**Rentler**

**Software Requirements**

**Specification**

**Version 1.0**

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**1. Introduction**

* 1. **Purpose**

The purpose of this document is to present a detailed description and outline the requirements for the Rental web application. It will explain the purpose and product features, the interfaces of the system, what the system will do and constraints under which it must operate.

* 1. **Intended Audience and Reading Suggestions**

The intended audience of this document includes all stakeholders of Rentler project who are supposed to review and sign-off this document. Tre primary stakeholders of the system include customers. It will be useful for those who want to rent an apartment and also for rental providers.

* 1. **Project Scope**

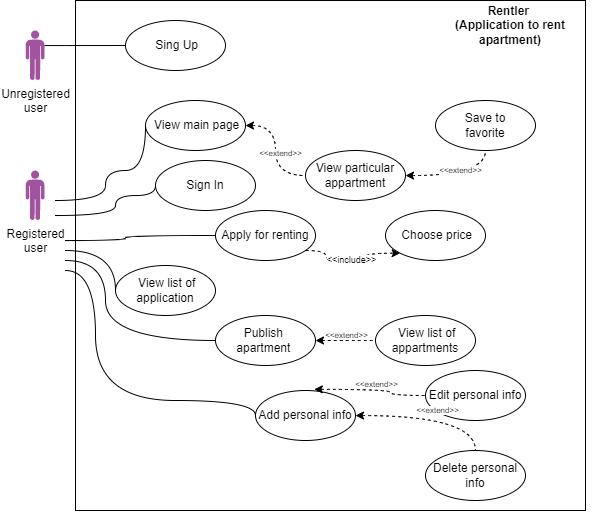
The system will provide all the functionality so that the tenant can find the right real estate, view all the details about the object, make offer to rent and contact the rental provider. On the landlord's side, will be opportunities to publish ads and provide all the necessary information, view all rental offers and reject them, or approve them. Also, users receive notifications by e-mail regarding submitted applications for renting apartment.

**2. Overall Description**

**2.1 Product Features**

* User profile management (create, edit, delete).
* Property application management (create, edit, delete).
* Displaying detail information about the property.
* Displaying all rental applications.
* Rental request management.
* Displaying application status.

**2.2 User Classes and Characteristics**

User classes and characteristics can be demonstrated by Use Case UML diagram:

**Use Case Description:**

|  |  |  |
| --- | --- | --- |
| **№** | **Name** | **Description** |
| 1 | Sing Up | Sing Up gives the possibility to enter name and password to become a registered user. |
| 2 | View main page | Main page is the page when user can see list of all apartments on site. |
| 3 | View apartment | On the main page, the user can select a particular apartment and view all information about the apartment. This information is about the number of rooms, several photos, and price. |
| 4 | Save to favorite | Users can save a particular apartment to list of favorite apartments to view them later. |
| 5 | Sign In | Sign In gives the possibility to enter the site. |
| 6 | Apply for renting | When the user selects a particular apartment, it is possible to apply for rent. |
| 7 | Choose price | In order to apply for rent it is needed to choose the price of the apartment. |
| 8 | View list of application | Then the user can view a list of applications which were created. So, users can view the list of apartments which they would like to rent. |
| 9 | Publish apartment | User can publish apartment and find the renter. |
| 10 | View list of apartments | Users can view a list of published apartments available to rent. |
| 11 | Add personal info | Users can add personal information about them. |
| 12 | Edit personal info | Users can edit personal information. |
| 13 | Delete personal info | Users can delete personal information. |

**2.4 Operating Environment**

Operating environment for the rent system is as listed below:

* Databases: PostgreSQL;
* Client/server system;
* Microservices architecture;
* Operating system: Linux/Docker;
* Platform: Java;

**2.5 Assumptions and Dependencies**

The system will be developed by using Java language. Other dependencies will also include:

* Spring Framework
* Spring Boot
* Spring Cloud
* Docker
* React
* PostgreSQL
* Google Cloud
* Kubernetes

The system will be available and usable in Chrome, Opera, Mozilla Firefox, Safari browsers and Microsoft Edge. React framework will let the system work as a native app without reloading the page.

