Software Requirements Specification

For

Information System for Managing Town Hall Activities

Version 1.2

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15.03.2017

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Revision History

Name	Date	Comments	Version
Circeag Eduard Alexandru Alexandrescu Cristian Nicolae Ovidiu Petrisor	15.03.2017	First Revision	1.0
Alexandrescu Cristian	30.03.2017	Hardware Interface, System Features, Operating Environment, User Documentation	1.1
Alexandrescu Cristian	05.04.2017	Software Interface	1.2

1. Introduction

1.1 Purpose

The purpose of this document is to present a description of a Town Hall activities management web application. It will explain the features of the system, the interfaces of the system and what the system will do.

1.2 Product Scope

The system will be built on a client/server architecture for assisting the mayor on achieving the following tasks:
- Managing the municipality's organizational chart
- Publication of news and announcements.
- Internal document management.
- Communicating with the citizens

1.3 Intended Audience and Reading Suggestions

This document is intended for both the municipality and the developers of the system.

1.4 Definitions, Acronyms, and Abbreviations

Used terms: organizational chart, online audience, document flow management.

1.5 References

GitHub project link: https://github.com/seproject2017/seproject

2. Overall Description

2.1 Product Perspective

This product is a self-contained system intended for managing a variety of activities concerning a Town Hall internal management and external communication.

2.2 Product Functions

The product will have the following main functions:
- Presenting the organizational chart of the institutions of the municipality providing an institution level view and a department view.
- Serve as a platform for hosting meetings between a user/users and a municipality employee.
- Serve as online platform for document management.
- The Mayor (and employees with full privileges) can make changes to the organizational chart.
- The Mayor (and employees with full privileges) can set the online meeting hours.
- The Mayor can view, edit and sign documents.
- The employees can view and edit some documents.
- The Mayor and employees can post announcements.
- The users can have an online audience with a municipality employee.

2.3 User Classes and Characteristics

The application users will be the Mayor (full privileges) High level employees (full privileges), low level employees which will have limited privileges and citizens which will have regular accounts.

2.4 Operating Environment

This application was developed in: Microsoft Visual Studio 2017 IDE.
The application supports the following web browsers: Google Chrome 57.0.2 or above and Mozilla Firefox 41.0.1 or above.

2.5 Design and Implementation Constraints

This application is distributed with a proprietary software license.
The owner of proprietary software exercises certain exclusive rights over the software. The owner can restrict use, inspection of source code, modification of source code, and redistribution.

2.6 User Documentation
System Design Specifications document.

2.7 Assumptions and Dependencies

An internet connection is required in order to use the application. Introduced data must respect the formatting options of the field in case.

3. External Interface Requirements

3.1 User Interfaces

The application should be accessible via web.
The Layout should be the same for all users, with a main page for announcements and general information, and a navigation bar that allows access to the other functionalities and pages depending on the type of user.

Regular users will be able to:
- Establish an online (individual/group) meeting with a municipality employee.
- View the documents and announcements of the city hall.
- View the organizational chart.

Full privilege will be able to
- Can modify audience schedule.
- Can add/remove/modify documents
- Can create/delete announcements.
- Respond to user message requests.

3.2 Hardware Interfaces

Not applicable.

3.3 Software Interfaces

The application is connected to the database (SQL) through a connection string located in the web.config file from the application project.
There will be a communication interface between the server and the database (functions to read from and write into the database) and another one between the server and the client application (get input text and display data).
Like the UML says, we have the following: Content, User, Audience, Chart, Document, that are connected to the following repositories: PostContentRepository, UserRepository, AudienceScheduleRepository, OrganizationalChartRepository, DocumentRepository.

3.4 Communications Interfaces

This application uses the HTTP protocol.

4. System Features

4.1 Home Page
4.1.1 The home page consists of the main page of the Municipality.
4.1.2 It will have a main body that contains News/Announcements from the Municipality.
4.1.3 Navigation bar at the top of the page
4.1.4 Will display the current logged user
4.1.5 The top bar will also have Log In redirect page
4.1.6 Inside the redirect page will be Log In or Register in case of no logged user.

