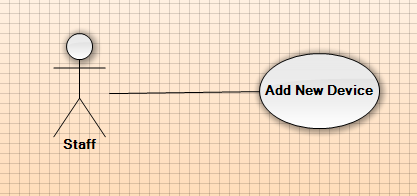
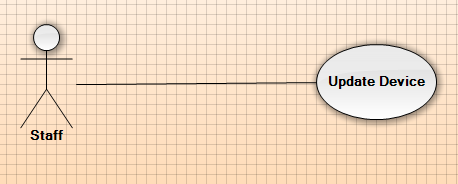
<Staff> Add New Device



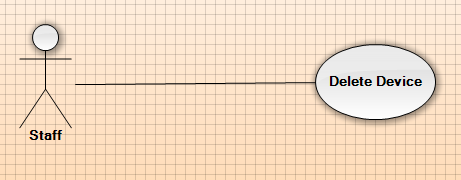
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| **USE CASE - UCA01** | | | |
| **Use Case No.** | UCA01 | **Use Case Version** | 1.1 |
| **Use Case Name** | Add New Device | | |
| **Author** | QuyHK | | |
| **Date** | 30/09/2015 | **Priority** | Normal |
| **Actor:**   * Staff   **Summary:**   * This use case allows staff being able to add new device.   **Goal:**   * System can support reading data of many type of wristband.   **Triggers:**   * Staff sends adding new device command.   **Preconditions:**   * User logged in to the system as staff role.   **Post Conditions:**   * **Success:** Device’s specification is stored. * **Fail:** Error message displayed.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Staff goes to add new device view. | System list following information:   * Brand Name: free text input, required, length 2 - 24. * Brand UUID: free text input, required, required length 8 * Number of Step UUID: free text input, required, must be 8 characters. * Position Number of Step: free text input, required, value from 0 - 20   Text input UUID have to have example: **0000180a** | | 2 | Staff inputs Brand Name, UUID Brand Name, UUID Number of Step, Position of Number of Step. | When user finishes input one field, if condition doesn’t match. System will show an error message next to that field. | | 3 | Staff sends adding new device command to system. | System add new device information to system.  System show new list of device and message that device is created successfully. [Exception 1, 2, 3, 4] |   **Alternative Scenario:** N/A  **Exceptions:**  [Exception 1]   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Missing of required fields | Show message notify staff which field is required. |   [Exception 2]   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Wrong format of UUID | System message notify staff use right format of UUID |   [Exception 3]   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Length of field’s value is out of range | Show message notify staff which field’s value is out of range |   [Exception 4]   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Device had existed in system | Show message notify entered device is existed |   **Relationships:** N/A  **Business Rules:**   * UUID has to right format of Bluetooth standard on page <https://developer.bluetooth.org/gatt/characteristics/Pages/CharacteristicsHome.aspx> * A valid UUID must start with “0000” characters. * System will insert new device information including: Brand name, Brand UUID, Number of step UUID, Position number of step to system. * Brand name does not have special characters. | | | |

<Staff> Update Device



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| **USE CASE - UCA01** | | | |
| **Use Case No.** | UCA01 | **Use Case Version** | 1.1 |
| **Use Case Name** | Update Device | | |
| **Author** | QuyHK | | |
| **Date** | 29/09/2015 | **Priority** | Normal |
| **Actor:**   * Staff   **Summary:**   * This use case allows staff be able to update device.   **Goal:**   * System can read data of wristband with new specification.   **Triggers:**   * Staff sends the update device command.   **Preconditions:**   * User logged in to the system as staff role. * Staff selects a device exist in system.   **Post Conditions:**   * **Success:** Device information will be updated. * **Fail:** Show error message.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Staff goes to update device information. | System list following information:   * Brand Name: free text input, required, length 2 - 24. * Brand UUID: free text input, required, length 8 * Number of Step UUID: free text input, required, must have 8 characters. * Position Number of Step: free text input, required, value from 0 - 20   Text input UUID have to have example: **0000180a** | | 2 | Staff edits information of device. | When user finishes updating one field, if condition doesn’t match. System will show an error message next to that field. | | 3 | Staff sends command to save new information | System update information of device and show message notify device is updated successfully.  [Exception 1, 2, 3, 4] |   **Alternative Scenario:** N/A  **Exceptions:**  [Exception 1]   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Missing of required fields | Show message notify staff which field is required. |   [Exception 2]   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Wrong format of UUID | System message notify staff use right format of UUID |   [Exception 3]   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Length of field’s value is out of range | Show message notify staff which field’s value is out of range |   [Exception 4]   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Device had exist in system | Show message notify entered device is exist |   **Relationships:** N/A  **Business Rules:**   * An UUID must start with 0000. * System will update new device information including: Brand name, Brand UUID, Number of step UUID, Position number of step to system. * Brand name does not have special characters. | | | |

