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| Use Case ID: | UC – 01 | | |
| Use Case Name: | Make Selections to View Incidents | | |
| Created By: | Li Guanlong | Last Updated By: | Li Guanlong |
| Date Created: | 2/9/2018 | Date Last Updated: | 10/11/2018 |

Use Case Description

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| Actor: | General Public, Call Centre Operator, Department Officer |
| Description: | This use case is to allow user to perform selections until their selections trigger any of the extension conditions. |
| Preconditions: | The application is opened by the user. |
| Postconditions: | The desired information is displayed properly on the screen. |
| Priority: | Nil |
| Frequency of Use: | (to be decided) |
| Flow of Events: | 1. After the user open the web application, a tool bar is displayed at the top of the web page, meanwhile, the map (of Singapore) will be displayed under the toolbar.  2. The user makes selection at the tool bar. There are two choices which are displaying emergency situations and displaying other useful information.  3. The user will be directed to the corresponding extension based on the choice made to the toolbar. (Use extension cases Display Emergency Situations and Display Other Useful Information) |
| Alternative Flows: | AF: The user is able to go back to step 1 at any step includes all the steps of the extension use cases. (include more info about how to go back later) |
| Exceptions: | (to be decided) |
| Includes: | Nil |
| Special Requirements: | Nil |
| Assumptions: | Nil |
| Notes and Issues: | Extensions are added to avoid a very long flow of events.  The map (of Singapore) is displayed under the toolbar. |

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| Use Case ID: | UC – 02 | | |
| Use Case Name: | Display Emergency Situations | | |
| Created By: | Li Guanlong | Last Updated By: | Yong Hao |
| Date Created: | 2/9/2018 | Date Last Updated: | 10/11/2018 |

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| Actor: | Null |
| Description: | This use case is to display the information of emergency situations. |
| Preconditions: | This use case is extended from ID:  The user selects displaying emergency situations from the tool bar. |
| Postconditions: | The desired information is displayed properly on the screen. |
| Priority: | Nil |
| Frequency of Use: | (to be decided) |
| Flow of Events: | 1. A dropdown list appears. There are four choices on the dropdown list, which are natural hazard, display epidemic, display traffic accidents and display accidents within crowded areas.  2. The operation is then handled by the corresponding alternative flow (AF 1- 4). |
| Alternative Flows: | AF 1: At step 1, if the user selects display natural hazard.  1. A dropdown list appears, the choices on the dropdown list are  fire, haze, tsunami, typhoon, earthquake and earthquake  aftershocks.  2. Based on user’s selection, location of the corresponding hazard  is indicated as a coloured dot on the map (of Singapore).  3. The corresponding hazard’s date, location, intensity, possible  harms are displayed in a table under the map  4. Related hazard prevention and control information is displayed  under the table.  AF 2: At step 1, if the user selects display epidemic.  1. A dropdown list appears, the choices on the dropdown list are  HIV/AIDS, bird-flu and Zika.  2. Based on user’s selection, location of the corresponding  epidemic is indicated as a coloured dot on the map (of  Singapore).  3. The corresponding epidemic’s location, dangerous level and  case number are displayed in a table under the map.  4. Related epidemic prevention and control information is  displayed under the table.  AF3: At step 1, if the user selects display traffic accidents.  1. A dropdown list appears, the choices on the dropdown list are  single car accident, two car collisions and multiple vehicle pile-  up.  2. Based on user’s selection, location of the corresponding  accident is indicated as a coloured dot on the map (of  Singapore).  3. The centre of the corresponding traffic accident and the  dangerous zone along with the affected roads result from the  traffic accident are displayed in a table under the map.  AF4: At step 1 if the user selects display accidents within crowded areas.  1. A dropdown list appears, the choices on the dropdown list are  terrorist attacks and mass shooting.  2. Based on user’s selection, location of the corresponding  epidemic is indicated as a coloured dot on the map (of  Singapore).  3. The corresponding accidents’ location, attack intensity and  victims are displayed in a table under the map. |
| Exceptions: | (to be decided) |
| Includes: | Nil |
| Special Requirements: | Nil |
| Assumptions: | Nil |
| Notes and Issues: | Nil |