4.2 Log in
4.2.1 A text box for username, password and submit button
4.2.2 A link for recovery password that will redirect to Recovery password page
4.2.3 A log in button that will check user credentials in the database
4.2.4 No user account – redirect to register

4.3 Register
4.3.1 A text box for username and password and recovery password link
4.3.2 A log in button that will check logged user is in the database
4.3.3 No user account – redirect to register

4.4 Recovery password
4.4.1 Textbox for e-mail and submit button
4.4.2 When the submit is pressed, the password will be sent by e-mail

4.5 Organizational chart
4.5.1 Graphical representation of the organizational chart using lists
4.5.2 Lists will have principal and secondary departments
4.5.3 Lists will be added by the public servant or mayor
4.5.4 Only those 2 classes can modify, add or delete information and the rest will be not allowed

4.6 View Documents
4.6.1 Table of documents or interest, depending on user privileges
4.6.2 Will be shown all or only part of them, depending on user privileges
4.6.3 Updating documents using XLS
4.6.4 Downloading documents of XLS
4.6.5 Downloading documents of PDF
4.6.6 Each entry will have a log link that will be visible by users with proper privilege
4.6.7 Log page will redirect the user to a page with list of contains all user interactions with said document
4.6.8 An Upload Document button should be available for users with privilege to do so

4.7 Online audience schedule
4.7.1 Redirect the user to a page where is shown all schedule audience
4.7.2 If the time has come to get the audience, he will get a link to connect to the online audience
4.7.3 User will wait a maximum or 30 min to get a public servant or the mayor in the audience room

4.8   Manage audience schedules
4.8.1   It will possible only for public servants and mayor
4.8.2   Inside the manage audience it is possible to add, modify, delete or mark as complete an audience
4.8.3   When modifications are done in the manage audience will also put logs on database
4.8.4   The audience schedule will also be shown to normal users in case if the schedule is hour modified

4.9   Audience Interface
4.9.1   Connect to audience interface from online audience schedule when the time has come
4.9.2   Simple chat interface in which municipal employees and users can communicate in scheduled audiences
4.9.3   The chat information will be in real time when a user sends a message, the town hall employees will get the message in less than 1 sec and vise verse

4.10   Approve documents
4.10.1 Documents are possible only for the mayor
4.10.2 Lists of all documents that needs approval
4.10.3 Display for the first to the last

4.11   Check documents log
4.11.1 Documents can be displayed by a button press only by public servants or mayor
4.11.2 Nobody can modify the information inside so that fraud won't come

