StudyScapes
7/9/20
Version 002

Requirements and Specification Document

Project Abstract

This application, **StudyScapes**, will allow users to **login** to their account and view the Simon Fraser University campus as a virtual map. Login **views** will differ for faculty and students. This uses the **Web API for Google Maps** for location and time updates. As a **real-time feature**, this application will use **Socket.io** to update requests made to professors or students for meetings and study groups in real time. This application enables quick meetups and easy navigation for users. The application is not just practical, but fun! There are minigames incorporated to help the user kill time while waiting between meetups (they can even battle their professors!).

Customers

Faculty: Teachers and TAs at Simon Fraser University that would like to interact in a convenient way with students, plan meetings, coordinate meeting locations, schedule or find events on campus, and enjoy minigames.

Students: Students at Simon Fraser University that would like to communicate with all their professors or TAs in one convenient application. They would like to meet with other students or faculty at SFU, get assistance in finding their way around the school, find specific buildings or rooms, schedule or find events on campus, meet other students, or just have fun through minigames.

Competitive Analysis

What makes StudyScapes so unique is that it applies specifically to the Simon Fraser University Burnaby Campus. It incorporates ideas from many other successful programs into one main application for ease of access. Although Google Maps is useful, it does not provide a detailed view of the Burnaby Campus. StudyScapes will elaborate on the map with this campus in mind, allowing for much more extensive interaction and location finding around the University. SFU Snap was an inspiration for this, as it helped students to search for and travel between rooms and buildings across campus. StudyScapes expands this to allow for scheduling events and meetings around campus with students and faculty alike. It also provides icebreakers for students in the form of minigames and different views for faculty and students, so that each user sees the information that directly applies to their own needs.

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Main Features - Epics

Map: Provide an interactive map that updates to user location so they can find other users and locations on the Simon Fraser University Campus.

Meetings: Enable faculty and students to easily interact and meet up for studying or course/career discussion. They can also chat with each other through the app.

Events: Have events held by clubs, faculty or student societies show on the map as icons in real-time, so users can quickly learn about the activity on campus.

Minigames: Allow students and faculty to interact in mini games with those nearby based on location. This would allow users to play small various games that can act as icebreakers between their fellow peers.

User Stories

Actors:

Faculty (Professors and Teaching Assistants) that can view and cancel meetings. They can also interact with students, view the map, view and schedule events, and play minigames. Students can view, request, reschedule, and cancel meetings with Faculty and other students. They can view and schedule events, view the map for specific rooms and buildings, and play minigames.

A test login for faculty is username: QWERTY and password: pass2

Students can view, request, reschedule, and cancel meetings with Faculty and other students. They can view and schedule events, view the map for specific rooms and buildings, and play minigames.

A test login for student is username: ASDF and password: pass1

Admin can view all database content including usernames, roles, meetings, and much more. The admin account is used for verification of debugging purposes. For the sake of security and privacy of users, the admin can only view hashed passwords.

A test login for admin is username: ADMIN and password: ADMIN

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Current Iteration Stories

Story #4

Name/Description: A new student is lost on the Burnaby campus

Actors: New student named 'Sally'

Triggers/Preconditions: Sally logs in to StudyScapes and opens the map page to find her current location and view other important campus locations

Actions/Postconditions: Display a campus map showing her current location and chosen destination (potentially with a path)

Acceptance Tests:

- Location services are enabled
- Current location can be found and display
- Destination is valid and can be displayed

Iteration: Completed in iteration 002

Story #5

Name/Description: A professor wants to cancel a scheduled meetup

Actors: A faculty member (Professor Bee) and a student (Erik)

Triggers/Preconditions: Professor Bee chooses to cancel her meeting with Erik from her meetups page, by clicking the cancel button next to the listed meeting

Actions/Postconditions: The meeting is listed as cancelled on the table (greyed out) and Erik is notified of this cancellation on his meetups page.

Acceptance Tests:

- The isCancelled attribute for that meeting is set to true
- The row is greyed out and the cancel button is no longer clickable
- Erik is able to view the meetup as cancelled through his meetups page
- The scheduled meeting remains in the database

Iteration: started in iteration 2

Story #6

Name/Description: A student responds to a cancelled meeting

Actors: A faculty member (Professor Bee) and a student (Erik)

Triggers/Preconditions: Erik wishes to view the meeting that was cancelled by Professor Bee, and confirm the cancellation

Actions/Postconditions: Erik clicks ‘confirm cancellation’ from the meetups page and the meeting is removed from both his and Professor Bee’s meetups

Acceptance Tests:

- The meetup (row) is removed from the *meetup* database
- Erik’s page is refreshed to no longer show the meeting
- Professor Bee can no longer see the meeting on her meetup page

Iteration: started in *iteration 002*

Story #7

Name/Description: A student wants to meet with another student

Actors: Multiple students named ‘Maddie’ and ‘Bud’

Triggers/Preconditions: Maddie accesses the meetup page and schedules a meeting with Bud

Actions/Postconditions: Displays a form for Maddie to specify the meeting location and time, then sends a request to Bud

Acceptance Tests:

- Meetup form is displayed properly
- Bud is an existing student and a request can be sent to him
- Meeting location is valid and can be chosen
- Form can be submitted
- Meeting data is stored in the meetup table

Iteration: started in *iteration 002, to be completed in iteration 3*

Story #8

Name/Description: A professor wants to review their scheduled meetups

Actors: A faculty member, Professor Abe

Triggers/Preconditions: Professor Abe views the meetups page on their account

Actions/Postconditions: Displays a table that only lists the meetings including Professor Abe. Each row shows the corresponding student, the requested room, and the requested time.

