URS
Student Housing: Roomies

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Version History

Version	Date	Changes	State
1.0	September 19, 2022	Initial release	Minimal
2.0	September 27, 2022	• Finished Use Cases	Complete

Distribution

Version	Date	Receivers
1.0	September 19, 2022	Frank Coenen & Marcel Boelaars
2.0	November 25, 2022	Frank Coenen & Marcel Boelaars

Contents

1 Actors

1.1 Administrators

Administrators are users responsible for the registration of student and landlord accounts.

1.2 Landlords

Landlords are users that can create, update, and remove listings.

1.3 Students

Students are able to respond to any listings available. They can also view which listings they have previously responded to. They can:

- Respond to listings

- Communicate with landlords

1.4 Unregistered users

Unregistered users are people that have no account for the website. All they are able to do is browse the listings and put in a request for an account.

2 Requirements

2.1 Non-Functional Requirements

1. **NFR-01: Software must be maintainable, extendable, and scalable**
   For the initial launch the app will be limited to Eindhoven only. However, for future rollouts in other cities it is of the utmost importance that the app is well-maintained, extendable, and has the proper scalability to be able to sustain a larger use-base.

2. **NFR-02: Software must be secure**
   Certain functionalities should only be available to certain users. As such, user authorization is necessary so that unauthorized people do not get access to secure data. User data should also be properly encryped and secured where necessary.

2.2 Functional Requirements

1. **FR-01: Login to the website**
   Any user with an account can log in to the website. What functionality is available depends entirely on the type of account.

2. **FR-02: Apply for an account**
   Any user can apply for an account. The registration process differs depending on whether the application is for a landlord account or a student account. Administrators are able to approve or deny account requests.

3. **FR-03: View all active listings**
   Any user can see all active listings that are available on the website.

4. **FR-04: View details of a listing**
   Any user can view the details of a listing. Users do not have to log in to view details.

   (a) **FR-04-C-01:** The details of a listing contains the following information:
   - Address
   - City
   - Neighborhood
   - Description
   - Surface area in square meters
   - Rent per month in Euro's

5. **FR-05: Respond to listing**
   Students are able to respond to listings that interest them.

   (a) **FR-05-C-01:** Only users logged in as students can respond to a listing.

   (b) **FR-05-C-02:** A student can only respond once to a listing.

   (c) **FR-05-C-03:** A student can respond to multiple listings at once.

6. **FR-06: Create new listings**
   Landlords are able to create new listings.

   (a) **FR-06-C-01:** Only users logged in as landlords can create new listings.

   (b) **FR-06-C-02:** There is no limit to how many listings a landlord. can create

7. **FR-07: Update a listing**
   Landlords can update any active listing that they have.

   (a) **FR-07-C-01:** Certain information such as the deadline cannot be changed anymore after creation.

8. **FR-08: Remove listings**
   Landlords can remove their own listings from the website

   (a) **FR-08-C-01:** Administrators can remove any listing on the website

9. **FR-09: Close listing**
   Landlords can close their own listings on the website

   (a) **FR-09-C-01:** Administrators can close any listing on the website

10. **FR-10: View account details**
    All accounts can check their account details. They can also modify their account details.

    (a) **FR-10-C-01:** Users can only view their own account information.

    (b) **FR-10-C-02:** Users can only modify their own account information. Pilsner

11. **FR-11: Messaging functionality between landlord and tenant**
    Once a student has been accepted, a support chat system should be enabled to allow for easy communication between landlord and tenant.