<Staff> Delete Device



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| **USE CASE - UCA01** | | | |
| **Use Case No.** | UCA01 | **Use Case Version** | 1.1 |
| **Use Case Name** | Delete Device | | |
| **Author** | QuyHK | | |
| **Date** | 23/09/2015 | **Priority** | Normal |
| **Actor:**   * Staff   **Summary:**   * This use case allows staff to delete device.   **Goal:**   * System removes device.   **Triggers:**   * Staff sends deleting device command.   **Preconditions:**   * User logged in to the system as staff role.   **Post Conditions:**   * **Success:** Device is deleted. * **Fail:** Show error message.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Staff goes to manage devices view | System list out information of devices in system:   * Brand Name: text, read only. * Brand UUID: text, read only. * Number of Step UUID: text, read only. * Position Number of Step: text, read only. | | 2 | Staff selects device to delete in list. |  | | 3 | Staff sends command to delete device | System confirm with staff to delete device. | | 4 | Staff accepts to delete device  [Alternative 1] | System delete device and show message notify device is deleted successfully.  [Exception 1] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Staff sends cancel command. | System show list device for staff. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Admin sends command to delete device. | System shows error message device cannot remove themselves from the system. |   **Relationships:** N/A  **Business Rules:**   * System must be at least 01 device. * Device have to exist in system. | | | |

<Scheduler> Get Data From Wristband

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| **USE CASE - UCA01** | | | |
| **Use Case No.** | UCA01 | **Use Case Version** | 1.1 |
| **Use Case Name** | Get Data From Wristband | | |
| **Author** | QuyHK | | |
| **Date** | 24/09/2015 | **Priority** | Normal |
| **Actor:**   * Scheduler   **Summary:**   * This use case allows scheduler to get number of step from wristband.   **Goal:**   * Helping system to get latest number of step of patient.   **Triggers:**   * The time hits configured time.   **Preconditions:**   * Users logged in to system as patient role. * Android application has to pair with wristband * Android application is running. * Patient bring wristband near with smartphone. * Android application has connected with wristband.   **Post Conditions:**   * **Success:** Number of step from wristband is stored. * **Fail:** Get data from wristband again after 30 minutes.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | *System checks the current time.* *If it hits configured time, system start to get data from wristband.* | System gets data from wristband (number of steps) base on Bluetooth UUID and stores it.  [Exception 1, 2] |   **Alternative Scenario:** N/A  **Exceptions:**  [Exception 1]   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Scheduler is interrupted | System get data from wristband again after 30 minutes. |   [Exception 2]   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Wristband cannot sends number of step. | System get data from wristband again after 30 minutes. |   **Relationships:** none  **Business Rules:**   * Scheduler will repeat getting data every 30 minutes from 4:00AM to 10:00PM. * System reset saved data in mobile every day. * System will remind patient to open Bluetooth and bring wristband near with their smartphone at 09:50 pm to get number of step last time. | | | |

<Scheduler>Analytic data of wristband

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| **USE CASE – UCA02** | | | |
| **Use Case No.** | UCA02 | **Use Case Version** | 1.1 |
| **Use Case Name** | Analytic data of wristband | | |
| **Author** | QuyHK | | |
| **Date** | 29/09/2015 | **Priority** | High |
| **Actor:**   * Scheduler.   **Summary:**   * This use case allows scheduler to use formula to analytic number of step from wristband.   **Goal:**   * Calculating calories burned, distance from patient’s data.   **Triggers:**   * The time hits configured time.   **Preconditions:**   * Analytic time has been configured.   **Post Conditions:**   * **Success**: System update data of patient. * **Fail**: Error detail will be tracked in a log file.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Server checks the current time.  If it hits configured time, analytic data process starts. | System use formula to calculate and response:   * Calories burned. * Distance walking or running.   System compares the number of calories recommended by doctors, calculate ratio complete practice every day and save in system.  [Exception 1] |   **Alternative Scenario:** N/A  **Exceptions:**  [Exception 1]   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | System timer task is interrupted | Error detail will be tracked in a log file. |   **Relationships:** N/A  **Business Rules:**   * System have to analytic data using formula had latest update from staff. * System timer will check event at 23:00 every day. * System calculate and use data every day. | | | |