Acceptance Tests:

- Meetup table is displayed with just Professor Abe's meetings
- Valid rooms and times are displayed
- The corresponding student exists
- Finished/cancelled meetups are not displayed

Iteration: completed in *iteration 002*

Story #9

Name/Description: A new student is lost and looking for their classroom.

Actors: A new student, Justin

Triggers/Preconditions: Student Justin clicks the Room Finder Tab on their page.

Actions/Postconditions: Shows a map allowing Justin to search for his classroom or view the entire university as a whole.

Acceptance Tests:

- View every classroom
- Rooms are searchable

Iteration: completed in *iteration 002*

Story #10

Name/Description: Viewing upcoming events on campus.

Actors: A user (student/faculty)

Triggers/Preconditions: User clicks the "View Upcoming Events" on a page.

Actions/Postconditions: Shows a page with a table where the rows are Events showing its name, host group, website link, location, time, and date in chronological order.

Acceptance Tests:

- An Events table is displayed with information described in postconditions.
- Events are listed in chronological order (closest to farthest from current time).
- Events prior to current time are not shown.
- Cancelled events have colored text (red) and shows "CANCELLED" under "time" ("CANCELLED" should be reflected in the database under "time" also).

Iteration: to be implemented in *iteration 002, with additions in iteration 3*

Story #11

Name/Description: View error page when a user has no meetups.

Actors: A student named Huck

Triggers/Preconditions: Huck clicks the meetups page, but doesn't have any meetups

Actions/Postconditions: Redirects Huck to an error page, with links to request a meeting or return to the home page.

Acceptance Tests:

- An error page is displayed
- The back button is shown
- The request meeting button is shown

Iteration: to be implemented in *iteration 002, with additions in iteration 3*

Story #12

Name/Description: A new student wants to explore campus and see what the main "attractions" or hotspots are.

Actors: New student named "Jordan"

Triggers/Preconditions: Jordan logs in to StudyScapes and opens the View My Location page

Actions/Postconditions: After opening the view my location tab, the player can look around at the markers on campus and view where/what are the main hotspots on campus, such as the dining hall, AQ, etc.

Acceptance Tests:

- Different Markers are viewable on the map
- User can compare their current location to how far it is to the marker.

Iteration: Completed in *iteration 002*

Story #13

Name/Description: A new student is lost on campus and needs to find where their lecture room is

Actors: New student named "Phillip"

Triggers/Preconditions: Phillip logs in to StudyScapes and opens the Room Finder page

Actions/Postconditions: After opening the Room Finder page, the user is able to search for their classroom and see exactly where they need to go on campus to go to their classroom.

Acceptance Tests:

- Able to search the database of classrooms
- Specific classroom is highlighted on the map.

Iteration: Completed in *iteration 002*

Future Iterations

Story #14

Name/Description: A new student is looking to make new friends at SFU, wants to play a game.

Actors: A student, Sophia, wants to play a game with someone.

Triggers/Preconditions: Student Justin clicks Minigames tab on their page.

Actions/Postconditions: Shows different types of minigames and allows them to play with people nearby.

Acceptance Tests:

- Able to connect with other players
- Game logic is correct
- Able to choose what type of game to play
- Able to correctly interact with game buttons.

Iteration: to be implemented in *iteration 003*

Story #15

Name/Description: Viewing events happening today on the map.

Actors: A user (student/faculty)

Triggers/Preconditions: The user goes to the campus map page (not viewing room finder)

Actions/Postconditions: The map loads showing SFU campus. Events listed to happen today are shown with event markers at their respective locations.

Acceptance Tests:

- The map is rendered correctly, showing SFU campus.
- Each event marker represents an event happening *today*.
- Each event marker is shown at their correct locations.

- Clicking on a marker displays detailed information regarding the event.

Iteration: to be implemented in *iteration 003*

Story #16

Name/Description: Hiding a type of marker on the map.

Actors: A user (student/faculty)

Triggers/Preconditions: The user clicks on any of the box from a group of checkbox options to for hiding a type of marker on the map (i.e. hide location markers, hide event markers, etc.).

Actions/Postconditions: The map is re-rendered with the desired markers to be hidden gone.

