

Request for Proposal

Version 1.11

Residence Room Availability System

October 6th, 2023

Document History

Version	When	Who	What
1.0	October 3rd	Merrick	Document Initialization, Outline and Logo
1.1	October 3rd	Merrick	Project Team Section
1.2	October 5th	Myles	Project Schedule
1.3	October 5th	Myles	Gantt Chart
1.4	October 5th	Sebastian	Current System
1.5	October 5th	Sebastian	Problem Description
1.6	October 5th	Merrick	Intended Users of the System and Glossary Update
1.7	October 6th	Amir	Project objectives and Glossary Update
1.8	October 6th	Myles	Add Additional Constraint and Glossary Update
1.9	October 6th	Merrick	Additions to Known Interactions and Constraints to the Solution
1.10	October 6th	Amir	Additions to Known Interactions
1.11	October 6th	Merrick	Submission

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1. Problem Description / Expression of Need

UVic's current residence selection system lacks clarity and transparency for users, and fails to efficiently distribute on-campus housing to students.

Residency applications are often processed far too late in the season, and, in conjunction with Victoria's affordable housing crisis, students are often anxiously searching for off-campus housing options before their UVIC residency applications have even been processed. This leads to many accepted applications being turned down by students who are wrapped into lease agreements, and those whose applications are rejected often don't have enough time to make other housing arrangements.

Every year, residency rooms are left vacant despite the increasing demand for affordable student housing in Victoria. Paradoxically, at the same time many students who have already had their housing applications rejected are left scrambling for off-campus housing. This becomes a contributing factor driving up demand, and in turn prices, for housing in Victoria as a whole.

2. Project Objectives

Specify the objectives in detail:

- **Booking Interface Enhancement:** Design a user-friendly booking interface that enables students to check room availability, make reservations, and receive booking confirmations easily.
- **Elimination of Application Wait Times:** Eradicate extensive application waiting periods that inconvenience students. The new system makes the application results available much faster, enhancing user satisfaction.
- **Detailed Room Information Provision:** Offer students comprehensive room details before application. Unlike the current system, the new system allows students to choose specific buildings, floors, and rooms, providing them with essential information.
- **Reduced Administrative Intervention:** The new system allows students to manage their applications independently, minimizing the need for constant communication with residence services staff. Administrative involvement will only be required for significant changes(e.g. changing a room).
- **Enhanced Accessibility:** Ensure constant access to the application page for potential applicants. This flexibility allows students to apply and receive room offers at any time, even during a semester.
- **Efficient Room Management:** Implement a dynamic database to simplify room management for the client. This dynamic database will continuously update room-related information, simplifying room availability monitoring for residence services staff.
- **Strong Data Security:** Prioritize data security by implementing encryption, secure data storage, and strict compliance with data privacy regulations. The system will ensure the protection of user information and regulatory compliance.
- **Increased Revenue generated from student housing:** The implementation of the new system streamlines the room allocation process for students, resulting in higher occupancy rates within the UVic residence. As a direct outcome, this contributes to a substantial increase in UVic's residence revenue.

3. Current System(s)

UVic's existing residence selection system is organized as a lottery with limited transparency for users and inadequate efficiency when it comes to distributing available rooms. A typical user experience on UVic's current system, "The Housing Portal" is as follows:

Users fill out a webform, selecting their preferred room types and building. If the user is unfamiliar with the building and room types, additional information is only available on the UVic Residence Services page, so users must flip back and forth while filling out the application form.

In order to apply for one of UVic's "Community" living spaces, namely one of the "Living-Learning Communities," the user is required to fill out an additional application for each community. As detailed on the UVIC website, users are asked about "experiences and genuine interest in the theme," and "ability to contribute creatively to the theme and community." Although there are a total of 10 different LLC's, users are only permitted to apply to two.

For students wishing to live in mixed-gender communities, "the residence application does not specifically identify room types or buildings that are designated as mixed gender, as the location(s) may vary from year to year" - as stated on UVIC Residence Services.

After submitting their application, students are selected by a lottery-based system, along with a variety of other factors (year-standing, current place of residence, date of application), the specifics of which are not publicly available.

When rooms do get assigned, it is often right before the beginning of the school term, leaving those who do not get selected with little to no time to arrange off-campus housing. A side-effect of this is that many students, anxious about finding off-campus housing, will not wait until their application is fully processed and will already have housing arrangements made at the time of their application being accepted. This results in vacant rooms, and offering these rooms to previously-rejected applicants tends to have similar results, with rejected applicants already being tied into leases from off-campus housing.

4. Intended Users of the System

The intended users of the system are students enrolled at the University of Victoria. Although the intended user base includes all students, the primary demographic of students which we expect to use our system are first year students who have yet to begin their studies at the University of Victoria and international students who are new to Victoria. A system to easily track and apply for university housing is a necessity for any student who is in need of a place to live.

