**Software Requirements Specification (SRS)**

**for**

**ONLINE APARTMENT RENTAL SYSTEM**

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**INTRODUCTION**

## 1.1 Purpose

The fundamental goal of the Online Apartment Rental System is to offer a user-friendly and inclusive platform for overseeing and facilitating the rental process of apartments within a sizable residential complex. Tailored to meet the requirements of both apartment owners (Admin) and prospective tenants (Registered and New/Anonymous users), the system seeks to simplify the search, application, and rental processes, all while guaranteeing transparency, effectiveness, and accessibility for all users involved.

## 1.2 Scope

The core emphasis of the Online Apartment Rental System is on the administration of a solitary apartment complex featuring a single block, inclusive of 10 floors and 60 apartments. It supports distinct user roles, including Admin, Registered, and New/Anonymous users, enabling functions such as apartment listing management, handling rental requests, and facilitating user interactions. The system's scope extends to include aspects like apartment naming conventions, user-specific homepage functionalities, and the rental application process, establishing a systematic framework for effective rental management within the complex.

**OVERALL DESCRIPTION**

## 2.1 Product Perspective

The Online Apartment Rental System is a digital platform designed specifically for a solitary apartment complex. It offers an interface for apartment owners to list their properties and for potential tenants to search and submit rental applications. While operating autonomously, the system incorporates distinct user roles for Admin, Registered users, and New/Anonymous users, enhancing the overall efficiency of 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 categories include Admin users tasked with system management, Registered users in search of rentals, and New/Anonymous users exploring available options. Each category possesses unique roles and capabilities specifically designed for their interactions with the platform.

## 2.4 Operating Environment

The system functions in a web-based environment, accessible through standard web browsers, and is structured to manage multiple concurrent user sessions. It depends on a database backend to store information about apartments, users, and rental requests, prioritizing data integrity and security.

## REQUIREMENTS ANALYSIS

## 3.1 User Requirement

The key user groups for the Online Apartment Rental System comprise:

Admin Users: Tasked with overseeing apartment listings, rental requests, and user accounts.

New/Anonymous Users: Individuals exploring apartment rental information without undergoing the registration process.

Registered Users: Individuals who have completed registration and possess the ability to apply for apartment rentals.

## 3.2 Functional Requirement

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

User Roles & Permissions: Admin holds exclusive editing rights, while registered users are able to submit applications for apartment rentals.

Apartment Management: Admin is empowered to add, modify, or delete apartment details; designate apartments as rented or vacant.

User Request Management: Admin can review and respond to 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

## USER INTERFACE AND NAVIGATION

## 4.1 Home Page

The Home Page serves as the welcoming hub for potential tenants seeking their perfect rental haven. It instantly captivates with a clean, intuitive design, featuring a prominent search bar for users to filter apartments by key criteria like budget, number of bedrooms, and desired location.

Eye-catching visuals showcase featured properties, enticing users to explore further. Below the search bar, a curated carousel displays diverse apartment options, from cozy studios to spacious family-friendly units, each accompanied by enticing headlines and clear availability indicators. Navigation is intuitive, with clear links to explore all apartments, browse by building, or delve deeper into specific neighborhoods. For new users, a friendly call to action invites them to register and unlock exclusive features like rental request submission and personalized recommendations. The footer provides quick access to essential information like contact details, FAQs, and community resources, solidifying the user's impression of a comprehensive and reliable platform for their apartment search.

## 4.2 Login and Registration Pages

**Registration Page:**

The Registration Page seamlessly guides new users through the process of creating their personalized accounts. A user-friendly form gathers essential details, including name, email address, password, and preferences for receiving updates and notifications. Clear instructions and visual cues ensure effortless completion. Fields for mobile phone numbers and optional profile pictures enhance account customization and future communication possibilities. A prominent "Create Account" button seals the registration journey, leading to a welcoming confirmation message

**Login Page:**

The Login Page acts as a familiar gateway for returning tenants, effortlessly reconnecting them with their customized apartment searches and requests. A simple yet secure form prompts users to enter their registered email address and password. Thoughtful features, such as "Remember Me" functionality and password retrieval options, enhance convenience and reduce friction in the login process. Upon successful authentication, a personalized greeting warmly welcomes the user back, instantly immersing them in their personalized apartment search journey.