Acceptance Tests:

- The map is re-rendered with the same position and zoom level as prior to triggering the event.
- The desired markers to be hidden are not seen while the others are still shown.
- The hidden markers cannot be interacted with.

Iteration: to be implemented in *iteration 003*

Story #17

Name/Description: A student has a 5-hour break between two classes, and he/she wants to pass some time while being on the campus

Actors: Stacey, a fourth-year student

Triggers/Preconditions: Stacey logs in to StudyScapes and opens the mini games

Actions/Postconditions: Display different options for mini games

Acceptance Tests:

- Game services are enabled
- Scores can be found and display

Iteration: to be implemented in *iteration 003*

Story #18

Name/Description: A new student wants to meet other students with similar interest on the Burnaby campus

Actors: New student named ‘Patrick’

Triggers/Preconditions: Patrick logs in to StudyScapes and opens the events page

Actions/Postconditions: After finding a suitable event he can now meet students who share same interests as him

Acceptance Tests:

- Different events are displayed to the users
- Students can drop into their desirable event

Iteration: started in *iteration 002, to be completed in iteration 3*

Story #19

Name/Description: Viewing the user's schedule timetable in the Dashboard

Actors: A user (student/faculty)

Triggers/Preconditions: User logs into StudyScapes or goes to Dashboard page

Actions/Postconditions: The Dashboard is shown with a schedule timetable on the page. The schedule visually represents a weekly calendar, displaying meetings that the user has committed to participate in along with events.

Acceptance Tests:

- The schedule shows 7 days ahead including the current day.
- A schedule timetable is displayed with participating meetings at their correct positions.
- Canceled meetings are not shown on timetable.

Iteration: to be implemented in *iteration 003*

Story #20

Name/Description: A student is looking for their friend on campus but is unsure where they are.

Actors: New student named "Adam"

Triggers/Preconditions: Adam logs in to StudyScapes and opens the View My Location page

Actions/Postconditions: After opening the View My Location page, Adam is able to see the location of other people and can easily locate their friend in order to meet up with them.

Acceptance Tests:

- Able to see other users on the map.
- Able to view the names on each marker on the map.
- Location updates as user moves.

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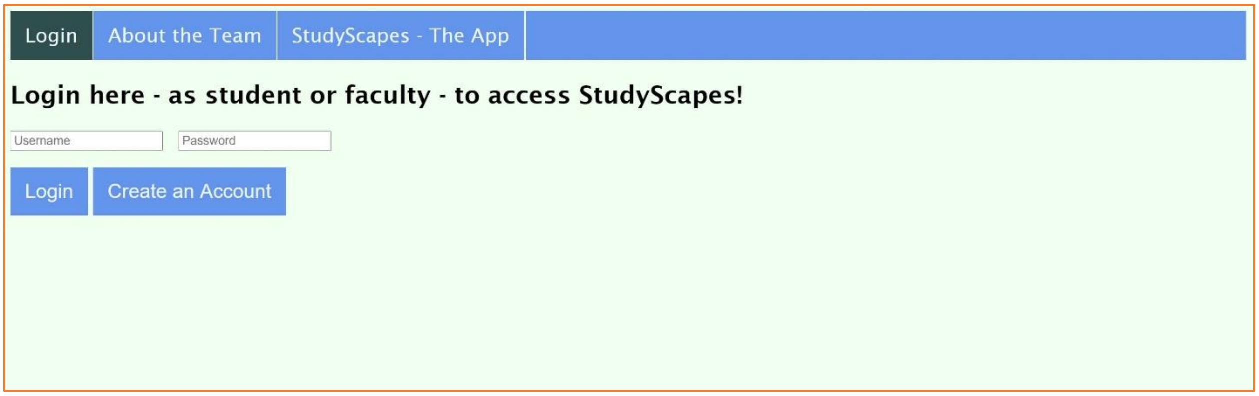
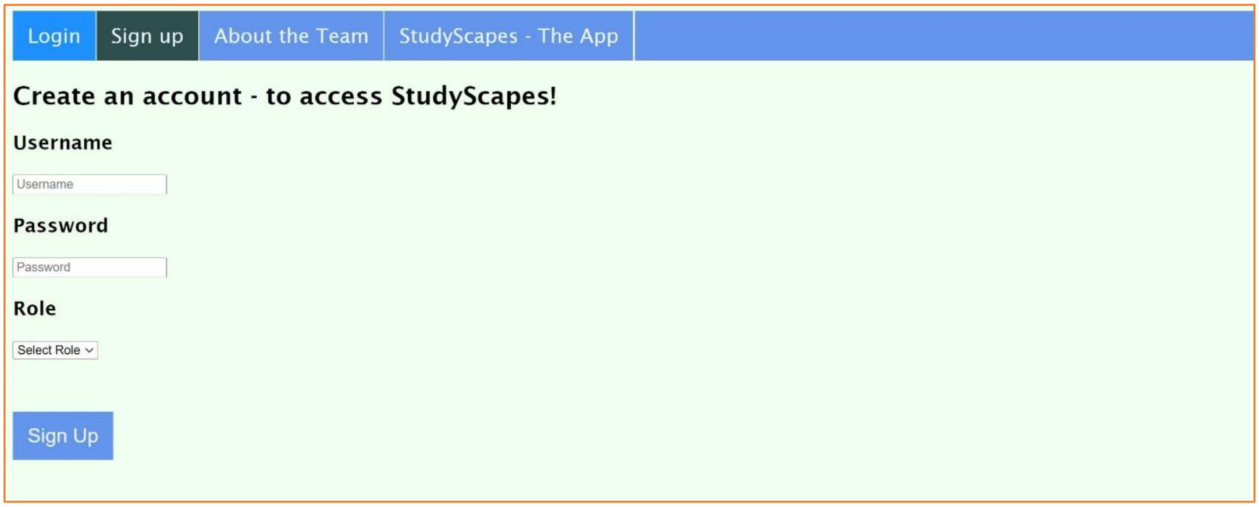
Iteration: To be completed in *iteration 003*