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| Use Case ID: | UC - 03 | | |
| Use Case Name: | Display Other Useful Information | | |
| Created By: | Li Guanlong | Last Updated By: | Yong Hao |
| Date Created: | 2/9/2018 | Date Last Updated: | 10/11/2018 |

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| Actor: | External Databases |
| Description: | This use case is to display other useful information. |
| Preconditions: | This use case is extended from ID:  The user selects display other useful information from the tool bar. |
| Postconditions: | The desired information is displayed properly on the screen. |
| Priority: | Nil |
| Frequency of Use: | (to be decided) |
| Flow of Events: | 1. A dropdown list appears, the choices on the dropdown list are weather and civil defence shelter.  2. The operation is then handled by the corresponding alternative flow (AF 1- 2). |
| Alternative Flows: | AF1: At step 1, if the user selects weather.  1. All required information about weather is retrieved from the  external database.  2. The information of today’s temperature, humidity, PM2.5, UV  light intensity and air pollutants are displayed on the top-half of  the webpage.  3. The following week’s weather forecast is displayed under  today’s weather information.  AF2: At step 2, if the user selects civil defence shelter.  1. All required information about civil defence shelter (CDS) is  retrieved from the external database.  2. The location of CDSs are indicated as blue coloured dots on  the map (of Singapore)  3. The user checks one of the CDSs (how to check will be added  later).  4. The information of whether the shelter is fully occupied will  be displayed on the screen (where to display will be added later). |
| Exceptions: | (to be decided) |
| Includes: | Nil |
| Special Requirements: | Nil |
| Assumptions: | Nil |
| Notes and Issues: | Nil |

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| Use Case ID: | UC – 04 | | |
| Use Case Name: | Log in | | |
| Created By: | Fu Mengyan | Last Updated By: | Fu Mengyan |
| Date Created: | 3/9/2018 | Date Last Updated: | 10/11/2018 |

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| Actor: | Call center operator, Department officer, Admin |
| Description: | The goal of use case Log in is to describe how a call center operator, a department officer or an admin logs into the system. |
| Preconditions: | The call center operator has an account with the system. |
| Postconditions: | The call center operator logs in the system. |
| Priority: | Top priority |
| Frequency of Use: | 50 times per day |
| Flow of Events: | 1.The system displays the login button on the top left corner of the homepage.  2.The actor clicks “login” button.  3.The system displays the login screen.  4.The actor enters username and password.  5.The actor clicks “login” button.  6.The system validates the entered username and password.  A1.invalid username or password.  7.The actor logs into the system.  8.The actor can log out of the system at any time. (Use extension case Log out) |
| Alternative Flows: | A1.invalid username or password.  1.The system displays an error message which informs the call center operator that the username or password he enters is invalid on the login screen.  2.The username and password input columns are cleared. |
| Exceptions: | nil |
| Includes: | nil |
| Special Requirements: | nil |
| Assumptions: | nil |
| Notes and Issues: | nil |

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| Use Case ID: | UC – 05 | | |
| Use Case Name: | Create incidents | | |
| Created By: | Fu Mengyan | Last Updated By: | Fu Mengyan |
| Date Created: | 3/9/2018 | Date Last Updated: | 10/11/2018 |

