Software Requirements Specification (SRS)

for

Online Apartment Rental System

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1.INTRODUCTION

1.1 Purpose

The primary purpose of the Online Apartment Rental System is to provide a comprehensive and user-friendly platform for managing and facilitating the rental process of apartments within a large residential complex. Designed to cater to the needs of both apartment owners (Admin) and potential tenants (Registered and New/Anonymous users), the system aims to streamline the search, application, and rental procedures while ensuring transparency, efficiency, and accessibility for all users involved.

1.2 Scope

The Online Apartment Rental System focuses on managing a single apartment complex with one block, comprising 10 floors and 60 apartments. It facilitates user roles for Admin, Registered, and New/Anonymous users, allowing apartment listing management, rental requests, and user interactions. The system's scope encompasses apartment naming conventions, user-specific homepage functionalities, and rental application processes, providing a structured framework for efficient rental management within the complex.

2.Overall Description

2.1 Product Perspective

The Online Apartment Rental System serves as a digital platform tailored for a single apartment complex, providing an interface for owners to list apartments and potential tenants to search and apply for rentals. The system operates independently but integrates user roles for Admin, Registered users, and New/Anonymous users to facilitate efficient rental management.

2.2 Product Features

Key features include:

- Display of 2BHK & 3BHK apartment images.

- User-specific filtering of apartment details.
- Admin functionalities for request management, apartment editing, and user oversight.
- Registration and rental request processes for New and Registered users.

2.3 User Classes and Characteristics

User classes encompass Admin users responsible for system management, Registered users seeking rentals, and New/Anonymous users exploring available options. Each class has distinct roles and capabilities tailored to their interactions with the platform.

2.4 Operating Environment

The system operates within a web-based environment, accessible via standard web browsers, and designed to handle multiple concurrent user sessions. It relies on a database backend to store apartment details, user information, and rental requests, ensuring data integrity and security.

2.5 System Architecture

The Online Apartment Rental System is structured into three layers:

Presentation Layer:

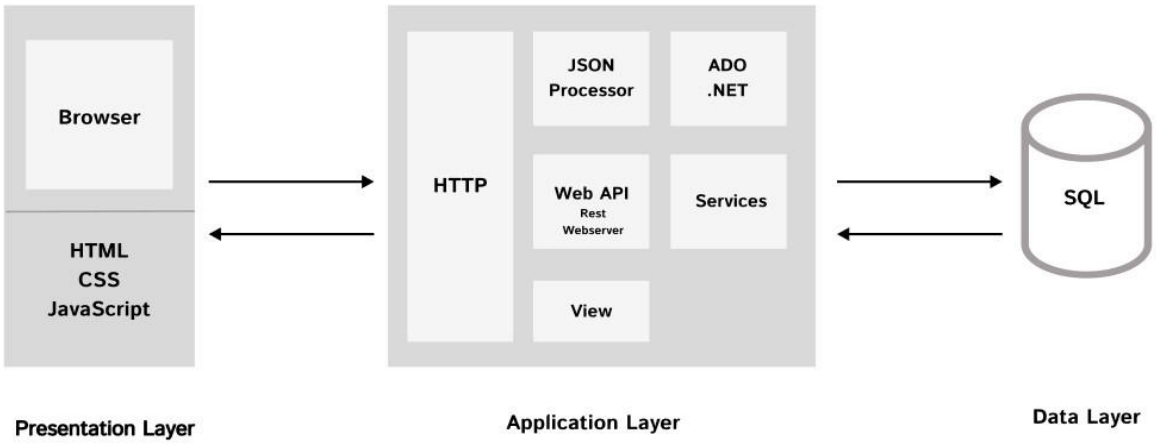
Handles user interface via the browser using HTML, CSS, and JavaScript.

Application Layer:

Manages HTTP requests, integrates with the web server, and handles business logic through Web API (REST) and ADO.NET.

Data Layer:

Houses the SQL Database for storing and managing all system-related data.



3.Requirements Analysis

3.1 User Requirement

The primary user groups for the Online Apartment Rental System include:

Admin Users: Responsible for managing apartment listings, rental requests, and user accounts.

