UNIVERSITY OF CALGARY

CPSC 481
Part 2: Final Project Portfolio
Group 1

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April 10th, 2024

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Part 1

Abstract

The **Calgary Stampede** would like a system that helps their patrons navigate their convention. The program allows patrons find/view scheduled events and plan their day.

Section 1

Phase 0: Context

Background Environment

The Calgary Stampede is a not-for-profit community organization governed by a volunteer board of 20 directors. Day-to-day operations are carried out by more than 1,200 year-round employees and supported by over 2,500 volunteers. The Calgary Stampede looks to preserve and celebrate the city's western heritage, cultures, and community spirit. The main attraction of the Calgary Stampede is the annual festival of the same name, which attracts over 1 million attendees each year. This is the event we will be focused on.

The Calgary Stampede currently has a website, which does not have a schedule builder (it is mobile app exclusive) and there is no way to look at interior building maps. The pins on the map provide limited information with no links to further inquire, and it can be quite clunky. The app has a schedule builder that is hard to navigate, and the map cannot be interacted with aside from finding food options.

Uses and Expectations

The system would allow patrons to view scheduled events and amenities available during each day of the convention. The program could contain a top-down map view that can be expanded to see location events and interiors, and a personal schedule view based on what events the patron would like to visit. It could also be used either to schedule a full day/weekend or just quickly during the day for reference.

The stampede is a large event, so not everything will be included. We will reduce our scope to just include timed events (like shows and fireworks) rather than having every ride and food truck.

Our core users are patrons, workers, and organizers will be excluded from our user evaluation.

System Constrains

We are constrained by our group size and existing knowledge as students with little experience in web design, as well as by the time we have to work on this.

The system should be operable on widescreen devices with access to an internet browser. If time permits, we would like to include integration to small-screen (mobile) devices.

Phase 1: Identification of Tasks

Excluded User Base

- Stampede workers
  - Should already know event times and locations very well
  - Not within our user scope, which is specifically for attendees
- Very technically inexperienced users who don't know what they like
  - Catering to this user type would impact the usability of our primary users who may want more advanced filtering and scheduling options
  - Would not know what to look for or where to look for it without significant guidance which would deprecate our core users' experience
  - Would like to make the system accessible to everyone but not a core user
- Stampede managers
  - The application could collect data on event popularity and patron feedback
  - This would be a very uncommon task, unrelated to the majority of our user base

Included User Base

Similar systems: Disneyworld App, Comic-Con App, Convention Websites (Stampede, Otafest, Calgary Expo, etc.)

	Experienced with Stampede	Inexperienced with Stampede
Experienced with similar systems	stampede workers (excluded) user 1	user 2
Inexperienced with similar systems	user 3	user 4 (excluded)

Table 1: Included User Base

	User 1	User 2	User 3
Name	Jacob	James	Samantha
From	Calgary	Kelowna	Edmonton
Role	Regular Patron	New Patron	Semi-Regular Patron
Desires	- Plan out day - Quick reference events	- Discover Events - Plan multiple options	- Plan day for her and her son with different interests - Find event at specific time

Work Contexts

1. A patron would like to plan their day prior to attending. They have been to this event before and have a very good idea of what they would like to do.

2. Someone has time between activities, they would like to find something close by that they can attend while waiting for the next event they have planned.

3. Two patrons want to attend the convention together, but want to see different events at similar times. They would like to plan two schedules for the day that match their individual interests, with at least one event that they will attend together.

4. A new patron has no clue what is available at a convention, or what types of things are available (rides, games, shows for stampede), and would like to explore available events.

5. A new patron has no clue what is available at a convention and would like to schedule events at overlapping times, so they can go to a different event if they decide they do not like the event they are attending

Task Examples

Task One: A patron would like to plan their event prior to attending. They have been to this event before and have a very good idea of what they would like to do.

1. Jacob would like to attend the Dog Bowl and the Motorbike Show.

2. He goes to the Calgary Stampede website, and navigates to the menu. He clicks "Explore" $\rightarrow$ "Shows" $\rightarrow$ "Dog Bowl" to get more information on the dog bowl. He sees shows at 11:00 am, 1:00 pm, and 2:30 pm.

3. In a new tab he goes to the Calgary Stampede Website and navigates to the menu. He goes to the "Explore" $\rightarrow$ "Shows" $\rightarrow$ "Monster Energy Compound" under the "Shows" category to get the event information for the motorbike show. He sees shows at 11:30 am, 1:00 pm and 4:00 pm.

