1. Introduction

This document serves to collect, analyze and define all the high level needs and features for our application EstateFlow. We are interested in exploring what our stakeholders and users need, as well as how we can best serve them. We will be focusing on how EstateFlow attempts to meet and exceed expectations, and why a user should choose it over competitors.

1.1. References

View appendix A

2. Positioning
1.1. Problem Statement

The problem of	Inefficient condominium management and lack of centralized access to property-related information
affects	Condo residents, owners, property managers, and service staff
the impact of which is	Time-consuming property management, difficulty in tracking costs and fees, challenges in booking amenities, and inadequate communication within the condo community
a successful solution would be	A complete, user-friendly software that provides a centralized dashboard for property overview, financial administration, reservation systems, and improved transparency, efficiency, and community interaction for all users.

1.2. Product Position Statement

For	Condo residents, owners, and management companies seeking an integrated property management solution
Who	need a efficient, and user-friendly system for managing their properties, its logistics and communication
The (EstateFlow)	is a property and client management system
That	facilitates the process of managing properties. It offers an easy profile creation process, as well as simplifies property and financial management for users.
Unlike	conventional, disjointed property management tools that lack comprehensive features and cross-platform compatibility.
Our product	stands out due to its intuitive approach and user-friendly experience in property management; setting it apart from other products in the market.

3. Stakeholder and User Descriptions

3.1. Stakeholder Summary

Name	Description	Responsibilities
Software Developers	Professionals responsible for coding and programming	- Implementing the specified features and functionality accurately and efficiently. - Collaborating with other team members to ensure seamless integration of software components. - Ensuring code quality, maintainability, and adherence to coding standards.

Project Manager	Oversees and coordinates the project	- Developing project plans, timelines, and resource allocation to ensure successful project completion. - Communicating with stakeholders, including developers and clients, to ensure alignment with project goals and expectations. - Monitoring progress, tracking deliverables, and making adjustments as needed to meet project milestones.
Legal Team	Professionals responsible for legal aspects of the project	- Mitigating legal risks and providing guidance on legal matters throughout the development process.
Investors/Shareholders	Individuals or entities providing financial support for the project	- Ensuring the project aligns with strategic goals and has the potential for a positive return on investment. - Monitoring financial aspects, including budgeting and resource allocation. - Reviewing and approving funding for different phases of the project.

| Client/users | Users of the application on a daily basis to meet their condo management needs. | Interacting with the system to complete payments, reservation, etc… Adding condo information and pricing information as an owner. Submitting and resolving tickets. | |

3.2. User Summary

Name	Description	Responsibilities	Stakeh older
Condo Owners	Individuals who own a condo within a managed property.	• Access a dashboard with property information, personal profile, financial status, and request status. • Link their condo unit with profiles using registration keys. • Submit requests for various purposes.	N/A
Renters	Individuals renting a condo within a managed property.	Similar to condo owners in terms of profile creation, access to property information, and submission of requests.	N/A
Condo Management Companies	Organizations responsible for managing and overseeing condo properties and rentals	• Create property profiles with details such as property name, unit count, parking count, locker count, and address. • Upload and manage condo files for each property. • Enter detailed information for condo units, parking spots, and lockers. • Set up roles for employees (e.g., manager, finance) responsible for property operations. • Set up and manage the financial system, including condo fees and operational costs. • Set up the reservation system for common facilities.	N/A

		● Manage employee roles and responsibilities.	
Employees (ex: Manager, Finance)	Individuals within condo management companies with specific roles.	Responsible for daily operations or finance tasks within the managed property.	N/A
Testers	Individuals responsible for testing the Condo Management System.	● Execute test cases to validate system functionality. ● Identify and report defects or issues. ● Collaborate with developers and other stakeholders to ensure quality standards. ● Verify that the system meets specified requirements. ● Conduct various types of testing, including functional, performance, and usability testing.	N/A

3.3. User Environment

Number of People Involved:

- Condo Owners: Each condo owner interacts individually with the system.
- Rental Users: Similar to condo owners, rental users interact individually.
- Condo Management Companies: Multiple employees within the management company, including roles such as managers and finance personnel.

