Project Charter

StudyUp -

Centralized UVic Study Room Booking System

Gen8

Analysis Phase

Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada
Canada

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1. Charter Introduction

1.1 Document Change Control

Revision Number	Date of Issue	Author(s)	Brief Description of Change
1.0	01/10/2022	Irene Duong, Anthony Ho, Jooah Bae, Kate Ueda	Initial Drafting.
1.2	05/10/2022	Irene Duong, Anthony Ho, Jooah Bae, Kate Ueda	Update charter introduction.
1.3	07/10/2022	Irene Duong, Anthony Ho, Jooah Bae, Kate Ueda	Final edits.

1.2 Executive Summary

On September 9th, Gen8 was tasked to investigate potential problems with the University of Victoria's (UVic) existing systems for study space booking and how improvements could be made. The systems were found to be fairly complicated and dispersed across various websites; with each site consisting of an arbitrary number of buildings and unique. This particular problem correlates with UVic's request as with these current set of systems, it can be challenging for students to find study spaces on campus, especially in an institution with over twenty thousand students enrolled.

To fully understand the cause of this issue, Gen8 performed a detailed review of these UVic systems to identify what other aspects could be improved on, determining:

- The systems are incompatible and vastly different from one another; with certain buildings having their own booking systems whereas others simply rely on Google Calendar to both track availability and book rooms.
- A lack of filtering options and room descriptions for particular sites. (e.g. UVic Library Web App)
- Certain sites experience malfunctions irregularly when trying to book a room, with asynchronous delays when browsing open availability.

A solution has been proposed by Gen8 to address these main issues of uniformity, accessibility, and overall user experience:

- A web application designed to unify UVic's pre-existing study space booking systems under one centralized system, consisting:
    - A user-friendly interface optimized to make the application easy to use for all students regardless of their technological literacy.
    - A filtering system to browse available listings with synchronous feedback.
    - The collection and analysis of user data for the purposes of maintaining and upgrading the application.
    - A database that organizes and analyses user data for the purpose of upgrades to the application and general maintenance.
    - An estimated total cost ranging from [minimum-cost] to [maximum-cost].

As an inevitable result of creating this web application, there will be a few risks to consider:

- The supplied budget can alter the quality of the web application, as it is estimated that the total cost of developing this web application can range from [minimum-cost] to [maximum-cost].
- By merging and unifying all pre-existing systems, the loss of previous data may occur.

Gen8 strongly believes that students will be able to comfortably schedule their study sessions if booking is centralized under a singular convenient source; with the inclusion of key elements such as filtering and synchronous feedback to ameliorate the overall user experience.

1.3 Stakeholders

This project charter formally authorizes the existence of the project, StudyUp, and provides the project manager with the authority to apply organizational resources to project activities described herein. If there is a change in the project scope, the project charter will be updated and submitted for re-approval.

Mary Pesado

Mary Pesado October 7th, 2022
Executive Sponsor
Project Manager, University of Victoria

Lore Schwartz

Lore Schwartz October 7th, 2022
Project Sponsor
Subject Matter Expert, University of Victoria

Randeep Laller

Randeep Laller October 7th, 2022
Project Sponsor
Business Analyst, University of Victoria

Kate Ueda

Kate Ueda October 7th, 2022
Project Manager
Project Manager, Gen8

Irene Duong

Irene Duong October 7th, 2022
Project Member
Tech Lead, Gen8

Anthony Ho

Anthony Ho October 7th, 2022
Project Member
Software Engineer, Gen8

Jooah Bae

Jooah Bae October 7th, 2022
Project Member
UX & UI Designer, Gen8

2. Project Overview

2.1 Project Summary

With students returning back to campus after COVID-19, study rooms are open again, and it is in high demand by the students for their own quiet study sessions, forming study groups with their friends, and more. The StudyUp system offers students at University of Victoria to book study rooms efficiently and easily, the features will include: filtering, searching and booking the study room, a library map, and where study rooms are located in different buildings on campus.

2.1.1 Project Goals, Business Outcomes and Objectives

The current UVIC study room booking system is very out-dated, is not highly functional, moderate system usability difficulty, different buildings using different booking systems, confusion caused by the tight schedule design, and old user interface - which may cause students to confuse their time of booking and locations of each study room in which buildings. StudyUp aims to provide modern-style application for study room booking for the University of Victoria students and faster guide to the locations of each study room in each building on the campus.

