# 

# **Trinity WayFinders**

# **WayFinder Application**

# **Functional Requirement Specifications Document**

**Revision History**

|  |  |  |  |
| --- | --- | --- | --- |
| **Version** | **Created Date** | **Author** | **Comments** |
| 1.0 | 7-2-2019 | Nicky Bonello |  |

**Authors List**

|  |  |  |
| --- | --- | --- |
| **Sl. No.** | **Name** | **Role** |
|  | Nicky Bonello |  |
|  | Saad Tariq Malik |  |

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# Objective

This document contains the details of all the functional behaviour of the Trinity Wayfinder application.

# Requirements Overview

The following sections will contain all the use cases for the two categories of users (i.e. the Admin User and the End-User).

# Requirements Classification Methodology

The Requirement IDs were allocated to tasks automatically by JIRA\* based on the order in which they were added.

The following priority levels have been defined for the requirements:

1. Must-Do: To identify requirements integral to our application
2. Highest: To identify requirements that are of extremely high utility to the user but not critical to the overall operation of the application
3. High: To identify requirements that yield high utility to the user (but lower compared to the ‘Highest’ requirements)
4. Medium: To identify requirements that could serve as nice add-ons/extra features that a mature application would likely have.
5. Low: To identify nice-to-have features that would improve the application
6. Lowest: To identify nice-to-have features that we might consider in the future but currently not in the scope of the project.

\* JIRA is an online tool for bug tracking and agile project management.

# Functional Requirements

## User Requirements

Table-1

|  |  |  |
| --- | --- | --- |
| Req-ID | Requirement | Priority |
| WR-53 | A user should be able to cancel their journey whenever they desire. | Must Do |
| WR-50 | A user should be given multiple options for their desired journey | Must Do |
| WR-68 | A user should be able to use the application even when there is an intermittent interruption in the network (internet). | Must Do |
| WR-64 | A user should be able to specify their journey as from A to B (not from their current location). | Must Do |
| WR-62 | A user should be able to specify their journey as from their current location. | Must Do |
| WR-59 | For each route, the options presented to the traveller should include three or more transport modes. | Must Do |
| WR-54 | A user should be able to modify their journey en-route if they desire. | Must Do |
| WR-57 | A user should be given information about the emissions of their chosen route and if applicable, given an alternative option with lower emissions. | Highest |
| WR-56 | A user should be given an update to their rout | Highest |
| WR-60 | The user profile should be updated with incentives based on the choice of routes. | Medium |
| WR-66 | A user should be able to specify an arrival time and be given the most sustainable journey based on this time. | Low |
| WR-65 | A user should be able to specify a multi-hop journey. | Low |
| WR-52 | A user should be given Dublin Bikes a suggested mode of transport if they have said that they have a Dublinbikes account. | Low |
| WR-86 | A user should be able to disable their account | Lowest |
| WR-85 | A user should be able to specify how many people they are travelling with | Lowest |
| WR-67 | A user should be able to send a report requesting help. | Lowest |
| WR-73 | The sales team should have scenarios of application usage using simulated data for demonstration | Must Do |
| WR-72 | The sales team should have a feature using which they could simulate a negative event during the route and show the functionality of dynamic rerouting | Must Do |
| WR-70 | Provision should be available to stream live pollution data. | Must Do |
| WR-81 | A user should be able to delete account if desired. | Must Do |
| WR-80 | A user should be able to request password if forgotten. | Must Do |
| WR-79 | A user should be able to change their password. | Must Do |
| WR-78 | A user should be able to login and manage their profile. | Must Do |
| WR-77 | A user should be able to sign-up for an account | Must Do |
| WR-82 | During sign-up the user should be asked to agree/not to agree to the following: | Must Do |
| WR-2 | A user should be able to sign-up for an account using the following | High |
| WR-84 | A user should be able to sign-up and sign-in using Google and Facebook Accounts | Low |
| WR-3 | A user should be able to specify their top three requirements for travel | Must Do |
| WR-22 | A user should be able to turn on/off location. | Must Do |
| WR-19 | A user should be able to control their notification settings | High |
| WR-87 | A user should specify whether they are employed/student or other at sign up | Medium |
| WR-24 | The user should be able to view their contributions and history | Medium |
| WR-18 | A use should be able to bookmark / save favourite routes and access it. | Medium |
| WR-23 | A user should specify whether they have a Dublinbikes account. | Low |
| WR-20 | A user should be able activate/disable active re-routing | Low |
| WR-25 | A user should be able to delete part or all of their contributions or history. | Lowest |
| WR-21 | A user should have the choice to display / disable the virtual incentives publicly. | Lowest |
| WR-13 | A user should be able to add an 300 character profile description | Lowest |
| WR-10 | A user should be able to put in a profile picture | Lowest |

