**Software Requirement Specification**

**Project Name: ESE**

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**Customer: Osman**

Revision History

| **Version** | **Date** | **Revision Description** |
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| .02 |  |  |
| .. |  |  |
| 1.0 |  |  |
|  |  |  |
|  |  |  |

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# Introduction

## Purpose

The purpose of this document is to present a detailed description of the Application Room4You . It will explain the purpose and features of the system, the interfaces of the system and what the system will do. This document is intended for both the stakeholders and the developers of the system and will be proposed to the client for its approval.

## Stakeholders

The stakeholders of the project are the team members of team 3 and the client (represented by Osman, assistant of the ESE lecture).

## Definitions

|  |  |
| --- | --- |
| **Term** | **Definition** |
| Ad placer | A user who places ads for apartments or rooms in a shared apartment. |
| Database | Collection of all the information about the users and ads. |
| Editor | Person who receives articles, sends articles for review, and makes final judgments for publications. |
| Field | A cell within a form. |
| Software Requirements Specification | A document that completely describes all of the functions of a proposed system and the constraints under which it must operate. For example, this document. |
| Stakeholder | Any person with an interest in the project who is not a developer. |
| User | A person who searches for an apartment or a room in a shared apartment. |

## System Overview

This software system will be a web marketplace for searching and placing apartment ads and shared flat rooms respectively. This system will be designed to provide ads for apartments and rooms in shared apartments at one place.

More specifically, this system is designed to allow the users to search for apartments and rooms in shared apartments by many criteria, watch user profiles of the ad placer or prospective roommates, contact ad placers and manage scheduled visits. In addition to place ads, ad placers can manage enquiries and organize onsite visits, compile lists of the most promising candidates. The application will facilitate the search for a place to live as well as the selection of a new roommate or tenant respectively. The system also contains a relational database containing the users and the ads

## References

Wikipedia … .

## Overview of Document

The next chapter, the Overall Description section, of this document gives an overview of the functionality of the product. It describes the informal requirements and is used to establish a context for the technical requirements specification in the next chapter.

The third chapter, the specific requirements section, of this document is written primarily for the developers and describes in technical terms the details of the functionality of the product. Overall Description

## Use Cases

## Macintosh HD:Users:namibrider:Downloads:UseCasesESE.jpg

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | Use Case Name | Primary Actor | Complexity | Priority |
| 1 | Sign up | User/Ad placer |  | 1 |
| 2 | Sign in | User/Ad placer |  | 1 |
| 3 | Edit user profile | User/Ad placer |  | 1 |
| 4 | Watch User Profile | User/Ad placer |  |  |
| 5 | Delete account | User/Ad placer |  |  |
| 6 | Change password | User/Ad placer |  |  |
| 7 | Place ad | Ad placer |  |  |
| 8 | Edit ad | Ad placer |  |  |
| 9 | Manage enquiries | Ad placer |  |  |
| 10 | Organize onsite visits | Ad placer |  |  |
| 11 | Compile a list of most promising candidates | Ad placer |  |  |
| 12 | Search relevant ads | User |  |  |
| 13 | Watch detailed ad information | User |  |  |
| 14 | Send enquiry | User |  |  |
| 15 | Manage scheduled visits | User |  |  |
| 16 | Bookmark interesting ads | User |  |  |
| 17 | Watch/Edit Bookmarks | User |  |  |
| 18 | Subscribe to alerts | User |  |  |
| 19 | Watch new alerts | User |  |  |

### Sign up

* 1. Actors

User, Ad placer

* 1. Description

As a user or an ad placer I want to have the possibility to sign up to the application, by setting a username (email) and a password and giving additional information for my user profile. I want to be able to indicate what information will be publicly displayed on my user profile.

The users will later be able to sign in with the email address and the password.

* 1. Trigger

The user clicks the sign up button at the welcome page.

* 1. Pre-conditions
     1. The user hasn’t sign up yet / the email address is not yet registered to the application.
     2. The password has six characters at least.
  2. Post-conditions

1. Email and password are registered and the user is able to use this account for a later sign in.
2. After the sign up, the user will be signed in automatically.
   1. Main Scenario
3. Users clicks on the sign up button.
4. User enters the email address and the password
5. System prompts the confirmation that the registration has succeeded.
6. System shows form to complete the user profile
7. System shows the main page.
   1. Alternative Scenarios

2a. Email address is not valid

1. System will prompt user to enter a valid email address
2. User enters a valid email address
3. Use Case resumes on step 3

2b. Password is not valid (e.g. has less than six characters)

1. System will prompt user to enter a valid email address
2. User enters a valid password
3. Use Case resumes on step 3
   1. Special Requirements

-

* 1. Notes
     1. Does the password need to have numbers or special characters?
     2. Maximum number of characters?
     3. Which fields does the user profile form need? Which fields are mandatory?

