmr/). | UC-24 | SRS-120, SRS-121 | AD-24 | SD-18 | UI-12 |
| **25** | URS-25 | The patient can view the statistic line graph of blood sugar. | UC-25 | SRS-122, SRS-123 | AD-25 | SD-20 | UI-12 |
| **26** | URS-26 | The patient can view interpretation about blood sugar level from the system. | UC-26 | SRS-122, SRS-124 | AD-26 | SD-21 | UI-12 |
| **27** | URS-27 | The patient can select food name from the database. | UC-27 | SRS-125, SRS-126, SRS-127 | AD-27 |  | UI-17 |
| **28** | URS-28 | The patient can check the list of medicine. | UC-28 | SRS-128 | AD-28 |  | UI-17 |
| **29** | URS-29 | The patient can get analyze of nutrition behavior in each day. | UC-29 | SRS-129, SRS-130, SRS-131, SRS-132 | AD-29 |  | UI-17 |
| **30** | URS-30 | The patient can view the daily graph of the glycemic level. | UC-30 | SRS-133, SRS-134, SRS-135 | AD-30 |  | UI-17 |

Table 1: URS-UC-SRS-AD-SD-UI

**Use Case and User Requirement Specification.**

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| **Use Case (UC)** | **URS**  **1** | **URS**  **2** | **URS**  **3** | **URS**  **4** | **URS**  **5** | **URS**  **6** | **URS**  **7** | **URS**  **8** | **URS**  **9** | **URS**  **10** | **URS**  **11** | **URS**  **12** | **URS**  **13** | **URS**  **14** | **URS**  **15** | **URS**  **16** | **URS**  **17** |
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| 07 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| 12 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **Use Case (UC)** | **URS**  **18** | **URS**  **19** | **URS**  **20** | **URS**  **21** | **URS**  **22** | **URS**  **23** | **URS**  **24** | **URS**  **25** | **URS**  **26** | **URS**  **27** | **URS**  **28** | **URS**  **29** | **URS**  **30** |  |  |  |  |
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| 26 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 27 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 28 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 29 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 30 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

# User Requirement Specification and Software Requirement Specification

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| **No.** | **URS Description** | **SRS**  **001** | **SRS**  **002** | **SRS**  **003** | **SRS**  **004** | **SRS**  **005** | **SRS**  **006** | **SRS**  **007** | **SRS**  **008** | **SRS**  **009** | **SRS**  **010** | **SRS**  **011** | **SRS**  **012** | **SRS**  **013** | **SRS**  **014** | **SRS**  **015** |
| 1 | The user can log in to a web application by suing username and password |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 | The user can log out from a web application. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | The doctor and nurse can enter patient (username, password, name, age, gender, weight, height, diabetes type and date that start treatment) to the database server on a web application |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 | The doctor and nurse can access to patient information. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 | The patient can view information of his on profile page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | The patient can edit information on profile page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 | The patient can change the password for login. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 | The admin can add nurse, doctor, and nutritionists account to the system on administrator page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 | The admin can edit nurse, doctor, and nutritionists account on administrator page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **URS Description** | **SRS**  **016** | **SRS**  **017** | **SRS**  **018** | **SRS**  **019** | **SRS**  **020** | **SRS**  **021** | **SRS**  **022** | **SRS**  **023** | | **SRS**  **024** | **SRS**  **025** | **SRS**  **026** | **SRS**  **027** | **SRS**  **028** | **SRS**  **029** | **SRS**  **030** |
| 1 | The user can log in to a web application by suing username and password |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |
| 2 | The user can log out from a web application. |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |
| 3 | The doctor and nurse can enter patient (username, password, name, age, gender, weight, height, diabetes type and date that start treatment) to the database server on a web application |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |
| 4 | The doctor and nurse can access to patient information. |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |
| 5 | The patient can view information of his on profile page. |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |
| 6 | The patient can edit information on profile page. |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |
| 7 | The patient can change the password for login. |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |
| 8 | The admin can add nurse, doctor, and nutritionists account to the system on administrator page. |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |
| 9 | The admin can edit nurse, doctor, and nutritionists account on administrator page. |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |

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| **No.** | **URS Description** | **SRS**  **031** | **SRS**  **032** | **SRS**  **033** | **SRS**  **034** | **SRS**  **035** | **SRS**  **036** | **SRS**  **037** | **SRS**  **038** | **SRS**  **039** | **SRS**  **040** | **SRS**  **041** | **SRS**  **042** | **SRS**  **043** | **SRS**  **044** | **SRS**  **045** |
| 1 | The user can log in to a web application by suing username and password |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 | The user can log out from a web application. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | The doctor and nurse can enter patient (username, password, name, age, gender, weight, height, diabetes type and date that start treatment) to the database server on a web application |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 | The doctor and nurse can access to patient information. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 | The patient can view information of his on profile page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | The patient can edit information on profile page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 | The patient can change the password for login. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 | The admin can add nurse, doctor, and nutritionists account to the system on administrator page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 | The admin can edit nurse, doctor, and nutritionists account on administrator page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **URS Description** | **SRS**  **46** | **SRS**  **47** | **SRS**  **48** | **SRS**  **49** | **SRS**  **050** | **SRS**  **051** | **SRS**  **052** | **SRS**  **053** | **SRS**  **054** | **SRS**  **055** | **SRS**  **056** | **SRS**  **057** | **SRS**  **058** | **SRS**  **059** | **SRS**  **060** |
| 1 | The user can log in to a web application by suing username and password |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 | The user can log out from a web application. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | The doctor and nurse can enter patient (username, password, name, age, gender, weight, height, diabetes type and date that start treatment) to the database server on a web application |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 | The doctor and nurse can access to patient information. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 | The patient can view information of his on profile page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | The patient can edit information on profile page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 | The patient can change the password for login. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 | The admin can add nurse, doctor, and nutritionists account to the system on administrator page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 | The admin can edit nurse, doctor, and nutritionists account on administrator page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **URS Description** | **SRS**  **061** | **SRS**  **062** | **SRS**  **063** | **SRS**  **064** | **SRS**  **065** | **SRS**  **066** | **SRS**  **067** | **SRS**  **068** | **SRS**  **069** | **SRS**  **070** | **SRS**  **071** | **SRS**  **072** | **SRS**  **073** | **SRS**  **074** | **SRS**  **075** |
| 1 | The user can log in to a web application by suing username and password |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 | The user can log out from a web application. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | The doctor and nurse can enter patient (username, password, name, age, gender, weight, height, diabetes type and date that start treatment) to the database server on a web application |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 | The doctor and nurse can access to patient information. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 | The patient can view information of his on profile page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | The patient can edit information on profile page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 | The patient can change the password for login. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 | The admin can add nurse, doctor, and nutritionists account to the system on administrator page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 | The admin can edit nurse, doctor, and nutritionists account on administrator |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **URS Description** | **SRS**  **076** | **SRS**  **077** | **SRS**  **078** | **SRS**  **079** | **SRS**  **080** | **SRS**  **081** | **SRS**  **082** | **SRS**  **083** | **SRS**  **084** | **SRS**  **085** | **SRS**  **086** | **SRS**  **087** | **SRS**  **088** | **SRS**  **089** | **SRS**  **090** |
| 1 | The user can log in to a web application by suing username and password |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 | The user can log out from a web application. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | The doctor and nurse can enter patient (username, password, name, age, gender, weight, height, diabetes type and date that start treatment) to the database server on a web application |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 | The doctor and nurse can access to patient information. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 | The patient can view information of his on profile page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | The patient can edit information on profile page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 | The patient can change the password for login. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 | The admin can add nurse, doctor, and nutritionists account to the system on administrator page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 | The admin can edit nurse, doctor, and nutritionists account on administrator |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **URS Description** | **SRS**  **091** | **SRS**  **092** | **SRS**  **093** | **SRS**  **094** | **SRS**  **095** | **SRS**  **096** | **SRS**  **097** | **SRS**  **098** | **SRS**  **099** | **SRS**  **100** | **SRS**  **101** | **SRS**  **102** | **SRS**  **103** | **SRS**  **104** | **SRS**  **105** |
| 1 | The user can log in to a web application by suing username and password |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 | The user can log out from a web application. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | The doctor and nurse can enter patient (username, password, name, age, gender, weight, height, diabetes type and date that start treatment) to the database server on a web application |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 | The doctor and nurse can access to patient information. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 | The patient can view information of his on profile page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | The patient can edit information on profile page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 | The patient can change the password for login. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 | The admin can add nurse, doctor, and nutritionists account to the system on administrator page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 | The admin can edit nurse, doctor, and nutritionists account on administrator |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **URS Description** | **SRS**  **106** | **SRS**  **107** | **SRS**  **108** | **SRS**  **109** | **SRS**  **110** | **SRS**  **111** | **SRS**  **112** | **SRS**  **113** | **SRS**  **114** | **SRS**  **115** | **SRS**  **116** | **SRS**  **117** |
| 1 | The user can log in to a web application by suing username and password |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 | The user can log out from a web application. |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | The doctor and nurse can enter patient (username, password, name, age, gender, weight, height, diabetes type and date that start treatment) to the database server on a web application |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 | The doctor and nurse can access to patient information. |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 | The patient can view information of his on profile page. |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | The patient can edit information on profile page. |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 | The patient can change the password for login. |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 | The admin can add nurse, doctor, and nutritionists account to the system on administrator page. |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 | The admin can edit nurse, doctor, and nutritionists account on administrator |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **URS Description** | **SRS**  **001** | **SRS**  **002** | **SRS**  **003** | **SRS**  **004** | **SRS**  **005** | **SRS**  **006** | **SRS**  **007** | **SRS**  **008** | **SRS**  **009** | **SRS**  **010** | **SRS**  **011** | **SRS**  **012** | **SRS**  **013** | **SRS**  **014** | **SRS**  **015** |
| 10 | The admin can delete nurse, doctor, and nutritionists account from the system on administrator page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11 | The nutritionists can add food to the system on nutrition management page |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12 | The nutritionists can edit food on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 13 | The nutritionists can delete food from the system on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 | The nurse and doctor can add the exercise recommend to the system on exercise management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15 | The nurse and doctor can edit the exercise recommend on exercise management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 16 | The nurse and doctor can delete the exercise recommend from the system on exercise management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 17 | The patient t can select the symptoms on health plan page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **URS Description** | **SRS**  **016** | **SRS**  **017** | **SRS**  **018** | **SRS**  **019** | **SRS**  **020** | **SRS**  **021** | **SRS**  **022** | **SRS**  **023** | **SRS**  **024** | **SRS**  **025** | **SRS**  **026** | **SRS**  **027** | **SRS**  **028** | **SRS**  **029** | **SRS**  **030** |
| 10 | The admin can delete nurse, doctor, and nutritionists account from the system on administrator page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11 | The nutritionists can add food to the system on nutrition management page |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12 | The nutritionists can edit food on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 13 | The nutritionists can delete food from the system on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 | The nurse and doctor can add the exercise recommend to the system on exercise management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15 | The nurse and doctor can edit the exercise recommend on exercise management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 16 | The nurse and doctor can delete the exercise recommend from the system on exercise management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 17 | The patient t can select the symptoms on health plan page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **URS Description** | **SRS**  **031** | **SRS**  **032** | **SRS**  **033** | **SRS**  **034** | **SRS**  **035** | **SRS**  **036** | **SRS**  **037** | **SRS**  **038** | **SRS**  **039** | **SRS**  **040** | **SRS**  **041** | **SRS**  **042** | **SRS**  **043** | **SRS**  **044** | **SRS**  **045** |