<Staff> Update Formula

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| **USE CASE - UCA01** | | | |
| **Use Case No.** | UCA01 | **Use Case Version** | 1.1 |
| **Use Case Name** | Update Formula | | |
| **Author** | QuyHK | | |
| **Date** | 30/09/2015 | **Priority** | Normal |
| **Actor:**   * Staff   **Summary:**   * This use case allows staff being able to change formula to calculate calories, distance.   **Goal:**   * System can calculate data from patients based on formula.   **Triggers:**   * Staff sends editing formula command.   **Preconditions:**   * User logged in to the system as staff role.   **Post Conditions:**   * **Success:** System save formula and use to calculate calories, distance. * **Fail:** Error message displayed.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Staff goes to formula view. | System list following information:   * Formula to calculate distance: free text input, required. * Formula to calculate calories: free text input, required. * List variable, text view. * Name data of patient represent each variable. Drop down list. | | 2 | Staff inputs formula and select scan. | System find all variable in formula. | | 3 | Staff choose name data of patient represent each variable and select check formula. | System validate formula not divide “0” and calories, distance have to bigger than 0. If condition does match, System give staff can setup new formula.  [Alternative 1] | | 4 | Staff choose setup formula. | System confirm with staff to change formula. | | 5 | Staff accept change formula.  [Alternative 2] | System change formula and variable and save in system |   **Alternative Scenario:**  [Alternative 1]   |  |  |  | | --- | --- | --- | | No | Cause | System Response | | 1 | Condition does not match | Show message notify staff input wrong formula. |   [Alternative 2]   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Staff does not accept change formula. | System show old formula. |   **Exceptions:** N/A  **Relationships:** N/A  **Business Rules:**   * Formula will be loaded once time when system starts. * New formula will save in text file. * New formula has to value above “0” and must not be divide with “0”. | | | |

<Nutrition doctor> Analytic meal by voice.

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| **USE CASE - UCA01** | | | |
| **Use Case No.** | UCA01 | **Use Case Version** | 1.1 |
| **Use Case Name** | Analytic meal by voice. | | |
| **Author** | QuyHK | | |
| **Date** | 30/09/2015 | **Priority** | Normal |
| **Actor:**   * Nutrition Doctor.   **Summary:**   * This use case allows nutrition doctor to input meal, unit and quantity by voice.   **Goal:**   * System support nutrition doctor input meal.   **Triggers:**   * Staff sends analytic meal by voice command.   **Preconditions:**   * User logged in to the system as nutrition doctor role and nutrition doctor had selected a patient.   **Post Conditions:**   * **Success:** System show meal had analytic on screen of doctor. * **Fail:** Error message displayed.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Nutrition doctor goes to analytic meal view. | System list following information:   * Button open voice input. * List meal (breakfast, break time morning, lunch, break time afternoon, dinner, eat late at night). * Meal of patient: free text input. | | 2 | Nutrition doctor send command open voice input. | System enable record voice and convert to text. | | 3 | Nutrition doctor say name of meal. | System auto select and open corresponding meal. | | 4 | Nutrition doctor say meal. | System get meal and analytic text to unit, quantity and food name.  [Alternative 1] | | 5 | Nutrition doctor select suggest | * System analytic nutritional ingredients * System open Food Ingredient. * System input nutritional ingredients corresponding which field in Nutritional Ingredients view. |   **Alternative Scenario:**  [Alternative 1]   |  |  |  | | --- | --- | --- | | No | Cause | System Response | | 1 | Food’s nutritional ingredients does not exist in system. | System does not analytic that food. |   **Exceptions:** N/A  **Relationships:** N/A  **Business Rules:**   * Nutrition doctor have to say meal before say meal. * Nutrition doctor can edit what’s system analytic from voice. | | | |

<Nutrition doctor> Analytic food by meal.