4.12   Write homepage posts
4.12.1 Post on the website news
4.12.2 Post a manual text that will have a textbox, title and submit button
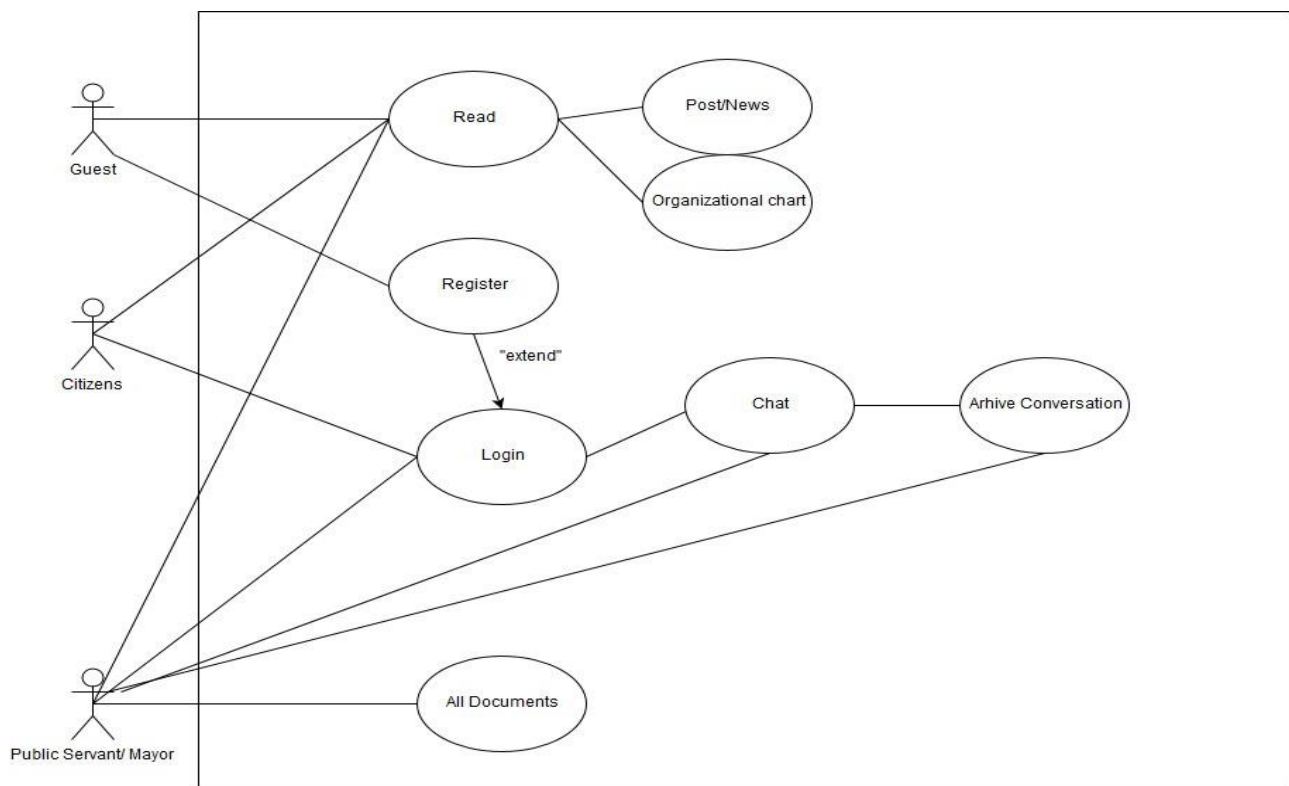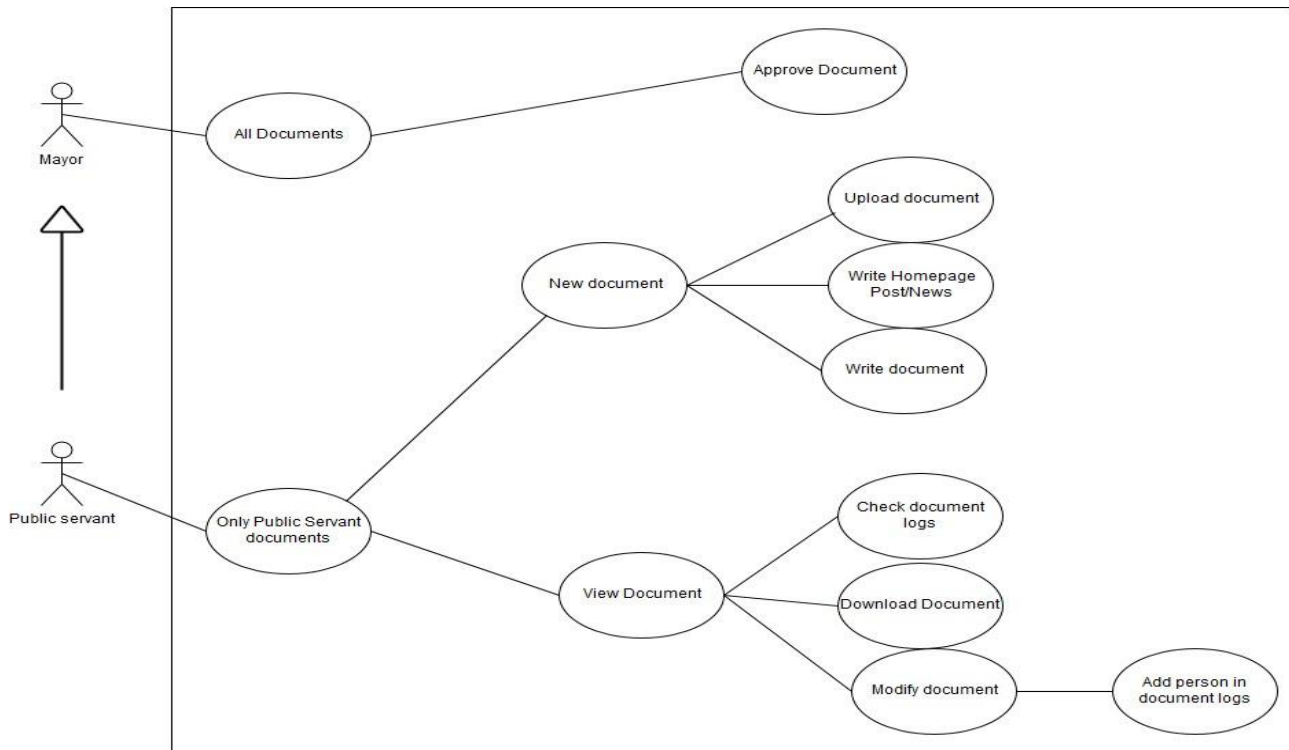
4.1 Activity diagram