| 10 | The admin can delete nurse, doctor, and nutritionists account from the system on administrator page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11 | The nutritionists can add food to the system on nutrition management page |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12 | The nutritionists can edit food on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 13 | The nutritionists can delete food from the system on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 | The nurse and doctor can add the exercise recommend to the system on exercise management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15 | The nurse and doctor can edit the exercise recommend on exercise management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 16 | The nurse and doctor can delete the exercise recommend from the system on exercise management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 17 | The patient t can select the symptoms on health plan page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **URS Description** | **SRS**  **046** | **SRS**  **047** | **SRS**  **048** | **SRS**  **049** | **SRS**  **050** | **SRS**  **051** | **SRS**  **052** | **SRS**  **053** | **SRS**  **054** | **SRS**  **055** | **SRS**  **056** | **SRS**  **057** | **SRS**  **058** | **SRS**  **059** | **SRS**  **060** |
| 10 | The admin can delete nurse, doctor, and nutritionists account from the system on administrator page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11 | The nutritionists can add food to the system on nutrition management page |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12 | The nutritionists can edit food on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 13 | The nutritionists can delete food from the system on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 | The nurse and doctor can add the exercise recommend to the system on exercise management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15 | The nurse and doctor can edit the exercise recommend on exercise management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 16 | The nurse and doctor can delete the exercise recommend from the system on exercise management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 17 | The patient t can select the symptoms on health plan page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **URS Description** | **SRS**  **061** | **SRS**  **062** | **SRS**  **063** | **SRS**  **064** | **SRS**  **065** | **SRS**  **066** | **SRS**  **067** | **SRS**  **068** | **SRS**  **069** | **SRS**  **070** | **SRS**  **071** | **SRS**  **072** | **SRS**  **073** | **SRS**  **074** | **SRS**  **075** |
| 10 | The admin can delete nurse, doctor, and nutritionists account from the system on administrator page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11 | The nutritionists can add food to the system on nutrition management page |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12 | The nutritionists can edit food on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 13 | The nutritionists can delete food from the system on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 | The nurse and doctor can add the exercise recommend to the system on exercise management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15 | The nurse and doctor can edit the exercise recommend on exercise management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 16 | The nurse and doctor can delete the exercise recommend from the system on exercise management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 17 | The patient t can select the symptoms on health plan page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **URS Description** | **SRS**  **076** | **SRS**  **077** | **SRS**  **078** | **SRS**  **079** | **SRS**  **080** | **SRS**  **081** | **SRS**  **082** | **SRS**  **083** | **SRS**  **084** | **SRS**  **085** | **SRS**  **086** | **SRS**  **087** | **SRS**  **088** | **SRS**  **089** | **SRS**  **090** |
| 10 | The admin can delete nurse, doctor, and nutritionists account from the system on administrator page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11 | The nutritionists can add food to the system on nutrition management page |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12 | The nutritionists can edit food on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 13 | The nutritionists can delete food from the system on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 | The nurse and doctor can add the exercise recommend to the system on exercise management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15 | The nurse and doctor can edit the exercise recommend on exercise management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 16 | The nurse and doctor can delete the exercise recommend from the system on exercise management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 17 | The patient t can select the symptoms on health plan page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **URS Description** | **SRS**  **091** | **SRS**  **092** | **SRS**  **093** | **SRS**  **094** | **SRS**  **095** | **SRS**  **096** | **SRS**  **097** | **SRS**  **098** | **SRS**  **099** | **SRS**  **100** | **SRS**  **101** | **SRS**  **102** | **SRS**  **103** | **SRS**  **104** | **SRS**  **105** |
| 10 | The admin can delete nurse, doctor, and nutritionists account from the system on administrator page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11 | The nutritionists can add food to the system on nutrition management page |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12 | The nutritionists can edit food on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 13 | The nutritionists can delete food from the system on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 | The nurse and doctor can add the exercise recommend to the system on exercise management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15 | The nurse and doctor can edit the exercise recommend on exercise management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 16 | The nurse and doctor can delete the exercise recommend from the system on exercise management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 17 | The patient t can select the symptoms on health plan page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **URS Description** | **SRS**  **106** | **SRS**  **107** | **SRS**  **108** | **SRS**  **109** | **SRS**  **110** | **SRS**  **111** | **SRS**  **112** | **SRS**  **113** | **SRS**  **114** | **SRS**  **115** | **SRS**  **116** | **SRS**  **117** |
| 10 | The admin can delete nurse, doctor, and nutritionists account from the system on administrator page. |  |  |  |  |  |  |  |  |  |  |  |  |
| 11 | The nutritionists can add food to the system on nutrition management page |  |  |  |  |  |  |  |  |  |  |  |  |
| 12 | The nutritionists can edit food on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |
| 13 | The nutritionists can delete food from the system on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 | The nurse and doctor can add the exercise recommend to the system on exercise management page. |  |  |  |  |  |  |  |  |  |  |  |  |
| 15 | The nurse and doctor can edit the exercise recommend on exercise management page. |  |  |  |  |  |  |  |  |  |  |  |  |
| 16 | The nurse and doctor can delete the exercise recommend from the system on exercise management page. |  |  |  |  |  |  |  |  |  |  |  |  |
| 17 | The patient t can select the symptoms on health plan page. |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **URS Description** | **SRS**  **001** | **SRS**  **002** | **SRS**  **003** | **SRS**  **004** | **SRS**  **005** | **SRS**  **006** | **SRS**  **007** | **SRS**  **008** | **SRS**  **009** | **SRS**  **010** | **SRS**  **011** | **SRS**  **012** | **SRS**  **013** | **SRS**  **014** | **SRS**  **015** |
| 18 | The patient can get the suggestion about exercise from the system. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 19 | The patient can add food from the database to record in a health plan. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20 | The patient can view the total of glycemic index and calorie of food that selected in health plan. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 21 | The patient can delete a food from the health plan. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 22 | The patient can record blood sugar value to the database. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 23 | The patient can view body mass index. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 24 | The patient can view [basal metabolic rate](http://kcal.memo8.com/bmr/). |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 25 | The patient can view the statistic line graph of blood sugar. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **URS Description** | **SRS**  **016** | **SRS**  **017** | **SRS**  **018** | **SRS**  **019** | **SRS**  **020** | **SRS**  **021** | **SRS**  **022** | **SRS**  **023** | **SRS**  **024** | **SRS**  **025** | **SRS**  **026** | **SRS**  **027** | **SRS**  **028** | **SRS**  **029** | **SRS**  **030** |
| 18 | Patient can view interpretation about blood sugar level from the system. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 19 | Patient can select food name from the database. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20 | Patient can check the list of medicine. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 21 | Patient can get analyze of nutrition behavior in each day. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 22 | Patient can view the daily graph of the glycemic level. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 23 | The patient can view body mass index. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 24 | The patient can view [basal metabolic rate](http://kcal.memo8.com/bmr/). |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 25 | The patient can view the statistic line graph of blood sugar. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **URS Description** | **SRS**  **031** | **SRS**  **032** | **SRS**  **033** | **SRS**  **034** | **SRS**  **035** | **SRS**  **036** | **SRS**  **037** | **SRS**  **038** | **SRS**  **039** | **SRS**  **040** | **SRS**  **041** | **SRS**  **042** | **SRS**  **043** | **SRS**  **044** | **SRS**  **045** |
| 18 | Patient can view interpretation about blood sugar level from the system. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 19 | Patient can select food name from the database. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20 | Patient can check the list of medicine. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 21 | Patient can get analyze of nutrition behavior in each day. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 22 | Patient can view the daily graph of the glycemic level. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 23 | The patient can view body mass index. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 24 | The patient can view [basal metabolic rate](http://kcal.memo8.com/bmr/). |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 25 | The patient can view the statistic line graph of blood sugar. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **URS Description** | **SRS**  **046** | **SRS**  **047** | **SRS**  **048** | **SRS**  **049** | **SRS**  **050** | **SRS**  **051** | **SRS**  **052** | **SRS**  **053** | **SRS**  **054** | **SRS**  **055** | **SRS**  **056** | **SRS**  **057** | **SRS**  **058** | **SRS**  **059** | **SRS**  **060** |