4. Flipping through the tabs, he sees when the shows overlap. He knows if he attends the 11:00 am dog show, he would not be able to make it for the 11:30 motorbike show, as they would overlap.

5. He manually inputs in his calendar that he should go to the 11:30 motorbike show and the 1:00 pm Dog Bowl.

Issues: There is no way to view the information of multiple events at once, so Jacob must have multiple tabs open to cross-reference event times. There is also no schedule builder on the website, so he cannot see what it would look like in a schedule without writing it down with pen and paper or manually adding it to his calendar.

Task Two: Someone has time between activities, they would like to find something close by that they can attend while waiting for the next event they have planned.

1. Samantha would like to find an event happening soon, near the GMC Stadium that she can attend.

2. She knows the stampede well, but it is unclear on the app that you can press on the buildings on the map to see the events occurring at that location.

3. She decides to instead use the search bar. The search screen provides events by category, and she knows the GMC stadium mostly hosts rodeo events. She selects this category.

4. To find an event that is happening now, she must look through all the rodeo events individually to see the show times.

5. She eventually finds out that the Chuckwagon race is starting in 20 minutes in the GMC Stadium, so she decides to attend that.

Issues: Samantha is inexperienced with technology and similar apps. Since the buildings on the map look like part of the map and aren't outlined or marked with buttons she does not know that she can view the events at that location by clicking on the building. The search bar is the most intuitive way to find events, but you can only search by events (not buildings or times) so she must look through the different events to find one that matches her desires. She also cannot look at multiple events at once, so she must open and close each event to look at the different show times.

Task Three: Two patrons want to attend the convention together, but they want to see different events at similar times. They would like to plan two schedules for the day that match their individual interests, with at least one event that they will attend together.

1. Samantha would like to schedule a day for her and her son. She prefers Rodeo events and her son prefers concerts.
2. They look at the Calgary Stampede website together. First, they navigate to the "Explore" $\rightarrow$ "Shows" $\rightarrow$ "Rodeo" tab and Samantha writes down on paper what events she is planning to see.
3. Next they navigate to the "Explore" $\rightarrow$ "Music" part of the menu. The different concerts are sorted by location here, so they must go through all 5 sections to see what concerts her son would like to attend. They write down what shows he would like to attend on paper.
4. Once both of them have the list of events and times they will be busy, they see that neither of them have something scheduled for 1 pm.
5. Samantha will just be finishing a Rodeo show at the GMC Stadium and her son will be finishing a concert at the Coca-Cola Stage.
6. With no way to search events by time on the website, and limited ability to search by location, they decide they will just go to the midway together at that time and walk around.

Issues: Again, there is no schedule builder on the website, so Samantha must write down the event times with pen and paper. Samantha can browse all of the rodeo events on one page, but her son is unable to look at all of the concerts at once, he is restricted by concert location. This limitation requires them to go through every page in the music category, and they must manually keep track of the concerts that her son is interested in to build the schedule while flipping through pages. Once they finally have their schedule together, there is no way to find events by show time, so they decide to do something unscheduled rather than flipping through more pages on the website.

Task Four: A new patron has no clue what is available at a convention, or what types of things are available and would like to get an idea of what he can do when he goes.

1. It is James' first time at the stampede. He is not from Calgary and has never been to a rodeo before. He goes to the Stampede website to explore what events he can attend.

2. The home screen shows him the big ticketed events available at the Stampede

3. He clicks on the "Buy Tickets" button for the rodeo, in hopes that it will give him more information on the rodeo events.

4. He is brought to a new page to buy tickets based on the day, this page only lets him buy tickets and doesn't describe what the event is, so he navigates back to the home screen.

5. He navigates to the menu and goes to "Explore" $\rightarrow$ "Shows" $\rightarrow$ "Rodeo". The rodeo events are listed here, and he must click on each event individually (which brings him to a new page) where he reads about that rodeo event.

6. Once he goes through all of the rodeo events individually and gets an idea of what each event entails he decides to buy a ticket for the rodeo back on the ticket screen.

Issues: The big rodeo section on the home screen can only direct the patron to buy tickets, and not learn more about the event. There is no single page with multiple event descriptions for James to explore.

Task Five: A new patron has no clue what is available at the convention. They would like to schedule events at overlapping times so that they can go to a different event if they decide they do not like the event they are attending

1. James has a ticket for the rodeo at 11:30 and would like to find other things available during the day. He would like to plan overlapping events, in case he does not enjoy attending the rodeo.