The following 2 diagrams are the diagrams for all our functionalities specified before:
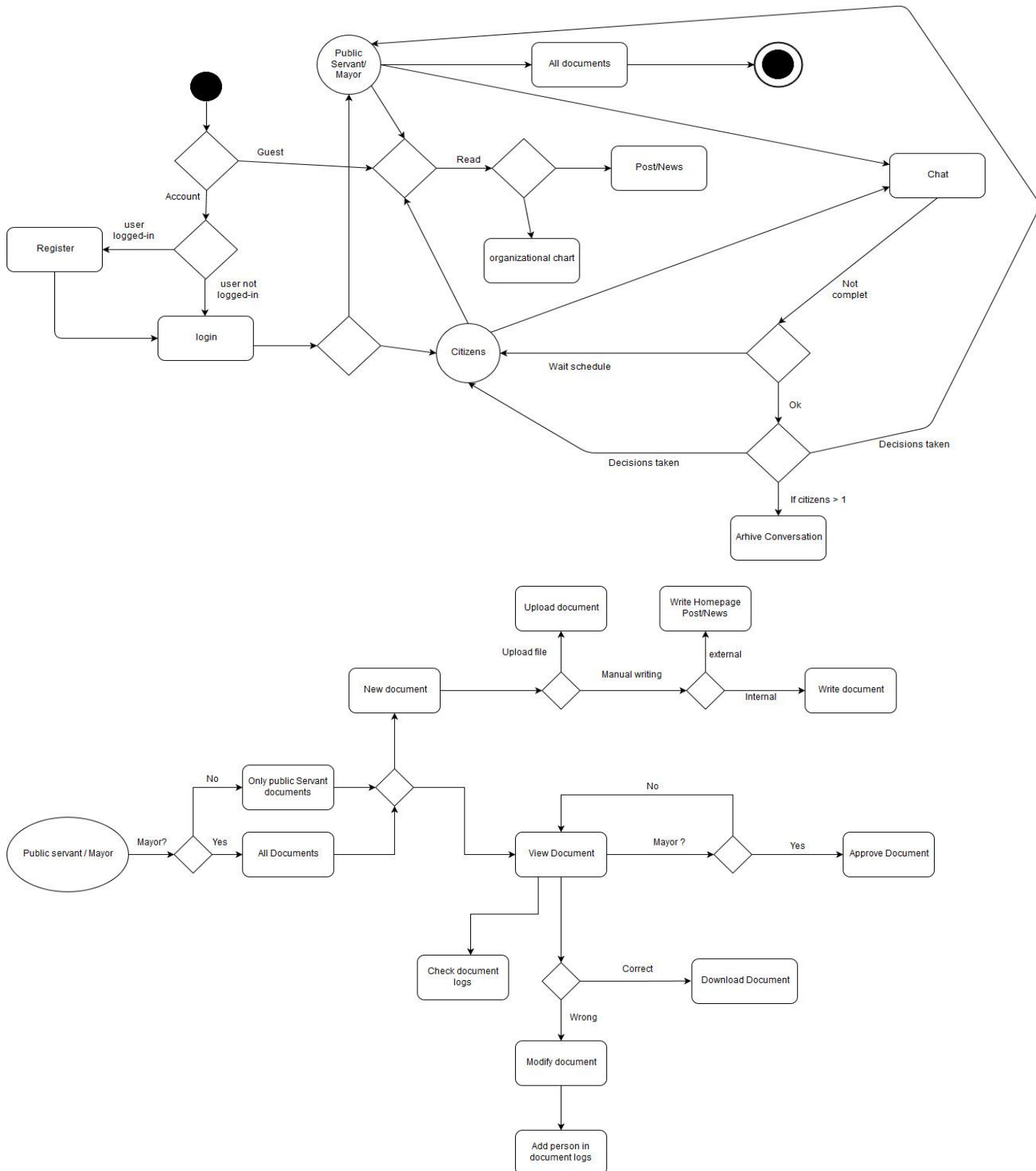
4.2 Activity diagram

If the previous diagrams are too hard to be understood then the following will be close to human nature:

5. Other Nonfunctional Requirements

5.1 Performance Requirements

1. The information system will run on Windows 7/8/10 OS.
2. Minimal system requirements:
   - Processor: 1 GHz
   - RAM Memory: 128 Mb
   - Storage space: 10 Mb minimum
3. An internet connection should be set up before running the web application.

5.2 Security Requirements

The sensitive information in this application is considered:
- User and password – password will be encrypted using MD5 hash
- Conversations – using one way key, the key will be private
- Database – Protection against SQL Injection will be set to every necessary input that works with the database

5.3 Software Quality Attributes
Rule 1 (required): No reliance shall be placed on undefined or unspecified behavior.
Rule 2 (required): Insert one space between the comment delimiter (//) and the comment text
Rule 3 (advisory): No identifier in one name space should have the same spelling as an identifier in another name space, with the exception of structure member and union member names.
Rule 4 (advisory): Write only one declaration per line.
Rule 5 (advisory): Add at least one blank line between method definitions and property definitions.
Rule 6 (advisory): Place the comment on a separate line, not at the end of a line of code.
Rule 7 (advisory): Use the + operator to concatenate short strings.
Rule 8 (advisory): Use meaningful names for query variables.

5.4 Business Rules

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