[List any additional comments about this use case or any remaining open issues or TBDs (To Be Determined) that must be resolved.]

### Sign in

* 1. Actors

User, Ad placer

* 1. Description

As a user or an ad placer I want to have the possibility to sign in to the application, by entering the username (email) and the correct password.

* 1. Trigger

The user clicks the sign in button at the welcome page.

* 1. Pre-conditions
     1. The user has already created an account.
     2. The user has entered the username and the password.
  2. Post-conditions

1. Email and password are validated.
   1. Main Scenario
2. Users clicks on the sign in button.
3. User enters the email address and the password
4. System prompts that the username and password were correct.
5. System shows the main page.
   1. Alternative Scenarios

2a. Email address is not valid

1. System will prompt user to enter a valid email address
2. User enters a valid email address
3. Use Case resumes on step 3

2b. Password is not valid (does not match the password saved in the database)

1. System will prompt user to enter a valid username or password.
2. User enters a valid password.
3. Use Case resumes on step 3
   1. Special Requirements

User has 3 tries to enter the correct password. After that, the account will be blocked.

* 1. Notes
     1. How many tries? Is the blocking functionality really necessary?
     2. If yes, how the password reset has to work?

[List any additional comments about this use case or any remaining open issues or TBDs (To Be Determined) that must be resolved.]

### Edit user profile

* 1. Actors

User, Ad placer

* 1. Description

The users and ad placers shall have the possibility to edit their user profile.

* 1. Trigger

The user clicks the “edit user profile button” on the main page.

* 1. Pre-conditions
     1. The user is logged in.

* 1. Post-conditions

1. The changes in the user profile are saved
   1. Main Scenario
2. Users clicks on the “edit profile” button
3. The user can change the profile entries
4. The user can save or discard the changes
5. System shows the main page again.
   1. Alternative Scenarios

-

* 1. Special Requirements

-

* 1. Notes

-

[List any additional comments about this use case or any remaining open issues or TBDs (To Be Determined) that must be resolved.]

### Watch user profile

* 1. Actors

User, Ad placer

* 1. Description

As a user or an ad placer I want to have the possibility to see someone’s user profile (the public fields).

* 1. Trigger

The user can watch another users profile by clicking on the name of the user, wherever the name is indicated.

* 1. Pre-conditions

1. The user is logged in.

* 1. Post-conditions

2. The public fields of the users profile are displayed.

* 1. Main Scenario

1. User clicks on the username whose profile he wants to see.

2. User closes the user profile.

3. System shows the last page.

* 1. Alternative Scenarios

-

* 1. Special Requirements

Only field are displayed that the profile owner has set to public.

* 1. Notes

-

### Delete account

* 1. Actors

User, Ad placer

* 1. Description

A user will completely delete his account by entering his password again.

* 1. Trigger

The user clicks on the “delete account” button in the edit profile section.

* 1. Pre-conditions

1. The user must be logged in.

* 1. Post-conditions

1. The user is no longer logged in.

2. The account is deleted from the database.

* 1. Main Scenario

1. The user clicks on the “delete account” button.

2. The user enters his password.

3. The account is deleted and the user will be logged out.

* 1. Alternative Scenarios

2. Password is not valid

1. System will prompt to enter the correct password

2. User enters the correct password

* 1. Special Requirements

Use has 3 tries to enter the password. After that, he will be logged out.

* 1. Notes

### Change password

* 1. Actors

User, Ad placer

* 1. Description

A user will change his password by entering his old one and his new one twice

* 1. Trigger

The user clicks on the “change password” button in the edit profile section.

* 1. Pre-conditions

1. The user must be logged in.

* 1. Post-conditions

1. The user is logged in with his new password.

2. The password is changed in the database

* 1. Main Scenario

1. The user clicks on the “change password” button.

2. The user enters his new password and confirms it.

3. The user enters the old password and confirms the action

* 1. Alternative Scenarios
     1. The new password is not valid
        1. The System will prompt to enter a valid password
        2. User enters a valid password
     2. Old Password is not valid
        1. System will prompt to enter the correct password
        2. User enters the correct password
  2. Special Requirements

User has 3 tries to enter the correct old password. After that, he will be logged out.

