

IT Bus Station

Software Requirements Specification

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Revision History

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Document Approval

The following Software Requirements Specification has been accepted and approved by the following:

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1. Introduction

1.1 Purpose

The purpose of this document is to define and specify both functional and non-functional requirements of the IT Bus Station.

1.2 Scope

This document describes all the requirements of the software and should be the only resource containing the system requirements. The requirements will describe functions for which the software is responsible and the environment that the software will need to encompass. It is intended for use by the developers and must be the basis for validating the final delivered system. The developers are responsible for asking for clarifications, where necessary, and must not make any alterations without the permission of the client.

1.3 Definitions, Acronyms, and Abbreviations

- The software: IT Bus Station;
- Super-admin: parent category admin, but with role manipulating privileges;

1.4 Overview

The software must be designed for four user groups and provide profiles for all users. The first user group consists of visitors who will not be registered as users or administrators. They will be able to see departures, arrivals and price of any available lines. Second user group consists of regular users that doesn't have administrative privileges. They will have all the abilities as mentioned for the group of visitors and they will also have the privilege to reserve a ticket. Third user group consists of admins. They have all the abilities of regular users plus they can manage lines and companies. The fourth and final user group consists of super-admins. They have all the privileges mentioned before and in addition they can manage admins and also they can add/delete new super-admins.

2. General Description

This section of the SRS describes the general factors that affect the product and its requirements. It should be made clear that this section does not state specific requirements; it only makes those requirements easier to understand.

2.1 Product Perspective

*The system must check the information entered by the user with the system database.
The system must validate the information entered by the user with the system database.
The system must not allow any unregistered user to modify any line.
The system must not allow any unregistered user to modify any role of any user.
The system must not allow any unregistered user to modify any transporter.*

*The system must not allow any registered user to modify any line.
The system must not allow any registered user to modify any role of any user.
The system must not allow any registered user to modify any transporter.
The system must not allow any admin to modify role of any user.*

2.2 Product Functions

The system shall make the procedure for reserving a ticket in 3 steps. The first step is registering to the system as user. Second step is choosing a desired line and making a reservation. The final step is confirming the reservation after which the user shall receive on-screen notification. Only admins can modify the lines or transporters and only super-admin in addition to the admin privileges can modify user roles.

2.3 User Characteristics

There are three user groups for this system: users and administrators. The characteristics of each are the same as defined below:

- *All user groups are familiar with Chrome web browser, IE web browser, Mozilla Firefox web browser, Safari web browser.*
- *All user groups have email address.*
- *All user groups are familiar with Windows mobile web browser, Android Chrome web browser and iOS' safari web browser.*

2.4 Assumptions and Dependencies

- **Assumptions**

- *Users meet all the characteristics outlined in 2.3.*
- *Administrators have limited permission to access the system.*
- *The system meets all the requirements outlined in 3.4.*
- *Super administrators have permission to access the system.*

- **Dependencies**

- *The system is running on Windows IE7, Safari 5.0, Window mobile 8.1, Chrome for Android 4.0.0.*
- *The system is running on free online server.*
- *The database is configured using Entity framework as ORM tool for database.*
- *The system database is configured using SQL.*
- *Microsoft .Net 4.5.1 or greater is installed and configured correctly.*

3. Specific Requirements

3.1 Priority Table

Priority Level	Description
Priority 1	Essential and required functionality
Priority 2	Desirable functionality
Priority 3	Extra features

3.2 Functional Requirement

r – functional requirement

err – error

nfr – non-functional requirement

3.2.1 Log in

3.2.1.1 Introduction

r1. The system must communicate with the user database. priority 1

r2. The system must communicate with the user-role database. priority 1

r3. The system must check written password with the users' password. priority 1

3.2.1.2 Inputs

r4. The system must provide email input form. priority 1.

r5. The system must provide password input form. priority 1.

r6. The system must provide submit button. priority 1.

3.2.1.3 Processing

r7. After submitting required fields the system must check validity of the information entered by the user. priority 1

3.2.1.4 Outputs

r8. After the user submitted their email and password to the system and it validation the system must log the user on. priority 1.

r9. After the user submitted their email and password to the system if not validated the system must notify the user accordingly. priority 1.