**Admin Login:**

The Admin Login portal represents the secure gateway for authorized personnel tasked with overseeing the platform's functionality and resident experience. A dedicated login page emphasizes security through enhanced authentication measures. Two-factor authentication adds a

crucial layer of protection, verifying identity through both login credentials and a temporary code sent via email or SMS. The login form itself balances clarity and security, requesting the admin username and password while maintaining a user-friendly interface.

## 4.3 Admin Dashboard

The Admin Dashboard empowers administrators with a centralized hub for efficient management of the platform's operations and tenant interactions. Its intuitive interface presents a comprehensive overview of key metrics and actionable tools, enabling seamless decision-making and proactive resolution of potential issues. Core functionalities include:

- Centralized Apartment Management: A well-organized overview of all available apartments, facilitating effortless editing of property details, rental rates, availability status, and multimedia content.
- Efficient Rental Request Handling: A streamlined system for reviewing incoming rental requests, allowing for quick approvals, denials, and direct communication with potential tenants.
- Comprehensive Tenant Management: A comprehensive database of registered tenants, enabling easy access to profiles, lease information, payment history, maintenance requests, and communication tools.
- Data-Driven Insights: Real-time visualizations of key metrics, such as occupancy rates, rental income, tenant satisfaction ratings, and platform usage patterns, empowering data-informed decisions and strategies.
- Reporting and Analytics: The generation of customizable reports and visualizations for in-depth analysis of trends, revenue, and tenant behavior, facilitating strategic planning and optimization efforts.
- User Management: The ability to create, edit, and manage user accounts, ensuring appropriate access levels for different administrator roles and maintaining platform security.
- Maintenance Management: A system for tracking and coordinating maintenance requests, scheduling repairs, and monitoring maintenance history, ensuring timely resolution of property issues.
- Communication Tools: Features for sending announcements, notifications, and direct messages to tenants, fostering clear communication and engagement.

This robust dashboard serves as a mission control center, equipping administrators with the tools and insights necessary to maintain a seamless tenant experience, optimize property management, and drive the platform's success.
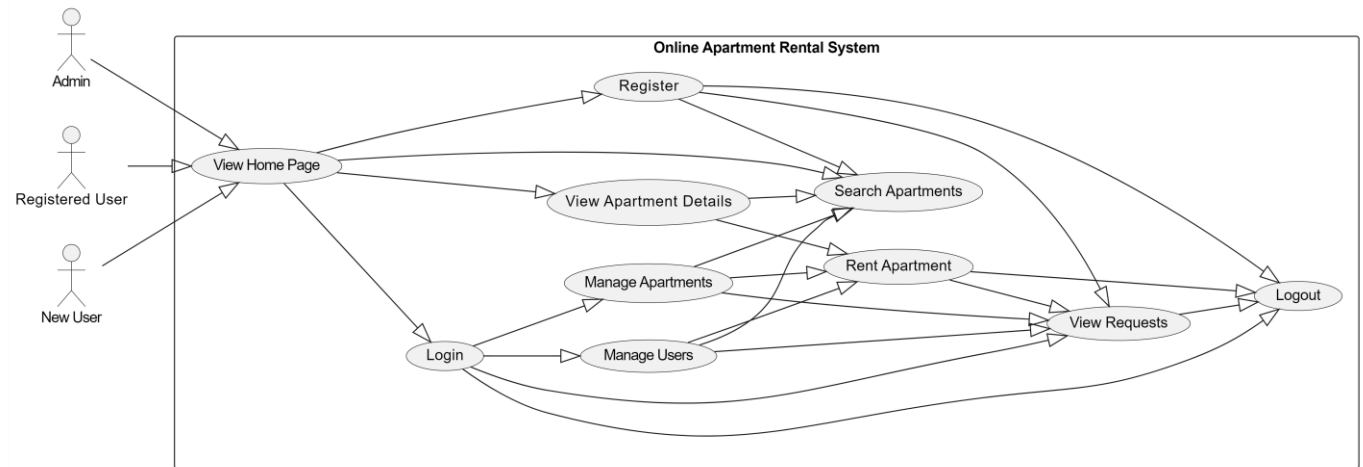
## 4.4 Inbox- registered users