2.2 Project Goals, Business Outcomes and Objectives

The main project goals include realistic and efficient project planning and management, software development, easy usability and user-friendly design of the application, and frequent communication with the stakeholders to meet the objectives and goals, and to confirm the business aspect as well.

For this project to succeed, below are major goals the project team needs to achieve in order to manage the project and satisfy stakeholders.

No.	Goals	Objectives	Business Outcomes
1	Greater flexibility in responding to stakeholder requests and effective communication.	● Accommodate for any requests for change unless it will impact the system and project negatively.	● Client satisfaction.
2	Modern-style application for study room booking system.	● Easy usability and friendly UI design can help users increase their interest in using the system.	● Increase users - expected to show at least 30% of UVIC students to use this system after 6 months of implementation.
3	Efficient project planning and management	● As the profit of this system is expected to be low to moderate (because the system is for students), it is important to set up a project plan that is efficient and manageable.	● Reduced cost - at least 7% of the projected project cost. ● Reduce time - at least 5% of projected completion time. ● Efficient project management.

2.3 Project Scope

2.3.1 Scope Definition

A centralized study room booking web application will be introduced to students at UVic in booking study rooms across campus based on their time schedule and needs. It also supports an interface for UVic staff and faculties to manage the booking room system in their building. Crossed platforms like mobile apps, booking rooms for big events or classrooms as well as databases for recording booking rooms are out of scope for this project.

2.3.2 Boundaries

Activities In Scope	Activities Out of Scope
1. Implement a feature to check if users have a valid V number as the system is for UVIC usage only.	1. The system does not check whether a user logging in is an alumni (users with valid V number but not a student anymore).
2. Design a web application interface for study space booking system.	2. The study space booking system are not available on other platforms (mobile, desktop app, etc.).
3. Only students (undergrad & grad) are able to perform booking action.	3. Booking room feature will not be implemented for other types of users (staff, faculty members, etc.) .
4. UVIC staff can log in to manage the state and facilities of rooms in the building.	4. Databases for storing entries for booking records will not be implemented.
5. Design a user login system.	5. Advance authentication methods to enhance system security such as multi-factor authentication (MFA) will not be implemented.
6. The system only supports one time booking and booking within one week.	6. Repetitive booking and study room booking more than one week in advance is not supported.
7. The system will use the API provided by UVIC.	7. Implementing and maintaining the API is not supported.
8. Training program will be provided to the client team.	8. Communicate with users (students, staff, etc.).
9. Students can filter the rooms to fit their needs based on the size of the student group, facilities of the room.	9. StudyUp does not maintain the permission to use the facilities in the study rooms. To use the facilities in the room, students should contact the faculty member of the building where the room is located.
10. System can filter and suggest study rooms based upon the needs of the students within their program.	10. Research to determine each of the departments with study rooms available for students is out of scope for the project and should be conducted by UVic.

2.4 Project Risks, Assumptions, and Constraints

2.4.1 Risks

No.	Risk Description	Probability (H/M/L)	Impact (H/M/L)	Risk Management Plan
1	Slow Implementation Time	M	H	- Start web app development with clear goals and objectives as soon as possible to minimize risk.
2	Lack of Data Synchronization	H	H	- Eliminate risk by partnering with existing systems.
3	Data Leak	M	H	- Mitigate risk by partnering with existing systems and decreasing use of third-parties, such as Sassafras. - Limit data access on a need-to-know basis and group sensitive data into control access tiers. - Regular encrypted back-ups.
4	Slow Client Training Time	M	L	- Mitigate slow training time by finishing the web app development sooner and training clients by establishing clear goals and objectives.
5	System Hack	L	H	- Mitigate system hacking by regularly changing passwords, updating anti-virus and anti-spyware softwares, and encrypting client data.
6	Poor User Interface	M	M	- Follow HCI guidelines to ensure the interface is user friendly. - Improve web application interface by collaborating with the client team to conduct user experience surveys with students to get instance feedback.

2.4.2 Assumptions

The following table lists the items that cannot be proven or demonstrated when this project charter was prepared, but they are taken into account to stabilize the project approach or planning.