2. Wanting to find more things to do while he is there he navigates to the menu, to "Plan Your Visit" $\rightarrow$ "Planning Tools" $\rightarrow$ "Stampede Park Map". He filters the map by "Shows" in "Category", and it shows him what buildings have "Show" events. Clicking on the filtered map, each building gives a very vague, general description of the location and provides no specific event information. This will not help him plan his day so he goes back to the home screen.

3. On the home screen he opens the ”Explore” menu and looks through all of the event categories. He can individually open events in new tabs to read more about them.

4. He is interested in the Dog Bowl at 12 and the Powwow at 12:20. He manually writes down their location and times in his schedule and is ready for the day.

Issues: All events are either separated by location or category. It is tedious to look through all of the events and the ”Plan Your Visit” part of the menu does not provide a way to plan your visit without downloading the Stampede app.

Phase 2: User-Centered Requirement Analysis

Requirements

Users	Navigate the map	Create Schedules	Browse Events (Schedules/ descriptions)	Receive suggested events/ schedules	Purchase tickets	Navigate using location data (GPS)	View/ leave reviews	Check Weather	View info about minor attractions	Get routing options
New, Non-Techy	Must Include	Must Include	Must Include	Should Include	Should Include	Might Include	Should Include	Might Include	Exclude	Exclude
New, Techy	Must Include	Must Include	Must Include	Should Include	Should Include	Might Include	Should Include	Might Include	Exclude	Exclude
Experienced, Non-Techy	Must Include	Must Include	Must Include	Should Include	Should Include	Might Include	Might Include	Might Include	Exclude	Exclude
Experienced, Techy	Must Include	Must Include	Must Include	Might Include	Should Include	Might Include	Might Include	Might Include	Exclude	Exclude

Table 2: Requirements - Task requirements by user

Must Include Requirements:

- **Visually Navigate**: A map is necessary for the patrons to navigate the large convention space, find spots of interest, and pin them. By giving them a bird’s view, a map would enhance the overall experience of visitors, especially newcomers.

- **See the Event Schedule**: A schedule helps the patrons have an overall view of the events taking place throughout the convention and helps them plan out their day/week accordingly.

- **Layout a schedule**: The goal of a schedule builder is to make the experience more efficient, allowing users to manage their time and get the most out of the convention

- **See descriptions of events**: Including brief introductions for each activity provides insights into the unique features of each activity, helping decision-making during

schedule planning. This approach enhances overall accessibility, ensuring that attendees of varying familiarity levels can confidently navigate and engage with the diverse range of activities at the convention.

Should Include Requirements:

- **Purchase tickets online**: Allows patrons to skip the long lines and purchase tickets in advance and a guaranteed spot in the event.
- **Pinning a location on the map**: Bookmark events through the map.
- **View suggested events**: Provides recommendations for patrons, making it easier for them to discover trending events. This tool is especially helpful for users new to the convention.
- **Get notifications (for postponed events, convention developments, etc.)**: Keeps users informed about any changes to events, updates, and announcements, ensuring they have a smooth experience.

Might Include Requirements:

- **Contact and customer support**: Contact information and customer support would allow users to share any concerns about the website, submit general inquiries, and resolve any existing issues with the website.
- **Login for reviews**: While optional, having a login system allows for personalized experiences, such as saving schedules, modifying preferences, and enabling reviews. It also helps enhance user engagement.
- **Review/Comment Section**: Enables users to share their experiences, opinions, and recommendations that can help other users make decisions.
- **Access FAQs**: A section for FAQs about the convention grounds and our system. While useful, our resources are better used elsewhere.
- **Check nearby attractions**: Provides additional information for users such as nearby restaurants and popular activities to enhance user experience.
- **Check the weather**: This tool allows users to dress accordingly, especially for outdoor events, while helping them to plan their day.

Excluded Requirements:

- **View individual listings for minor attractions**: Listings for specific attractions such as food stalls/vendors and games. Including the details of each individual stall would make the content of the system overbearing.
- **View transit options**: This tool provides users with the fastest and cheapest transit options.
- **Routes (within the convention)**: With the help of the schedule builder and a navigator, users would be able to find the shortest and most efficient routes to go from one event to another.

Section 2

Phase 3: Prototyping

Brain Storming

Our first step in the brainstorming process was to outline what the major features of our tool are going to be.

We wrote down the individual aspects and functions of each component and further broke those down into component pieces if necessary.

For example, the map will include a list of what will appear on the map, such as markers for each notable area, along with the ability to zoom and drag the map.

We then decided how we would present these tools to the user. Whether we will include them all on one screen or separate them onto different pages has yet to be determined.

