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| BusPlanner | Version: 1.1 |
| Acceptance Test Plan | Date: 23-12-2016 |

Distributed Software Development: BusPlanner Acceptance Test Plan



Revision History

| Date | Version | Description | Author |
|------------|---------|--|------------------------------------|
| 23-12-2016 | 1.0 | Initial draft | Isabella Agosti, Stefano Badalucco |
| 04-01-2017 | 1.1 | Changes in acceptance tests and test cases | Isabella Agosti |

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1 INTRODUCTION

1.1 Purpose of this document

The purpose of this document is to describe the acceptance test procedures for the BusPlanner project. These tests will be used to verify that the product meets the requirements presented in the Requirements Document.

1.2 Document organization

The document is organized as follows:

- Section 1, *Introduction*, gives an overview of this document describing its contents, scope etc.
- Section 2, *Test Plan*, describes the testing process, items and environment.
- Section 3, *Acceptance Tests*, describes the test cases.

1.3 Intended audience

The intended audience of this document is composed of:

- Development team.
- Team supervisors:
 - Abhilash Thekkilakattil (MDH).
 - Elisabetta Di Nitto (POLIMI).
- Project customer: Aneta Vulgarakis Feljan (Ericsson).
- Stakeholders.
- Any developer who is interested into improving our project.

1.4 Scope

This document aims to describe the testing process and its purpose, that is to ensure the application meets all of its requirements . For this reason it includes the features and testing procedures, criteria for passing tests and the expected results.

1.5 Definitions and Acronyms

1.5.1 Definitions

| Keyword | Definitions |
|------------------|---|
| User | A person who requests buses. |
| Fleet Manager | They own the buses and they are the resource managers of the company. |
| Bus Driver | The driver of the company's buses. |
| User Request | Request generated by the users that choose the stops where they want to get on and off the bus. |
| Algorithm | A method used to enhance the scheduling process (static and dynamic). |
| Sprint | A repeatable work cycle which is also known as iteration. |
| Project Customer | The customer who requested the software product. |
| Acceptance Test | The process of verifying that a solution works for the user. |

1.5.2 Acronyms and abbreviations

| Acronym/abbreviation | Definitions |
|----------------------|--|
| UI | User Interface |
| GUI | Graphical User Interface |
| MDH | Mälardalens Högskola, Västerås, Sweden |
| POLIMI | Politecnico di Milano, Milan, Italy |
| QA | Quality Assurance |
| DSD | Distributed Software Development |

2 TEST PLAN

2.1 Items to be tested

The items that will be tested are:

- BusPlanner website.
- Static and dynamic algorithm that generate bus schedules.

2.2 Features to be tested

The features that will be tested are:

| Test Case ID | Test Case Name |
|--------------|---|
| #1 | Fleet manager: Login. |
| #2 | Fleet manager: Logout. |
| #3 | Fleet manager: Add bus. |
| #4 | Fleet manager: Modify bus. |
| #5 | Fleet manager: Remove bus. |
| #6 | Fleet manager: Add driver. |
| #7 | Fleet manager: Modify driver. |
| #8 | Fleet manager: Remove driver. |
| #9 | Fleet manager: View user requests. |
| #10 | Fleet manager: View previous user requests. |
| #11 | Fleet manager: Get buses location. |
| #12 | Fleet manager: View routes and stops utilization. |
| #13 | Fleet manager: View routes. |
| #14 | Fleet manager: Add route. |
| #15 | Fleet manager: Remove route. |
| #16 | Fleet manager: Back to homepage. |
| #17 | Bus driver: Login. |
| #18 | Bus driver: Logout. |
| #19 | Bus driver: View schedule. |
| #20 | Bus driver: Back to homepage. |

2.3 Testing tasks

The tasks that have to be accomplished for the testing process to begin are:

- Reference to the Acceptance Test list (Section 3).
- Reference to the Acceptance Test reports (the expected results for each test are described at the end of each table).