No.	Assumptions
1	Creating a centralized web application by the Nov 23, 2022 deadline is possible.
2	Existing systems are willing to participate in data partnership.

No.	Assumptions
3	Data leaks are mitigated if we partner with existing systems and limit data access on a need-to-know basis.
4	The API for buildings' facilities is assumed to be provided by UVic, Gen8 will not be responsible for maintaining, updating the API.
5	Gen8 can retrive the data related to the condition of the rooms and buildings through the API, such as the availability of the facilities, the numbers of study rooms available for booking, the status of the rooms (whether it is occupied or not), the location and size of the room, etc.
6	Gen8 will have access to the UVic student database in order to design the verification tool for the system.
7	Training program will be provided for the client team. Gen8 only collaborates with UVic to build the training and promoting program for the students (main users), staff and faculty members (admin).

2.4.3 Constraints

1. The system must store the students' identifications and information data using high-level encryption following UVic policies on Protection of Privacy and Access to Information.
2. The system will display real-time feedback of available room listings with a latency of less than 15 minutes.
3. The system should score at least 90 on the Lighthouse Performance test to ensure that users can navigate the information and other booking details on the website seamlessly.
4. The web application should be compatible with common browsers (such as Chrome, Firefox, Safari, Opera, etc).
5. The system should be able to handle high-volume booking requests which is expected to be approximately 10000 requests simultaneously during the exam periods.
6. The system should be user-friendly, easy to use, and be expected to require less than a week for training with the rate of errors made by users less than 8%.
7. Students should spend less than 20 minutes on average to view the availability, search and book a study room.
8. Students must be logged out after 1 hour of inactivity to ensure security.

3. Project Approach

3.1 Roles and Responsibilities

Project Role	Responsibilities	Assigned to
Project Manager	A project manager is responsible for overseeing both the planning and the implementation of the project.	Mary Pesado Kate Ueda
Tech Lead	The Tech Lead is responsible for ensuring the quality of the project's technology and overseeing all technical decisions.	Irene Duong

Project Role	Responsibilities	Assigned to
Software Engineer	The Software Engineer is responsible for designing the mechanisms and functions of the project.	Anthony Ho
UI & UX Designer	The UI & UX Designer is responsible for designing the project's user interface to enhance the user's visual experience.	Jooah Bae
Subject Matter Expert	The Subject Matter Expert is responsible for ensuring correctness of the project's deliverables.	Lore Schwartz
Business Analyst	The Business Analyst is responsible for analyzing all forms of data related to the project.	Randeep Laller

3.2 Work Breakdown Structure

- Create centralized study room web application
- Partner with existing systems to transfer and synchronize data
- Launch live web application for real time use
- Modify and maintain web application based on client feedback

3.3 Milestones

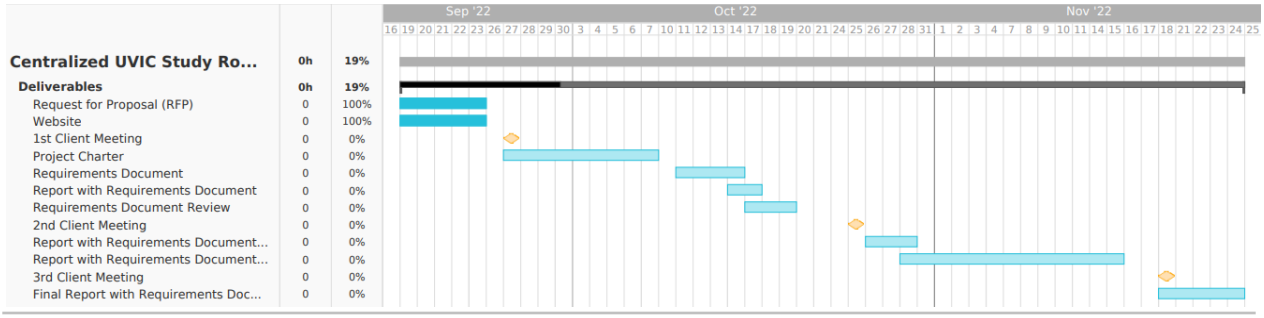
Milestones for the successful management of project, from initiation to completion.