Task Cycle Duration:

- Creating a User Profile: Relatively short task cycle: it should only take a few minutes.
- Accessing the Dashboard: Ongoing and frequent, depending on user activity.
- Submitting Requests: Varied, but typically short task cycles for specific activities.
- Managing Property Profiles (Condo Management Companies): Ongoing task cycle for property management.
- Financial System Management (Condo Management Companies): Continuous and ongoing.
- Reservation System Usage: Short task cycles when reserving common facilities.

Time Spent in Each Activity:

- Creating a User Profile: 5-10 minutes.
- Accessing the Dashboard: Varies based on user engagement.
- Submitting Requests: Varies by the type of request but typically a few minutes.
- Managing Property Profiles (Condo Management Companies): Ongoing and time-consuming, depending on updates and property changes.
- Financial System Management (Condo Management Companies): Ongoing and can be time-intensive during financial reporting periods.
- Reservation System Usage: A few minutes for each reservation activity.

Environmental Constraints:

- Users may access the system from various locations, including home, work, or on-the-go, hence why developing the mobile version is relevant.
- Mobile access is essential for convenience.

System Platforms:

- The app and website should be accessible on Android, iOS, Linux, MacOS, and Windows.

Integration with Other Applications:

- The system may need to integrate with email services for notifications.
- Integration with financial tools or platforms for seamless financial management.
- Forum and event features may involve integration with communication or calendar applications.

3.4. Key Stakeholder or User Needs

Need	Priority	Concerns	Current Solution	Proposed Solutions
User Interface Design	Medium	- Difficult to navigate and use. -Underutilization of features.	- Generic, non-customized interfaces.	- Intuitive, user-friendly design. - Customizable dashboard for different user roles. - Modular features that can be enabled or disabled as needed.
Reservation System for Amenities	Medium	- Inefficient booking process.	- Manual booking through phone or email.	- Online reservation system with a calendar interface.

		- Lack of availability visibility.		- Real-time availability updates. - Automated reservation confirmations and reminders.
Broadcast messages	High	- Inefficient communication. - Low engagement. - Lack of personalization.	- Email blasts. Physical bulletin boards.	- In-app real-time notification system. - User preferences for personalized messages. - Integration with popular messaging platforms
Efficient Issue Resolution	High	- Slow response to resident requests and issues. - Miscommunication and misassignment of tasks.	- Manual sorting and assignment of issues.	- Automated ticketing system that routes requests to the appropriate staff. - Tracking and status updates for issue resolution.
Mobile Accessibility	High	- Limited or no mobile support.	- Desktop-only access or poorly designed mobile sites.	- Fully responsive design or dedicated mobile app. - Cross-platform compatibility for Android and iOS.
Integration with Other Systems	High	- Disparate systems for different tasks. - Manual data entry leads to errors.	- Standalone systems with manual data syncing.	- Seamless integration with accounting, booking, and other relevant systems. - Automated data transfers and updates between systems.
Community Engagement	Low	- Lack of interaction between residents. - Difficult to share information and events.	- Physical notice boards. - Informal social media groups.	- Built-in forum for discussion and information sharing. - Event organization and RSVP features. - Virtual bulletin board for announcements and community news.

3.5. Alternatives and Competition

When building a new product, market research is a crucial step, as it enables stakeholders to evaluate different options and find a gap in the market to disrupt a given industry. In our case, we researched other property management systems and evaluated their strengths and weaknesses. If the value proposition of our product is strong enough, building a homegrown solution will be the most effective option.

First, we examined BuildingLink, a popular property management website..

Strengths:

- Offers many management features such as maintenance requests, package tracking, and resident communication tools.
- It's established in the market (around 2 million users), which suggests that it is reliable and supports many users.
- There is also an app, which improves convenience for users.