2.4 Test cases criteria

In Section 3, *Acceptance Tests* each test has specific criteria which must be fulfilled in order for the test to be considered passed.

3 ACCEPTANCE TESTS

3.1 Fleet manager: Login

| | |
|------------------------|--|
| Test Case ID | #1 |
| Test Case Name | Fleet manager: Login |
| User Story ID | #1 |
| Actor Involved | Fleet manager |
| Precondition | Fleet manager's credentials are saved into the database. |
| Main Path | <ol style="list-style-type: none">1. Open website homepage.2. Click on <i>Fleet managers & Bus drivers</i> button.3. Enter <i>Username</i> (e.g. "Ste") and <i>Password</i> (e.g. "abcdefg") in the corresponding fields.4. Click on <i>Login</i> button. |
| Expected Result | Fleet manager is able to view his/her personal page. |

3.2 Fleet manager: Logout

| | |
|------------------------|---|
| Test Case ID | #2 |
| Test Case Name | Fleet manager: Logout |
| User Story ID | - |
| Actor Involved | Fleet manager |
| Precondition | Fleet manager is logged into the system. |
| Main Path | <ol style="list-style-type: none">1. Click on <i>Logout</i> button in the upper right corner of the page. |
| Expected Result | Fleet manager is able to view the website page with the login form. |

3.3 Fleet manager: Add bus

| | |
|------------------------|---|
| Test Case ID | #3 |
| Test Case Name | Fleet manager: Add bus |
| User Story ID | #2 |
| Actor Involved | Fleet manager |
| Precondition | Fleet manager is logged into the system. |
| Main Path | <ol style="list-style-type: none">1. Click on <i>Buses</i> button from the fleet manager's personal page.2. Click on <i>ADD BUS</i> button at the bottom of the page.3. Enter the bus' information.4. Click on <i>Submit</i> button. |
| Expected Result | Fleet manager is able to see the bus he/she just added at the bottom of the buses list. |

3.4 Fleet manager: Modify bus

| | |
|------------------------|--|
| Test Case ID | #4 |
| Test Case Name | Fleet manager: Modify bus |
| User Story ID | #2 |
| Actor Involved | Fleet manager |
| Precondition | Fleet manager is logged into the system. |
| Main Path | <ol style="list-style-type: none">1. Click on <i>Buses</i> button from the fleet manager's personal page.2. Click on <i>Modify</i> next to the bus to be modified.3. Enter the new values in the corresponding fields.4. Click on <i>Submit</i> button. |
| Expected Result | The bus' information are modified and the fleet manager can see the new values by clicking on <i>Info</i> button next to the bus he/she modified. |

3.5 Fleet manager: Remove bus

| | |
|------------------------|--|
| Test Case ID | #5 |
| Test Case Name | Fleet manager: Remove bus |
| User Story ID | #2 |
| Actor Involved | Fleet manager |
| Precondition | Fleet manager is logged into the system. |
| Main Path | <ol style="list-style-type: none">1. Click on <i>Buses</i> button from the fleet manager's personal page.2. Click on <i>Delete</i> next to the bus to be removed.3. Click on <i>Delete</i> button in the form that is going to appear. |
| Expected Result | Fleet manager is able to view the list of buses without the one he/she just removed. |

3.6 Fleet manager: Add driver

| | |
|------------------------|--|
| Test Case ID | #6 |
| Test Case Name | Fleet manager: Add driver |
| User Story ID | #3 |
| Actor Involved | Fleet manager |
| Precondition | Fleet manager is logged into the system. |
| Main Path | <ol style="list-style-type: none">1. Click on <i>Drivers</i> button from the fleet manager's personal page.2. Click on <i>NEW DRIVER</i> button at the bottom of the page.3. Enter the driver's information.4. Click on <i>Submit</i> button. |
| Expected Result | Fleet manager is able to see the driver he/she just added at the bottom of the drivers list. |

