Software Product Vision

1. **Introduction**

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

2. **Positioning**

   1.1. Problem Statement

The problem of	inefficient procedures for managing condominiums
affects	public users, condo owners, rental users, condo management companies
the impact of which is	issues of integration, accessibility and complexity for the users, as well as the lack of essential features.
a successful solution would be	better communication between the users and condo owners, simplified financial and reservation system which will ultimately lead to an increased satisfaction among all stakeholders.

   1.2. Product Position Statement

For	condo management companies and tenants
Who	need a simple and efficient condominium management system
The Urbankey	is a [product category]
That	enables effective property management, simplified financial tracking, simplified reservations system
Unlike	current alternatives which are missing user-centric features and design
Our product	guarantees a user-friendly experience, catering to the particular requirements of condo owners, tenants, and management companies.

3. **Stakeholder and User Descriptions**

   3.1. Stakeholder Summary

Name	Description	Responsibilities
Architects and Engineers	Professionals involved in the design of the property	• Develop architectural plans and designs for the condominium
Tech companies and programmers	Professionals involved in the creation and maintenance of the software of the system	• Software development • Database management • Updates and maintenance

Financial institutions	Institutions or banks providing loans or financial services	● Assess risks related to lending and investments ● Credit evaluation	
Legal advisors	Professionals ensuring any operations regarding the condos complies with the law, and handle any legal issues	● Privacy and Data Protection	

3.2. User Summary

Name	Description	Responsibilities	Stakeholder
Condo owners	Individuals who own condominium units	● manages unit details ● submit requests (moving in/out, violation reports, etc.) ● access/update their property dashboards ● reserve common facilities ● engaging in financial transactions	Condo management companies
Tenants	Individuals occupying condominium units through rental agreements	● occupies and maintains the rented units ● may engage in some financial transactions related to rental payments	Condo management companies
Condo management companies	Companies responsible for managing condominium properties	● Create and manage property profiles ● Upload condo files ● Manage financial aspects ● Set up reservation system for common facilities ● Assign roles to employees ● Handle requests from condo owners/tenants	N/A

3.3. User Environment

● The number of people involved might vary, from condo owners or tenants taking care of their apartments to staff members of condo management companies handling several buildings. Depending on the participation of users or the property offers, the user base may grow or shrink.
● Task cycles change based on the type of activity of different users. For example, a condo owner can dedicate more time to financial transactions or managing reservations
● Users access the condo management system through devices such as laptops and smartphones, creating a mostly digital environment.
● Currently, the condo management system is accessible via web browsers. In the future, there are plans to develop dedicated Android and iOS applications, expanding the platform compatibility to include mobile devices.
● Users can use multiple applications, including messaging and communication platforms like email, and financial apps for transactions.

3.4. Key Stakeholder or User Needs

Need	Priority	Concerns	Current Solution	Proposed Solution
Better Communication	High	Slow responses and not clear	Emails, phone calls, in-person meeting	One place/page for all messages and notifications
Clearer Finances	High	Confusing fees and hard to understand	Using spreadsheets and done manually	Easy-to-read financial info and clear breakdowns
Easy Booking	High	Difficulty booking and prone to errors	Online booking with real-time updates	Simplified booking process with intuitive interface and personalized recommendations
Quicker Resolution	High	Delays in resolving issues and lack of visibility	Sending emails and making phone calls	Tracking status of requests and receiving updates in real-time
Broadcast Messages	Medium	Messages not reaching everyone and lack of central news hub	Notices and physical notes	Centralized platforms for important announcements and updates

Table 1: Key Stakeholder's and User's Needs

Description	Centralized messaging system
Type	System enhancement
Responsibilities	Develop system for sending/receiving messages and notification
Success Criteria	Easily accessible messages for stakeholders
Involvement	Product manager, development team
Deliverables Comments/Issues	

Table 2: Better Communication

Description	User-friendly financial module
Type	System Enhancement
Responsibilities	Design financial module with clear fee breakdowns
Success Criteria	Understandable financial information
Involvement	Product manager, financial analyst and development team
Deliverables Comments/Issues	

Table 3: Clearer Financial Information

Description	Intuitive booking system
Type	New feature
Responsibilities	Develop user-friendly booking system with personnalized recommendations
Success Criteria	Simplified, error-free booking process
Involvement	Product manager, UX/UI designer
Deliverables Comments/Issues	

Table 4: Easy Booking

Description	Real-time request tracking
Type	System enhancement
Responsibilities	Implement system for real-time tracking and updates on requests
Success Criteria	Easy request tracking and timely updates
Involvement	Product manager and development team
Deliverables Comments/Issues	

Table 5: Quicker Resolution

Description	Centralizes messaging platform
Type	New feature
Responsibilities	Develop platform for broadcasting announcements to all users
Success Criteria	Effective communication of announcements
Involvement	Product Manger, Communication specialist and development team
Deliverables Comments/Issues	
Table 6: Broadcast Messages	

3.5. Alternatives and Competition

An alternative for the stakeholders would be to build their own management system. They could also buy an existing condo management system, add additional features and maintain it.

Alternatives:

- Build their own management system
- Buy an existing one, implement additional features and maintain it

These alternatives would allow the stakeholders to have full control on the system.

Competition:

- Existing condo management systems
- Real estate firms

4. Product Overview

This section presents both product perspective and assumptions and dependencies of the Urbankey.

4.1. Product Perspective

The purpose of the condo management app and website is to simplify condo management procedures by activating as separate, self-contained platforms. The application enables users to interact with it, while the website provides further features that can be accessed by web browsers. User profiles, finance systems, property management tools, reservation capabilities, and request submission features are important parts. These platforms work together flawlessly to give management firms, condo owners, and renters all the resources they need to manage properties effectively. Widespread accessibility is ensured via external interfaces' interaction with several operating systems.