* 1. Notes

### Place Ad

* 1. Actors

Ad placer

* 1. Description

The Ad placer will create an advertisement for a (shared) apartment. He will able to give a lot of information about it (location, photos, size, price), although not everything of this information is obligatory to give.

* 1. Trigger

The user clicks on the “create ad” button on the home page.

* 1. Pre-conditions
     1. The user is logged in.
  2. Post-conditions.
     1. The ad is saved in the database.
     2. The ad can be found by other users.
  3. Main Scenario
     1. The ad placer clicks on the “create ad” button.
     2. The ad placer fills out all information that is mandatory.
     3. The ad is created.
  4. Alternative Scenarios
     1. The ad placer forgot to fill in all mandatory information.
        1. The system will prompt to fill in the missing information.
        2. The user fills in the information.
  5. Special Requirements

-

* 1. Notes

-

### Edit ad

* 1. Actors

Ad placer

* 1. Description

The ad placer can edit all information about an ad whenever he wants.

* 1. Trigger

The ad placer clicks on the “edit ad” button, while he’s looking at the ad information of his own ad.

* 1. Pre-conditions

1. The user is logged in.

2. The user has placed an ad.

* 1. Post-conditions.

1. The ad is updated.

2. Users, which bookmarked this ad will be informed about the update.

* 1. Main Scenario

1. The ad placer clicks on the “edit ad” button.

2. The ad placer edits the information he wants.

3. The ad placer saves the changes.

4. The ad is updated.

* 1. Alternative Scenario

See 1.61.

* 1. Special Requirements

-

* 1. Notes

-

### Manage enquiries

* 1. Actors

Ad placer

* 1. Description

The ad placer will probably receive several enquiries on an ad. He will be able to have an overview on all of them, so he can already decline the ones he doesn’t like or mark some as promising candidates.

* 1. Trigger

The ad placer clicks on the “manage enquiries” tab.

* 1. Pre-conditions

1. The user is logged in.

2. The ad placer has placed an ad.

* 1. Post-conditions.

-

* 1. Main Scenario

1. The user looks at the enquiries.

* 1. Alternative Scenarios

-

* 1. Special Requirements

-

* 1. Notes

-

### Organize onsite visits

* 1. Actors

Ad placer

* 1. Description

The ad placer can set certain times, when interested people will be able to visit the apartment. He can also set a deadline, when users will be able to register for a visit at the latest.

* 1. Trigger

The ad placer clicks on the “organize visit” button.

* 1. Pre-conditions

1. The user is logged in.

2. The user has placed an ad.

* 1. Post-conditions.

-

* 1. Main Scenario

1. The ad placer clicks on the “organize visits” button

2. The ad placer sets times for possible visits.

3. The ad placer sets a deadline.

* 1. Alternative Scenarios

-

* 1. Special Requirements

-

* 1. Notes

-

### Compile a list of most promising candidates

* 1. Actors

Ad placer

* 1. Description

The ad placer can compile a list of the most promising candidates according to his preference.

* 1. Trigger

The ad placer clicks on the “compile list” button.

* 1. Pre-conditions

1. The user is logged in.

2. The user had placed an ad.

3. The ad placer has some enquiries for the ad.

* 1. Post-conditions.

-

* 1. Main Scenario

1. The ad placer complies a list.

* 1. Alternative Scenarios

-

* 1. Special Requirements

-

* 1. Notes

-

### Search relevant ads

* 1. Actors

User

* 1. Description

The user is able to search for ads. He can search by different criteria like price, location, size, etc… He can also set what the compiled list should be ordered by.

* 1. Trigger

The user fills in all the search criteria and then clicks on “search”.

* 1. Pre-conditions

1. The user is logged in.

* 1. Post-conditions.

-

* 1. Main Scenario

1. The user fills in search criteria.

2. User clicks on search.

3. Apartments fitting the criteria will be displayed.

* 1. Alternative Scenarios
  2. The user doesn’t fill in any search criteria
     1. All apartments will be displayed.
  3. No apartments fit the search
     1. No apartments will be displayed.
  4. Special Requirements

-

* 1. Notes

-

### Watch detailed ad information

* 1. Actors

User, Ad placer

* 1. Description

The user is able to watch detailed information about an ad. This includes stuff like a map with the location, roommates, price, photos and more.

* 1. Trigger

The user clicks on an ad.

* 1. Pre-conditions

-

* 1. Post-conditions.

