**CZ2006 Lab**

**Application name** : DogGo

**Data & API**

<https://data.gov.sg/dataset/weather-forecast>

The data in the above links read at every 30mins interval.

Forecast uses string such as : Partly Cloudy, Moderate Rain and etc

<https://data.gov.sg/dataset/realtime-weather-readings>

Readings every 1minute in degrees celsius

# Project Mission Statement

The DogGo application aims to aid Dog owners by providing them with information on the best time to walk their Dogs. This application ensures that users will have the best experience while walking their Dogs at the application’s suggestions.

# Elicit functional requirements

The application must be able to display the weather temperature 2hours before and future.

The application must be able to display the weather forecast 2hours before and future.

The application must be able to calculate and suggest the perfect time to walk the dogs.

Notification when & what to feed/clinic visit/walk

The application must not be able to suggest when the time is not within the range set by the users.

Dog profiles to keep track of your dogs and display them.

Display useful links and hotlines

**Atomic Requirements**

1. When the user clicks on the forecast button
   1. It will display the temperature
      1. It must be displayed in degree celsius (29.2)
      2. It must display 2hours of history of temperature
      3. It must display 2hours of forecast of temperature
   2. It will display the weather
      1. It must be displayed in categories( Partly Cloudy, Moderate Rain)
      2. It must display 2hours of history of weather
      3. It must display 2hours of forecast of weather
2. Should I walk my dog now?(Suggestions by the application)
   1. If both the weather and temperature are right
      1. It must suggest the user that they are able to walk their dogs
   2. If either the weather and temperature are not right (Too hot or it's about to rain soon)
      1. It must inform the user that they should not walk their dogs
3. The dog profile should consist of information about the dogs
   1. The profile must consist of the dog's name
   2. The profile must consist of the dog's picture
   3. The profile must consist of the dog's breed
   4. The profile must consist of the dog's favourite food
4. When the user clicks on useful links and hotlines
   1. It must display links in hyperlink format (open browser/new tab when tapped)
   2. It must display hotlines in hyperlink format(call link to the phone’s ‘phone’ app)
   3. A button for user to add or remove information
      1. Must allow the user to delete information
      2. Must allow the user to add information

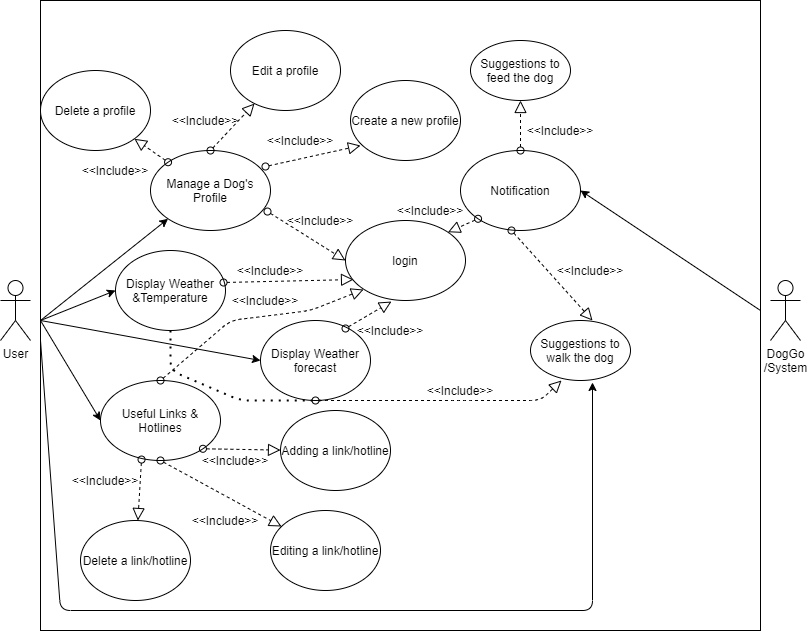
# Non-functional requirements

|  |  |
| --- | --- |
| Usability | Websites are responsive especially for phone users. |
| Reliability | Every page must be able to load within 1 minute.  Apps should not crash at all once full development is done. |
| Performance | The application should update the temperature every X seconds. (X depends on the API)  The application should update the weather forecast every X seconds. (X depends on the API) |
| Supportability | The application can be used on any system as long as it supports a browser |
| Consistency | Font must be X font and X size  Colour scheme for the app |