User Interface Requirements



Login here - as student or faculty - to access StudyScapes!

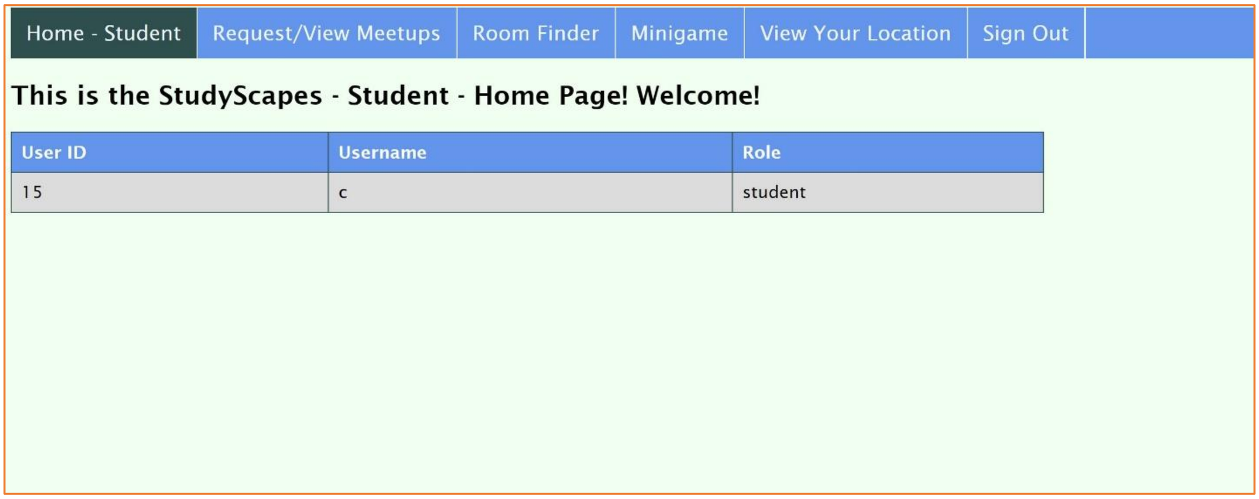


Create an account - to access StudyScapes!

Username

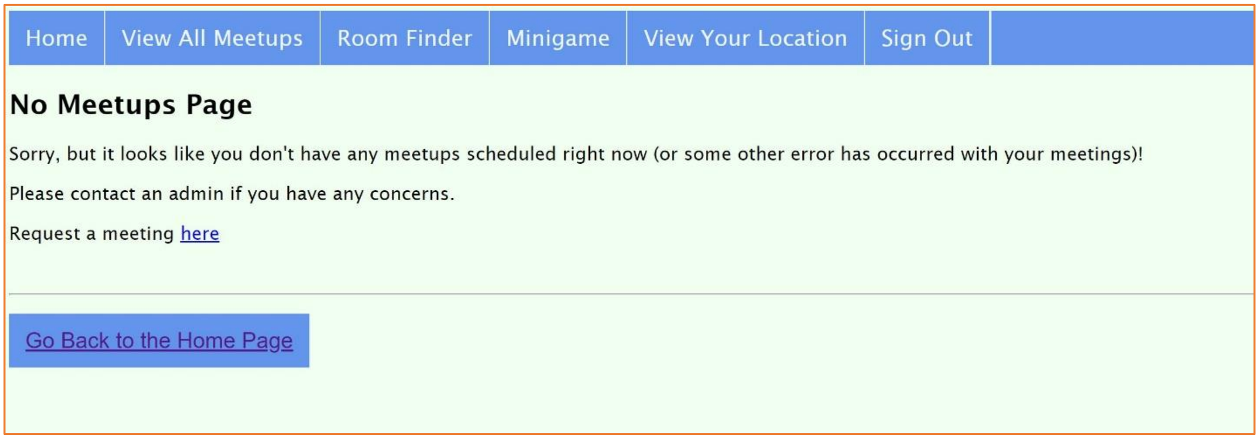
Password

Role



This is the StudyScapes - Student - Home Page! Welcome!