| 18 | Patient can view interpretation about blood sugar level from the system. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 19 | Patient can select food name from the database. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20 | Patient can check the list of medicine. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 21 | Patient can get analyze of nutrition behavior in each day. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 22 | Patient can view the daily graph of the glycemic level. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 23 | The patient can view body mass index. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 24 | The patient can view [basal metabolic rate](http://kcal.memo8.com/bmr/). |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 25 | The patient can view the statistic line graph of blood sugar. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **URS Description** | **SRS**  **061** | **SRS**  **062** | **SRS**  **063** | **SRS**  **064** | **SRS**  **065** | **SRS**  **066** | **SRS**  **067** | **SRS**  **068** | **SRS**  **069** | **SRS**  **070** | **SRS**  **071** | **SRS**  **072** | **SRS**  **073** | **SRS**  **074** | **SRS**  **075** |
| 18 | Patient can view interpretation about blood sugar level from the system. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 19 | Patient can select food name from the database. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20 | Patient can check the list of medicine. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 21 | Patient can get analyze of nutrition behavior in each day. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 22 | Patient can view the daily graph of the glycemic level. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 23 | The patient can view body mass index. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 24 | The patient can view [basal metabolic rate](http://kcal.memo8.com/bmr/). |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 25 | The patient can view the statistic line graph of blood sugar. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **URS Description** | **SRS**  **076** | **SRS**  **077** | **SRS**  **078** | **SRS**  **079** | **SRS**  **080** | **SRS**  **081** | **SRS**  **082** | **SRS**  **083** | **SRS**  **084** | **SRS**  **085** | **SRS**  **086** | **SRS**  **087** | **SRS**  **088** | **SRS**  **089** | **SRS**  **090** |
| 18 | Patient can view interpretation about blood sugar level from the system. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 19 | Patient can select food name from the database. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20 | Patient can check the list of medicine. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 21 | Patient can get analyze of nutrition behavior in each day. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 22 | Patient can view the daily graph of the glycemic level. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 23 | The patient can view body mass index. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 24 | The patient can view [basal metabolic rate](http://kcal.memo8.com/bmr/). |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 25 | The patient can view the statistic line graph of blood sugar. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **URS Description** | **SRS**  **091** | **SRS**  **092** | **SRS**  **093** | **SRS**  **094** | **SRS**  **095** | **SRS**  **096** | **SRS**  **097** | **SRS**  **098** | **SRS**  **099** | **SRS**  **100** | **SRS**  **101** | **SRS**  **102** | **SRS**  **103** | **SRS**  **104** | **SRS**  **105** |
| 18 | Patient can view interpretation about blood sugar level from the system. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 19 | Patient can select food name from the database. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20 | Patient can check the list of medicine. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 21 | Patient can get analyze of nutrition behavior in each day. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 22 | Patient can view the daily graph of the glycemic level. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 23 | The patient can view body mass index. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 24 | The patient can view [basal metabolic rate](http://kcal.memo8.com/bmr/). |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 25 | The patient can view the statistic line graph of blood sugar. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **URS Description** | **SRS**  **106** | **SRS**  **107** | **SRS**  **108** | **SRS**  **109** | **SRS**  **110** | **SRS**  **111** | **SRS**  **112** | **SRS**  **113** | **SRS**  **114** | **SRS**  **115** | **SRS**  **116** | **SRS**  **117** | **SRS**  **118** | **SRS**  **119** | **SRS**  **120** |
| 18 | Patient can view interpretation about blood sugar level from the system. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 19 | Patient can select food name from the database. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20 | Patient can check the list of medicine. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 21 | Patient can get analyze of nutrition behavior in each day. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 22 | Patient can view the daily graph of the glycemic level. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 23 | The patient can view body mass index. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 24 | The patient can view [basal metabolic rate](http://kcal.memo8.com/bmr/). |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 25 | The patient can view the statistic line graph of blood sugar. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **URS Description** | **SRS**  **121** | **SRS**  **122** | **SRS**  **123** | **SRS**  **124** | **SRS**  **125** | **SRS**  **126** | **SRS**  **127** | **SRS**  **128** | **SRS**  **129** | **SRS**  **130** | **SRS**  **131** | **SRS**  **132** | **SRS**  **133** | **SRS**  **134** | **SRS**  **135** |
| 18 | Patient can view interpretation about blood sugar level from the system. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 19 | Patient can select food name from the database. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20 | Patient can check the list of medicine. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 21 | Patient can get analyze of nutrition behavior in each day. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 22 | Patient can view the daily graph of the glycemic level. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 23 | The patient can view body mass index. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 24 | The patient can view [basal metabolic rate](http://kcal.memo8.com/bmr/). |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 25 | The patient can view the statistic line graph of blood sugar. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **URS Description** | **SRS**  **001** | **SRS**  **002** | **SRS**  **003** | **SRS**  **004** | **SRS**  **005** | **SRS**  **006** | **SRS**  **007** | **SRS**  **008** | **SRS**  **009** | **SRS**  **010** | **SRS**  **011** | **SRS**  **012** | **SRS**  **013** | **SRS**  **014** | **SRS**  **015** |
| 26 | The admin can delete nurse, doctor, and nutritionists account from the system on administrator page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 27 | The nutritionists can add food to the system on nutrition management page |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 28 | The nutritionists can edit food on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 29 | The nutritionists can delete food from the system on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 30 | The nurse and doctor can add the exercise recommend to the system on exercise management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **URS Description** | **SRS**  **016** | **SRS**  **017** | **SRS**  **018** | **SRS**  **019** | **SRS**  **020** | **SRS**  **021** | **SRS**  **022** | **SRS**  **023** | **SRS**  **024** | **SRS**  **025** | **SRS**  **026** | **SRS**  **027** | **SRS**  **028** | **SRS**  **029** | **SRS**  **030** |
| 26 | The admin can delete nurse, doctor, and nutritionists account from the system on administrator page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 27 | The nutritionists can add food to the system on nutrition management page |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 28 | The nutritionists can edit food on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 29 | The nutritionists can delete food from the system on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 30 | The nurse and doctor can add the exercise recommend to the system on exercise management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **URS Description** | **SRS**  **031** | **SRS**  **032** | **SRS**  **033** | **SRS**  **034** | **SRS**  **035** | **SRS**  **036** | **SRS**  **037** | **SRS**  **038** | **SRS**  **039** | **SRS**  **040** | **SRS**  **041** | **SRS**  **042** | **SRS**  **043** | **SRS**  **044** | **SRS**  **045** |
| 26 | The admin can delete nurse, doctor, and nutritionists account from the system on administrator page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 27 | The nutritionists can add food to the system on nutrition management page |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 28 | The nutritionists can edit food on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 29 | The nutritionists can delete food from the system on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 30 | The nurse and doctor can add the exercise recommend to the system on exercise management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **URS Description** | **SRS**  **046** | **SRS**  **047** | **SRS**  **048** | **SRS**  **049** | **SRS**  **050** | **SRS**  **051** | **SRS**  **052** | **SRS**  **053** | **SRS**  **054** | **SRS**  **055** | **SRS**  **056** | **SRS**  **057** | **SRS**  **058** | **SRS**  **059** | **SRS**  **060** |
| 26 | The admin can delete nurse, doctor, and nutritionists account from the system on administrator page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 27 | The nutritionists can add food to the system on nutrition management page |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 28 | The nutritionists can edit food on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 29 | The nutritionists can delete food from the system on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 30 | The nurse and doctor can add the exercise recommend to the system on exercise management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **URS Description** | **SRS**  **061** | **SRS**  **062** | **SRS**  **063** | **SRS**  **064** | **SRS**  **065** | **SRS**  **066** | **SRS**  **067** | **SRS**  **068** | **SRS**  **069** | **SRS**  **070** | **SRS**  **071** | **SRS**  **072** | **SRS**  **073** | **SRS**  **074** | **SRS**  **075** |
| 26 | The admin can delete nurse, doctor, and nutritionists account from the system on administrator page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 27 | The nutritionists can add food to the system on nutrition management page |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 28 | The nutritionists can edit food on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 29 | The nutritionists can delete food from the system on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 30 | The nurse and doctor can add the exercise recommend to the system on exercise management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **URS Description** | **SRS**  **076** | **SRS**  **077** | **SRS**  **078** | **SRS**  **079** | **SRS**  **080** | **SRS**  **081** | **SRS**  **082** | **SRS**  **083** | **SRS**  **084** | **SRS**  **085** | **SRS**  **086** | **SRS**  **087** | **SRS**  **088** | **SRS**  **089** | **SRS**  **090** |