New/Anonymous Users: Individuals seeking apartment rental information without registration.

Registered Users: Individuals who have registered with the system and can apply for apartment rentals.

3.2 Functional Requirement

Home Page Features: Display images of 2BHK & 3BHK apartments; menu options for login, registration, and apartment filtering based on various criteria.

User Roles & Permissions: Admin has exclusive editing rights, while registered users can apply for apartment rentals.

Apartment Management: Admin can add, edit, or remove apartment details; mark apartments as rented out or vacant.

User Request Management: Admin can view and act upon rental requests from registered users.

3.3 Hardware Requirement

Processor: Intel(R) Core or higher

Installed Memory: 4.00GB or higher

Speed: 1.40GHz or faster

Operating System: 32/64-Bit operating system, x86/x64-based processor

3.4 Software Requirement

Operating System: Windows 7/8/8.1/10

Database: MySQL Server Version 5.3 and above

Web Server: IIS (Internet Information Services)

Web Technologies: HTML, CSS, JavaScript, TypeScript, Angular

IDE & Tools: Visual Studio 2017, Visual Studio Code, SSMS, Postman

4. User Interface and Navigation

4.1 Home Page

The home page will prominently display images of both 2BHK & 3BHK apartments, providing users with a visual overview of available units.

Login & Registration:

Admin and registered users can access the login page through a designated menu option.

New users can navigate to the registration page using a separate menu option.

Features Based on User Role:

For New Users:

An intuitive filter interface will be available, allowing users to sort apartments based on Rental cost, 2BHK/3BHK options, Floor space, and their availability status (Rented out/Vacant).

For Admin & Registered Users:

A comprehensive filtering mechanism will be in place, enabling users to sort apartments based on Advance amount, Rental cost, 2BHK/3BHK configurations, Floor space, availability status (Rented out/Vacant), and Notice period.

Registered users will have an additional feature where they can check the status of their rental requests, whether they have been approved or declined by the Admin.

4.2 Login and Registration Pages

Login Page:

User Interface:

The login page will consist of input fields for username and password.

A "Forgot Password?" link for users who need to reset their password.

Navigation Options:

Upon successful login, Admin and Registered Users will be directed to their respective dashboards.

New/Anonymous users will be redirected to the homepage.

Registration Page:

User Interface:

Input fields for users to enter personal details such as full name, email address, contact number, and desired password.

Dropdowns or selection boxes for specifying user type (Admin, Registered User).

Navigation Options:

Upon successful registration, users will receive a confirmation message and will be automatically logged in.

Option to navigate back to the login page for immediate access after registration.

4.3 Admin Dashboard

Displays key apartment details: Advance amount, rental cost, type (2BHK/3BHK), floor space, status (rented/vacant), notice period.

Admin Capabilities:

Request management: View all rental requests, accept or deny them.

Apartment management: Mark apartments as rented/vacant, add/edit/delete apartment details, modify specific attributes (advance, rent, etc.).

User management: View all registered users and details

4.4 Inbox- registered users

Inbox Overview for Registered Users:

Purpose: Display notifications regarding the status of apartment rental requests.

Display the status (Accepted/Denied) of the user's apartment request.

Request Another Apartment:

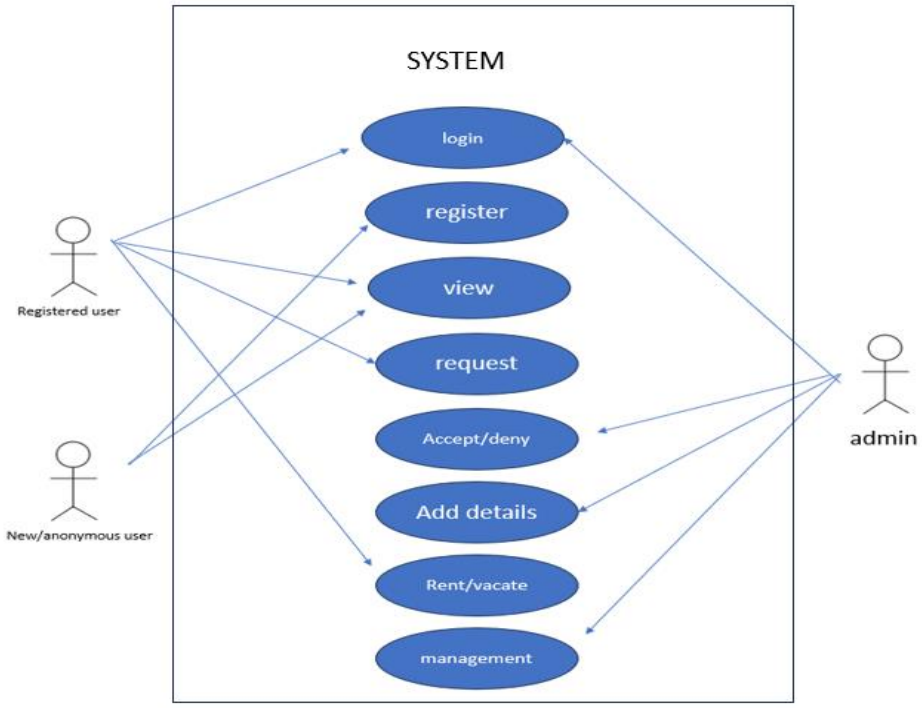
If a request is denied, users can choose to request a different apartment. However, they can only have one active request at a time.

Instant notification upon acceptance or denial of a rental request.

5. System Diagrams and Models

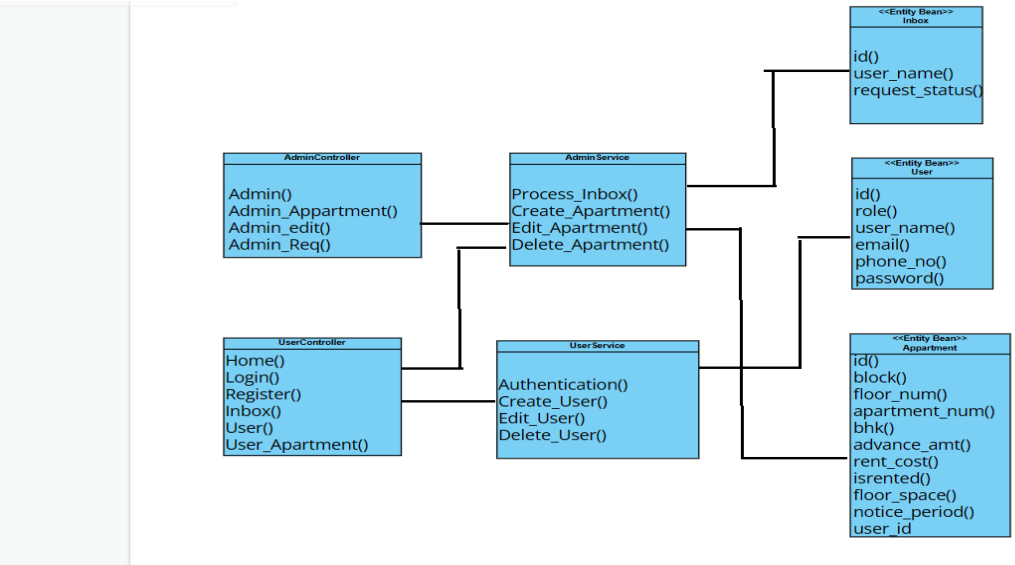
5.1 Use Case Diagram

A visual representation depicting the interactions between different actors and the system, showcasing the various functionalities offered to different user personas.