User ID	Username	Role
15	c	student

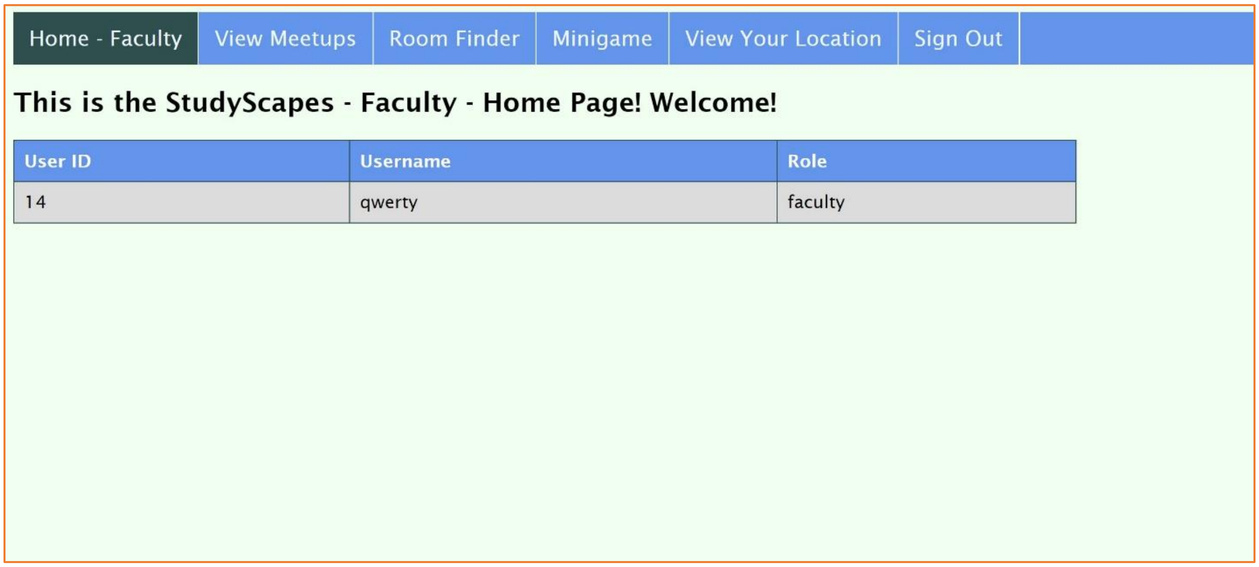


No Meetups Page

Sorry, but it looks like you don't have any meetups scheduled right now (or some other error has occurred with your meetings)!

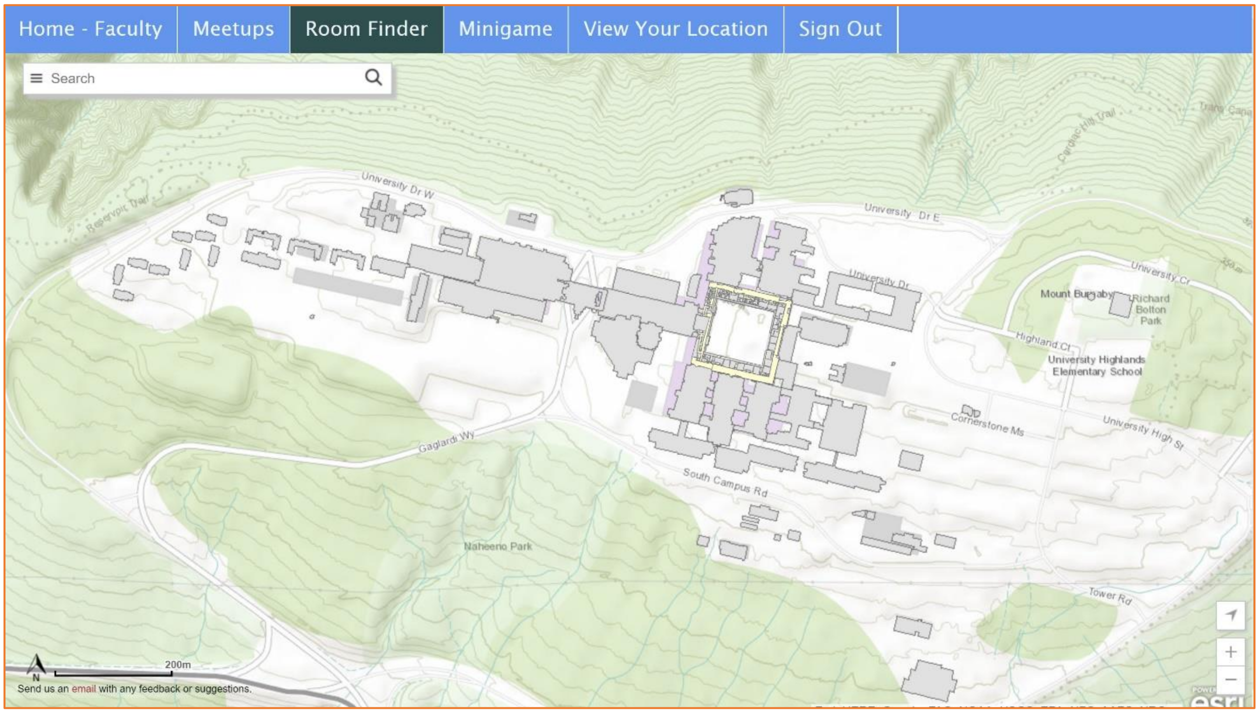
Please contact an admin if you have any concerns.