3.2.1.5 Error Handling

err1. The system utilities must only be available to all registered users. priority 1

3.2.2 Sign up

3.2.2.1 Introduction

r10. The system must communicate with the user database. priority 1

r11. The system must communicate with the user-role database. priority 1

r12. The system must check written password with the users' password. priority 1

r13. The system must provide form for personal information (first name, last name, e-mail and password). priority 1.

3.2.2.2 Inputs

r14. The system must provide form to the user to enter information about the upcoming conference. priority 1

r15. The system must provide submit button. priority 1

r16 The system must provide form to the user to fill in personal data. priority 1

3.2.2.3 Processing

r17. After submitting required fields the system must check validity of the information entered. priority 1

3.2.2.4 Outputs

r18. After submitting the required fields the system must register new user no later than 5 sec. priority 1

3.2.2.5 Error Handling

err2. The system must only be available to non-registered visitors. priority 1

3.2.3 Reserving ticket

3.2.3.1 Introduction

r19. The system must communicate with the system database. priority 1

3.2.3.2 Inputs

r20. The system must provide line for the selected destination. priority 1

3.2.3.3 Processing

r21. The system must check the availability of the selected line. priority 1

r22. The system must notify the user about the availability of the selected line. priority 1

3.2.3.4 Outputs

r23. The system must inform the transporter about new reservation no longer than 10 sec of requesting a ticket. priority 2.

3.2.3.5 Error Handling

r24 If destination unavailable The system must inform the user via screen message. priority 1

r25 If no lines for selected destination exists the system must notify the user via screen message. priority 1

err3. The system must allow only admins to manipulate with the lines. priority 1

err4. The system may be unable to access due to no or limited internet access. priority 1

err5. The system may have more than 1000 users at one minute. priority 1

3.2.4 Managing users

3.2.4.1 Introduction

3.2.4.2 Inputs

r26. The system must only allow super-admins to manipulate with the role of the users. priority 1.