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| Actor: | Call center operator |
| Description: | The goal of use case Create incidents is to describe how a call center operator create new incidents according to the caller. |
| Preconditions: | 1.The actor must have logged into the system.  2.The actor must have received a call from the caller who requests to report an incident. |
| Postconditions: | The created incident record is stored in the incident database and updated to the Current Incidents table. |
| Priority: | Medium priority |
| Frequency of Use: | 10 times per day |
| Flow of Events: | 1.The actor clicks section two on the homepage.  2.The actor clicks “create a new incident” button on the bottom.  3.System displays the incident creation form to the actor.  4.The actor keys in the name of the caller, the mobile number of the caller, the location of the incident, the postal code of the incident and the building unit number of the incident.  5.The actor chooses a type of assistance requested among four choices (i.e. emergency ambulance, rescue and evacuation, fire-fighting and gas leak control).  A1.The actor exits the incident creation process.  6.When the actor scrolls to the button of the record form, a “submit” button is displayed.  7.The actor clicks “submit” button.  8.The system displays a confirmation message with two buttons “yes” and “no” on the bottom.  A2.The actor wants to continue editing the record form.  9.The actor clicks “yes” button.  10.The record form is stored in the database with information about creation time and incident id. |
| Alternative Flows: | A1.The actor exits the incident creation process.  1.The actor clicks “Exit” button on the bottom of the page.  2.The actor exits the incident creation process.  A2. The actor wants to continue editing the record form.  1.The actor clicks “no” button.  2.The actor continues editing the record form. |
| Exceptions: | nil |
| Includes: | Log in, Dispatch to Departments |
| Special Requirements: | nil |
| Assumptions: | nil |
| Notes and Issues: | 1.“Postal code” and “building unit number” columns can be left blank.  2.Creation time and incident id are self-generated upon submission. |
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| Use Case ID: | UC - 06 | | |
| Use Case Name: | Log out | | |
| Created By: | Fu Mengyan | Last Updated By: | Fu Menygyan |
| Date Created: | 3/9/2018 | Date Last Updated: | 3/9/2018 |

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| Actor: | Call center operator, Department officer, Admin |
| Description: | The goal of use case Log out is to describe how a call center operator, a department officer or an admin logs out the system. |
| Preconditions: | The call center operator must have logged into the system. |
| Postconditions: | The call center operator logs out of the system. |
| Priority: | Top priority |
| Frequency of Use: | 50 times per day |
| Flow of Events: | 1.The system displays the ‘Log out’ button on the top left corner.  2.The actor clicks ‘Log out’ button.  3.The actor logs out of the system. |
| Alternative Flows: | nil |
| Exceptions: | nil |
| Includes: | nil |
| Special Requirements: | nil |
| Assumptions: | nil |
| Notes and Issues: | nil |

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| Use Case ID: | UC – 07 | | |
| Use Case Name: | Dispatch to Departments | | |
| Created By: | Austin Tarango | Last Updated By: | Yong Hao |
| Date Created: | 3-9-2018 | Date Last Updated: | 10/11/2018 |

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| Actor: | Call Center Subsystem |
| Description: | Checks the emergency and send information to the correct recipient |
| Preconditions: | For Dispatch to Departments to be complete. Compile Status/Public Alert must be executed. |
| Postconditions: | Confirmation that information has been sent. |
| Frequency of Use: | As emergencies are reported |
| Flow of Events: | 1: Emergency information is received by call center  2: Information is analyzed to check if SCDF, Singapore Power, or both need a report.  3: Base on analysis, compile reports (see Alternative Flows)  4: Compile Status  5: Compile Public Alert |
| Alternative Flows: | 3 alt: If SCDF needs - Compile Report  If Singapore Power needs - Compile Gas Report  If both needs - Compile Report and Compile Gas Report |
| Exceptions: |  |
| Includes: |  |
| Special Requirements: | Information is received in a standard/consistent format |
| Assumptions: | There is enough/any information to analyze and report  There is no further verification needed before sending information |
| Notes and Issues: | May be overlap with subsystem 4 in regard to reporting to Prime Minister and Social Media actors |

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| Use Case ID: | UC - 08 | | |
| Use Case Name: | Compile/Send Gas Report | | |
| Created By: | Austin Tarango | Last Updated By: | Yong Hao |
| Date Created: | 3/9/2018 | Date Last Updated: | 10/11/2018 |