3 Use Cases

UC-01	Login to website
Actor	Student / Landlord / Administrator
Related FRs	FR-01
Pre-condition	1. Actor is on login page 2. Actor has an account
MSS	1. Actor fills in their email and password 2. Actor clicks on login button 3. System authenticates login information 4. System redirects to account page
Ext.	1. Account authentication fails • System displays an error message • Return to MSS step 1

UC-02	Apply for a student account
Actor	Unregistered users
Related FRs	FR-02
Pre-condition	1. Actor is on student registration page 2. Actor does not have an account already
MSS	1. Actor fills in the required info 2. Actor clicks on the "Send Registration" button 3. System checks if account email is not in use 4. System checks if input is valid 5. System sends information to administrators for validation 6. System displays message that their registration has been received

Ext.	1. Email address and / or student ID are already in use
	
	    • System displays message that the information given is already in use
	    • Return to MSS step 1
	
	2. Certain input is invalid
	
	    • System displays error message that not all input is valid
	    • Return to MSS step 1

UC-03	Apply for a landlord account
Actor	Unregistered users
Related FRs	FR-02
Pre-condition	1. Actor is on landlord registration page 2. Actor does not have an account already
MSS	1. Actor fills in the required fields 2. Actor clicks on "Send Registration" 3. System checks if account email is not in use 4. System checks if input is valid 5. System sends information to administrators for validation 6. System displays message that their registration has been received

Ext.	1. Email is not unique
	
	    • System displays an error stating that the email address is already in use
	    • Return to MSS step 1
	
	2. Certain input is invalid
	
	    • System displays error message that not all input is valid
	    • Return to MSS step 1

UC-04	Browse available listings
Actor	Unregistered users
Related FRs	FR-03
Pre-condition	1. Actor is on the index / home page
MSS	1. Actor clicks on "Listings" button 2. System loads the available listings

Ext.	1. There are no listings to load yet
	    • System shows message on page informing the user that there aren't any listings at the moment
	    • End of MSS

UC-05	View the details of a listing
Actor	All actors
Related FRs	FR-04
Pre-condition	1. Actor is on the listings page 2. There are listings shown on the listings page
MSS	1. Actor clicks on a listing on the page 2. System redirects to the listing page 3. System retrieves the information related to the listing 4. System shows the information
Ext.	1. System could not retrieve information of a listing - System displays message that the listing could not be found - End of MSS 2. System loads the information of a listing that is no longer active - System displays a message at the top of the listing that the listing is no longer active - Go to MSS step 4

UC-06	Respond to listing
Actor	Students
Related FRs	FR-05
Pre-condition	1. Actor must be logged in as student 2. Actor has an active listing opened 3. Actor has not yet responded to the active listing
MSS	1. Actor clicks on respond button at the bottom of the page 2. System checks if the listing is still active 3. System checks if the actor hasn't already responded to it 4. System registers actor's response 5. System displays confirmation message of successful response

Ext.	1. Listing is no longer active
	
	    • System displays error message that the response could not be registered as the listing is no longer active
	    • End of MSS
	
	2. Actor has already responded to the listing
	
	    • System displays error message that the actor cannot respond more than once on a listing
	    • End of MSS

UC-07	Create new listing
Actor	Landlords
Related FRs	FR-06
Pre-condition	1. Actor must be logged in as landlord 2. Actor is on account page
MSS	1. Actor clicks on "Create Listing" button 2. System verifies if actor is allowed to create a listing 3. System opens listing creation form 4. Actor fills in required information 5. Actor clicks "Create" button 6. System checks if all required information is filled in and the input is valid 7. System creates listing 8. System redirects back to account page

Ext.	1. Actor is not allowed to create listings
	
	    • System displays illegal action error message
	    • End of MSS
	
	2. Not all required fields are filled in
	
	    • System displays error message that some fields have not been filled in
	    • Return to MSS step 4
	
	3. Some fields contain invalid input
	
	    • System displays error message that some input is invalid
	    • Return to MSS step 4

UC-08	Update a listing
Actor	Landlords
Related FRs	FR-07
Pre-condition	1. Actor is logged in as a landlord 2. Landlord is on an owned listing page
MSS	1. Actor clicks on "Modify listing" button 2. System verifies if the actor is authorized 3. System opens form with listing info filled in 4. Actor modifies information 5. Actor clicks on "Update listing" button 6. System checks if all required fields are filled in 7. System validates the entered information 8. System updates the listing information 9. System displays a success message