3.7 Fleet manager: Modify driver

| | |
|------------------------|---|
| Test Case ID | #7 |
| Test Case Name | Fleet manager: Modify driver |
| User Story ID | #3 |
| Actor Involved | Fleet manager |
| Precondition | Fleet manager is logged into the system. |
| Main Path | <ol style="list-style-type: none">1. Click on <i>Drivers</i> button from the fleet manager's personal page.2. Click on <i>Modify</i> next to the driver to be modified.3. Enter the new values in the corresponding fields.4. Click on <i>Submit</i> button. |
| Expected Result | The driver's information are modified and the fleet manager can see the new values by clicking on <i>Info</i> button next to the driver he/she modified. |

3.8 Fleet manager: Remove driver

| | |
|------------------------|---|
| Test Case ID | #8 |
| Test Case Name | Fleet manager: Remove driver |
| User Story ID | #3 |
| Actor Involved | Fleet manager |
| Precondition | Fleet manager is logged into the system. |
| Main Path | <ol style="list-style-type: none">1. Click on <i>Drivers</i> button from the fleet manager's personal page.2. Click on <i>Delete</i> next to the driver to be removed.3. Click on <i>Delete</i> button in the form that is going to appear. |
| Expected Result | Fleet manager is able to view the list of drivers without the one he/she just removed. |

3.9 Fleet manager: View user requests

| | |
|------------------------|---|
| Test Case ID | #9 |
| Test Case Name | Fleet manager: View user requests on a map |
| User Story ID | #4 |
| Actor Involved | Fleet manager |
| Precondition | Fleet manager is logged into the system. |
| Main Path | <ol style="list-style-type: none">1. Click on <i>User Requests</i> button from the fleet manager's personal page. |
| Expected Result | Fleet manager is able to view the user requests on a map. |

3.10 Fleet manager: View previous user requests

| | |
|------------------------|--|
| Test Case ID | #10 |
| Test Case Name | Fleet manager: View previous user requests |
| User Story ID | #5 |
| Actor Involved | Fleet manager |
| Precondition | Fleet manager is logged into the system. |
| Main Path | 1. Click on <i>User Requests</i> button from the fleet manager's personal page. |
| Expected Result | Fleet manager is able to view the past user requests in a table, with all the related information. |

3.11 Fleet manager: Get buses location

| | |
|------------------------|--|
| Test Case ID | #11 |
| Test Case Name | Fleet manager: Get buses location |
| User Story ID | #6 |
| Actor Involved | Fleet manager |
| Precondition | Fleet manager is logged into the system. |
| Main Path | 1. Click on <i>Buses</i> button from the fleet manager's personal page. |
| Expected Result | Fleet manager is able to see a map showing the location of all the buses of the company. |

3.12 Fleet manager: View routes and stops utilization

| | |
|------------------------|--|
| Test Case ID | #12 |
| Test Case Name | Fleet manager: View routes and stops utilization |
| User Story ID | #7 |
| Actor Involved | Fleet manager |
| Precondition | Fleet manager is logged into the system. |
| Main Path | 1. Click on <i>Statistics</i> button from the fleet manager's personal page. |
| Expected Result | Fleet manager is able to see a chart showing the utilization of all the routes of the company and a chart showing the utilization of the five stops mostly used. |

3.13 Fleet manager: View routes

| | |
|------------------------|--|
| Test Case ID | #13 |
| Test Case Name | Fleet manager: View routes |
| User Story ID | - |
| Actor Involved | Fleet manager |
| Precondition | Fleet manager is logged into the system. |
| Main Path | 1. Click on <i>Routes</i> button from the fleet manager's personal page. 2. By clicking on a route the map will change, showing that specific route. |
| Expected Result | Fleet manager is able to see the company's routes: <ul style="list-style-type: none">• On the left there is the routes' list.• On the right there is a map showing the bus stops location for each route. |