Brainstormed Features, Pages and Components:

- Keep the current Calgary Stampede style
- Map
  - Pins
    - Scheduled Event Descriptions
      - Event name
      - Event location
      - Brief description
      - Upcoming show times
    - Major Buildings
      - Interior maps
      - Events and locations inside the building
    - Washrooms
    - General food locations
    - General game areas
    - General smaller events

        * Information stations
    - Zoom and scroll functionality
- Pages
    - Homepage
        * FAQs
        * Customer Support
        * Tickets for stampede and premium events
    - Explore Page
        * Map (see above)
        * Schedule Builder
            · Event overviews
            · Similar to UofC schedule builder layout
            · Search bar for specific events
            · Filter events by times, locations, and categories
            · Can highlight times on the schedule to get events at that time

Desktop vs mobile interface: During our brainstorming process, we envisioned all of our features working best on a horizontal widescreen device. Being able to critique a website will allow us to be more conscious of what should be included with the limited screen space that a mobile device has. Mobile devices have their benefits, especially for quick access and on-the-go referencing. That said, starting our prototyping with a widescreen device in mind allows us to directly tackle the flaws of the Calgary stampede website and the app together, without limiting ourselves to one specific tool. Although our initial prototypes aren't designed to be viewed vertically, the user could still use the website horizontally on their phone.

This also gives us more room to develop as our project continues, giving us the option to integrate vertically later on. It will be achievable to go from our foundational horizontal website to a vertical one.

Prototypes

Initial Prototype:

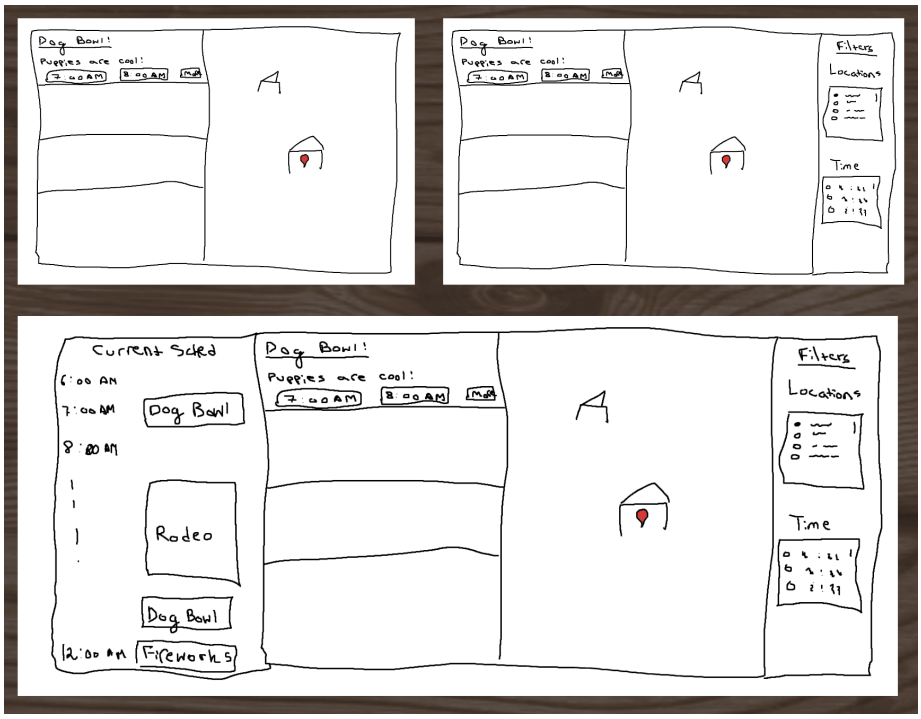


Figure 1: Initial Prototype

- This prototype was drawn out quickly while we were brainstorming. In this prototype, the screen could be broken up into 4 panels that can be expanded and hidden.
- The first panel includes an event explorer, which would show results and show times that match the filters and searches. If no filter is applied it would show all events.
- The next panel hosts the map. The map has buildings on it that can be selected and pinned. When a building is selected on the map the event explorer would populate with all the events occurring at that location.
- The third panel is a more in-depth filter panel. Here the user can multi-select locations, and specify what time slots they are interested in.
- The fourth panel is the current schedule. This would display the events that the user has chosen from the event explorer and show the user what their day looks like.