| 26 | The admin can delete nurse, doctor, and nutritionists account from the system on administrator page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 27 | The nutritionists can add food to the system on nutrition management page |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 28 | The nutritionists can edit food on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 29 | The nutritionists can delete food from the system on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 30 | The nurse and doctor can add the exercise recommend to the system on exercise management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **URS Description** | **SRS**  **091** | **SRS**  **092** | **SRS**  **093** | **SRS**  **094** | **SRS**  **095** | **SRS**  **096** | **SRS**  **097** | **SRS**  **098** | **SRS**  **099** | **SRS**  **100** | **SRS**  **101** | **SRS**  **102** | **SRS**  **103** | **SRS**  **104** | **SRS**  **105** |
| 26 | The admin can delete nurse, doctor, and nutritionists account from the system on administrator page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 27 | The nutritionists can add food to the system on nutrition management page |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 28 | The nutritionists can edit food on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 29 | The nutritionists can delete food from the system on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 30 | The nurse and doctor can add the exercise recommend to the system on exercise management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **URS Description** | **SRS**  **106** | **SRS**  **107** | **SRS**  **108** | **SRS**  **109** | **SRS**  **110** | **SRS**  **111** | **SRS**  **112** | **SRS**  **113** | **SRS**  **114** | **SRS**  **115** | **SRS**  **116** | **SRS**  **117** | **SRS**  **118** | **SRS**  **119** | **SRS**  **120** |
| 26 | The admin can delete nurse, doctor, and nutritionists account from the system on administrator page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 27 | The nutritionists can add food to the system on nutrition management page |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 28 | The nutritionists can edit food on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 29 | The nutritionists can delete food from the system on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 30 | The nurse and doctor can add the exercise recommend to the system on exercise management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **URS Description** | **SRS**  **121** | **SRS**  **122** | **SRS**  **123** | **SRS**  **124** | **SRS**  **125** | **SRS**  **126** | **SRS**  **127** | **SRS**  **128** | **SRS**  **129** | **SRS**  **130** | **SRS**  **131** | **SRS**  **132** | **SRS**  **133** | **SRS**  **134** | **SRS**  **135** |
| 26 | The admin can delete nurse, doctor, and nutritionists account from the system on administrator page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 27 | The nutritionists can add food to the system on nutrition management page |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 28 | The nutritionists can edit food on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 29 | The nutritionists can delete food from the system on nutrition management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 30 | The nurse and doctor can add the exercise recommend to the system on exercise management page. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**Activity diagram and User Requirement Specification**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Activity Diagram** | **URS**  **1** | **URS**  **2** | **URS**  **3** | **URS**  **4** | **URS**  **5** | **URS**  **6** | **URS**  **7** | **URS**  **8** | **URS**  **9** | **URS**  **10** | **URS**  **11** | **URS**  **12** | **URS**  **13** | **URS**  **14** | **URS**  **15** | **URS**  **16** |
| 1 | AD 01 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 | AD 02 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | AD 03 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 | AD 04 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 | AD 05 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | AD 06 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 | AD 07 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 | AD 08 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 | AD 09 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10 | AD 10 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11 | AD 11 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12 | AD 12 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 13 | AD 13 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 | AD 14 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15 | AD 15 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 16 | AD 16 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Activity Diagram** | **URS17** | **URS18** | **URS**  **19** | **URS20** | **URS21** | **URS22** | **URS23** | **URS24** | **URS25** | **URS26** | **URS27** | **URS28** | **URS29** | **URS30** |
| 17 | AD 17 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 18 | AD 18 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 19 | AD 19 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20 | AD 22 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 21 | AD 21 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 22 | AD 22 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 23 | AD 23 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 24 | AD 24 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 25 | AD 25 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 26 | AD 26 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 27 | AD 27 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 28 | AD 28 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 29 | AD 29 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 30 | AD 30 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**Sequence diagram and User Requirement Specification**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Sequence Diagram** | **URS01** | **URS 02** | **URS 03** | **URS 04** | **URS 05** | **URS 06** | **URS 07** | **URS 08** | **URS 09** | **URS 10** | **URS 11** | **URS 12** | **URS 13** | **URS 14** | **URS 15** |
| 1 | SD 01 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 | SD 02 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | SD 03 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 | SD 04 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 | SD 05 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | SD 06 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 | SD 07 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 | SD 08 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 | SD 09 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10 | SD 10 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11 | SD 11 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12 | SD 12 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 13 | SD 13 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 | SD 14 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15 | SD 15 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 16 | SD 16 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 17 | SD 17 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 18 | SD 18 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 19 | SD 19 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20 | SD 20 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 21 | SD 21 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Sequence Diagram** | **URS 16** | **URS 17** | **URS 18** | **URS 19** | **URS 20** | **URS 21** | **URS 22** | **URS 23** | **URS 24** | **URS 25** | **URS 26** | **URS 27** | **URS 28** | **URS 29** | **URS 30** |
| 1 | SD 01 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 | SD 02 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | SD 03 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 | SD 04 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 | SD 05 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | SD 06 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 | SD 07 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 | SD 08 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 | SD 09 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10 | SD 10 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11 | SD 11 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12 | SD 12 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 13 | SD 13 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 | SD 14 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15 | SD 15 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 16 | SD 16 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 17 | SD 17 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 18 | SD 18 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 19 | SD 19 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20 | SD 20 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 21 | SD 21 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**User Interface and User Requirement Specification**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **User Interface** | **URS 1** | **URS 2** | **URS 3** | **URS 4** | **URS 5** | **URS 6** | **URS 7** | **URS 8** | **URS 9** | **URS 10** | **URS 11** | **URS 12** | **URS 13** | **URS 14** | **URS 15** |
| 1 | UI 01 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 | UI 02 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | UI 03 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 | UI 04 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 | UI 05 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | UI 06 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 | UI 07 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 | UI 08 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 | UI 09 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10 | UI 10 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11 | UI 11 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12 | UI 12 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 13 | UI 13 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 | UI 14 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15 | UI 15 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 16 | UI 16 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 17 | UI 17 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **User Interface** | **URS 16** | **URS 17** | **URS 18** | **URS 19** | **URS 20** | **URS 21** | **URS 22** | **URS 23** | **URS 24** | **URS 25** | **URS 26** | **URS 27** | **URS 28** | **URS 29** | **URS 30** |
| 1 | UI 01 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 | UI 02 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | UI 03 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 | UI 04 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 | UI 05 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | UI 06 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 | UI 07 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 | UI 08 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 | UI 09 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10 | UI 10 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11 | UI 11 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12 | UI 12 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 13 | UI 13 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 | UI 14 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15 | UI 15 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 16 | UI 16 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 17 | UI 17 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**2.2. Table: CD-UT**

