1. **Introduction**

   The purpose of this document is to collect, analyze, and define high-level needs and features of CondoCare. It focuses on the capabilities needed by the stakeholders, and the target users, and why these needs exist. The details of how CondoCare fulfills these needs are detailed in the use-case and supplementary specifications.

   1.1. References

   [1] https://www.founderjar.com/types-of-technology-platforms/

   [2] Innago: Free Online Rental Property Management Software

   [3] PayHOA | Simple Association Management Software

   [4] Shareable Online Calendar and Scheduling - Google Calendar

   [5] ClickUp™ | One app to replace them all

2. **Positioning**
   1.1. Problem Statement

The problem of	No unified way of managing condos across companies.
affects	Condo management companies, condo owners, renters.
the impact of which is	One place to manage and track condo rental information and access.
a successful solution would be	One system to: - Manage all condo expenses - Organize condo key access - Financial system to generate financial reports on units

1.2. Product Position Statement

For	Condo management companies, condo owners, renters.
Who	Who want a unified way of managing condo systems across companies.
The CondoCare	Is a software website and mobile application product.
That	The key benefit lies in its ability to centralize management tasks, communication, and enhance transparency, improving operational efficiency and fostering a cohesive environment for management and owners.
Unlike	The current market shows a lack of transparency and challenges with communication between systems. As well as concerns with the usability and easiness of the systems.
Our product	Allows users to create their profiles with the option of being managers or rental owners. Shows a good view of properties through profiles. Our product also offers a simplified financial and reservation system. Alongside other neat features.

3. Stakeholder and User Descriptions

The users of the systems are: **Renters, Condo Owners, Condo Management companies**

Key problems faced by each of them are:

Renters: Needs a user-friendly and efficient process for creating profiles and obtaining registration keys for condo ownership or rentals.
Condo Owners: Seeks a comprehensive property dashboard, efficient registration key usage, and a streamlined process for managing requests and financial information.

Condo Management Companies: They need efficient tools for creating property profiles, managing important files, setting roles, and facilitating financial transactions.

●.1. Stakeholder Summary

Name	Description	Responsibilities
Development Team	Software engineers, software testers, UI/UX designers, etc, working collaboratively to design, create, and maintain the system.	● Designs and implements system architecture. ● Designs the system's user interface and experience ● Provides and updates project documentation ● Ensures that project deadlines are met
Investors	Individuals or organizations providing financial backing for the Condo Management App project.	● Allocate funding for the project. ● Assess and monitor project advancement and potential hazards. ● Participate in meetings.
Finance	Experts managing the financial aspects of the project being developed.	● Oversee available budgets for the project. ● Respect financial constraints. ● Mitigate the financial impacts of potentially risky project decisions.
Marketing	The team in charge of promoting the application and reaching the target audience.	● Identify and define the target audience. ● Develop effective marketing strategies. ● Monitor, analyze, and draw conclusions based on current market trends.
Management	Individuals or groups charged with overseeing the direction and implementation of the project from its inception to its completion.	● Make strategic decisions. ● Oversee daily operations. ● Facilitate communication with other stakeholders.

●.1. User Summary

Name	Description	Responsibilities	Stakeholder
Condo owners	Ownership and management of individual condo units.	- view financial status of condo - submitting requests - view property information - view and update personal information - Booking and using amenities following community rules.	Represent themselves, managing their units, financial obligations, and participation in community decisions.
Public users	Potential condo owner or condo renter	- create a profile - register as a condo owner or rental user	Their interests could be represented by the condo management companies in terms of accessing information about the condo community for potential leasing or purchase decisions.
Rental users	Occupation and management of individual condo units. They are restricted from submitting requests and from viewing property information.	- Booking and using amenities following community rules. - view financial status of condo - submitting requests	If not directly represented, their interests are typically represented by the condo owners from whom they rent or, in some systems, by the condo management companies in terms of accessing amenities and reporting maintenance issues.
Condo management companies	Primary administrative and operational backbone, overseeing the broader aspects of condominium management.	- managing property and financial details - manage employee - overseeing maintenance and repairs	Represent themselves and are directly responsible for managing the interests of the entire condo community, including common areas and shared services.

		● handling bookings for communal facilities ● engaging with condo owners and tenants. ● ensuring compliance with regulations	

●.2. User Environment

Depending on the type of task, different employees from the condo management companies get involved. Task cycles depend on specific operations like maintenance scheduling or financial reporting, often requiring integration with other business applications such as QuickBooks or Sage can be integrated for accounting, budgeting, and financial reporting[1]. There are no environmental constraints, meaning our application can be accessible on the go from mobile, or from home on a computer, providing more comfort for condo owners to engage with the system. The task cycle varies, from daily checks to monthly financial management. Our app can be utilized from a wide range of platforms that are cloud based or mobile based like Android and IOS.