4.2. Assumptions and Dependencies

The availability of registration keys from management organizations, correct property data input, and the smooth operation of the finance and reservation systems are some of the assumptions and dependencies for the condo management system. Any modifications to these elements may have an impact on the characteristics

listed in the Vision report. Furthermore, assumptions on the app's compatibility with multiple platforms, language options, and login methods like Gmail or Single Sign-On are critical, since changes may need adjustments to the Vision document.

5. Product Features

5.1 User Profile

Public users can create their own unique profile. This profile should include a profile picture, user name, contact email, phone number. Moreover, public users are required to provide a registration key obtained by their condo management company to become a condo owner. To become rental users in the system, public users must input a registration key obtained from their condominium management company.

5.2 Condo Owner Dashboard

Condo owner can view features of their properties such as general information, personal profile, condo information, financial status, status of the submitted request, etc in a dashboard

5.3 Condo Management Companies Profile

The property profile in the system requires a property name, unit count, parking count, locker count, and address. Condo management companies can upload files for each property, and those files are accessible to all condo owners. They can include detailed information about condo units, parking spots, and lockers, encompassing unit size, owner details, occupant information, and associated condo fees. Furthermore, management companies can send registration keys to unit owners or rental users, allowing them to link their profiles with specific condo units.

5.4 Financial System

Management companies input condo fees per square foot and parking spot. Condo fees for each unit are calculated and presented to owners, recorded in the financial system, along with operational budgets and costs. An annual report can be generated, summarizing condo fee collections for the year. The system also includes a reservation feature for common facilities, like a sky lounge or spa fitness. Condo owners and rental users can use a calendar-like interface to reserve facilities, with real-time availability display. Reservations operate on a first-come-first-serve basis, rendering a facility unavailable once booked.

5.6 Reservation System

The condominium management system features a simple reservation system where condo management companies establish reservations for common facilities such as a sky lounge and a spa fitness center. This system is presented in a calendar-like interface, and allows both condo owners and renters to reserve these common facilities. Availability for these facilities is displayed, and reservations are processed on a first-come-first-serve basis. Once a facility is booked, it becomes temporarily unavailable for the reserved duration.

5.7 Reservation System

Condo management firms have the ability to assign distinct roles to various employees overseeing the same property. These roles may include a manager, responsible for day-to-day operations, and an employee handling financial responsibilities.

5.8 Requests

Condo owners can submit various requests, such as move-in/out dates for reserving elevators, intercom changes, access requests for fobs or keys, reporting violations, highlighting deficiencies in common areas, or seeking information. Each request is directed to the appropriate employee based on its type.

5.9 Notifications

Every user has a notifications page where they can view the most recent activities related to their submitted or assigned requests.

6. Other Product Requirements

Standards, Hardware, or Platform Requirements

The software product must adhere to industry-standard security protouls to ensure the protection of user data. Additionally, it should be compatible with widely used operating systems including Android, iOS, Linux, MacOS, or Windows.

Performance Requirements

Response time for critical user interactions, such as profile creation and reservation submissions, should be within 2 second to ensure a seamless experience. And system uptime must be maintained at 99.9% to minimize service disruptions, with downtime limited to schedules maintenance windows.

Environmental Requirements

The system should be built with optimal resource use to save CPU and battery consumption, and it should work well on both desktop and mobile devices. It is important to take into account how much bandwidth is used, particularly for customers who have spotty internet access, and strive for data transfer speeds that are suited for 3G and 4G networks.

Quality Ranges

- *Performance:* average response time, peak response time, and throughput are important variables to consider when optimizing response times for effective user interactions.
- *Robustness:* metrics like error rates, crash frequencies, and mean time to failure (MTTF) should be used to gauge how well the system withstands unforeseen mistakes and handles heavy traffic loads.
- *Fault tolerance:* recovery time objective (RTO) and recovery point objective (RPO) metrics, together with error recovery and data backup mechanisms, should be in palace to guarantee system dependability. The RTO provides the maximum permissible delay for system restoration following incident, while RPO establishes the maximum allowable data loss in the case of a failure or interruption.
- *Usability:* tested by usability experts and user satisfaction questionnaires, the interface should be simple to use, easy to navigate, and provide insightful feedback.

Design Constraints and Dependencies

Compatibility testing may be necessary to ensure smooth data interchange, and integration with current databases and condo management software may be necessary. Adherence to legal and regulatory obligations for privacy and data processing, with frequent audits carried out to confirm compliance with standards.

Documentation Requirements

To guarantee widespread adoption, thorough user manuals and online help resources covering subjects like account creation, feature usage, and troubleshooting techniques should be made available. Accessibility metrics for the material should also be monitored. In order to maintain uniformity acros platforms, labeling and packaging regulations may incorporate branding rules.

Priority and Attributes
- *Stability:* maintaining user trust and satisfaction requires a sturdy and reliable system.
- *Benefit:* with key performance indicators set up to track the effects of features on user happiness and productivity, the system's features should offer users observable advantages like increased efficiency and communication
- *Effort:* ensure that the project deadlines are fulfilled, development efforts should be concentrated on integrating key features and guaranteeing peak performance. Metrics for allocating resources, such as development hours and job completion rates, should be tracked.
- *Risk:* risk assessment matrices are used to prioritize risk in order to mitigate the risks associates with data security breaches and system failures, which are crucial for safeguarding user information and preserving business continuity.