

Tell'all Requirements Specification

Version 1.0

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1. Executive Summary

1.1 *Project Overview*

Nowdays, with all the technology we have, is important to spread the information and automatization in order to help everyone in daily life. Our country faces many problems in businesses, education system, transportation and employment, but what caught our eye is that public transportation is very informal and people that travel everyday from one city to another find it very stressful.

So, our idea is to build up a system that helps Municipality of Tirana and other cities, drivers, administrators and most importantly everyone who need transportation. The national transportation with buses in our country is in a bit of a chaos. There is very little automation which creates difficulties in organizing the system. This is the reason we found it logical to create a software that addresses that.

The information people have about buses that travel from city to city is limited and comes from word-of-mouth. That is what our project aims to resolve. We want to create a software where municipality manages employees, drivers and help people to get information about timetables, destinations, buses used, travel agencies and everything else. Besides information, the most important element is ticket reservation. Travelers can enter our software to buy tickets, know their reserved seat and choose their leaving and returning time. Each economic transaction goes directly to the economist account.

1.2 *Purpose and Scope of this Specification*

The purpose of this specification is to currently define the state of the application design and documentation of the processes.

In this scope:

- Documentation of the features
- Technical overview of application processes (discussed in Part 2.1)
- Components & Functional/non-functional requirements (discussed in Part 3)
- Use cases/scenarios (discussed in Part 4)
- Constraints (discussed in Part 2.4/5) of the Document
- *Legislative requirements for the product*

2. Product/Service Description

2.1 Product Context

Tell-All is a software that helps Municipality of Tirana and other cities, drivers, administrators and most importantly everyone who need transportation. The information people in Albania have about buses that travel from city to city is limited and comes from word-of-mouth. That's why we will create a software where municipality manages employees, drivers and help people to get information about timetables, destinations, buses used, travel agencies and everything else. Every citizen as well, will have the opportunity to find the schedules in a short time and reserve their ticket. Travelers can enter our software to buy tickets, know their reserved seat and choose their leaving and returning time. Each economic transaction goes directly to the economist account.

2.2 User Characteristics

1. **Manager**, which represents Municipality, or the person who is responsible for Public Transportation. This user will have access to the whole system and to all other users, can check them and their work, will also be responsible to make transparent everything that is going on with the system. Manager will specifically assign the administrators and can also edit other accounts in the system.
2. **Administrator**, actually there will more than one. Since Albania is divided in 12 counties, we thought that would be the best choice to have 12 administrators who will monitor all the lines in their municipalities (61), if there will be a need, we are going to give each administrator the credit to have a subadmin. The administrator is responsible to register/add/delete/edit other employees and monitor their work and the system as well.
3. **Economist**, which is register by the manager. The economist will be send the same reports to administrators and manager. He will be responsible for any kind of transaction, also will be the one than monitor and take care of online payments.
4. **Employee**, is going to be the user which include drivers, each of them should check in as soon as they left a station and check out when they arrive. This user can also be used for other employees that we have think about, they might be receptionist or other workers in the big stations like Tirana Terminal.
5. **Guest** will be each traveler that wants to travel and except they want to get information in the system, they want to reserve a place or/and pay online for the ticket.

2.3 Assumptions

We assume that the client is verified when entering our app through their ID number in order to be eligible as a client. Our software has the main function of seat reservation for national traveling, among other functions. It is assumed that the business workers update the system

with timetables, destinations, prices and seats. It is assumed the economist manages payments and economic reports. It is assumed the mayor's office oversees the whole process and makes sure it works according to regulations. It is assumed the app is not only useable, but efficient and effective as well.

2.4 Constraints

- The only possible constraint for our Web Application is the necessity of an electronic device connected to the web that will be needed to access our application and an account that needs to be created by every user in order to make a reservation. With 1.8 million active internet users in Albania as of 2016, we believe that accessing our web application will not be a struggle for our users.
- Creating a user friendly interface will play a very important role knowing who our potential users will be.

2.5 Dependencies

- As a Web-based Application, Internet access will be essential for our software to run. It should be constant and the Internet provider would be a good one with high speed.
- All the users and employees must have a smart device, which usually is a smartphone or other devices that have an internet connection.
- All administrator accounts will be created only by Manager (Direct Representative of Municipality).
- Other users will be monitored by administrators, especially drivers.
- System will be responsibility of Municipality and will be adapted though time, if the board of Municipality decide new adjustments.