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| Actor: | Singapore Power |
| Description: | Generates a report useful to Singapore Power actor |
| Preconditions: | It is necessary to report to SCDF |
| Postconditions: | Confirmation that information has been sent |
| Frequency of Use: | As emergencies are reported with a need to send to Singapore Power |
| Flow of Events: | 1: Access information from call center  2: Reorganize, omit, and format accessed information to be better suited for the Singapore Power  3: Send the revised information to Singapore Power through SMS API |
| Includes: |  |
| Special Requirements: | Information is received in a standard/consistent format |
| Assumptions: | There is enough/any information to analyze and report  SMS would be the communication to Singapore Power |

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| Use Case ID: | UC - 09 | | | |
| Use Case Name: | Compile/Send Report | | | |
| Created By: | Austin Tarango | | Last Updated By: | Yong Hao |
| Date Created: | 3/9/2018 | | Date Last Updated: | 10/11/2018 |
| Actor: | | SCDF | | |
| Description: | | Generates a report useful to SCDF actor | | |
| Preconditions: | | It is necessary to report to SCDF | | |
| Postconditions: | | Confirmation that information has been sent | | |
| Frequency of Use: | | As emergencies are reported with a need to send to SCFD | | |
| Flow of Events: | | 1: Access information from call center  2: Reorganize, omit, and format accessed information to be better suited for the SCDF  3: Send the revised information to SCDF through SMS API | | |
| Includes: | |  | | |
| Special Requirements: | | Information is received in a standard/consistent format | | |
| Assumptions: | | There is enough/any information to analyze and report  SMS would be the communication to SCDF | | |

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| Use Case ID: | UC - 10 | | | |
| Use Case Name: | Compile/Send Status | | | |
| Created By: | Austin Tarango | | Last Updated By: | Yong Hao |
| Date Created: | 3-9-2018 | | Date Last Updated: | 10/11/2018 |
| Actor: | | Prime Minister | | |
| Description: | | Generates a report useful to Prime Minister actor | | |
| Preconditions: | | Always send to Prime Minister | | |
| Postconditions: | | Confirmation that information has been sent | | |
| Frequency of Use: | | As emergencies are reported | | |
| Flow of Events: | | 1: Access information from call center  2: Reorganize, omit, and format accessed information to be better suited for the Prime Minister  3: Send the revised information to Prime Minister through SMS API | | |
| Includes: | |  | | |
| Special Requirements: | | Information is received in a standard/consistent format | | |
| Assumptions: | | There is enough/any information to analyze and report  SMS would be the communication to Prime Minister | | |

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| Use Case ID: | UC - 11 | | | |
| Use Case Name: | Compile/Send Public Alert | | | |
| Created By: | Austin Tarango | | Last Updated By: | Yong Hao |
| Date Created: | 3-9-2018 | | Date Last Updated: | 10/11/2018 |
| Description: | | Generates a report useful to Social Media actor | | |
| Preconditions: | | Always send to Social Media | | |
| Postconditions: | | Confirmation that information has been sent | | |
| Frequency of Use: | | As emergencies are reported | | |
| Flow of Events: | | 1: Access information from call center  2: Reorganize, omit, and format accessed information to be better suited for Social Media  3: Send the revised information to Social Media through Social Media API | | |
| Includes: | |  | | |
| Special Requirements: | | Information is received in a standard/consistent format | | |
| Assumptions: | | There is enough/any information to analyze and report | | |

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| Use Case ID: | UC – 12 | | |
| Use Case Name: | Manage Incidents | | |
| Created By: | Li Guanlong | Last Updated By: | Yong Hao |
| Date Created: | 8/9/2018 | Date Last Updated: | 10/11/2018 |