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| **USE CASE - UCA01** | | | |
| **Use Case No.** | UCA01 | **Use Case Version** | 1.1 |
| **Use Case Name** | Analytic food by meal. | | |
| **Author** | QuyHK | | |
| **Date** | 30/09/2015 | **Priority** | Normal |
| **Actor:**   * Nutrition doctor.   **Summary:**   * This use case analytic a text input to quantity, unit and food name.   **Goal:**   * System can help nutrition doctor analytic and calculate nutritional ingredients.   **Triggers:**   * Nutrition doctor sends analytic food command.   **Preconditions:**   * User logged in to the system as nutrition doctor role. * Nutrition doctor had selected patient.   **Post Conditions:**   * **Success:** System open Nutritional Ingredients view and input which field have values. * **Fail:** Error message displayed.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Nutrition doctor send analytic command. | * System analytic meal to name, unit and quantity. * System calculate nutritional ingredients of meal. * System open Nutritional Ingredients view. * System input value of nutritional ingredients follow data had analytic.   [Alternative 1] |   **Alternative Scenario:**  [Alternative 1]   |  |  |  | | --- | --- | --- | | No | Cause | System Response | | 1 | Food’s nutritional ingredients does not exist in system. | System does not analytic that food. |   **Exceptions:** N/A  **Relationships:** N/A  **Business Rules:**   * Nutrition doctor have to say meal before say meal. * Nutrition doctor can edit what’s system analytic from voice. | | | |

<Nutrition doctor> Food Ingredient

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| **USE CASE - UCA01** | | | |
| **Use Case No.** | UCA01 | **Use Case Version** | 1.1 |
| **Use Case Name** | Food Ingredient. | | |
| **Author** | QuyHK | | |
| **Date** | 30/09/2015 | **Priority** | Normal |
| **Actor:**   * Nutrition doctor.   **Summary:**   * This use case allows staff being able to add food ingredient survey of patient.   **Goal:**   * Doctor will have more information of patient.   **Triggers:**   * Nutrition doctor select a patient in list.   **Preconditions:**   * User logged in to the system as nutrition doctor role. * Nutrition doctor had selected patient.   **Post Conditions:**   * **Success:** System add information into patient’s medical record. * **Fail:** Error message displayed.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Nutrition doctor select a patient. | System list following information: | | 2 | Nutrition doctor input field | System validate information doctor input.  [Exception 1, 2] | | 3 | Nutrition doctor send command save information. | System add new patient’s food ingredient.  System show new list of patient and message successfully.  [Exception 3] |   **Alternative Scenario:** N/A  **Exceptions:**  [Exception 1]   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Information is wrong format | Show message notify doctor which field is wrong format. |   [Exception 2]   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Information is out of range | Show message notify doctor which field is out of range. |   [Exception 3]   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Missing of required fields | Show message notify doctor which field is required. |   **Relationships:** N/A  **Business Rules:**   * All fields is number. * All fields have to bigger than 0. * Nutrition’s unit of measure have to show on screen. * Breakfast, breaktime morning, lunch, breaktim afternoon, dinner, eat leat at night have to have unit of measure is kcal. * Starch, protein, fat, animal protein, animal fat, fiber have to have unit of measure is g. * Calcium, sodium, iron, zinc, vitaminB1, vitaminB2, vitaminC, vitaminPP have to have unit of measure is mg. | | | |