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **CD** | **Descriptions** | **UT** |
| **1** | CD 1 | This class is a controller for the user to go to the login page for logging-in and logging-out, go to register page for registering, manage health plan, manage medicine of user, add glycemic for analyzing in a form of the graph, and user manage user profile. | UT-01  UT-02  UT-03  UT-04  UT-05  UT-06  UT-07  UT-08  UT-09  UT-10  UT-11  UT-12  UT-13  UT-14  UT-15  UT-16 |
| **2** | CD 2 | This class is controller for user to go to Index page that is first page of management page, change password is page for user need to change new password. | UT-23 |
| **3** | CD 3 | This class is controller for admin need to go to administration management page for manage the role of user account. Such as create new user account, update account, delete account, add role, edit role, delete role. |  |
| **4** | CD 4 | This class is controller for nutritionists need to go to a nutritionists management page for manage the foods. Such as create new food, update food or delete food. | UT-17  UT-18  UT-19 |
| **5** | CD 5 | This class is controller for doctor/nurse need to go to activity management page for manage the activity. Such as create new activity, update activity or delete activity | UT-20  UT-21  UT-22 |

Table 2: CD-UT

**Class diagram and Software Testing (Unit test)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **CD** | **UT**  **01** | **UT**  **02** | **UT**  **03** | **UT**  **04** | **UT**  **05** | **UT**  **06** | **UT**  **07** | **UT**  **08** | **UT**  **09** | **UT10** | **UT**  **11** | **UT**  **12** | **UT**  **13** | **UT**  **14** | **UT**  **16** | **UT**  **17** | **UT**  **18** | **UT19** | **UT20** | **UT**  **21** | **UT**  **22** | | **UT23** |
| 1 | CD 01 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |
| 2 | CD 02 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |
| 3 | CD 03 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |
| 4 | CD 04 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |
| 5 | CD 05 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |

**2.2. Table: UC-ST**

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **UC** | **Description** | **ST** |
| **1** | UC 01 | Login to the system. | ST 01 |
| **2** | UC 02 | Logout to the system. | ST 02 |
| **3** | UC 03 | Nurse/Doctor can registration patient to Web Application. | ST 03 |
| **4** | UC 04 | Doctor/Nurse can access to patient info |  |
| **5** | UC 05 | Patient can view information of his on profile page. | ST 04 |
| **6** | UC 06 | Patient can update info on his profile page. | ST 05 |
| **7** | UC 07 | Patient can change password. | ST 06 |
| **8** | UC 08 | Admin can manage user account (doctor, nurse and nutritionists) | ST 07  ST 08  ST 09 |
| **9** | UC 09 | Nutritionists can manage(add, edit, delete) food | ST 10  ST 11  ST 12 |
| **10** | UC 10 | Nurse/Doctor can manage(add, update, delete) activity | ST 13  ST 14  ST 15 |
| **11** | UC 11 | Patient can select the symptoms | ST 16 |
| **12** | UC 12 | Patient can get the suggestion about exercises from the system | ST 16 |
| **13** | UC 13 | Patient can add food from the database to record in health plan. | ST 17 |
| **14** | UC 14 | Patient can view the average of glycemic index and calorie of food | ST 23 |
| **15** | UC 15 | Patient can delete food from health plan | ST 22 |
| **16** | UC 16 | Patient can record blood sugar value to the database. | ST 19 |
| **17** | UC 17 | Patient can view BMI. | ST 18 |
| **18** | UC 18 | Patient can view graph of blood sugar. | ST 20 |
| **19** | UC 19 | Patient can view interpretation about blood sugar level. | ST 21 |
| **20** | UC 20 | Patient can select food name from the database. | ST 24 |
| **21** | UC 21 | Patient can check list of the medicine. | ST 25 |
| **22** | UC 22 | Patient can get analyze result in each day. | ST 26 |