●.3. Key Stakeholder or User Needs

Need	Priority	Concerns	Current Solution	Proposed Solutions
Streamlined profile creation and registration keys distribution(Renters)	High	Cumbersome process, lack of user-friendliness	Manual registration processes, online forms	User-friendly online registration, clear guidance on obtaining keys
Comprehensive property dashboard(Condo Owners)	Medium	Limited dashboards, inefficiencies in key utilization	Limited dashboards, manual handling of keys	Intuitive dashboard, streamlined key utilization, efficient request management
Modern tools for property profiles and file management(Condo Management Companies)	High	Inadequate current tools, lack of user-friendly interfaces	Reliance on multiple platforms, manual processes	User-friendly tools for property profile creation, efficient file management

●.4. Alternatives and Competition

Alternatives:

buying a competitor's product,

Major strengths:Instead of building from scratch buying from the competitor can make implementation faster and a wide range of features and functionalities are available.

Major weaknesses: It may not be possible to meet all your unique requirements due to limited customization. On top of that we might need to buy licenses and renew them every year and also we are going to have to buy any updates in the future.

building a homegrown solution:

Major strengths: The strengths of building a homeground solution is that it is customizable according to what we want, and also what kind of features that we want in our system.

Major weaknesses: We need to think about the cost in terms of money and time. and also we need to have the right expertise and skill in terms of programming languages.

maintaining the status quo.

Major strengths: We do not change anything, no new expenses for a new software and new system.

Major weaknesses: Perhaps the software no longer fulfills its intended function due to being outdated. Also, the new app would decrease staff overhead.

Competition:

<u>**Innago:**</u>[2]

Major strengths: Innago offers an Online Rent Collection, Tenant Screening & Applications, Digital Document Signing, Rental Advertising, Tenant Communication & Work Order Management, Direct Phone & Email Support.

Major weaknesses: The weaknesses of this software is that a lot of features cannot be used unless a subscription is used. Also, the app doesn't offer security features to prevent attacks like phishing and keyLogger.

<u>**PayHOA:**</u>[3]

Major strengths: The PayHOA management condo software offers many tools to the condos owner like, online dues collection and A/R reporting, bank sync & Reconciliation, online invoicing with autopay and also scheduled payments.

Major weaknesses: You are paying for tools and functions(features) you don't need and you will never use (bloated). The high amount of features comes with a high cost.

4. Product Overview

4.1 Product Perspective

The condo management app and its companion website are designed to be a comprehensive solution for managing condominium properties, catering to both public users (condo owners and rental users) and condo management companies. While this product can function independently as a self-contained system, it can also interface with external entities such as organizational and task planning apps like google calendar$_{[4]}$ and clickup$_{[5]}$. But mainly, our product is a stand-alone system which doesn't necessitate any interactions with other systems

4.2 Assumptions and Dependencies (too specific)

4.2.1 User Registration:

Assumptions:

1. Users will have access to a valid registration key from their condo management company.
2. Public users will provide accurate and valid contact information.
3. Condo management companies will securely generate and distribute unique registration keys.

Dependencies:

1. Availability of a secure registration key generation system.
2. Integration of an authentication system.
3. Integrity of user-provided contact information.

4.2.2 Property Profile Creation:

Assumptions:

1. Information provided by condo management companies regarding their properties is accurate and up-to-date.
2. Essential information about properties (unit count, parking count, etc.) may be inserted.

Dependencies:

1. Availability of property information from condo management companies.
2. Integration of a reliable data storage system for property profiles.

4.2.3 File Upload and Sharing:

Assumptions:

1. Condo management companies have the necessary authorization to share condo files.
2. Files uploaded are relevant and necessary for condo owners.

Dependencies:

1. Adequate storage infrastructure for file uploads.
2. Proper authorization mechanisms for file access.

4.2.4 Detailed Unit, Parking, and Locker Information:

Assumptions:

1. Condo management companies have detailed information about each unit, parking spot, and locker.
2. Information provided is accurate and up-to-date.

Dependencies:

1. Availability of detailed unit, parking, and locker information from condo management companies.
2. Integration of a secure data storage system for detailed property information.

4.2.5 Financial System:

Assumptions:

1. Condo management companies will set accurate condo fees.
2. Users will pay condo fees promptly.

Dependencies:

1. Integration of a reliable payment processing system.
2. Proper communication channels for conveying financial information to unit owners.

4.2.6 Reservation System:

Assumptions:

1. Condo management companies will list facilities available for reservations.
2. Users will use the reservation system responsibly.

Dependencies:

1. Integration of a calendar-like interface for reservations.
2. Real-time availability status of listed facilities.

4.2.7 Request Submission and Assignment:

Assumptions:

1. Condo owners will submit accurate and valid requests.
2. Employees will appropriately handle and respond to requests.

Dependencies:

1. Integration of a notification system for tracking activities.
2. Proper assignment methods according to request types.