Second Iteration:

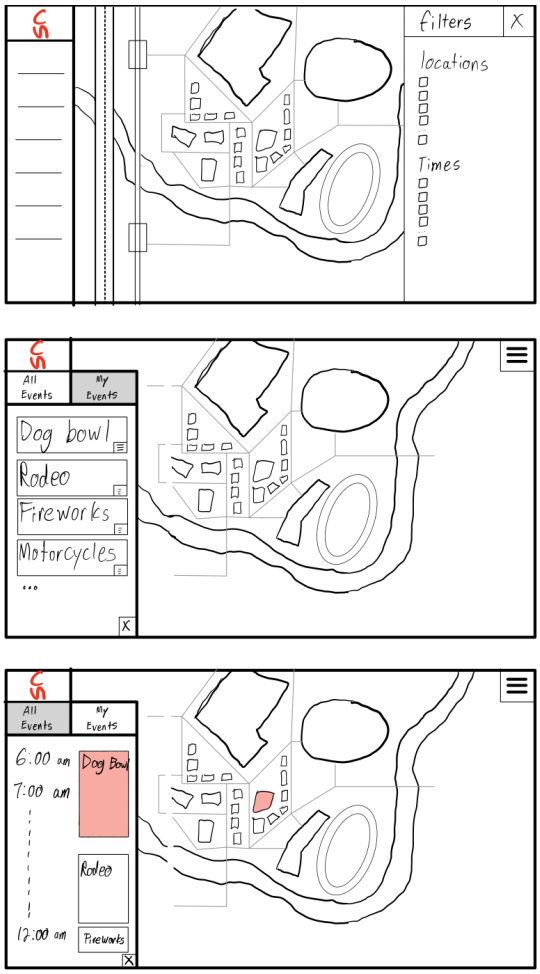


Figure 2: Second Iteration

This second iteration had a more defined layout and a more specific map design. In this iteration, all the panels start by being minimized. When the left tab is expanded a panel opens with two tabs, ”All Events” and ”My Events.” These two tabs cannot be accessed at the same time. The filter tab is on the right side, when this is expanded (via the hamburger menu) the user can apply location and time filters. There is no search bar and the filters have no confirm or clear button.

Third Iteration:

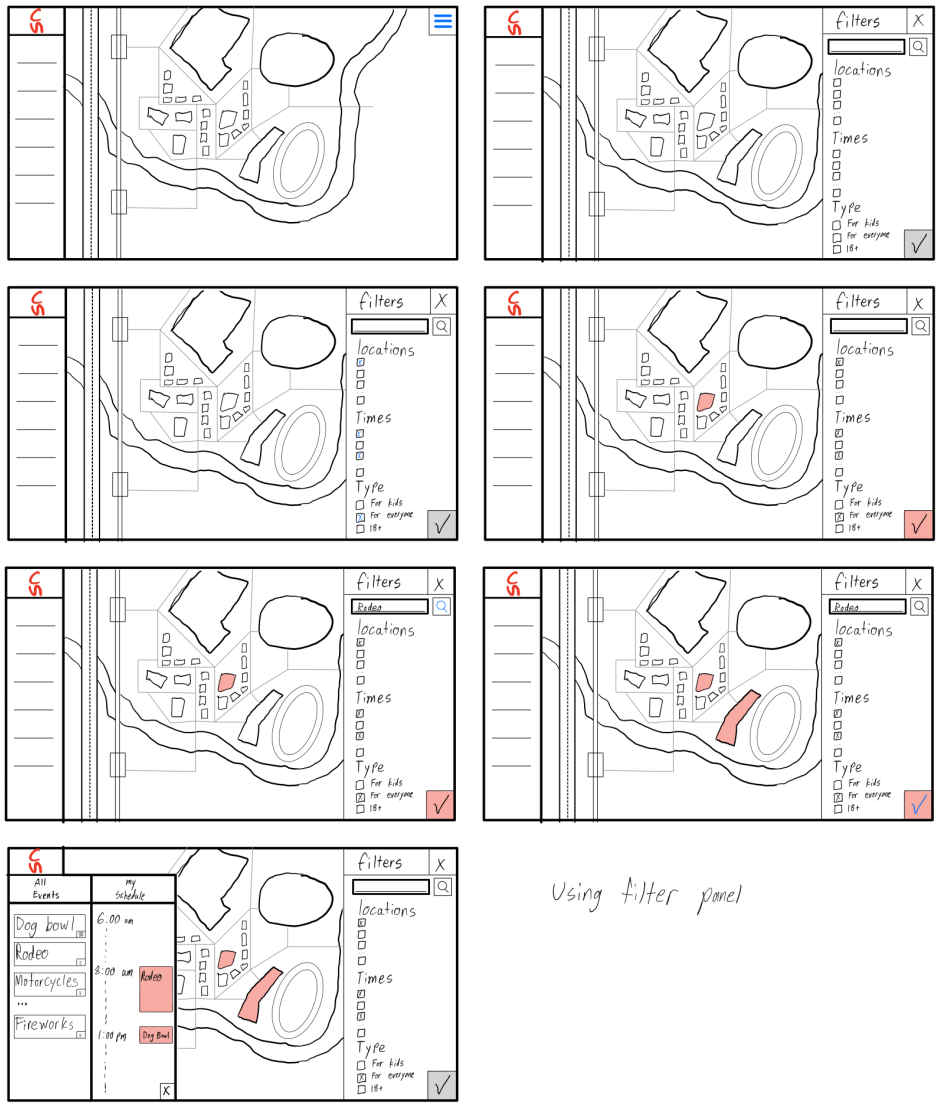


Figure 3: Third Iteration

The third iteration is similar to the previous iteration but adds a search bar in the filter panel. There is an added confirmation button in the filter panel, but still no ”clear filters” button. Relevant buildings are highlighted as filters are selected. Once the confirmation button is clicked, the ”All Events” and ”My Events” panels automatically open together to allow the user to select events and build a schedule.

Phase 4: Team Discussion, Scenarios, and Walkthroughs

Task 1 Scenario

As in Task 1, Jacob wanted to attend two shows, using the current website he has to navigate to the events he has to see on separate tabs with different instances of the website. He has to create his schedule on paper by manually deciding what times to attend the shows.
A visual walkthrough is available in the appendices.

Step	**Knowledge, Believable, Motivated?**	**Comments**
Step 1: User opens the filter menu and clicks on the search bar	Jacob would like to find the information for the events he wishes to schedule. To open the filter menu, he would have seen a hamburger menu icon and would be familiar with such icons.	- The filter menu is not clearly identified. It is not initially clear that this menu will allow you to search for events.
Step 2: User searches for the Dog Bowl event and clicks on it	As this is one of the events that the user wishes to see, they are motivated to find it. Upon opening the filters panel, the user notices a magnifying glass and text box, suggesting a search field.	
Step 3: User clicks on his preferred time for the event and then adds it to his schedule	The user would want to add a time that works for them to their schedule. They would know to choose a time as there are several buttons with times on them. Upon selection, an “Add to Schedule” button appears as a prompt.	
Step 4: User now searches for the Motorbike Show	Jacob wants to add the other event he wishes to see to his schedule so he searches for the available times the same way as before.	
Step 5: User clicks on his preferred time for the event and then adds it to his schedule	Jacob wants to watch this show before the Dog Bowl, so he selects the earliest time in the same way as he selected a time before.	

Step 6: Jacob clicks on the Dog Bowl event in the schedule to view the event information.	Jacob wants to see both shows so he needs to change the time of the Dog Bowl to another time. He is experienced with online tools and expects intractability from the schedule.	
Step 7: Jacob clicks on the initial time slot and removes it.	Jacob doesn't want to see the event at this time anymore. The event info still shows the old time as selected, so he tries to remove it in the same way as he added it, and sees a "remove" option now.	
Step 8: He selects the 1:00 pm time slot and adds it to his schedule instead.	Jacob doesn't want the two events to overlap.	- A design that users to select specific events first and then get suggested schedules based on their selection without having to pick times would avoid having to go back and forth between events to change the schedule.

Task 2 Scenario

As in Task 2, Samantha would like to find an event nearby that is happening soon. This user knows the stampede well but is less technically knowledgeable. She knows that she is a the GMC stadium.
A visual walkthrough is available in the appendices.

Step	Knowledge, Believable, Motivated?	Comments
Step 1: The user opens the filters menu and selects the GMC Stadium.	The hamburger menu icon is common in other tools and suggests that there are more features located there. She wishes to find events near where she is currently located, which is the GMC Stadium.	- Should make the ability to click on locations clearer. - If the user did not know what building they were at, they wouldn't be able to locate themselves on the map. Should show the user's location.
Step 2: The user applies the filters and browses the available events.	Once the GMC Stadium is highlighted, it will be selected in the filters tab and the events tab will populate with the events at this location.	- We need to ensure that the events list appears on the filter application.
Step 3: The user filters for events that are upcoming.	Samantha sees in the filter tab she can define the times to look at, she puts in the current time as the start time for her time window.	- She must apply the filter for this action to work. - She may not know she could search a time window in the schedule builder; we could have the filtered time window highlighted in the schedule builder once the filter is applied.
Step 4: User references the list of events and decides to attend the Chuckwagon Race.	Once she is content with her filters, all of the potential events are populated in the "All Events" tab and she can scroll through to decide which she would like to attend. She determines her desired event and goes to it.	