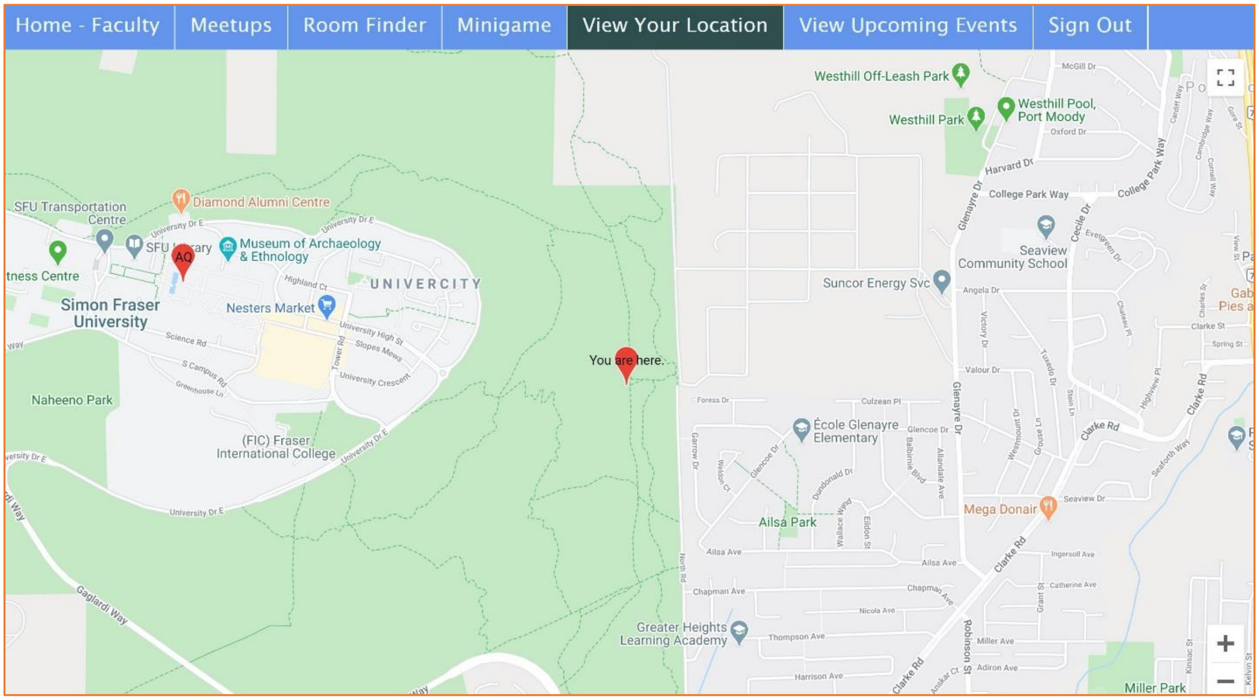
Request a meeting here

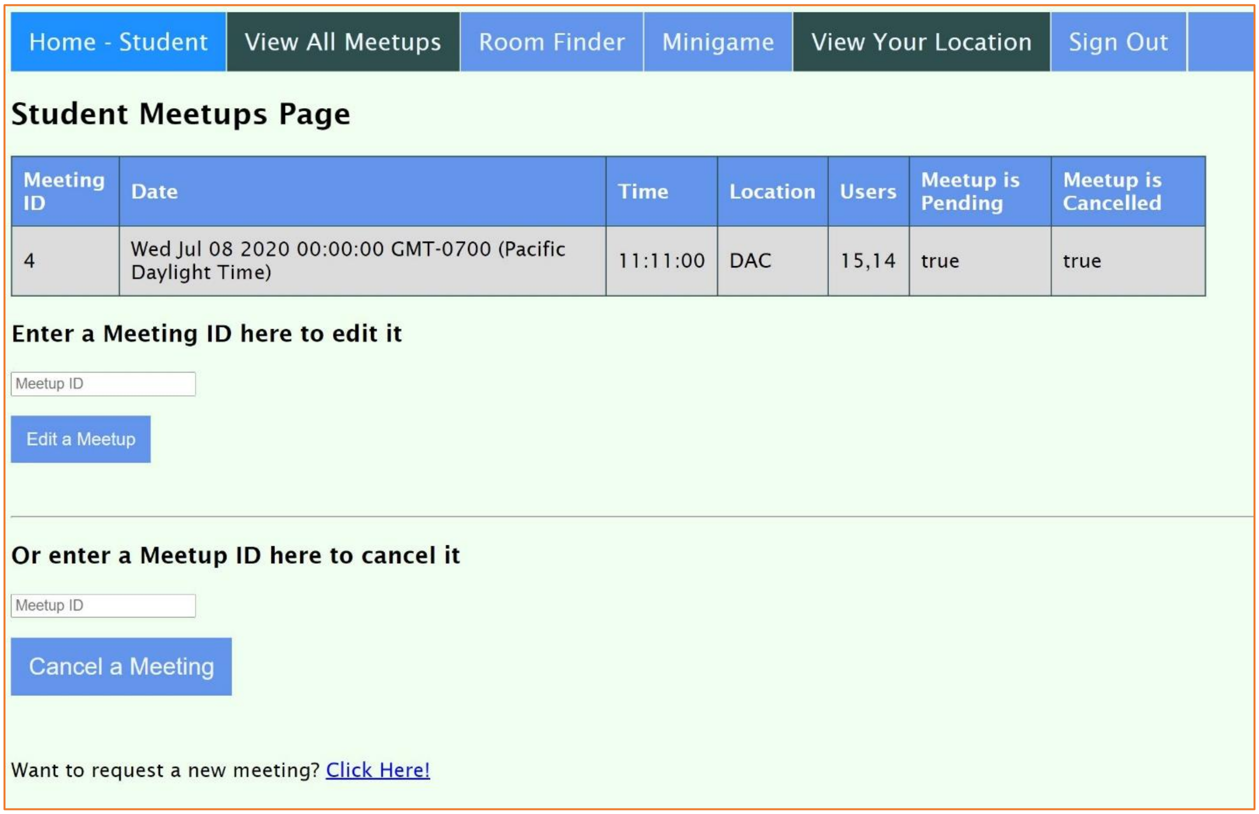


This is the StudyScapes - Faculty - Home Page! Welcome!

User ID	Username	Role
14	qwerty	faculty


Home - Faculty
Meetups
Room Finder
Minigame
View Your Location
Sign Out
Search
University Dr W
University Dr E
University Cr
Mount Burnaby
Richard Bolton Park
Highland Ct
University Highlands Elementary School
Cornerstone Ms
University High St
Gaglardi Wy
South Campus Rd
Naheeno Park
Tower Rd
200m
Send us an email with any feedback or suggestions.


Home - Faculty
Meetups
Room Finder
Minigame
View Your Location
View Upcoming Events
Sign Out
Westhill Off-Leash Park
Westhill Park
Westhill Pool, Port Moody
Harvard Dr
College Park Way
SFU Transportation Centre
Diamond Alumni Centre
SFU Library
AQ
Museum of Archaeology & Ethnology
tness Centre
UNIVERCITY
Simon Fraser University
Nesters Market
Naheeno Park
(FIC) Fraser International College
Gaglardi Way
You are here.
Seaview Community School
Suncor Energy Svc
École Glenayre Elementary
Ailsa Park
Mega Donair
Greater Heights Learning Academy
Glenayre Dr
Clarke Rd
Miller Park



Student Meetups Page

Meeting ID	Date	Time	Location	Users	Meetup is Pending	Meetup is Cancelled
4	Wed Jul 08 2020 00:00:00 GMT-0700 (Pacific Daylight Time)	11:11:00	DAC	15,14	true	true