4.2.8 User Roles Management:

Assumptions:

1. Condo management companies will define and assign roles accurately.
2. Employees will comply with their assigned roles and corresponding responsibilities.

Dependencies:

1. Integration of a user management system.
2. Authorization methods based on assigned roles.

4.2.9 Forum:

Assumptions:

1. Users will engage responsibly and respectfully in forum discussions.
2. Forum discussions will be relevant to property-related topics.

Dependencies:

1. Integration of a forum platform.
2. Forum content needs to be moderated.

4.2.10 Events Management:

Assumptions:

1. Users will be responsible when organizing events.
2. Invitations and event details will be accurate.

Dependencies:

1. Integration of an events management system.
2. Real-time communication of event details to users.

4.2.11 Discounts and Offers:

Assumptions:

1. Condo management companies will provide accurate and valid discounts and/or offers.
2. Users will responsibly utilize discounts/offers.

Dependencies:

1. Section of the system dedicated for listing and displaying discounts/offers.
2. Proper validation methods for user access to discounts and offers.

5. Product Features

5.1 User Registration

Public users can create their own unique profile with a profile picture, user name, contact email, and phone number. To complete registration, users must provide a registration key obtained from their condo management company, either as condo owners or rental users.

5.2 Property Profile Creation

Condo management companies can create a profile for each property under their management. The property profile includes essential information such as property name, unit count, parking count, locker count, and address.

5.3 File Upload and Sharing

Condo management companies can upload and share important condo files for each property. These files, such as condo declarations, annual budgets, and board meeting minutes, are accessible to all condo owners of the respective property.

5.4 Detailed Unit, Parking, and Locker Information

Condo management companies can enter detailed information for each condo unit, parking spot, and locker in a building. This includes unit id, size, owner information, occupant details, and associated condo fees.

5.5 Financial System

The system includes a simplified financial system where condo management companies can set condo fees per square foot and per parking spot. Condo fees are calculated and presented to unit owners, and the system records operational budgets, costs, and generates annual financial reports.

5.6 Reservation System

Condo management companies can set up common facilities requiring reservations, and users (condo owners and rental users) can reserve facilities through a calendar-like interface. The system should display availability and operate on a first-come-first-serve basis.

5.7 Request Submission and Assignment

Condo owners can submit requests such as moving in/out, intercom changes, or reporting violations. Requests are assigned to corresponding employees based on the request type, and all users have a notification page to track activities in submitted or assigned requests.

5.8 User Roles Management

Condo management companies can set up different roles for employees responsible for the same property, including managers or finance personnel.

5.9 Forum

The system includes a forum where users can post and reply to discussions related to their properties.

5.10 Events Management

Users can organize events and invite other occupants to attend.

5.11 Discounts and Offers

Condo management companies can list coupons/offers visible to all unit owners or rental users of one property.

6. Other Product Requirements (All)

1. Standards:
   - Comply with industry standards for data security and privacy.
   - Adhere to web accessibility standards to ensure inclusivity.

2. Hardware/Platform:
   - Compatible with common web browsers (Chrome, Firefox, Safari, Edge).
   - Mobile responsiveness for access on various devices (smartphones, tablets).

3. Performance:
   - Response time for key actions (e.g., profile creation, reservation) should be under 3 seconds.
   - System uptime target of 99.9% to ensure availability.

4. Environmental:
   - Environmentally conscious design, minimizing resource utilization.
   - Compatibility with cloud hosting platforms for scalability and resource optimization.

5. Quality Ranges:
   - Performance: Response times should consistently meet the 3-second target.

- Robustness: The system should handle concurrent users without significant performance degradation.
- Fault Tolerance: Automatic backup and recovery mechanisms with minimal data loss in case of system failures.
- Usability: The user interface should achieve a minimum satisfaction score of 80% in usability testing.

6. Design Constraints:
- Must integrate with existing condo management company databases and systems.
- Use of open-source technologies for cost-effectiveness.

7. External Constraints/Dependencies:
- Compliance with data protection regulations (e.g., GDPR, HIPAA).
- Dependent on reliable internet connectivity for real-time features.

8. Documentation Requirements:
- Comprehensive user manuals for public users, condo owners, management companies, and employees.
- Online help system accessible from within the application.
- Clear installation guides for both end-users and system administrators.
- Proper labeling and packaging information for software distribution.

9. Priority:
- High Priority: Standards compliance, compatibility, and performance.
- Medium Priority: Environmental considerations, fault tolerance, and usability.
- Low Priority: Design constraints and external dependencies.
- Critical Priority: Documentation requirements to ensure user understanding and system administration.

10. Attributes:
- Stability: Emphasis on stability in integration with existing systems.
- Benefit: Prioritize requirements that directly enhance user experience and system performance.
- Effort: Consider efforts in terms of development, integration, and maintenance.
- Risk: Identify and address high-risk factors early in the development process.