Task 3 Scenario

As in Task 3, Samantha and her son would like to schedule a day at the convention. Using the previous website they had to go through events individually by category and there was no easy way to search for events at a particular time.
A visual walkthrough is available in the appendices.

Step	Knowledge, Believable, Motivated?	Comments
Step 1: User opens the filters menu and searches for the ”Rodeo”.	Samantha has seen the hamburger menu icon in other tools and would know that there are more features located there. Samantha wishes to attend the Rodeo for that day.	- The user may not know how to open the filter panel.
Step 2: User selects the time she wishes to attend and adds it to her schedule.	The times appear upon selection of the event, suggesting that they should be selected. Upon selecting the time, the event appears in the ”My Events” panel.	
Step 3: User looks for available concerts by searching for the ”concert” keyword.	Samantha’s son wishes to attend a concert, so they look through the concerts that appear in the ”All Events” tab.	
Step 4: User adds the selected concerts to their schedule.	Samantha’s son adds events as above. They would like to have these events appear on the same schedule.	- The user may want to have a way of marking events in their schedule (ex. colour - blue for her, red for her son).
Step 5: User looks for events in an open area of the schedule.	They would like to fill in the open time slot in their schedule at 11:00 am - 1:00 pm. The filter menu has a section for determining the times that the event occurs.	- Need to make it clear to the user that they can select a time window in the ”My Events” panel as well as the filter panel.
Step 6: User adds an event to the schedule.	They add the event they want as above.	

Task 4 Scenario

As in Task 4, it is James' first time at the Stampede. He would like to explore and discover what rodeo events are available, and what occurs at them.
A visual walkthrough is available in the appendices.

Step	Knowledge, Believable, Motivated?	Comments
Step 1: User opens the filter tab.	James wants to find the event he is looking for and clicks the hamburger menu icon, which is a common icon in digital tools for more options.	- The filter menu is not clearly defined. - It is not initially clear that this menu will allow you to search for events.
Step 2: User searches for "Rodeo" using the search button.	James wishes to see the Rodeo and knows to use the search bar to find the event he wants to see.	- It would be useful to include the ability to filter by category of event.
Step 3: User wishes to learn about each Rodeo event through the descriptions that appear.	A description appears when the user clicks on an event, which appears after Jacob applies the filter.	- The event bar should be interactive, and give the user the ability to get a more in-depth overview of the event.
Step 4: User adds an event that interests them to their schedule.	Jacob wants to see the Steer Wrestling event at 10:30 and adds it to his schedule by using the button that appears when a time is chosen.	- The user should be prompted if a scheduled event is a ticketed event.

Task 5 Scenario

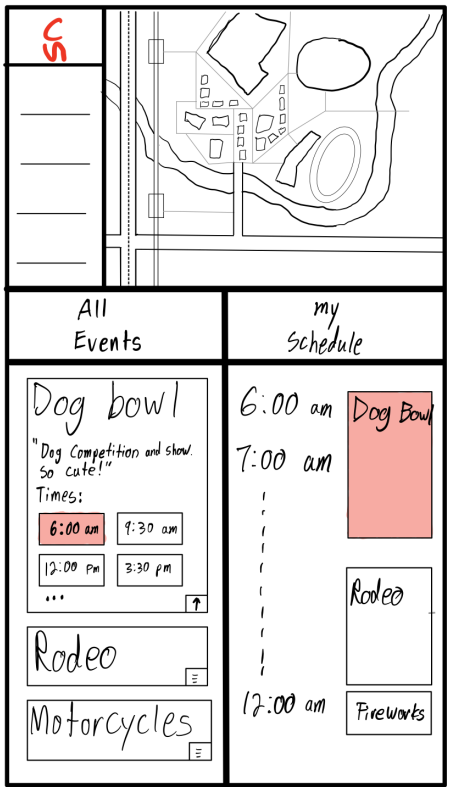
As in Task 5, it is James' first time at the Stampede and he has a ticket to the rodeo. He has never been to a rodeo before and would like to get more information on the other events available before planning his day.
A visual walkthrough is available in the appendices.