# Data dictionary

|  |  |
| --- | --- |
| **Term** | **Definition** |
| Time | The current time in HHMM format |
| Temperature | Temperature degrees measured in Celsius |
| UV | Ultra Violet Light measured in UV index |

# Use Case models



# Use case Descriptions

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | 01 | | |
| **Use Case Name:** | Display Weather forecast | | |
| **Created By:** |  | **Last Updated By:** |  |
| **Date Created:** | 21 August 2020 | **Date Last Updated:** | 21 August 2020 |

|  |  |
| --- | --- |
| **Actor:** | Dog owner |
| **Description:** | The feature displays the history and forecast of weather for the user |
| **Preconditions:** | User needs to be logged in  User clicks the Weather button |
| **Postconditions:** | User click back button or exits the app |
| **Priority:** |  |
| **Frequency of Use:** |  |
| **Flow of Events:** | User will click on the display weather information  System will get the current date and time  System will search the api for the weather forecast 2hours before and after the current data and time  System will display the weather forecast 2hours before and after |
| **Alternative Flows:** |  |
| **Exceptions:** |  |
| **Includes:** |  |
| **Special Requirements:** |  |
| **Assumptions:** |  |
| **Notes and Issues:** |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | 02 | | |
| **Use Case Name:** | Display Temperature forecast | | |
| **Created By:** |  | **Last Updated By:** |  |
| **Date Created:** | 21 August 2020 | **Date Last Updated:** | 21 August 2020 |

|  |  |
| --- | --- |
| **Actor:** | Dog owner |
| **Description:** | The feature displays the history and forecast of temperature for the user |
| **Preconditions:** | User needs to be logged in  User clicks the Temperature button |
| **Postconditions:** | User click back button or exits the app |
| **Priority:** |  |
| **Frequency of Use:** |  |
| **Flow of Events:** | User will click on the display temperature information  System will get the current date and time  System will search the api for the temperature forecast 2hours before and after the current data and time  System will display the temperature forecast 2hours before and after |
| **Alternative Flows:** |  |
| **Exceptions:** |  |
| **Includes:** |  |
| **Special Requirements:** |  |
| **Assumptions:** |  |
| **Notes and Issues:** |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | 03 | | |
| **Use Case Name:** | Suggestions to walk the dog | | |
| **Created By:** |  | **Last Updated By:** |  |
| **Date Created:** | 21 August 2020 | **Date Last Updated:** | 21 August 2020 |

|  |  |
| --- | --- |
| **Actor:** | Dog owner |
| **Description:** | The feature helps the user to check whether if the temperature and weather is alright for the user to walk his dog |
| **Preconditions:** | User logged in  The time is within the range of user specification  The weather and temperature is fine |
| **Postconditions:** | **After xx seconds** |
| **Priority:** |  |
| **Frequency of Use:** |  |
| **Flow of Events:** | User will click on the “Should I walk my dog now?”  System will get the current date and time  System will search the api for the temperature & weather forecast 2hours before and after the current data and time  System will then check if the temperature and weather satisfy the condition  If the conditions are satisfy, it will inform that the owner should walk his dog  It will also display the temperature and weather information |
| **Alternative Flows:** | If the temperature and weather does not satisfy the conditions, it will inform the owner not to his walk dog  System will suggest an alternative timing based on the forecasts |
| **Exceptions:** |  |
| **Includes:** |  |
| **Special Requirements:** |  |
| **Assumptions:** |  |
| **Notes and Issues:** |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | 04 | | |
| **Use Case Name:** | Managing the profile | | |
| **Created By:** |  | **Last Updated By:** |  |
| **Date Created:** | 21 August 2020 | **Date Last Updated:** | 21 August 2020 |