Project Milestones	Description	Date
Phase 1: Documenting Business Requirements	Translation of the requirements document into technical specifications for StudyUp web application	Oct 14th, 2022
Phase 2: Requirements Document, and Use Cases	Project requirements are defined, statement of StudyUp's purpose, goals, and objectives, and what are needed in order to successfully meet the requirements. Use case is written to describe how the users of StudyUp (UVIC students) will use the system to perform the task (booking study rooms at UVIC libraries) to meet the purpose of the project (study room is booked and guided)	Oct 21st, 2022
Phase 3: Domain Models	Description of the conceptual model, connected to real-world entities, attributes, data, behaviours of the system, and the relationships between them.	Nov 2nd, 2022
Phase 4: User Interface (UI) Modeling	Development of the user-end of the system, design the UI of the system so the system can be user-friendly and easy-to-learn. Ensure the UI features do what the users expect when they use each feature and provide the right response.	Nov 16th, 2022
Phase 5: User Interface (UI) Prototypes	Mock-up of the UI for the system. Aims to ensure the usability, visualization, and utilization of the system are as expected from the users' perspective, ensuring the	Nov 18th, 2022

	system is easy-to-learn.	
Phase 6: Final Report and Project Presentation, and closing of the Project	Prepare the final report to document the project success, what went good and what went wrong, which solutions were used and how they went. The final report is documented for the future project planning, for the increased chance of successful project management and implementation. Once the project is presented to the stakeholders successfully, it will be implemented and the project will be closed - after closing, management of the implemented application is required as a follow-up.	Nov 23rd, 2022 ~ Dec 5th, 2022

3.4 Deliverables

A list of project deliverables.



Deliverable	Due Date
Request for Proposal (RFP)	Sept 23th, 2022 at 5pm
Website	Sept 23th, 2022 at 5pm
1st Client Meeting	Sept 27th, 2022
Project Charter	Oct 7th, 2022 at 5pm
Requirements Document	Oct 14th, 2022 at 5pm
Report with Requirements Document	Oct 17th, 2022 at 5pm
Requirements Document Review	Oct 19th, 2022 at 5pm
2nd Client Meeting	Oct 25th, 2022
Report with Requirements Document, and Use Cases	Oct 28th, 2022 at 5pm
Report with Requirements Document, Use Cases, and Domain Models	Nov 15th, 2022 at 5pm

Deliverable	Due Date
Request for Proposal (RFP)	Sept 23th, 2022 at 5pm
Website	Sept 23th, 2022 at 5pm
3rd Client Meeting	Nov 18th, 2022
Final Report with Requirements Document, Use Cases, Domain Models, and UI Models	Nov 24th, 2022 at 5pm

4. Project References

More information concerning this project can be found in the following documents:

Document Title	Version #	Date	Author and Organization	Location (link or path)
Can Gov IT Charter Guide	N/A	07-Sep-2022	Chief Information Officer Branch (CIOB)	https://bright.uvic.ca/d2l/le/content/240624/viewContent/1883963
Policies and procedures	N/A	N/A	University of Victoria	https://www.uvic.ca/general-counsel/privacy-access/policies-and-procedures/index.php

5. Glossary and Acronyms

<Define all terms and acronyms required to interpret the project charter properly.>

Term	Definition
Sassafras Service	Third party vendor/company that provides service to manage IT Asset inventory through lifecycle management, purchase tracking, usage monitoring, and flexible reporting.
Multi-factor authentication (MFA)	An authentication method that requires the user to provide two or more verification factors to gain access to a resource such as an application
Work breakdown structure (WBS)	A deliverable-oriented hierarchical decomposition of the work to be executed by the project team to accomplish the project objectives and create the required deliverables. It organizes and defines the total scope of the project. Each descending level represents an increasingly detailed definition of the project work. The parts of the WBS consist of work packages. The deliverables orientation of the hierarchy takes both internal and external deliverables into account.

Term	Definition
API	Stands for application programming interface, which is a set of definitions and protocols for building and integrating application software.
Lighthouse Performance test	Lighthouse is an open-source, automated tool for improving the quality of web pages. It evaluates the website with a score from 5 categories: Performance, Accessibility, Best Practices, SEO and PWA.