Table 3: UC-ST

**Use Case and Software Testing (System test)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **UC** | **ST-01** | **ST -02** | **ST -03** | **ST -04** | **ST -05** | **ST -06** | **ST -07** | **ST -08** | **ST -09** | **ST-10** | **ST-11** | **ST-12** | **ST-13** | **ST-14** | **ST-15** |
| 1 | UC 01 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 | UC 02 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | UC 03 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 | UC 04 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 | UC 05 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | UC 06 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 | UC 07 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 | UC 08 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 | UC 09 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10 | UC 10 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11 | UC 11 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12 | UC 12 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 13 | UC 13 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 | UC 14 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15 | UC 15 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **UC** | **ST-01** | **ST -02** | **ST -03** | **ST -04** | **ST -05** | **ST -06** | **ST -07** | **ST -08** | **ST -09** | **ST-10** | **ST-11** | **ST-12** | **ST-13** | **ST-14** | **ST-15** |
| 1 | UC 16 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 | UC 17 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | UC 18 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 | UC 19 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 | UC 20 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | UC 21 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 | UC 22 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **UC** | **ST-16** | **ST-17** | **ST-18** | **ST-19** | **ST-20** | **ST-21** | **ST-22** | **ST-23** | **ST-24** | **ST-25** | **ST-26** |  |  |  |  |
| 1 | UC 01 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 | UC 02 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | UC 03 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 | UC 04 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 | UC 05 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | UC 06 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 | UC 07 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 | UC 08 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 | UC 09 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10 | UC 10 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11 | UC 11 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12 | UC 12 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 13 | UC 13 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 | UC 14 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15 | UC 15 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| **No.** | **UC** | **ST-16** | **ST-17** | **ST-18** | **ST-19** | **ST-20** | **ST-21** | **ST-22** | **ST-23** | **ST-24** | **ST-25** | **ST-26** |  |  |  |  |
| 1 | UC 16 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 | UC 17 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | UC 18 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 | UC 19 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 | UC 20 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | UC 21 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 | UC 22 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**Chapter Three | User &System Requirement Specification**

**3.1 User Requirement Specification**

**Feature#1: Authentication system.**

URS-01: The patient, doctor, nurse and admin can log in to a web application by suing 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, first name, last name, age, gender, weight, height, address, 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, 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.

**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](http://kcal.memo8.com/bmr/).

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 ( E:\Diabetes\Diabetes1\Diabetes1\img\smile.png E:\Diabetes\Diabetes1\Diabetes1\img\beware.png E:\Diabetes\Diabetes1\Diabetes1\img\danger.png ).

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

**3.2 User Requirement specification and Software Requirement Specification**

**Feature#1: Authentication system.**

**URS-01: The patient, doctor, nurse and admin can log in to a web application by suing 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.

SRS-04: The system shall display error message “Invalid login attempt”, when user input wrong username and password

SRS-05: The system shall display error message the “The UserName field is required”, when the user does not input username.

SRS-06: The system shall display error message the “The Password field is required”, when the user does not input password.

SRS-07: The system shall redirect to behavior page, when the patient login to the web application.

SRS-08: The system shall redirect to home page and display nurse/doctor bar, when the doctor or nurse login to the web application.

SRS-09: The system shall redirect to home page and display nutritionists bar, when the nutritionists login to the web application.

SRS-10: The system shall redirect to home 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-11: The system shall provide button “Log out”.

SRS-12: The system shall redirect to home page, when click log out button.

**Feature#2: Account management.**

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

**Requirement**

SRS-13: The system provides the register UI which includes input fields to input username, password, confirm Password, e-mail, first name, last name, a select box to select gender of patient, age, address, a select box to select diabetes type of patient, height, weight, and start treatment

SRS-14: The system shall provide button “Submit”.

SRS-15: The system shall redirect to home page, when nurse registers patient success.

SRS-16: The system shall validate and verify input field username, password, confirm Password, e-mail, first name, last name, gender, age, address, diabetes type, height, weight, and start treatment.

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 verify username and provide error message the “Username field is required”, when the user does not input username.

SRS-21: The system shall verify 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 provide UI to user input again.

SRS-24: The system shall verify first name and provide error message the “First Name field is required”, when the user does not input the first name.

SRS-23: The system shall provide UI to user input again.

SRS-25: The system shall verify last name and provide error message the “Last Name field is required”, when user does not input the last name.

SRS-23: The system shall provide UI to user input again.

SRS-26: The system shall provide two select options male and female in the select box gender of the user.

SRS-27: The system shall verify age and provide error message the “Age field is required”, when the user does not input age.

SRS-28: The system shall validate age and provide error message “age is must be a number”, when user input wrong format age.

SRS-23: The system shall provide UI to user input again.

SRS-29: The system shall verify address and provide error message the “Address field is required”, when the user does not input address.

SRS-23: The system shall provide UI to user input again.

SRS-30: The system shall provide two select options diabetes type 1 and diabetes type 2 in the select box diabetes type of user.

SRS-31: The system shall validate height and provide error message “height must be a number”, when user input wrong format height.

SRS-32: The system shall verify height and provide error message the “Height field is required”, when the user does not input height.

SRS-23: The system shall provide UI to user input again.

SRS-33: The system shall validate weight and provide error message “weight must be a number”, when user wrong input format weight.

SRS-34: The system shall verify weight and provide error message the “Weight field is required”, when the user does not input weight.

SRS-23: The system shall provide UI to user input again.

SRS-35: The system shall provide error message the “Start Treatment field” is required. When the user does not input, start treatment.

SRS-23: The system shall provide UI to user input again.

SRS-36: The system shall save user information to database, when user input data success.

SRS-37: The system shall redirect to home page, when 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-38: The system shall provide table list of name of patient.

SRS-39: The system shall provide search field.

SRS-40: The system shall provide search button.

SRS-41: The system shall display name of patient on table, when finish SRS-39.

SRS-42: The system shall verify search field.

SRS-43: The system shall display error message, when the doctor or nurse not input name of patient on search field.

SRS-44: The system shall display error message, when the doctor or nurse input patient name that not already 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-45: The system shall provide link redirect to profile page.

SRS-46: The system shall redirect to the profile page.

SRS-47: The system shall display the information of the user.

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

**Requirement**

SRS-48: The system shall provide UI, which includes input fields to input first name, last name, a select box to choose gender, age, address, a select box to select diabetes type, height, weight, and start treatment for edit patient info.

SRS-14: The system shall provide button “Submit”.

SRS-49: The system shall redirect to a profile page, when patient edit information success.

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

SRS-51: The system shall validate height and provide error message “The field Height must be a number.”, when user input wrong format height.

SRS-52: The system shall validate weight and provide error message “The field Weight must be a number.”, when user wrong input format weight.

SRS-53: The system shall save change in the database.

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

**Requirement**

SRS-54: The system shall provide input fields to current input password, new password, confirm the password.

SRS-14: The system shall provide button “Submit”.

SRS-55: The system shall validate and verify the input field current password, new password, and confirm the password.

SRS-56: The system shall validate old password and provide error message “Incorrect password”, when the patient input current password not correct.

SRS-57: The system shall verify new password and provide error message “The New password field is required”, when the patient not input new password.