|  |  |
| --- | --- |
| **Actor:** | Dog owner |
| **Description:** | The feature helps to manage the profile of the dogs |
| **Preconditions:** | User clicks “manage my dogs” |
| **Postconditions:** | User choose to exit using the back button |
| **Priority:** |  |
| **Frequency of Use:** |  |
| **Flow of Events:** | User will click on the “Manage my dogs”  System will then display current information about the dogs such as name, picture and etc  System will allow the user to Add, Delete or edit profiles  If the user selects Add, he uses the Adding of profile use case  If the user selects Delete, he uses the Deleting of profile use case  If the user selects Edit, he uses the Editing of profile use case |
| **Alternative Flows:** | If no profile exist, users will not be allowed to select delete or edit |
| **Exceptions:** |  |
| **Includes:** |  |
| **Special Requirements:** |  |
| **Assumptions:** |  |
| **Notes and Issues:** |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | 05 | | |
| **Use Case Name:** | Adding of profile | | |
| **Created By:** |  | **Last Updated By:** |  |
| **Date Created:** | 21 August 2020 | **Date Last Updated:** | 21 August 2020 |

|  |  |
| --- | --- |
| **Actor:** | Dog owner |
| **Description:** | Upon clicking on Add at the profile page, users will then follow the flow of events here |
| **Preconditions:** | User clicks add |
| **Postconditions:** | User has added a profile or user cancels the operation |
| **Priority:** |  |
| **Frequency of Use:** |  |
| **Flow of Events:** | User clicks on Add profile  User inputs the information of the dog such as name and picture  User then clicks OK  System will prompt the user to confirm the action  After the user confirm the action, the newly created dog profile will be created |
| **Alternative Flows:** |  |
| **Exceptions:** |  |
| **Includes:** |  |
| **Special Requirements:** |  |
| **Assumptions:** |  |
| **Notes and Issues:** |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | 06 | | |
| **Use Case Name:** | Deleting of profile | | |
| **Created By:** |  | **Last Updated By:** |  |
| **Date Created:** | 21 August 2020 | **Date Last Updated:** | 21 August 2020 |

|  |  |
| --- | --- |
| **Actor:** | Dog owner |
| **Description:** | Upon clicking on Delete at the profile page, users will then follow the flow of events here |
| **Preconditions:** | User has at least 1 profile |
| **Postconditions:** | User has deleted a profile |
| **Priority:** |  |
| **Frequency of Use:** |  |
| **Flow of Events:** | User clicks on Delete profile  User selects the profile to be deleted  System will prompt the user to confirm the action  After the user confirm the action, the selected dog profile will be deleted |
| **Alternative Flows:** |  |
| **Exceptions:** | If no profile exists, user will not be able to click on the Delete profile |
| **Includes:** |  |
| **Special Requirements:** |  |
| **Assumptions:** | There already exists a profile |
| **Notes and Issues:** |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | 07 | | |
| **Use Case Name:** | Editing of profile | | |
| **Created By:** |  | **Last Updated By:** |  |
| **Date Created:** | 21 August 2020 | **Date Last Updated:** | 21 August 2020 |

|  |  |
| --- | --- |
| **Actor:** | Dog owner |
| **Description:** | Upon clicking on Edit at the profile page, users will then follow the flow of events here |
| **Preconditions:** | User clicks edit |
| **Postconditions:** | After user has saved the changes by clicking confirm/ tick icon |
| **Priority:** |  |
| **Frequency of Use:** |  |
| **Flow of Events:** | User clicks on Edit profile  User selects the profile to be edited  System will display the selected profile  User then input the things to be edited  System will prompt the user to confirm the action  After user confirmed the action, the profile will then be edited |
| **Alternative Flows:** |  |
| **Exceptions:** |  |
| **Includes:** |  |
| **Special Requirements:** |  |
| **Assumptions:** | There already exists a profile |
| **Notes and Issues:** |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | 08 | | |
| **Use Case Name:** | Useful links & Hotlines | | |
| **Created By:** |  | **Last Updated By:** |  |
| **Date Created:** | 21 August 2020 | **Date Last Updated:** | 21 August 2020 |

