# Short-Term Leasing

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Team 4

Project Desciption

   Our project entails the development of a database application centered around the concept of short-term leasing. The primary objective is to establish a platform where landlords can rent out their properties to tenants seeking temporary accommodations. Tenants will have the convenience of effortlessly searching for suitable houses or rooms based on their desired dates and budget, generating a curated list of appealing options. Landlords, on the other hand, will have the ability to furnish necessary details and offer quality spaces to tenants. The interface will prioritize user-friendliness while providing comprehensive and adaptable information. The motivation behind this project is to create a straightforward platform that benefits both landlords, who can augment their income by utilizing their vacant properties, and tenants, who can secure affordable short-term stays. Our aim is to facilitate an efficient space-sharing process that caters to the interests and financial capabilities of both parties involved. The primary stakeholders in this endeavor are individuals seeking to maximize their earnings through their unoccupied properties, such as vacant rooms or houses. As for the application domain, it falls within the realm of business, as this project's fundamental nature revolves around facilitating commercial transactions.

System Environment
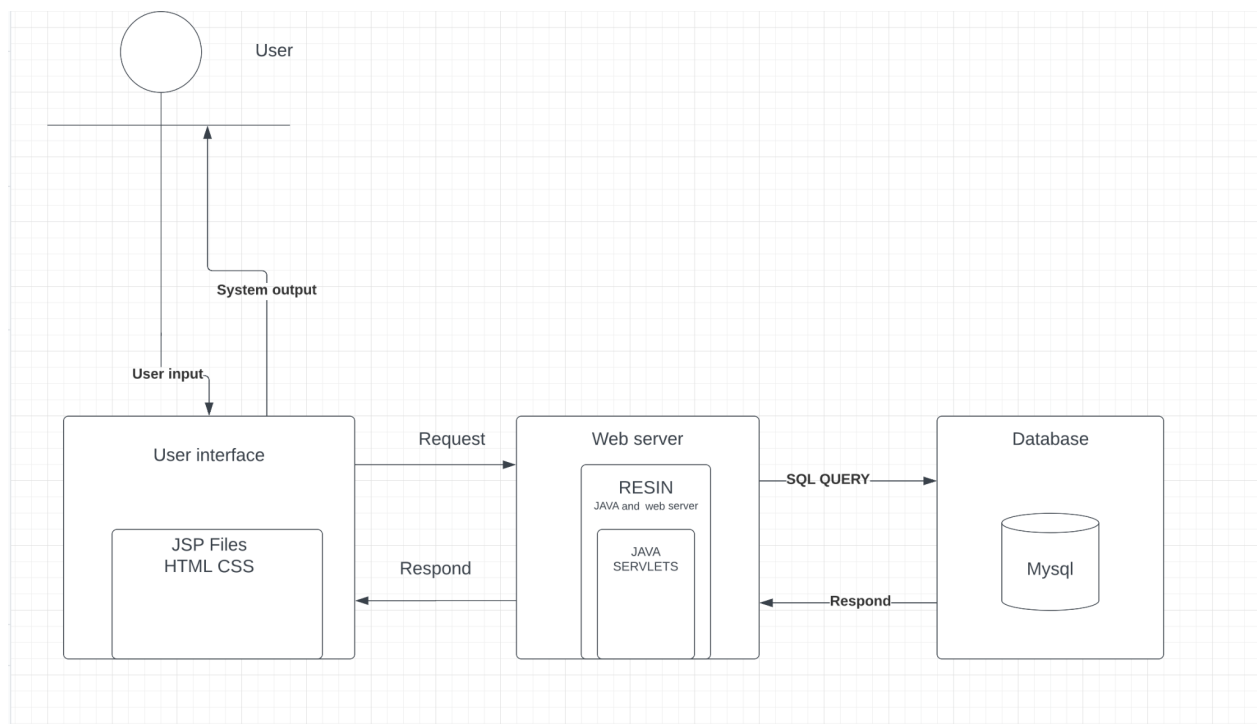
Hardware and Software Used:
Apache tomcat

RDBMS:
MySql Community Server 8.0.26

Application Languages:
Java, SQL, HTML, JavaScript

Functional Requirement

This application provides a range of features to accommodate different types of users, including tenants, landlords, and admins. Tenants and landlords are the primary users, and users can create an account to engage in property rental and leasing activities. The application behavior varies depending on whether the user chooses to rent or lease, requiring further clarification of these subcategories.

Landlords have the ability to list their vacant properties for rent by providing necessary identification details. On the other hand, tenants can specify their preferred check-in dates and budget to access a wider selection of options. Tenants can also view their search history stored in the database. Although both landlords and tenants have limited access to the application, it is important to emphasize that they are the target audience of the application, and the UI will be designed specifically to meet their needs. Both landlords and tenants can search for available listings based on their desired property types. They can view various listings and proceed with transactions if they are in the role of a tenant. However, tenants do not have the ability to make modifications to the application, such as adding or updating listings. This ability will only be available to the landlords. Fortunately, a user has both the ability to to be a landlord or a tenant, dependent on their goals and if they are adding a listing or finding a listing to lease.