3. Requirements

3.1 Functional Requirements

The following table shows all function requirements for our Software:

Req#	Requirement	Comments	Priority	Date Reviewed	SME Reviewed/ Approved
UR_01	Every user has a unique account secured by a password.	Account will be stored in a database using hashing techniques.	1	4/21/2020	Megi Kongjinaj
UR_02	The main manager can create other manager's accounts and employees.	The main manager can access all accounts regarding to managers and employees	2	4/21/2020	Megi Kongjinaj
UR_03	Other managers can create the employees accounts with the permission of the main manager.	Other managers can not create employees accounts without the verification code.	2	4/21/2020	Megi Kongjinaj
UR_04	The main manager can access clients' accounts only with the permission of the admin.	The main manager must receive the verification code to process the clients' accounts.	1	4/21/2020	Megi Kongjinaj
UR_05	The main manager has access to other managers and employees databases.	There is a list with the respective details	1	4/21/2020	Megi Kongjinaj
UR_06	The manager is in charge of updating accounts for each of the employees.	This is represented in the Employees List view.	1	4/21/2020	Megi Kongjinaj
UR_07	The manager should be able to delete employees that are no longer part of the company.	He can change information or delete their accounts.	2	4/21/2020	Megi Kongjinaj
UR_08	When creating employees, the manager will need different fields where they will input employee/client information.	The field includes required info and validation after filled in	1	4/21/2020	Megi Kongjinaj
UR_09	The main manager keeps track of other managers and employees' performance.	If they have fulfilled their daily, weekly, monthly and yearly hours.	2	4/21/2020	Megi Kongjinaj
UR_10	The main manager is always in charge.	If the admin isn't present, the main	1	4/21/2020	Megi Kongjinaj

		manager is the only one who can do his job.			
UR_11	The main manager is able to check the task history of every manager and employee.	Their list will be displayed and the tasks they have completed.	2	4/21/2020	Megi Kongjinaj
UR_12	The economist has a unique account secured by a password.	The account will be stored in a database.	1	4/21/2020	Megi Zaimaj
UR_13	The economist has access to daily reservations.	This includes the client IDs and their payments.	1	4/21/2020	Megi Zaimaj
UR_14	The economist is responsible for entering costs.	He updates the system any time costs are paid.	2	4/21/2020	Megi Zaimaj
UR_15	The economist can access past balances at any time.	Past balances consist of every month's sales, costs and profit.	2	4/21/2020	Megi Zaimaj
UR_16	The economist registers and accesses future investments.	He uploads the system with every plan made and payment necessary.	2	4/21/2020	Megi Zaimaj
UR_17	The economist keeps in contact with the managers.	He gathers information and gets permission.	1	4/21/2020	Megi Zaimaj
UR_18	The economist discusses financial decisions with the management.	Each party considers the other's opinion before making a decision.	1	4/21/2020	Megi Zaimaj
UR_19	The administrator accepts every guest who wants to create an account.	The guest with an account should be identified by a specific ID.	1	4/21/2020	Edvin Hysenagolli
UR_20	The administrator can delete clientes that no longer use their accounts.	In this way the database will be updated and working properly.	2	4/21/2020	Edvin Hysenagolli
UR_21	The administrator can update clientes that want to change their accounts.	In this way the database will not have the same client twice or more.	1	4/21/2020	Edvin Hysenagolli
UR_22	The administrator checks every week, each employee's job.	He gathers information to make the right decisions for the future.	1	4/21/2020	Edvin Hysenagolli
UR_23	The client can log in with a username and a password.	Manager or administrator can accept a client.	1	4/21/2020	Edvin Hysenagolli
UR_24	The client can log in also as a guest.	He will be able to operate the same as a client who has an account.	1	4/21/2020	Edvin Hysenagolli