<Doctor> Make Prescription

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| **USE CASE – WD01** | | | |
| **Use Case No.** | WD01 | **Use Case Version** | 1.0 |
| **Use Case Name** | Make prescription | | |
| **Author** | QuyHK | | |
| **Date** | 16/11/2015 | **Priority** | High |
| **Actor:**   * Doctor.   **Summary:**   * This use case allows doctor to make prescription to patient.   **Goal:**   * New prescription data is created.   **Triggers:**   * Doctor sends command to make prescription request.   **Preconditions:**   * Actor logged in the system with role “Doctor”. * Patient has had a Prevention Check with nurse. * Patient has had a Food Ingredient with Nutrition Doctor.   **Post Conditions:**   * **Success:** New prescription is sent to patient. * **Fail:** Display error message.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Doctor goes make prescription of patient view. | System display view with following information:   * Name: text, read only. * Age: text, read only. * Gender: text, read only. * Illness: text, read only. * Status: text, read only. * Description: text area, read only. * List days of medical history of patient with information: * + Date: datetime * + Appointment: datetime * Suggest: button.   - Diagnostic: text input with option, required, length 3-40.  - Medicines:  + Name of medicine: text input with option, required.  + Times: text input with option, required, range value 1-6.  + Number of quantity per time: number text input, required, range value 1-10.  + Unit of medicine: text input, required, value depend on medicine.  + Advice: free text input.  - Food:  + Name of food: text input with option, required.  + Time: text input with option, required, range value 1-6.  + Number of quantity per time: number text input, required.  + Unit of food: text input with option, required, value depend on food.  + Advice: free text input.  - Practice:  + Name of practice: free text input, required.  + Time: text input with option, required, range value 1-6.  + Quantitative: free text input, required.  + Advice: free text input.  +Calories Estimate: free text input  - Appointment Date: date, required.  - Note: free text area. | | 2 | Doctor inputs diagnostic, medicines, food, practice, Note, appointment date.  [Alternative 1, 2] | System validate information. | | 3 | Doctor sends make prescription command with inputted information. | System display popup finish treatment request for confirmation. | | 4 | Doctor sends command to confirmation request.  [Alternative 3] | System create new prescription, display popup information of new prescription |   **Alternative Scenario:**  [Alternative 1]   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Doctor sends suggest treatment of illness for diagnostic | System input automatically information of medicines, practices, foods. |   [Alternative 2]   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Doctor sends make prescription command without inputting information | System show alert message to doctor. |   [Alternative 3]   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Doctor sends command to No request. | System close popup confirmation. |   **Exceptions: N/A**  **Relationships:** Extend with “Suggest treatment”  **Business Rules:**   * List days of medical history is included: * + Date is the day when doctor make prescription. * + Appointment is appointment date. * The prescription must be included medicines, foods and practices. * Appointment must be in the future and not over 15 days from current day. * Format of date must be “dd/mm/yyyy”, ex: 25/09/2015. * Appointment date get default day is next 7 days form current day. * Calories Estimate has to suggest by using “total calories” in Food Ingredient subtract “basal metabolic rate” in Prevention Check. * Diagnostic input only use option. * Medicine input only use option. * Doctor can make patient’s Food Ingredient in tab food. * Doctor can view patient’s Food Ingredient in tab food. * If this appointment is re-examination, doctor can view patient’s medical record data in tab practice. * Quantitative in food, medicine should be use option. Quantitative in practice should be use free text input. | | | |

View Patient Medical History

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| **USE CASE – WD02** | | | |
| **Use Case No.** | WD02 | **Use Case Version** | 1.1 |
| **Use Case Name** | View Patient Medical History | | |
| **Author** | QuyHK | | |
| **Date** | 16/11/2015 | **Priority** | High |
| **Actor:**   * Doctor.   **Summary:**   * This use case allows doctor to view medical history of patient.   **Goal:**   * Show medical history of patient for doctor.   **Triggers:**   * Doctor select an appointment date to view.   **Preconditions:**   * User logged in system with role “Doctor”. * This appointment is re-examination.   **Post Conditions:**   * **Success:** Medical history of patient show for doctor. * **Fail:** Show error message   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Doctor selects an appointment date to view. | System display medical history of patient in specific day.  - Date of appointment: text, read only.  - Medicines:  + Name of medicine: text input, read only.  + Times: text input, read only.  + Number of quantity per time: text input, read only.  + Unit of medicine: text input, read only.  + Advice: text input, read only.  - Food:  + Name of food: text input, read only.  + Time: text input, read only.  + Number of quantity per time: text input, read only.  + Unit of food: text input, read only.  + Advice: text input, read only.  - Practice:  + Name of practice: text input, read only.  + Time: text input, read only.  + Quantitative: text input, read only  + Advice: text input, read only. |   **Alternative Scenario:** N/A  **Exceptions:** N/A  **Relationships:** N/A  **Business Rules:**   * List appointment date | | | |