Additionally, admins have comprehensive privileges within the application. They can edit, remove, and add listings for maintenance purposes. The ability to change these listings also serves as a means for testing purposes.

Functions:

Listing Request:
- Users will have the ability to search a database for listings that match their preferences, including price, listing type, size, location, and length of stay. A search box will be available, along with a filter to further refine a user's search.
- Upon entering the parameters, the system will display the available listings that meet the user's criteria. If no results are found, the user will be notified accordingly.

Browse Listings:
- Users can browse through the database of listings and select the one they wish to rent/lease. The system will present the available listings based on the user's preferences.

Sort Listing:
- Users can sort the displayed information according to their preferences, such as price, capacity, or listing type. The system will arrange the results in the specified order, allowing the user to easily make their selection.

Display Listing Information:
- Users can select a listing and view detailed information about the listing, including size, location, length of stay, and potential notes from the landlord to provide additional context. The system will present all relevant details about the listing, including price, location, listing type, size, and other necessary information regarding the property.

Lease Listing:
- Users will have the option to rent/lease the selected listing. The system will facilitate the leasing process and remove the listing once it has been leased.

Release Listing:
- Users can list a listing for release if they have one available. The system will prompt the user to provide all necessary information about the listing, which will then be stored in the database.

Create User:
- The system supports different types of accounts, including admin and user accounts. Admin accounts have access to admin-level features, while user accounts do not. It's important to note that all users can both rent and release listings. The system will provide a user registration form for creating an account.

Update/Edit Listing:
- Landlords are permitted to update their own listings, while admins have the ability to update all listings. The system will ensure that these requirements are met.

Remove Listing:
- Other than the landlords that created the listing, admins also have the authority to remove a listing.

Save Listing:
- Registered users can save listings, which will be added to their "Favorites" tab.
- Registered users also have the ability to delete listings from their saved list as desired.

User Classification:
- Users can be classified as both tenants and landlords but exclusively in one role during the leasing process between a tenant and landlord.

Non-Functional Issues:

Graphic User Interface:

Graphic User Interface: The graphical user interface (GUI) for our application will utilize HTML to provide a user-friendly environment. The GUI will be designed to be simple and intuitive, enabling users to easily navigate and interact with the platform. The interface will display various options for searching rooms, allowing users to select their preferred criteria. Essential elements will be incorporated, and users will have the ability to input specific information such as the desired length of stay and price range.The search page will be structured in a way that presents the available options based on the user's selected criteria. Users will be able to explore the rooms and make rental selections accordingly. Landlords, on the other hand, will have the ability to input relevant information and add their rooms to the database. Additionally, they will be able to update or remove their listings as needed. Admins will possess all of these functionalities, providing them with comprehensive control over the platform.Furthermore, there will be a sign-in and account creation page to facilitate user access and registration. The primary focus of the GUI will be functionality and ease of use, ensuring that users can effortlessly navigate through the application and accomplish their tasks.

Security:

To ensure the protection of personal information, users will be required to create a username and a secure password during the registration process. The validity of the provided email address will be verified through email verification. Usernames will be visible and serve as a means of direct communication between tenants and landlords.To enhance password security, certain complexity requirements will be enforced, ensuring that users do not utilize easily guessable passwords vulnerable to common hacking techniques such as Brute-force, Cold boot, or Dictionary attacks.Personal emails will be concealed for all users to safeguard privacy. However, the system will automatically forward notifications and alerts from the user account to the associated email address. All user information will be securely stored on the server and will only be accessed when explicitly prompted by the system, such as during the login process.Login and other actions involving sensitive information will be encrypted to provide an additional layer of security, preventing unauthorized access or interception of user data during transmission.

Access Control:

The registered accounts in our system are classified into two categories: admins and users. Admins are provided with specific privileges to moderate and manage listings. These privileges include the ability to flag, report, or delete listings that violate the system's policies or guidelines. However, it is important to note that these privileges are solely related to the functionalities of the system concerning listings. Admins do not have direct access to personal user information or the underlying database. Furthermore, admins are not authorized to make any modifications to the software running the website itself. Their role is strictly limited to the management and moderation of listings within the defined boundaries of the system.

Developer is the only one who directly changes the software. Users, whether tenants or landlords, have access to a set of actions and functionalities that are granted by the system. These include creating new listings, engaging in communication with other users, and searching through the existing listings. However, there is one unique privilege that users possess, which is the ability to report a listing. If a user comes across a listing that raises concerns or violates the platform's policies, they can submit a report. These reports are then investigated and processed by the admins of the system. Admins will review the reported listing, assess its validity, and take appropriate actions based on their findings and the system's guidelines. This process ensures that users can actively participate in maintaining the integrity and quality of the listings on the platform, with the admin team overseeing and addressing reported issues.