

Functional Requirements

1. The user must be able to search for attractions.
 - 1.1 The user must be able to search attractions by text input.
 - 1.1.1 The input for search must be alphanumeric.
 - 1.1.2 The system must return all attractions that matches at least one of the input characters in a list.
 - 1.1.3 If no matches were found, the system must return “No results found”.
 - 1.2 The user must be able to search attractions by category.
 - 1.2.1 The system must return a list of categories.
 - 1.2.2 The categories must include Neighborhood, Arts, Architecture, History, Culture, Wildlife and Recreation.
 - 1.3 The user must be able to search attractions by suggestion.
 - 1.3.1 The system must return a list of suggested attractions.
 - 1.3.2 The attractions must be ranked in the order of high to low rating.
 - 1.4 The system must include basic information for each attraction in the list.
 - 1.4.1 The basic information must include the name, address and rating of the attraction.
2. The system must return detailed information of the particular attraction selected by the user.
 - 2.1 The detailed information of an attraction must include the name, address, rating, description, operating hours, weather and review of the searched attraction.
 - 2.1.1 The name, address, description and operating hours of the searched attraction must be obtained from the visitSingapore API.
 - 2.1.2 The weather information must be obtained from Wunderground API.
 - 2.1.2.1 The information must contain the temperature and weather types.
 - 2.1.2.2 The possible weather types are sunny, cloudy, rainy, thunderstorm and windy.
 - 2.1.2.3 The temperature must be in degree centigrade in the range 10°C to 130°C in one decimal accuracy.

- 2.1.2.4 The system must alert the user if the weather types for the selected attraction is rainy or thunderstorm.
 - 2.1.3 The rating and review must be obtained from the system local database.
- 3. The system must be able to provide navigation information upon request.
 - 3.1 The information of destination is pass to an on-device navigation App through Android operating system.
 - 3.2 The default navigation API shall be Google Maps.
 - 3.3 If no navigation App is found on device, system shall invoke web version of Google Maps.
- 4. The system must contain a rate and review system.
 - 4.1 The rating must be in the range of 1 to 5.
 - 4.2 The user must be able to rate and review attractions in the system.
 - 4.2.1 User rating must be an integer value.
 - 4.3 The system must be able to calculate an overall rating for each attraction based on the total ratings an attraction receives.
 - 4.3.1 The overall rating must be a float in one decimal accuracy.
 - 4.4 The review must be less than 100 characters.

Non-Functional Requirements

- 1. The system must respond to the user's query in less than one second.
- 2. The system must be available to its users at least 99.99% of the time.
- 3. The system must support both JSON and XML format.
- 4. The system must be able to support at least 100 queries per day.
- 5. Querying the local database must take less than one second.
- 6. Querying the API must take less than three second.
- 7. The local database must be able to update within two seconds after user submitted the rating and review.
- 8. The system must run in Android OS.
- 9. The application must be able to start in less than two seconds.
- 10. The language of the entire system must be in English.

11. The login ID must be in the range of 1-20 characters.
12. The password must be alphanumeric.
13. The password must be in the range of 8-20 characters.
14. The login ID and Password must be unique.