-

* 1. Main Scenario
     1. The user is clicks on an ad.
     2. User watches information.
  2. Alternative Scenarios

-

* 1. Special Requirements

-

* 1. Notes

-

### Send enquiry

* 1. Actors

User

* 1. Description

The user can show interest in an ad by sending an enquiry. The ad placer will receive the enquiry without giving about personal information like e-mail or name. The user will automatically give all the information of himself, which he filled in while registering his account. He can also add a message with the enquiry.

* 1. Trigger

The user clicks on “send enquiry” button while watching detailed information about an ad.

* 1. Pre-conditions

1. User is logged in.

* 1. Post-conditions.

-

* 1. Main Scenario

1. User fills out form of the enquiry.

2. User sends enquiry.

* 1. Alternative Scenarios

-

* 1. Special Requirements

-

* 1. Notes

-

### Manage scheduled visits

* 1. Actors

User

* 1. Description

The user can register for visits at multiple apartments. Here he can watch all scheduled visits and manage them.

* 1. Trigger

The user clicks on the “manage scheduled visits” tab.

* 1. Pre-conditions

1. User is logged in.

2. User has scheduled visits.

* 1. Post-conditions

-

* 1. Main Scenario

1. User clicks on “manage scheduled visits” tab.

2. User watches his scheduled visits.

* 1. Alternative Scenarios

-

* 1. Special Requirements

-

* 1. Notes

-

### Bookmark interesting ads

* 1. Actors

User

* 1. Description

The user can bookmark ads he like. Like this, he can easily navigate to those ads and he will also get informed whenever those ads will be updated or removed.

* 1. Trigger

The user clicks on the “Add bookmark” button while watching an ad.

* 1. Pre-conditions

1. The user is logged in.

* 1. Post-conditions.

1. The ad is saved in the bookmarks of the currently logged in user.

* 1. Main Scenario

1. The user is looking at an ad.

2. The user is bookmarking the ad.

* 1. Alternative Scenarios

-

* 1. Special Requirements

-

* 1. Notes

-

### Watch/edit bookmarks

* 1. Actors

User

* 1. Description

The user can watch his bookmarked ads and also remove the bookmark again.

* 1. Trigger

The user clicks on the “watch bookmarks” tab.

* 1. Pre-conditions

1. User is logged in.

2. User has bookmarked ads.

* 1. Post-conditions.

-

* 1. Main Scenario

1. User clicks on “watch bookmark” tabs.

2. User looks at his bookmarks.

* 1. Alternative Scenarios

-

* 1. Special Requirements

-

* 1. Notes

-

### Subscribe to alerts

* 1. Actors

User

* 1. Description

A User is able to save his preferences for an apartment. Like this, he can get informed whenever someone sets up a new ad fitting the preferences of a user.

* 1. Trigger

The user clicks on the “subscribe to alerts” button, and then enters the search criteria he wants to save, and then clicks on “subscribe”.

* 1. Pre-conditions

1. User is logged in.

* 1. Post-conditions.

1. Subscription is saved.

* 1. Main Scenario

1. User clicks on “subscribe to alerts”

2. User enters preferences.

3. User clicks on “subscribe”

* 1. Alternative Scenarios

-

* 1. Special Requirements

The User can only have one subscription.

* 1. Notes

-

### Watch new alerts

* 1. Actors

User

* 1. Description

In this tab, the user can watch if any new advertisement fit his subscription to alerts.

* 1. Trigger

The user clicks on “watch new alerts”.

* 1. Pre-conditions

1. User is logged in.

2. User has subscribed to alerts.

* 1. Post-conditions.

-

* 1. Main Scenario

1. User clicks on “watch new alerts”

2. User looks at his alerts.

* 1. Alternative Scenarios
     1. There are no new alerts.
        1. No ads are displayed.
  2. Special Requirements

-

* 1. Notes

-

*EXAMPLE*

### Withdraw Cash (Enter a short name for the Use Case using an active verb phrase)

* 1. Actors

Customer

[An actor is a person or other entity external to the software system being specified who interacts with the system and performs use cases to accomplish tasks. Different actors often correspond to different user classes, or roles, identified from the customer community that will use the product. Name the actor that will be initiating this use case (primary) and any other actors who will participate in completing the use case (secondary).]

* 1. Description

As a customer I want to withdraw money from my account.

[Provide a brief description of the reason for and outcome of this use case.

Format: As a [user role] I want to [goal] (so I can [reason])]

* 1. Trigger

Customer inserts ATM card.

[Identify the event that initiates the use case. This could be an external business event or system event that causes the use case to begin, or it could be the first step in the normal flow.]