- Focuses exclusively on delivering timely and critical updates regarding rental requests, eliminating unnecessary distractions and fostering a focused user experience.
- Ensures Registered Users stay informed about the status of their rental requests, promoting confidence and transparency throughout the process.

Key Features:

- Prioritized Messages: Displays only two types of messages:
    - Rental Request Sent Confirmation: Upon submitting a rental request, a confirmation message provides reassurance and serves as a record of the action, including:
        - Apartment details
        - Date and time of request
        - Link to view and manage the request
    - Rental Request Approval: Upon approval by an administrator, a clear and celebratory notification alerts the user, including:
        - Apartment details
        - Next steps instructions (e.g., lease signing, deposit payment)
        - Contact information for any further inquiries
- Clear Read/Unread Indicators: Visual cues, such as bold text or color-coding, distinctly differentiate between read and unread messages, ensuring users prioritize new updates.
- Intuitive Navigation: Simple design and straightforward options for actions such as marking messages as read or deleting them after review.
- Integration with Notifications: Seamless synchronization with email or in-app notifications to alert users even when not actively using the platform.

## 4.5 Use Case Diagram

The use case diagram illustrates the functional interactions between actors and the Online Apartment Rental System. The system accommodates three main user roles: Admin, Registered User, and New User.

## DATA MANAGEMENT AND APARTMENT LISTINGS

### 5.1 Apartment Naming Convention

The apartment naming convention within this project adheres to a clear and concise format to facilitate easy identification and organization of individual units. It follows a three-part structure:

1. Building Block:

- Each building within the complex will be assigned a designated letter or name. This differentiates apartments across different buildings.

2. Floor Number:

- The floor level on which the apartment is located will be indicated by a numerical value. This specifies the vertical location within the building.

3. Apartment Number:

- Each individual apartment within a floor will be assigned a unique sequential number. This distinguishes apartments located on the same floor.

Therefore, the complete apartment name will follow the format:

<Building Block>-<Floor Number>-<Apartment Number>

Example:

- `A-4-1` refers to apartment number 1 located on the fourth floor of building A.

## 5.2 Apartment Listings

- Showcase available apartments in a visually appealing and informative manner, attracting potential tenants and efficiently facilitating rental inquiries.

Key Features:

- Compelling Visuals: High-quality photos and/or virtual tours showcase each apartment's unique features and layout, enticing potential tenants and enhancing engagement.
- Essential Details: Clear and concise descriptions highlight key information about each apartment, including:
    - Number of bedrooms and bathrooms
    - Square footage
    - Availability status (rented, available)
    - Rental cost
    - Key amenities (e.g., balcony, in-unit laundry, gym access)
    - Additional features (e.g., pet-friendly, parking options)
- Search and Filter Options: Efficient search and filter tools enable users to quickly find apartments matching their specific needs and preferences (e.g., budget, size, location, amenities).
- Interactive Features: Floor plans, 3D virtual tours, and interactive maps enhance user experience and provide a comprehensive understanding of each apartment.
- Call to Action: Prominent "Contact" or "Schedule Viewing" buttons encourage potential tenants to initiate communication and inquire about specific apartments.

**CONCLUSION**

The SRS document outlines a user-friendly and efficient online apartment rental application, designed to empower both registered users and administrators. Registered users can seamlessly browse apartments, submit rental requests, and stay informed about their status through a dedicated inbox. The Admin Dashboard provides comprehensive tools for managing properties, handling requests, and analyzing data. Clear apartment naming conventions and compelling listings showcases facilitate user engagement and efficient property management. Ultimately, the application aims to streamline the rental process, connect users with their dream homes, and optimize property management operations.