3.2.4.3 Processing

3.2.4.4 Outputs

r27. The system must have ability to print reservations. priority 3

3.2.4.5 Error Handling

3.2.4 Managing transporters and lines

3.2.4.1 Introduction

3.2.4.2 Inputs

r28. The admins must be able to edit lines. priority 1

r29. The admins must be able to edit transporters. priority 1

3.2.4.3 Processing

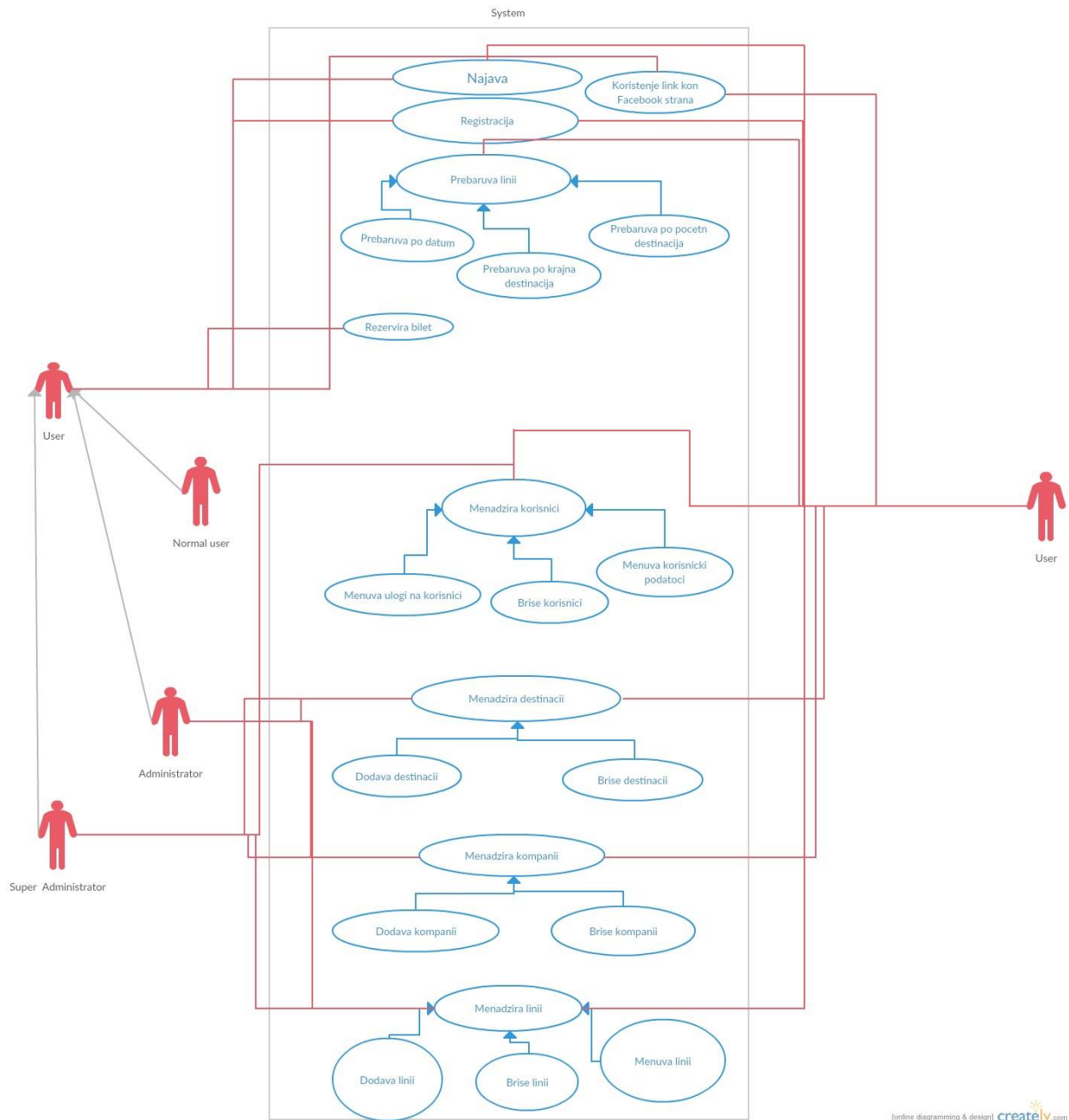
3.2.4.4 Output

3.2.4 .5 Error Handling

err6. The system must not allow any user but admin to edit the transporter information. priority 1.

err7. The system must not allow any user but admin to edit the line information. priority 1.

3.3 Use Cases



3.4 Non-Functional Requirements

3.4.1 Performance

nfr 1. The system must open the form for entering personal data and information for sign up form no longer than 5 sec. after the user presses the "Sign up" link.

nfr 2. The system must update the database with the information entered by the user no longer that 5 sec after submitting the form.

nfr 3. The system must inform the user about the status of the ticket no longer that 10 sec. after the user has pressed the "Rezerviraj" button.

nfr 4. The system must be the same visual design on all running platforms.

3.4.2 Reliability

- nfr 5. The system must have at least one super-admin.*
- nfr 6. The system must save reserved tickets for 1 week prior and after the reservation.*
- nfr 7. The system must back up every day at 8 O'clock.*
- nfr 8. The system must be able to service 1000 users in one minute.*
- nfr 9. The system must not be available when not connected to the internet.*

3.4.3 Availability

- nfr 10. The system must be available 98% of 24 hours.*

3.4.4 Security

- nfr 11. The system must validate each users' e-mail address.*
- nfr 12. The system must not permit access to any user that is not in the system database.*
- nfr 13. The system must not permit any modifications to the administrator roles other than super-admin.*

3.4.5 Maintainability

- nfr 14. New release must be installed every 2 months for 5 years by the developer.*
- nfr 15. The system must take 2 minutes to restart after crush.*

3.4.6 Portability

- nfr 16. The system must be accessible from Android platform.*
- nfr 17. The system must be accessible from iOS platform.*
- nfr 18. The system must be accessible from Windows mobile platform.*
- nfr 19. The system must be accessible from Windows platform.*
- nfr 20. The system must be accessible form macOSX platform.*

3.4.7 Design Constraints

- nfr 21. The system must work online.*
- nfr 22. The system must allow 1000 users in a minute.*

4. Analysis Models and References

In this document the ideas from the brainstorming session are used as basic guidelines for this system.