5.2 Class Diagram

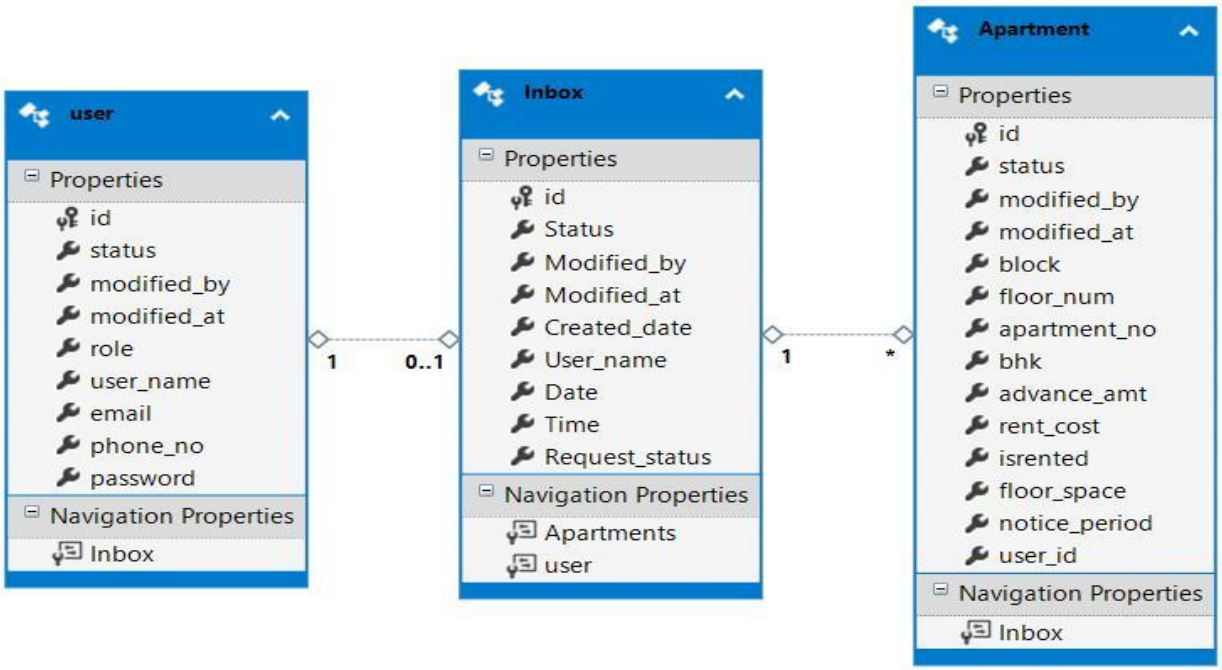
A graphical depiction illustrating the system's primary classes, their attributes, operations, and associations.



A graphical depiction illustrating the system's primary classes, their attributes, operations, and associations.

5.3 Data Model

A comprehensive outline showcasing the system's data entities, their attributes, and the relationships between them.



6. Testing and Quality Assurance

6.1Testing Approach

Each component is tested independently to ensure that system components operate without interference, aiming to detect errors and validate that the system meets both its functional and non-functional requirements.

6.2 Test Cases

Test Scenarios and Expected Outcomes:

Login Functionality:

Scenario: Verify that Admin and Registered Users can log in using valid credentials.

Expected Outcome: Upon entering valid credentials, users should be redirected to their respective dashboards.

Registration Process:

Scenario: Test the registration process for new users.

Expected Outcome: After successful registration, users should receive a confirmation message and be logged in automatically.

Apartment Filtering:

Scenario: Validate the filtering options available on the home page for both Admin and Registered Users.

Expected Outcome: Users should be able to filter apartments based on various criteria like Rental cost, 2BHK/3BHK options, Floor space, etc., and view the relevant results.

Rental Request Management (Admin):

Scenario: Test the functionality for Admin to view and manage rental requests.

Expected Outcome: Admin should be able to view all rental requests, accept or deny them, and notify the users accordingly.

Inbox Notifications (Registered Users):

Scenario: Verify the notification mechanism in the Inbox for Registered Users regarding the status of their rental requests.

Expected Outcome: Registered Users should receive instant notifications upon acceptance or denial of their rental requests.

8. Conclusion

The Online Apartment Rental System presents a robust and efficient solution tailored to streamline the rental process within a defined residential complex. By integrating user-centric features and functionalities, the system ensures enhanced transparency, accessibility, and management capabilities for both apartment owners (Admin) and potential tenants (Registered and New/Anonymous users). The detailed specifications outlined in this Software Requirements Specification (SRS) document serve as a comprehensive guide, providing clarity on system requirements, user interactions, and operational flows. As the development progresses, adherence to these specifications will be pivotal in ensuring the successful deployment and functionality of the system, ultimately enhancing the rental experience for all stakeholders involved.