Weaknesses:

- The platform can be costly, making it less accessible for smaller communities and small businesses.
- Its comprehensive feature set, while valuable, may overwhelm users seeking simpler solutions.

Then we examined *Entrata:*

Strengths:

- High level of security for the user's data
- It offers solutions for a multitude of different users such as, multifamily, student and commercial

Weaknesses:

- While versatile, it may lack some advanced customization options found in larger systems.
- Some users might find its pricing model less favorable, depending on the community's size and needs.

Strategic Positioning for EstateFlow:

We want to prioritize a balance between comprehensive functionality and user-friendly design, aiming to offer an intuitive system that addresses the potential complexity and usability issues identified in competitors.

4. Product Overview

[This section provides a high level view of the product capabilities, interfaces to other applications, and systems configurations. This section usually consists of two subsections, as follows:

4.1. Product Perspective

EstateFlow serves as a centralized point in connecting unit owners, rental users, and management companies.. The online and mobile apps communicate with external systems. It integrates with financial software for fee management , document storage solutions for easy access to condo-related files and alerts systems in order to deliver a more optimal management experience. Therefore, it is not a stand-alone solution, but rather a component of a bigger system that optimizes condo administration. However , while offering extensive interoperability with the systems just mentioned , it is still intended to function independently

4.2. Assumptions and Dependencies

A number of important variables can impact our Condo Management System: the ease of use and design of user interfaces; the security and privacy of user data; the effectiveness of data management in managing property and financial information; and the precision of financial computations. Additionally, support for multiple platforms and integration with third-party services like Single Sign On are functionalities that can be beneficial to users, because it will provide them with a smoother user experience.

Assumptions that could necessitate revisions in the Vision document include changes in operating system support or requirements, adjustments in the availability or policies of third-party services used for Single Sign On and language support, updates in privacy laws or data protection regulations impacting user data handling, shifts in technology or development frameworks, and changes in user expectations or market trends. These factors highlight the project's need for flexibility to adapt its development strategy and feature set in response to evolving technical, legal, and market environments.

5. Product Features

1. User Account Creation: Users will be able to identify themselves by creating a profile that includes personal information and a photo. Additionally , they will also receive a registration key from their management company to become condo owners or rental users in the system .
2. Property Dashboard: Our system should provide Condo owners with access to a dashboard that displays property data, financial condition, and change requests.

3. Property and Profile Management: Condo management companies will be able to quickly develop and manage property profiles, which will include documentation that owners may view.
4. Unit and Facility Information: Our system will be able to track management data such as condo units, parking spaces, and lockers. This covers ownership and fee information.
5. Financial System Integration: Financial administration of condo fees, budgeting, and yearly reporting will be simplified
6. Reservation System: Owners and renters can reserve shared amenities using a calendar interface on a first-come, first-served basis.
7. Employee Role-Based Access: Different roles can be allocated to employees that manage the same property, focus on daily operations, or handle finances.
8. Request and Notification System: Allows users to submit and monitor requests while also receiving updates about the current actions.
9. Optional features include community forums, event organization, and user-specific discounts or offers.

6. Other Product Requirements

In developing the application, the team will strive to comply with standard coding and security practices, as well as data protection regulations. We will be aiming to achieve full compatibility with different browsers, and across IOS and Android.

In terms of quality ranges, for performance we are aiming for response times of less than a second and the ability to concurrently serve hundreds of users. We will also be focusing on guaranteeing a robust program through extensive testing, good fault tolerance with error handling and preventative measures, and an intuitive user interface to enhance usability, as well as the overall user experience.

The most notable external constraints would be firstly laws regarding data security and privacy which must be respected and planned for. Secondly, complying with common condo association guidelines to be as attractive as possible to potential management companies.

Our quality ranges and constraints are paramount, and must be constantly revisited and kept track of to ensure a safe, successful application. Achieving platform coverage is a secondary requirement in that regard.

APPENDIX A: Sources

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