* 1. Pre-conditions
     1. Customer has active deposit account with ATM privileges
     2. Customer has an activated ATM card

[List any activities that must take place, or any conditions that must be true, before the use case can be started. Number each pre-condition.]

* 1. Post-conditions

1. Customer receives cash
2. Customer account balance is reduced by the amount of the withdrawal and transaction fees

[Describe the state of the system at the conclusion of the use case execution. Should include both *minimal guarantees* (what must happen even if the actor’s goal is not achieved) and the *success guarantees* (what happens when the actor’s goal is achieved. Number each post-condition.]

* 1. Main Scenario

1. Customer inserts ATM card
2. Customer enters PIN
3. System prompts customer to enter language performance English or Spanish
4. System validates if customer is in the bank network
5. System prompts user to select transaction type
6. Customer selects Withdrawal From Checking
7. System prompts user to enter withdrawal amount
8. …
9. System ejects ATM card

[Provide a detailed description of the user actions and system responses that will take place during execution of the use case under normal, expected conditions. This dialog sequence will ultimately lead to accomplishing the goal stated in the use case name and description.]

* 1. Alternative Scenarios

4a. Customer is not in the bank network

1. System will prompt customer to accept network fee
2. Customer accepts
3. Use Case resumes on step 5

4b. Customer is not in the bank network

1. System will prompt customer to accept network fee
2. Customer declines
3. Transaction is terminated
4. Use Case resumes on step 9 of normal flow

[Document branches from the main flow to handle special conditions (also known as extensions). For each alternative flow reference the branching step number of the normal flow and the condition which must be true in order for this extension to be executed.]

* 1. Special Requirements

User validation (step 4) cannot take more then 30 seconds.

[Identify any additional requirements, such as nonfunctional requirements, for the use case that may need to be addressed during design or implementation. These may include performance requirements or other quality attributes.]

* 1. Notes
     1. What is the maximum size of the PIN that a use can have?

[List any additional comments about this use case or any remaining open issues or TBDs (To Be Determined) that must be resolved.]

## Actor characteristics

The User is expected to be Internet literate and be able to use a search engine and search forms respectively. The main screen of the application will have a search function to search for ads.

The ad placer is expected to be Internet literate and to be able to functionalities to place ads (e.g. fill in web forms).

# Specific requirements

## Functional Requirements Specification

See section use cases.

## Non-Functional Requirements

The application will be on a server with TODO Internet capability. The physical machine to be used will be determined by TODO. The software developed here assumes the use of a tool such as Tomcat for connection between the Web pages and the database. The speed of the Users connection will depend on the hardware used rather than characteristics of this system.

The application has to run 24/7 with 5% of down time for maintenance purposes.

* Archive?
* Reliability
  + Data is recoverable after system failure
* Look and Feel
  + No specifications
* Corporate Design
  + No specifications
* Usability
  + The system is provided in English (I18N?)
  + The system prevents wrong entries
  + The system is self explaining and no instruction/manual is needed
* Performance and Efficiency
  + The system works fluently with 500 user accesses at once
* Maintainability
* Extensibility
  + Possibility to extend the system with additional real estate functionality (e.g. selling houses/apartments)

Requirements Specification

## External Interface Requirements

Database ? TODO

## Logical Structure of the Data

The data descriptions of each of these data entities is as follows:

**User Entity**

|  |  |  |  |
| --- | --- | --- | --- |
| **Data Item** | **Type** | **Description** | **Comment** |
| UserId | Int |  |  |
| UserName | Varchar |  |  |
| Email Address | Varchar |  | Unique/not nullable |
| Hobbies | Varchar |  |  |
| Profession | Varchar |  |  |
| Photo | BLOB |  |  |
| Timestamp | Timestamp |  |  |
|  |  |  |  |

**Ad Entity**

|  |  |  |  |
| --- | --- | --- | --- |
| **Data Item** | **Type** | **Description** | **Comment** |
| ID | Int | ID | Key / not nullable |
| Header | Varchar |  |  |
| Price | Currency |  |  |
| Size |  |  |  |
| ZIP Code | Integer |  |  |
| City | Varchar |  |  |
| Roommates | Set |  |  |
| Timestamp | Timestamp |  |  |

**Ad Types Entity**

|  |  |  |  |
| --- | --- | --- | --- |
| **Data Item** | **Type** | **Description** | **Comment** |
| TypeId | Int |  |  |
| Type | Varchar |  |  |
| Timestamp | Timestamp |  |  |

### Security

TODO