SRS-58: 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-59: 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.

SRS-60: 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-61: 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-62: The system shall provide three select options doctor, nurse, and nutritionists in the select role of the user.

SRS-14: The system shall provide “Submit” button.

SRS-63: The system shall validate input field username, password, and e-mail.

SRS-64: The system shall provide error message the “email is already taken”, when the admin input email is already in the database.

SRS-65: The system shall provide error message “the e-mail is invalid”, when the admin input wrong format e-mail.

SRS-66: The system shall provide error message the “username is already taken”, when the admin input username is already in the database.

SRS-67: The system shall provide error message the “username field is required”, when the admin does not input username.

SRS-68: The system shall save data in the database, when admin click button “Submit”.

SRS-69: 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-70: 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-71: The system shall provide three select options doctor, nurse, and nutritionists in the select role of the user.

SRS-14: The system shall provide “Submit” button.

SRS-72: The system shall validate input field email and password.

SRS-64: The system shall not change the e-mail, when the admin input email is already in the database.

SRS-65: The system shall not change the e-mail, when the admin input wrong format e-mail.

SRS-73: 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-74: 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-75: The system shall providedelete button.

SRS-76: The system shall provide confirm message.

SRS-77: The system shall redirect to account management page, when the admin confirm to delete account.

**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-78: The system shall provide UI to create new foods which include input field to input food name, glycemic index, and calorie.

SRS-79: The system shall provide “create” button

SRS-80: The system shall validate input field food name, glycemic index, and calorie.

SRS-81: The system shall provide error message “The glycemic index must be a number”, when the nutritionists input character on glycemic index field.

SRS-82: The system shall provide error message “The calorie must be a number”, when the nutritionists not input calorie.

SRS-83: The system shall provide error message “The glycemic index field is request”, when the nutritionists input character on glycemic index field.

SRS-84: The system shall provide error message “The calorie field is request”, when the nutritionists not input calorie.

SRS-85: The system shall save data in the database, when nutritionists click button “Create”.

SRS-86: 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-87: The system shall provide UI to edit include input field to input food name, glycemic index, and calorie.

SRS-88: The system shall provide “save” button

SRS-89: The system shall validate input field food name, glycemic index, and calorie.

SRS-81: The system shall provide error message “The glycemic index must be a number”, when the nutritionists input character on glycemic index field.

SRS-82: The system shall provide error message “The calorie must be a number”, when the nutritionists not input calorie.

SRS-83: The system shall provide error message “The glycemic index field is request”, when the nutritionists input character on glycemic index field.

SRS-84: The system shall provide error message “The calorie field is request”, when the nutritionists not input calorie.

SRS-90: The system shall save change data in the database, when nutritionists click button “Save”.

SRS-91: 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-75: The system shall providedelete button.

SRS-92: The system shall provide confirm page.

SRS-93: The system shall redirect to nutrition management page, when the nutritionists confirm to delete account.

**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-94: The system shall provide UI to create the new activity which includes input field symptom, suggestion, proper exercise, exercise inappropriate, and step exercise.

SRS-79: The system shall provide “create” button

SRS-95: The system shall save data in the database.

SRS-96: 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-97: The system shall provide UI to edit the data include input field symptom, suggestion, proper exercise, exercise inappropriate, and step exercise.

SRS-88: The system shall provide “save” button.

SRS-98: The system shall save change data in the database.

SRS-96: The system shall redirect to exercise management page, when the doctor or nurse finish creates new exercise.

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

**Requirement**

SRS-75: The system shall providedelete button.

SRS-97: The system shall provide confirm page.

SRS-98: The system shall redirect to exercise management page, when the doctor or nurse confirm to delete account.

**Feature#5: Activity plan and recommend system.**

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

**Requirement**

SRS-99: The system shall provide a select box to select symptoms of the patient.

SRS-100: The system shall provide five select options peripheral neuropathy, diabetic retinopathy, heart disease, and The problems at knee, Ankles or feet in the select box symptoms of patient.

SRS-101: The system shall provide “select” button.

**URS-18: 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-102: 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-103: The system shall provide a select box to select food name from the database.

SRS-104: The system shall provide select options list of food name.

SRS-105: The system shall provide “Add” button.

SRS-106: The system shall record the food that selected to the database of user food.

SRS-107: The system shall display list of food to the user, 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-108: The system shall display the total value of glycemic index of food that selected on health plan.

SRS-109: The system shall display the total value of calorie of food that selected on health plan.

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

**Requirement**

SRS-75: The system shall providedelete button.

SRS-110: The system shall delete a food from the list of the health plan.

SRS-111: The system shall save change in the database of user food.

**Feature#7: Health monitors system.**

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

**Requirement**

SRS-112: The system shall provide input field to input blood sugar.

SRS-113: The system shall provide button “add”.

SRS-114: The system shall record the value in the database.

SRS-115: The system shall validate input field blood sugar.

SRS-116: The system shall provide error message “blood sugar must be a number”, when the patient input character.

SRS-117: The system shall provide error message “blood sugar cannot be negative”, when the user input blood sugar minus value.

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

**Requirement**

### SRS-118: The system shall calculate [body mass](http://kcal.memo8.com/bmr/) (BMI) by

### SRS-119: The system shall display result of BMI on health plan page.

### URS-24: The patient can view [basal metabolic rate](http://kcal.memo8.com/bmr/).

**Requirement**

### SRS-120: The system shall calculate [basal metabolic rate](http://kcal.memo8.com/bmr/) (BMR) by

### SRS-121: The system shall display result of BMR on health plan page.

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

**Requirement**

SRS-122: The system shall get data after finish URS-22.

SRS-123: 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-122: The system shall get data after finish URS-22.

SRS-124: 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-125: The system shall provide select options list of food name.

SRS-126: The system shall provide “select” button.

SRS-127: The system shall display food that selected to the user.

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

**Requirement**

SRS-128: The system shall provide a checkbox to check the list of medicine.

**URS-29: The patient can get analyze of nutrition behavior as image ( E:\Diabetes\Diabetes1\Diabetes1\img\smile.png E:\Diabetes\Diabetes1\Diabetes1\img\beware.png E:\Diabetes\Diabetes1\Diabetes1\img\danger.png ).**

**Requirement**

SRS-129: The system shall provide the colors to display risk result include green, yellow, and red.

SRS-130: The system shall display analyze result green color **E:\Diabetes\Diabetes1\Diabetes1\img\smile.png**, 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 **E:\Diabetes\Diabetes1\Diabetes1\img\beware.png**, 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**E:\Diabetes\Diabetes1\Diabetes1\img\danger.png**, 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-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).