3.14 Fleet manager: Add route

| | |
|------------------------|--|
| Test Case ID | #14 |
| Test Case Name | Fleet manager: Add route |
| User Story ID | #8 |
| Actor Involved | Fleet manager |
| Precondition | Fleet manager is logged into the system. |
| Main Path | <ol style="list-style-type: none">1. Click on <i>Routes</i> button from the fleet manager's personal page.2. Click on <i>ADD ROUTE</i> button at the bottom of the page.3. Enter the route's name and choose the route stops by clicking directly on the map after inserting the name of the stop.4. Click on <i>Submit</i> button. |
| Expected Result | Fleet manager is able to see the route he/she just added at the bottom of the routes list. |

3.15 Fleet manager: Remove route

| | |
|------------------------|---|
| Test Case ID | #15 |
| Test Case Name | Fleet manager: Remove route |
| User Story ID | #8 |
| Actor Involved | Fleet manager |
| Precondition | Fleet manager is logged into the system. |
| Main Path | <ol style="list-style-type: none">1. Click on <i>Routes</i> button from the fleet manager's personal page.2. Click on <i>X</i> button next to the route to be removed.3. Click on <i>OK</i> button in the form that is going to appear. |
| Expected Result | Fleet manager is able to view the list of drivers without the one he/she just removed. |

3.16 Fleet manager: Back to homepage

| | |
|------------------------|---|
| Test Case ID | #16 |
| Test Case Name | Fleet manager: Back to homepage |
| User Story ID | - |
| Actor Involved | Fleet manager |
| Precondition | Fleet manager is logged into the system. |
| Main Path | <ol style="list-style-type: none">1. Click on <i>BusPlanner</i> or on the BusPlanner logo in the upper left corner of any page. |
| Expected Result | Fleet manager is able to view his/her personal page. |

3.17 Bus driver: Login

| | |
|------------------------|--|
| Test Case ID | #17 |
| Test Case Name | Bus driver: Login |
| User Story ID | #9 |
| Actor Involved | Bus driver |
| Precondition | Bus driver's credentials are saved into the database. |
| Main Path | <ol style="list-style-type: none">1. Open website homepage.2. Click on <i>Fleet managers & Bus drivers</i> button.3. Enter <i>Username</i> (e.g. "Albi") and <i>Password</i> (e.g. "que123rty456") in the corresponding fields.4. Click on <i>Login</i> button. |
| Expected Result | Bus driver is able to view his/her personal page. |

3.18 Bus driver: Logout

| | |
|------------------------|---|
| Test Case ID | #18 |
| Test Case Name | Bus driver: Logout |
| User Story ID | - |
| Actor Involved | Bus driver |
| Precondition | Bus driver is logged into the system. |
| Main Path | <ol style="list-style-type: none">1. Click on <i>Logout</i> button in the upper right corner of the page. |
| Expected Result | Bus driver is able to view the website page with the login form. |

3.19 Bus driver: View schedule

| | |
|------------------------|--|
| Test Case ID | #19 |
| Test Case Name | Bus driver: View schedule |
| User Story ID | #10 |
| Actor Involved | Bus driver |
| Precondition | Bus driver is logged into the system. |
| Main Path | <p>Bus driver can perform various actions without a specific order:</p> <ul style="list-style-type: none">• If he/she clicks on a bus stop in the container on the left, the corresponding marker will become blue.• If he/she click on a marker (red, blue or green), the name of the corresponding bus stop will appear in a window. |
| Expected Result | <p>Bus driver is able to see his/her schedule:</p> <ul style="list-style-type: none">• On the left there is a list of the bus stops he/she needs to cover, with the number of passengers that will get onto the bus at that bus stop (green number) and the number of passengers that will get off the bus at that bus stop (red number).• On the right there is a map showing the bus stops location (red markers) and the user requests location (green markers). |

3.20 Bus driver: Back to homepage

| | |
|------------------------|---|
| Test Case ID | #20 |
| Test Case Name | Bus driver: Back to homepage |
| User Story ID | - |
| Actor Involved | Bus driver |
| Precondition | Bus driver is logged into the system. |
| Main Path | 1. Click on <i>BusPlanner</i> or on the BusPlanner logo in the upper left corner of any page. |
| Expected Result | Bus driver is able to view his/her personal page. |