Ext.	1. Actor is not authorized to perform update action on listing
	
	    • System displays invalid action message
	    • End of MSS
	
	2. Not all fields are filled in
	
	    • System displays message that not all fields are filled in
	    • Return to MSS step 4
	
	3. The listing information is invalid
	
	    • System displays message that not all input was valid
	    • Return to MSS step 4

UC-09	Remove a listing
Actor	Landlords
Related FRs	FR-08
Pre-condition	1. Actor is logged in as a landlord 2. Actor is on an owned listing page
MSS	1. Actor clicks on "Delete listing" button 2. System verifies if the actor is authorized 3. System displays warning message to confirm deletion 4. Actor clicks "Confirm" 5. System removes the listing and associated responses from the database 6. System displays deletion success message

Ext.	1. Actor is not authorized to perform deletion
	
	   • System displays invalid action message
	   • End of MSS
	
	2. Actor cancels deletion
	
	   • System closes deletion message
	   • End of MSS

UC-10	Close a listing
Actor	Landlords
Related FRs	FR-09
Pre-condition	1. Actor is logged in as landlord 2. Actor is on owned listing page
MSS	1. Actor clicks on "Close listing" button 2. System verifies if the actor is authorized to close the listing 3. System asks actor for confirmation of closing 4. Actor clicks on "Confirm" button 5. System closes listing 6. System reloads listing page

Ext.	1. Actor is not authorized to close listing
	    • System displays invalid action message
	    • End of MSS
	
	2. Actor does not confirm closing listing
	    • System closes message
	    • Return to MSS step 1

UC-11	View account details
Actor	Landlords / Students / Administrators
Related FRs	FR-10
Pre-condition	1. Actor must be logged in 2. Actor is on index page
MSS	1. Actor clicks on "My Account" button 2. System checks if actor is logged in 3. System redirects to account information page 4. System fetches relevant account information from database 5. System displays account information

Ext.	1. Actor is not logged in
	
	  • Redirect actor to log in page
	  • End of MSS

UC-12	Update account details
Actor	Landlords / Students / Administrators
Related FRs	FR-11
Pre-condition	1. Actor is logged in 2. Actor is on account information page
MSS	1. Actor navigates to "Modify account" tab 2. Actor changes account information 3. Actor clicks on "Update account information" 4. System checks if input fields are filled in 5. System validates if input is valid 6. System checks if email is unique 7. System updates information in the database 8. System displays success message
Ext.	1. Not all fields are filled in • System displays message that not all fields are filled in • Return to MSS step 2 2. The listing information is invalid • System displays message that not all input was valid • Return to MSS step 2 3. Email address is already in use • System displays message that the information given is already in use • Return to MSS step 2

UC-13	Send message to landlord
Actor	Student
Related FRs	FR-12
Pre-condition	1. Actor is logged in as student 2. Actor is on account information page 3. Actor has been assigned a room
MSS	1. Actor navigates to messaging tab 2. System loads and displays communication history with landlord 3. Actor types in message 4. System sanitizes message input 5. System sends message to tenant

Ext.	1. Actor is not a tenant
	
	    • System displays message that they are not a tenant and cannot send messages
	    • End of MSS

UC-14	Send message to tenant
Actor	Landlord
Related FRs	FR-13
Pre-condition	1. Actor is logged in as landlord 2. Actor is on account information page 3. Actor has rooms with tenants
MSS	1. Actor navigates to messaging tab 2. System loads all messages actor has received 3. Actor selects tenant to load messages of 4. System opens messaging form 5. System fetches and displays communication history with selected tenant 6. Actor types in message 7. System sanitizes message input 8. System sends message to tenant
Ext.	1. Landlord has no tenants • System displays message that they have no tenants to send messages to • End of MSS