## Administrator Requirements

Table-2

|  |  |  |
| --- | --- | --- |
| Issue key | Requirement | Priority |
| WR-15 | System configuration - backend environment configuration editing. | High |
| WR-12 | Service APIs Management | Must Do |
| WR-11 | Service Coverage Management - Manage the coverage of the service and constraint userâ€™s assessment. | Low |
| WR-14 | Incentives management - e.g., assign badges to user based, active discount coupons, collecting points and exchange points. | Lowest |
| WR-9 | Query - Query a admin User | Low |
| WR-8 | Modify - Change Admin User Profiles | Low |
| WR-7 | Delete - super admin can delete admin user | Low |
| WR-6 | Add Admin User- Super admin can create a new account for an admin | Low |
| WR-4 | Query - Query user | Highest |
| WR-5 | Inactive - inactivate a userâ€™s account. | High |

# Non-functional Requirements

Table-3

|  |  |  |
| --- | --- | --- |
| WR-45 | The system should be available 24/7 | Must Do |
| WR-44 | Pre-loaded data should be used in absence of network connectivity. | Must Do |
| WR-43 | System should automatically reconnect as soon as network connectivity is available. | Must Do |
| WR-47 | System should be compatible with the following operating systems | Low |
| WR-46 | System should be available for all major web-browsers | Low |
| WR-58 | All the Dependencies/Requirements should be documented well | Must Do |
| WR-55 | The system architecture document should have detailed architectural details | Must Do |
| WR-49 | All the user workflows should be documented well | Highest |
| WR-63 | The license should be documented and available to all users | Low |
| WR-51 | An effective troubleshooting guide should be maintained | Low |
| WR-48 | There should be clear Setup instructions for the application | Low |
| WR-61 | The documentation should be automated whenever possible | Lowest |
| WR-41 | Seamless operation during poor/no network connectivity | Must Do |
| WR-40 | Real-time route suggestions from our system. | Must Do |
| WR-39 | The system must handle x (large number) of users. | Must Do |
| WR-71 | The system should be tolerant to Failure: crashes, incorrect routes, | Highest |
| WR-69 | There should be a measurable way to minimize MTBF (mean time between failures) | Medium |
| WR-83 | The application should be able to scale based on the load | Must Do |
| WR-37 | Passwords shall never be viewable at any point. | Must Do |
| WR-35 | The guest user should have access to frontend without signup | Must Do |
| WR-34 | No personal data should be collected from the Guest User | Must Do |
| WR-33 | The user shouldn’t be able to access/modify other users data | Must Do |
| WR-32 | The user can only delete personal data | Must Do |
| WR-31 | The user can use backend services but shouldnâ€™t be able to modify | Must Do |
| WR-30 | The user has access to personal data through frontend. | Must Do |
| WR-29 | The user should not have API and database access directly | Must Do |
| WR-28 | The admin should have no access to userâ€™s personal data | Must Do |
| WR-36 | All network communication must be done over a secure channel. | Highest |
| WR-38 | Users should be able to change their passwords. | Medium |
| WR-27 | The superadmin should be able have Read/write access to API, backend services, frontend. | Low |
| WR-74 | The system should have a easy to user interface | Highest |
| WR-75 | The APIs should have inbuilt documentation for easy usage | High |
| WR-88 | Multilingual Support | Lowest |
| WR-76 | The User Interface should be adaptable to users reading needs | Lowest |

# Assumptions, Constraints and Dependencies

Constraints:

1. Time: The project’s duration is 12 weeks (1440 man hours).
2. The application will be developed using XP Principles.

Assumptions:

1. The team would be able to accommodate any changes in the requirements
2. People would be mainly using the application for long distance commutes

Dependencies:

1. Required 3rd party tools are available
2. Development infrastructure is available

# References

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# Appendix

Jira Dashboard - http://35.246.117.35:8080/secure/RapidBoard.jspa