**3. Requirements specifications**

**3.1 Functional Requirements**

* The system should allow users to log into their account by entering user email and password.
* Rental provider can delete the application by pressing “delete” button.
* Registered user can create rental application
* Registered user can edit all the fields of previously created application
* Registered user can view detailed information of all application
* Registered user can view all rental applications.
* Register user can users can search for available apartments based on various criteria such as location, price, number of rooms.
* Rental provider can reject/accept rental requests.
* Registered user can see the status of each rental request
* Registered user can save apartment to list of favorite apartments.
* Registered user can add personal info on Personal info page.
* Registered user can edit personal info on Personal info page.
* Registered user can delete personal info on Personal info page.

**3.2 Non-functional Requirements**

**Security:**

1. Password requirements - length, special, characters.
2. Password should be hashed.
3. Authentication and authorization according to the standard.
4. Command and Query Responsibility Segregation(CQRS) pattern should be followed.

**Performance:**

1. The application must load withing 2 seconds.
2. The system must be able to support 1000 users simultaneously.

**Reliability:**

1. The system must work even if errors have occurred.
2. The system must be available 95% time per month.
3. Downtime after a critical failure must not exceed 1 hours.

**Usability:**

1. The system must work as a native app without reloading the page.
2. The interface shall be easy to learn without a tutorial and allow users to accomplish their goals without errors.