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| Actor: | Department Officer |
| Description: | The goal of this use case is to allow department officers to manage the recorded incidents. |
| Preconditions: | User’s identity has been authenticated. |
| Postconditions: | Department Officer finish the operations he/she wants to perform. |
| Priority: | Nil |
| Frequency of Use: | (to be decided) |
| Flow of Events: | 1. Four nodes are displayed in a form of flow chart, the first node represents the step that certain department was informed and assigned the task, the second node represents the step that a plan of solving the incident is arranged, the third node represents the step that work is under way according to the plan, the fourth node represents the step that work has been finished.  2. The node will be in green colour if the corresponding step is finished, if the step is not finished, the node will be in grey colour. |
| Alternative Flows: | AF1: After step2, if the user clicks on any of the nodes.  1. The operation will be handled by the included case Update  Status.  AF2: If any status update occurs.  1. The operation will be handled by the included case Social  Meida Update |
| Exceptions: | (to be decided) |
| Includes: | Log in, Report, Update Status, Social Media Update |
| Special Requirements: | Nil |
| Assumptions: | Nil |
| Notes and Issues: | Nil |

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| Use Case ID: | UC – 13 | | |
| Use Case Name: | Supervise Incidents | | |
| Created By: | Han Simeng | Last Updated By: | Yong Hao |
| Date Created: | 3/9/2018 | Date Last Updated: | 10/11/2018 |

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| Actor: | Call center operators, department officers |
| Description: | The goal of this use case View Incident is to describe how the users who can log in to the system view the incidents. The users with an ID view incidents to get to know about the ongoing incidents in Singapore. |
| Preconditions: | 1. The application is opened. 2. Invocation as an included use case by including “Log in”. |
| Postconditions: | The table of current incidents is displayed in a proper way on the screen. |
| Priority: | Nil |
| Frequency of Use: | For call center operator: 10 times per day.  For department officers: 100 times per day. (to be decided) |
| Flow of Events: | 1. A table is generated from the unsolved incidents in the incident database if the user clicks on “Incidents” on the main page. 2. The table consisting of unsolved incidents is displayed on the screen. 3. The user can view the incident ID, incident type, incident-creation time, location and status of the incident and the department assigned to solve this incident. 4. A table is generated from the solved incidents in the incident database if the user clicks on “Archive” on this page. 5. The table consisting of solved incidents is displayed on the screen. 6. The user can view the incident ID, incident type, incident-creation time, location of the incident, the department assigned to solve this incident and the total amount of time taken to solve the incident. |
| Alternative Flows: | Nil |
| Exceptions: | (to be decided) |
| Includes: | Log in |
| Special Requirements: | Nil |
| Assumptions: | Nil |
| Notes and Issues: | Nil |

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| --- | --- | --- | --- |
| Use Case ID: | UC - 14 | | |
| Use Case Name: | Add & Delete Accounts | | |
| Created By: | Yong Hao | Last Updated By: | Yong Hao |
| Date Created: | 7/9/2018 | Date Last Updated: | 10/11/2018 |

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| Actor: | Admin |
| Description: | This use case is for the admin to add and delete existing accounts in the system’s database |
| Preconditions: | The admin has logged in. |
| Postconditions: | The admin has changed the desired accounts and logged out |
| Priority: | Nil |
| Frequency of Use: | (to be decided) |
| Flow of Events: | 1. If the admin clicks on the delete button after an account, a confirmation message shall appear to ask whether the admin is confirmed to delete this account. 2. If the admin clicks on “confirm”, the corresponding account will be deleted. 3. If the admin clicks on “cancel”, AF1. 4. If the admin clicks on “create new account”, a pop-up message shall appear and ask the admin to input the username, password and domain of the new account. 5. Once the admin has finished the input, a confirmation shall appear to ask whether the admin is confirmed to create this account. 6. If the admin clicks on “confirm”, the corresponding account will be created. 7. If the admin clicks on “cancel”, AF1. |
| Alternative Flows: | AF1 – the admin shall return to the previous page containing the table containing all accounts information. |
| Exceptions: | (to be decided) |
| Includes: | Log in |
| Special Requirements: | Nil |
| Assumptions: | Nil |
| Notes and Issues: | Nil |