5. Known Interactions within or outside the Client Organization

Within the client organization:

- UVic residence administrators will monitor the information related to room applications / Room availability and approve requested changes to an application (such as a room-change request).

Outside the client organization:

- Students interested in residence housing will monitor the room availability.
- Students applying to residence will interact with the system and submit applications for different types of housing or customize their applications.

6. Known Constraints to the Solution

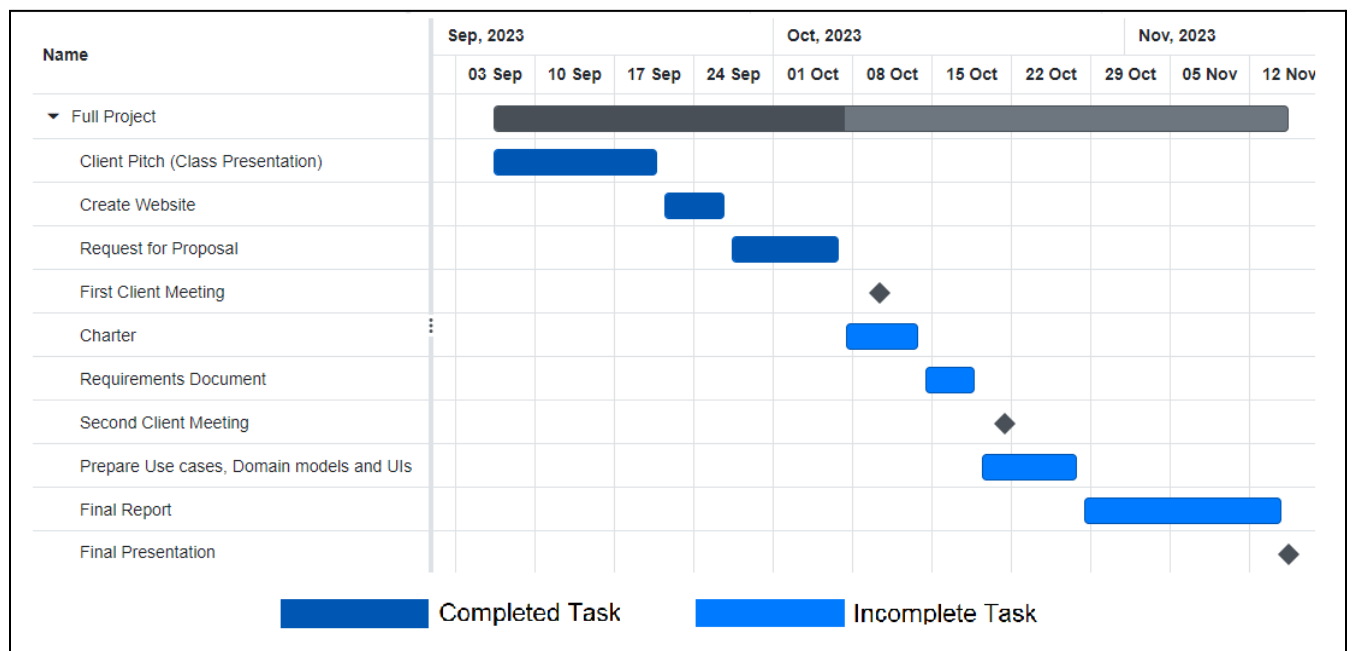
We currently have a few expectations of constraints which must be met in order for this system to function effectively

- At the beginning of September a large population of users will attempt to interact with this system. The system must be able to handle a sizable amount of traffic at once or have a system to pace the incoming user traffic.
- The User Interface (UI) must be rendered in an efficient way and must not be resource-intensive. The application must be able to run in all browsers, even on less powerful devices, as not all students can be expected to have high-end hardware.

7. Project Schedule

- September 20: Client Pitch (Class Presentation)
- September 26: Create Website
- October 6: Request for Proposal
- October 10: First Client Meeting
- October 13: Charter
- October 18: Requirements Document
- October 21: Second Client Meeting
- October 27: Prepare Use cases, Domain models and UIs
- November 14: Final Report
- November 15: Final Presentation

Project Schedule



8. Project Team

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9. Glossary of Terms

UVic: *University of Victoria. The name of the University for which this product is intended to be created for.*

Residence: *The residence buildings which exist on the outside of campus and make up the student housing buildings for students. The residency consists of 8 residence neighborhoods, which include 1-6 buildings consisting of dormitories and a few apartments, and 1 neighbor of cluster housing.*

LLC: *Living Learning Communities are designated groupings which exist as 1-2 floors of a residence building and represent a group of students living on these floors who share a common interest, lifestyle, or background.*

Cluster housing: *Clusters are 2-4 bedroom townhouse units. Each unit has its own private kitchen and washrooms.*

UI: *User Interface. A method for the user to control the application.*

Dynamic Database: *A database system that can change or evolve over time to accommodate the constant change in data.*