|  |  |
| --- | --- |
| **Actor:** | Dog owner |
| **Description:** | Shows the flow of events when the user clicks on the useful links & Hotlines |
| **Preconditions:** |  |
| **Postconditions:** | User received the links and/or hotlines they required |
| **Priority:** |  |
| **Frequency of Use:** |  |
| **Flow of Events:** | User clicks on Links & Hotlines  System will display suggested links and hotlines as well as user inputs  User can then Add a link/hotline, Delete a link/hotline or edit a link/hotline  If the user chooses to Add, he uses the Adding of link & hotline use case  If the user chooses to Delete, he uses the Deleting of link & hotline use case  If the user chooses to Edit, he uses the Adding of link & hotline use case |
| **Alternative Flows:** |  |
| **Exceptions:** |  |
| **Includes:** |  |
| **Special Requirements:** |  |
| **Assumptions:** | There already exists a profile |
| **Notes and Issues:** |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | 09 | | |
| **Use Case Name:** | Adding of useful links & hotlines | | |
| **Created By:** |  | **Last Updated By:** |  |
| **Date Created:** | 21 August 2020 | **Date Last Updated:** | 21 August 2020 |

|  |  |
| --- | --- |
| **Actor:** | Dog owner |
| **Description:** | Shows the flow of events when the user clicks add useful links & hotlines |
| **Preconditions:** | User clicks add link |
| **Postconditions:** | User added links & hotlines |
| **Priority:** |  |
| **Frequency of Use:** |  |
| **Flow of Events:** | User clicks on Add  User inputs the links & hotlines as well as their description of it  User then clicks OK  System will prompt the user to confirm the action  After the user confirm the action, the newly created links and hotline will be displayed |
| **Alternative Flows:** |  |
| **Exceptions:** |  |
| **Includes:** |  |
| **Special Requirements:** |  |
| **Assumptions:** |  |
| **Notes and Issues:** |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | 10 | | |
| **Use Case Name:** | Deleting of useful links & hotlines | | |
| **Created By:** |  | **Last Updated By:** |  |
| **Date Created:** | 21 August 2020 | **Date Last Updated:** | 21 August 2020 |

|  |  |
| --- | --- |
| **Actor:** | Dog owner |
| **Description:** | Shows the flow of events when the user clicks delete useful links & Hotlines |
| **Preconditions:** | User has at least one link or hotline |
| **Postconditions:** | User deleted the links or hotlines they selected |
| **Priority:** |  |
| **Frequency of Use:** |  |
| **Flow of Events:** | User clicks on Delete link & hotlines  User selects the link or hotlines to be deleted  System will prompt the user to confirm the action  After the user confirm the action, the selected link or hotline will be deleted |
| **Alternative Flows:** |  |
| **Exceptions:** |  |
| **Includes:** |  |
| **Special Requirements:** |  |
| **Assumptions:** | There already exists a link/hotline |
| **Notes and Issues:** |  |