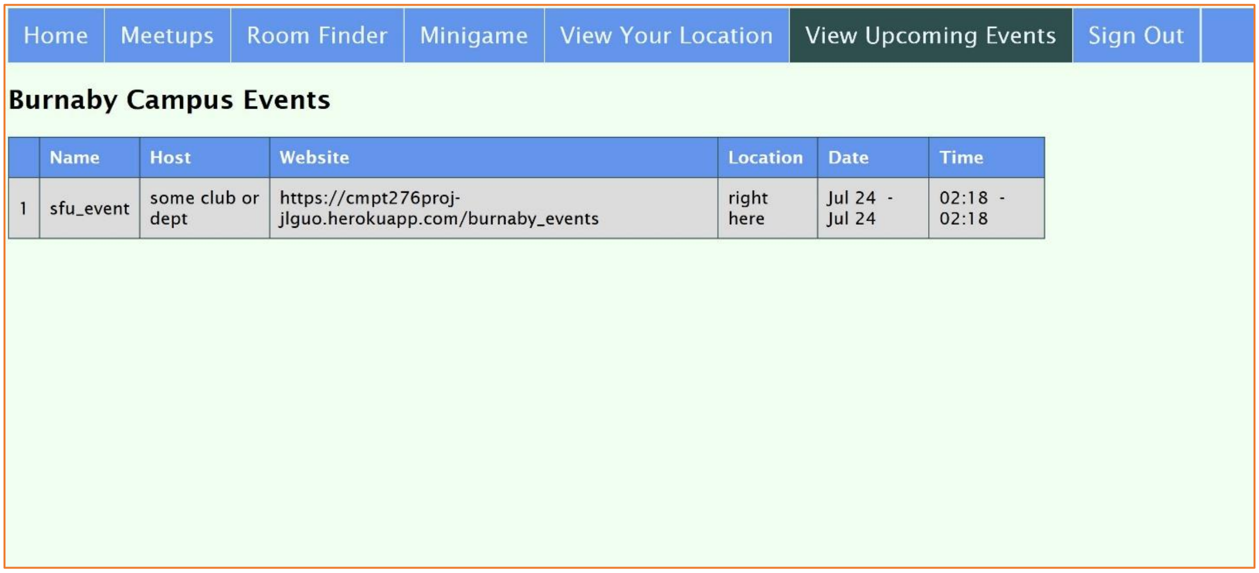
Enter a Meeting ID here to edit it

Meetup ID

Or enter a Meetup ID here to cancel it

Meetup ID

Want to request a new meeting? Click Here!



Burnaby Campus Events

	Name	Host	Website	Location	Date	Time
1	sfu_event	some club or dept	https://cmpt276proj-jlguo.herokuapp.com/burnaby_events	right here	Jul 24 - Jul 24	02:18 - 02:18

Velocity Measurement

Story Points		
Story Number	**Points**	**Iteration**
1	2	Iteration 1
2	3	Iteration 1
3	3	Iteration 1
4	3	Iteration 2
5	2	Iteration 2
6	2	Iteration 2
7	2 + 2	Iteration 2 + iteration 3
8	2	Iteration 2
9	1	Iteration 2
10	2 + 3	Iteration 2 + iteration 3
11	1	Iteration 2
12	3	Iteration 2
13	1	Iteration 2
14	5	Iteration 3
15	2	Iteration 3
16	4	Iteration 3
17	2	Iteration 3
18	1	Iteration 3
19	6	Iteration 3
20	5	Iteration 3
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		

Velocity

Iteration 1 points:

8 in 2 weeks
= 4 points on average

Iteration 2 points:

19 in 2 weeks
= 9.5 point on average

Iteration 3 points:

The Database Plan– Iterations 2 & 3

StudyScapes Database					
login		**meetup**		**event**	
uid	serial (PK)	mid	serial (PK)	eid	serial (PK)
username	char(20)	users	int[]	name	varchar
password	char(60)	datetime	datetime	host_name	varchar
role	char(20)	location	varchar	url	varchar
		isPending	boolean	location	varchar
		isCancelled	boolean	start_datetime	timestamp
				end_datetime	timestamp

Meeting 3 Overview

For iteration 3, Celina plans on adding a password reset, refactoring code (including altering the meetup database to work with datetime instead of a separate date and time), fixing a date display bug in the meetup edit page, and doing a CSS overhaul of the application. She will also continue work on meetups so faculty ahs more use of the feature and will add a minigame as a final feature. She will also do plenty of application testing for bugs and make sure the meetups feature is as stream-lined as possible.

Josh plans on refactoring the code (in particular, the page navigation), adding event markers to the map and working alongside Parth with socket.io, reorganizing pages for user convenience (for example, adding an account-specific dropdown), and map filtering options. He also plans to implement user dashboard (schedule timetable, and maybe profile), and adding more to features related to events.

In iteration 3, Parth will be working on implementing the ability to view multiple users in the Find My Location Tab. This involves adding each user's latitude and longitude to the database as well as being able to generate a marker and put that on the map. He will also be working on the mini games which includes the creation of the games themselves. He will also make sure that games are based on nearby location and ensure that the proper socket connections are created.

Mandeepa will be continuing to assist the team in any areas that need help, including CSS, work with socket.io, and implementation of minigames.

Disclaimers

The Room Finder Tab was not created by our team. This was an application created by SFU that we have integrated into our project in order to make it more whole. We obtained permission from Professor Chan to include this in our application.

StudySscapes

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URLs

GitHub Repository: *https://github.com/Guojiaxi/sfu-cmpt276proj.git*

Heroku link: *https://cmpt276proj-jlguo.herokuapp.com/*

Heroku Git Link: *https://git.heroku.com/cmpt276proj-jlguo.gi*

Features Board

COMPLETED	IN PROGRESS	TO BE IMPLEMENTED	PREREQUSITE(S) NEEDED	TO BE DESIGNED	BROKEN /REDESIGN
map	Place map markers	Event markers	Plotted meetings (schedule timetable)	Meeting notifying system	Chat
Log in and sign up system	User location tracking	Dashboard schedule timetable	Plotted participating events (schedule timetable)	Event notifying system	
Login database		meeting invitation/response		Meeting creation UI	
Logged-in tracking		minigames		Event posting UI	
Sign-up system				Event submission approval system	
Room finder				User profile page	
Server-side storage for events (database)					
Server-side storage for meetings (database)					