UR_25	The client will be able to access all the services the software provides.	All services will be listed and grouped to be easy to access.	1	4/21/2020	Edvin Hysenagolli
UR_26	The client can reserve his ticket online.	All clients who have an account can reserve a ticket.	1	4/21/2020	Edvin Hysenagolli
UR_27	The client can pay online by choosing a method for his ticket.	Not only reserve, but the client can also pay online.	1	4/21/2020	Edvin Hysenagolli
UR_28	There will be a Paypal payment method and Credit/Debit Card payment method.	Clients can choose either way to pay online.	1	4/21/2020	Edvin Hysenagolli
UR_29	A client can reserve the ticket even without paying online.	Clients can pay for the ticket in cash, during the travel.	1	4/21/2020	Brisilda Kurti
UR_30	A client can easily search for information about the destination he wants.	After writing details like the cities, dates etc, the available departures will appear.	1	4/21/2020	Brisilda Kurti
UR_31	Extra information for each departure will be available for the clients to check.	Clients can see the company name, seats available, if there is wifi or not etc.	2	4/21/2020	Brisilda Kurti
UR_32	A client can reserve more than one ticket.	A client can reserve tickets even for other passengers.	1	4/21/2020	Brisilda Kurti
UR_33	After reservation, the ticket can be printed, or clients can show it on their phone.	Each ticket will have a unique barcode.	1	4/21/2020	Brisilda Kurti
UR_34	Clients can easily change the details of their ticket before the reservation.	One step before paying, they can make changes if they have done sth wrong.	1	4/21/2020	Brisilda Kurti
SR_01	Different account roles and types.	Different views since there are different users like: manager, administrator, economist employee and client.	1	4/21/2020	Brisilda Kurti
SR_02	Users and tickets are uniquely identifiable.	Each user has a unique ID and tickets have their unique barcode.	1	4/21/2020	Brisilda Kurti
SR_03	The software provides the opportunity to update account information.	Each user can have this opportunity.	2	4/21/2020	Brisilda Kurti
SR_04	The web application provides the opportunity to reset the password by email confirmation.	Each user can have the opportunity	2	4/21/2020	Klajdi Hoxha

SR_05	The password resetting will have a link to do it.	There will be a special link to reset password by each client or user.	2	4/21/2020	Klajdi Hoxha
SR_06	Each client will take a online receipt after the payment.r	If the clients have an account confirmed they can take a receipt.	1	4/21/2020	Klajdi Hoxha
SR_07	Each receipt will go to economist account.	Receipts will go as well to economist account, in order to keep inventory.	1	4/21/2020	Klajdi Hoxha
SR_08	Administrator is able to check any time the transaction and receipts.	Transactions will be stored and displayed.	1	4/21/2020	Klajdi Hoxha

3.2 Non-functional Requirements

3.2.1 Product Requirements

3.2.1.1 User Interface Requirements

- Simple layout.
- Dynamic screen size.
- Real time notifications.
- Sliding navigation drawer for app.
- Static navigation drawer for the web page.
- Easy-to-use and user-friendly structure.
- Commands with specific functions.

3.2.1.2 Usability

- Since the application is web based it is easy to access it in real time from different browsers online.
- It shall be easy to update to meet the user requirements.
- Since the application will be in Albanian as well as in English, it should be very easy to navigate through it.

3.2.1.3 Availability

- The application will be available to use anytime of the day or night.
- You can use the application in any geographic location in Albania, as long as the user has Internet access.

- It will be designed in Albanian and English language.
- Different type of users will have different availability and access.

3.2.1.2 Efficiency Requirements

3.2.1.2.1 Performance Requirements

- Firstly, our system will be a web-application that will be stored in a web server.
- It will be designed to support multiple users at the same time, by multiple interfaces.
- It will not require a very strong internet connection to perform properly.

3.2.1.2.2 Space Requirements

3.2.1.2.2.1 Capacity

Since our application is web-based, there is no need for capacity occupation in our mobile phones, computers or other devices. For sure internet connection is a key component but the application will work even if there is low internet strength provided.

Multiple users must be able to use the application at any time since it is expected to be accessed by a large number of users. The database that is going to be used must be capable enough to store a considerable amount of information.

To do all this we will be working on phpMyAdmin platform.

3.2.1.2.2.2 Latency

Acceptance script during the time that the website will not be loaded will be completed within less 3.21 seconds and less than 4 seconds when the website is loaded. In order to be efficient and productive, DMS is expected to fulfil some time limitations such as (also depending on internet speed and database size):

- Max 300 ms for the Log-in page to be loaded.
- Max 300 ms to perform and execute any other loading page.

3.2.1.3 Security Requirements

3.2.1.3.1 Security

Predefined fields which are the required information that every user needs to fill in at the moment of registration help to almost create a non-existing error system and secure user's credentials.