**Supportability:**

1. The system shall be available and usable in Google Chrome, Opera, Mozilla Firefox, and Safari browsers.

**3.3 List of User Stories**

1. As a new user, I want to be able to create a new account easily, so that I can start using the app quickly.
2. As a user with multiple properties, I want to be able to select which property I'm signing in for, so that I can access the correct information for that property.
3. As a security-conscious user, I want the sign in page to require my email address and password, so that only I can access my account.
4. As a user who has forgotten their username, I want the sign in page to allow me to enter my email address instead, so that I can still access my account.
5. As a user, I want the sign in page to hide my password as I type it, so that no one can see my password as I enter it.
6. As a user with multiple accounts, I want the sign in page to allow me to select which account I want to sign in with, so that I can easily switch between them.
7. As a user who frequently logs in from public places, I want the sign in page to have a "remember me" option, so that I don't have to enter my login information every time I use the app.
8. As a renter, I want to be able to search for available apartments based on my preferred location and budget, so that I can find a suitable apartment to rent.
9. As a renter, I want to be able to view detailed information about each apartment, including pictures, floor plans, and amenities, so that I can make an informed decision about which apartment to rent.
10. As a renter, I want to be able to submit an application to rent an apartment and upload all necessary documents online, so that I can apply for an apartment conveniently and easily.
11. As a renter, I want to be able to track the status of my application and receive notifications when it is approved or denied, so that I can plan accordingly.
12. As a property manager, I want to be able to list my available apartments on the application, so that renters can find them.
13. As a property owner, I want to be able to view and manage applications submitted by renters, so that I can select the best tenant for my apartment.
14. As a property owner, I want to be able to manage multiple properties on the application, so that I can keep track of all my properties in one place.
15. As a renter, I want to be able to filter apartments by specific amenities or features, so that I can find an apartment that meets my specific needs.
16. As a renter, I want to be able to view detailed information about each apartment, including pictures, floor plans, and amenities.
17. As a renter, I want the page with all apartment advertisements to have a "contact landlord" button, so that I can easily get in touch with the person who is renting the apartment.
18. As a renter, I want the page with all apartment advertisements to have a "save for later" button, so that I can come back to apartments that I am interested in at a later time.
19. As a property owner, I want the property publishing page to have an easy-to-use interface, so that I can quickly and easily create an advertisement for my apartment.
20. As a property owner, I want the property publishing page to allow me to upload multiple high-quality photos of my apartment, so that renters can get a better sense of the space.
21. As a property owner, I want the property publishing page to require me to list all relevant information about my apartment, including price, location, size, and amenities, so that renters can make an informed decision.
22. As a property owner, I want the property publishing page to allow me to save my advertisement and return to it later, so that I can work on it at my own pace.
23. As a registered user, I want to be able to edit my personal information, such as my name and contact information, so that I can keep my account up to date.
24. As a registered user, I want to be able to upload a profile picture, so that other users can recognize me and my account feels more personalized.
25. As a property owner, I want to be able to view my rental history, including previous apartments I've rented and payments I've made, so that I can keep track of my past activity.
26. As a registered user, I want to be able to edit my personal information so that I can keep my profile up to date with any changes to my contact details.
27. As a registered user, I want to be able to change my password so that I can maintain the security of my account and keep my information safe.
28. As a registered user, I want to be able to upload a new profile picture so that I can customize my user experience and personalize my account.
29. As a registered user, I want to be able to edit my notification settings so that I can control the frequency and type of notifications I receive from the application.
30. As a property owner, I want to be able to delete an advertisement for a property that I have published so that I can remove any outdated or incorrect information and ensure that the listings on the website are up-to-date.
31. As a registered user, I want to be able to delete my personal information from the web application so that I can ensure my privacy and remove any outdated or irrelevant details.
32. As a registered user, I want to be able to easily delete my personal information without having to go through a complicated process so that it saves me time and effort.
33. As a registered user, I want to be able to delete specific pieces of my personal information instead of having to delete everything so that I can maintain control over what information is visible on the web application.
34. As a registered user, I want to be able to completely delete my account so that all my personal information and data associated with my account is permanently removed from the system.
35. As a renter, I want to be able to leave a review of an apartment after renting it, so that other renters can benefit from my experience.
36. As a user, I want the sign up page to require a strong password and provide tips for creating one, so that I can protect my account.
37. As a user, I want to be able to see the listing categories on the home page so that I can quickly find the type of apartment I am interested in renting.
38. As a new user, I want to be able to quickly understand what the web application is about, so that I can decide if it's the right platform for me.
39. As a user, I want to be able to find contact information for customer support or technical assistance on the home page, so that I can quickly and easily get help if I need it.
40. As a registered user, I want to be able to use the search button on the home page, so that I can quickly find the apartment that meets my specific criteria without having to browse through the entire web app.
41. As a landlord, I want to be able to specify the lease terms for each of my apartments, so that renters can understand what is expected of them.
42. As a property owner, I want to be able to view the renter's contact information, so that I can easily get in touch with them if needed.
43. As a security-conscious user, I want to be prompted to answer security questions or provide other verification before resetting my password through the "Forgot Password" button.
44. As a user, I want to be able to click on the "Forgot Password" button so that I can reset my password if I forget it.
45. As a registered user, I want to be able to view a list of my favourite apartment advertisements so that I can easily keep track of properties that I am interested in.
46. As a registered user, I want to be able to add an apartment advertisement to my favourite list so that I can easily find it later and keep track of it.
47. As a registered user, I want to be able to remove an apartment advertisement from my favourites list so that I can keep my list up to date with my current interests.
48. As a registered user, I want to be able to sort my favourite apartment advertisements by price, location, or other criteria so that I can easily find the properties that meet my preferences.
49. As a property owner, I want to be able to edit the details of my posted apartment advertisement, so that I can update the information as needed and ensure its accuracy.
50. As a property owner, I want to be able to delete my apartment advertisement, so that I can remove it from the website when it is no longer available.

**4. Other Requirements**

**4.1 User Interfaces**

The following mock-ups describe most features of user interface.

Graphical user interface, application

Description automatically generated

Sign Up Page

Graphical user interface, website

Description automatically generated

Page with detailed information about the property

Graphical user interface, website

Description automatically generated

Rental ads Page

Graphical user interface

Description automatically generated

Log in Page

Graphical user interface, application, Teams

Description automatically generated

Page where rental providers can create rental applications.

Graphical user interface, application

Description automatically generated

Page where rental providers can view all rental applications.

Graphical user interface, website

Description automatically generated

Page where rental provider can view his published property

Graphical user interface, application

Description automatically generated

Page where user can see the status of his applications.

Graphical user interface

Description automatically generated

Property publishing Page

Graphical user interface, application

Description automatically generated

Page where user can edit his personal information

Graphical user interface, application, website

Description automatically generated

Page where can view information about the user and his applications

Graphical user interface, application

Description automatically generated

Page where users can approve/reject rental request