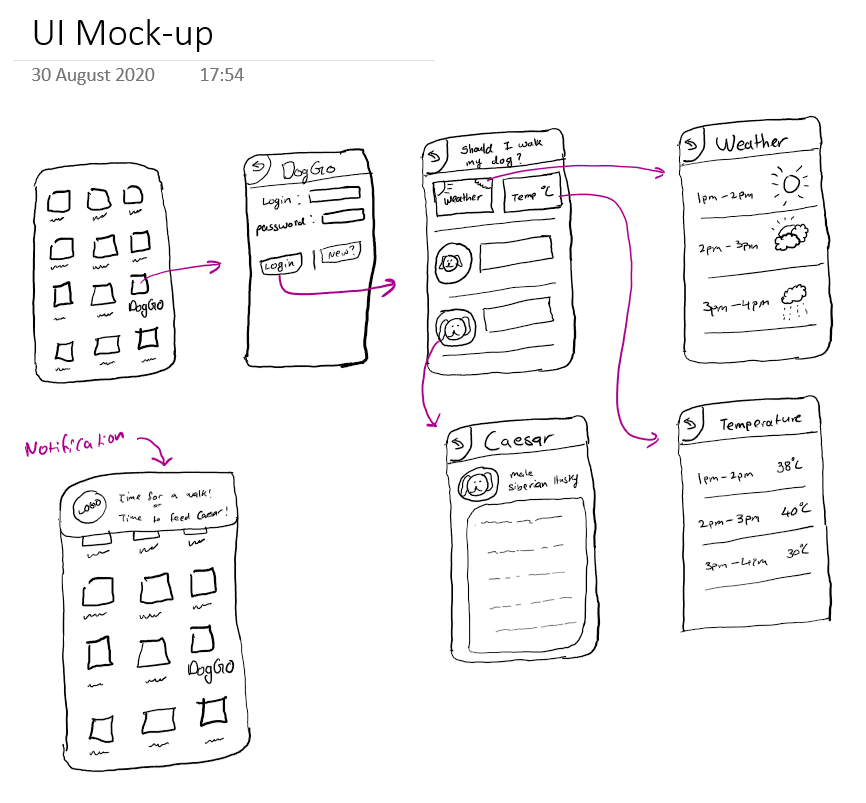
|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | 11 | | |
| **Use Case Name:** | Editing of useful links & hotlines | | |
| **Created By:** |  | **Last Updated By:** |  |
| **Date Created:** | 21 August 2020 | **Date Last Updated:** | 21 August 2020 |

|  |  |
| --- | --- |
| **Actor:** | Dog owner |
| **Description:** | Shows the flow of events when the user clicks edit useful links & Hotlines |
| **Preconditions:** | User clicks edit link |
| **Postconditions:** | User edited the links and/or hotlines they required |
| **Priority:** |  |
| **Frequency of Use:** |  |
| **Flow of Events:** | User clicks on Edit  User selects the links or hotlines to be edited  System will display the selected links or hotlines  User then input the things to be edited  System will prompt the user to confirm the action  After user confirmed the action, the links or hotlines will then be edited |
| **Alternative Flows:** |  |
| **Exceptions:** |  |
| **Includes:** |  |
| **Special Requirements:** |  |
| **Assumptions:** | There already exists a link/hotline |
| **Notes and Issues:** |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case ID:** | 12 | | |
| **Use Case Name:** | Suggestions to walk the dog | | |
| **Created By:** |  | **Last Updated By:** |  |
| **Date Created:** | 21 August 2020 | **Date Last Updated:** | 21 August 2020 |

|  |  |
| --- | --- |
| **Actor:** | Dog owner |
| **Description:** | Shows the flow if the user clicks on “Should I walk my dog?” |
| **Preconditions:** |  |
| **Postconditions:** | User know whether he should walk his dog or not |
| **Priority:** |  |
| **Frequency of Use:** |  |
| **Flow of Events:** | User clicks on “Should I walk my dog”  System will then check whether the weather and temperature is appropriate or not  If it is appropriate, the system will suggest the user to walk the dog  If it is not appropriate, the system will display the weather and temperature forecast |
| **Alternative Flows:** |  |
| **Exceptions:** |  |
| **Includes:** |  |
| **Special Requirements:** |  |
| **Assumptions:** |  |
| **Notes and Issues:** |  |

# UI Mock Up

****