Predefined fields which will require among other things, information like an email address, a phone number and a personal ID number will assure that user's personal information will need to be securely stored in the database.

3.2.1.3.2 Protection

When dealing with credentials creation/change there will be checking's:

- Every user's password will be encrypted.
- This password shall be reset only through the link sent to his/her email.
- Authentication will provide users to their respective access to the database and views.
- Database abasements forms will all be taken in consideration.
- Login/registration process will go through validation.

3.2.1.3.3 Authorization and Authentication

Authentication is made through Middleware layers such as `auth('guest')` and `auth('login')` to distinct all registered/logged-in in accounts. Admin will have preset login credentials, and has full authorization on all views, also can assign a Manager. The Manager has access on all Transport Module Entities/Functionalities such as employees CRUDs, Schedules-making, Raport-Checking, on the Warehouse Module he has access on the availability of current stock and on the Client Module he has access on the list of current clients, as it was required for the Manager to have a general knowledge for better performance. The Employee Entities on the other hand are authorized only for their specific department duties.

3.2.1.3.4 Monitoring

The application's user interfaces will be simple and easy to be used which will minimize the possibility for any error or crash of the system. Firstly, it will need two inputs, a username and a password that will redirect the user by its type to its corresponding page in the log in page. In the case that inputs are not valid or not matched in the database an Error message will be displayed.

Every user's page will include all the functionalities mentioned before and it will consist on simple manageable modules. Of course, a hierarchy will be set among different users with the manager standing at the top and the administrator, the economist and other employees following.

3.2.1.3.5 Maintenance

PhpMyAdmin will provide an ease of maintenance of the database. Still the construction of the application will consist on simple and well-organized modules, not complex and user-friendly interface designs in order to create simple experience for the users. In case of any error it is recommended simply a refresh or a re-initialization of the application. If the application faces a failure again outside help is required.

3.2.2 Organizational Requirements

3.2.2.1 Operational Requirements

A user will be able and responsible to these operations:

- Log-in
- Create/remove new users (manager, administrator)
- Alter the schedules or prices (administrator)
- Modify personal information
- Book tickets (client)

3.2.2.2 Development Requirements

3.2.2.2.1 System Interface/Integration

The system is going to operate as long as it is supported by a database in phpMyAdmin platform. Once the construction and the design of the application is finished and its system interface is accordingly connected with the database it is its duty to manage the avoidance of any possible error occurrence. Also, the administrator and the manager who have the most system access can make any changes in the database, if needed.

3.2.2.2.2 Network and Hardware Interfaces

As we have acknowledged before our software will be a web-based application that will be stored in a web server, which will be a HTTP server.

This way a TCP connection will be created between the user and the server using HTTP protocol.

We will be working with phpMyAdmin which will be properly supported by the server.

The web page will be accessible by every device that supports internet connection since the screen size will be dynamic.

3.2.2.2.3 Systems Interfaces

There will be 4 main view interfaces:

1. Manager view
2. Administrator view
3. Economist view

4. Employee view
5. Client view

Surely the manager will be the most privileged one, having more access and usability upon the system.

The administrator, manager, economist, employees and the clients will be able to authenticate using the following methods:

- email
- password

The required fields to fill in for the client to sign up will be:

- Name
- Surname
- Email
- Phone number
- Street address
- City

3.2.2.2.4 Data Management

- We will primarily be using MySQL.
- Its model is relational, it is open source.
- It supports various languages (JavaScript, C, C++).
- We will be using PhpMyAdmin which supports a wide range of operations and tasks.
- Depending in the user's level of accessibility different privileges will be set.

3.2.2.2.5 Portability

Since it is a web application it can be accessed by multiple devices such as mobile phone, computer or iPad and multiple platforms as long as internet connection is provided.

(*This web application is worked on Laravel, PHP-based. PHP is available for UNIX, MICROSOFT WINDOWS, MAC OS, and OS/2 and it is portable amongst platforms.)

In the future, the experience is thought to be improved with Android and iOS for client and/or employee, with the basis of the current backend and not many changes made to the main infrastructure.

3.3 Domain Requirements

The system manages and covers everything related to the distribution process for an existing medium-size business. It should be able to add and update employees and clients and store tabs of information on the database. It should operate in a way that most tasks should be able to be completed without the need to make endless calls or texts between a small number of people, but instead they can do this online by using their web browser.