Step	Knowledge, Believable, Motivated?	Comments
Step 1: User want to add additional, overlapping events that occur near an event they're already attending, to their schedule.	James is planning to see the Steer Wrestling at 10:30 and already has it in the "My Events" tab. He would like to find two events that are nearby at a similar time.	- The user in this scenario is technically proficient, this may not be as clear for other users. - Since he knows where the event is he selects the two nearby buildings to query for events and applies the filter with the start time set to 11.
Step 2: User wants to read the descriptions of available events and add them to their schedule.	He finds the Grand Illusion Magic Show starts at 11, which has a description he is interested in and he adds this overlapping event to his schedule. Which he wishes to have as an alternative event at that time slot.	- Allowing the user to overlap events on the schedule may be annoying if they didn't intend to have two events scheduled at the same time, the program could notify them of this overlap and have the user confirm their choice.

Appendices

Appendix

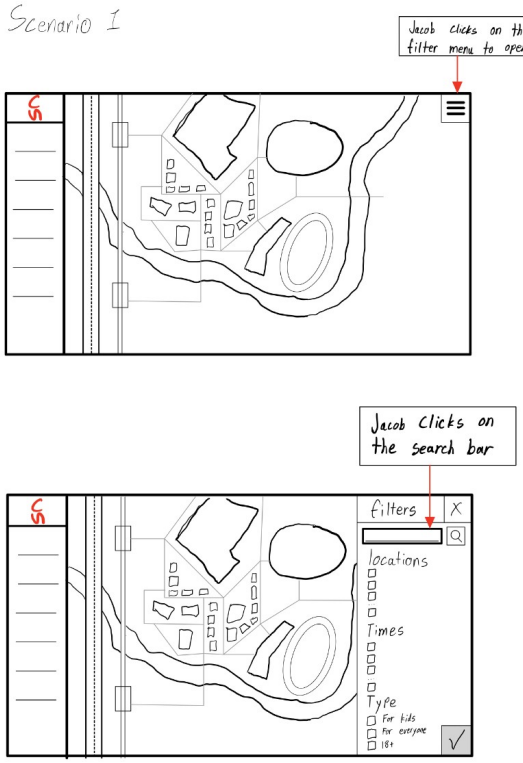
This prototype was discussed as a possible solution to a vertical screen. We felt that this would be better to develop later on.

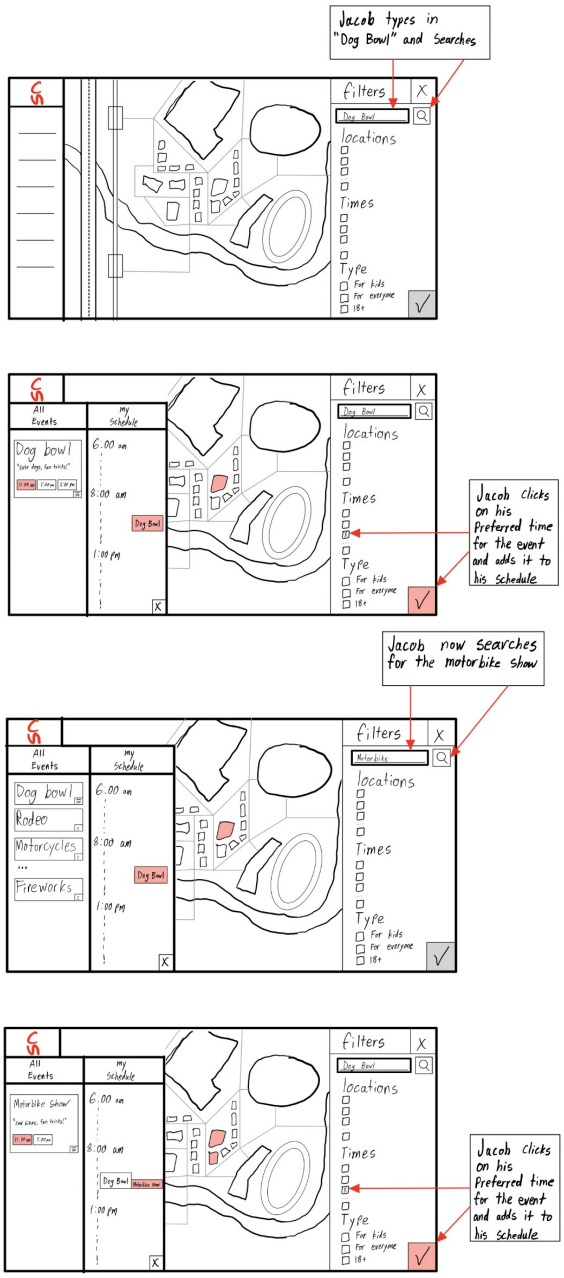


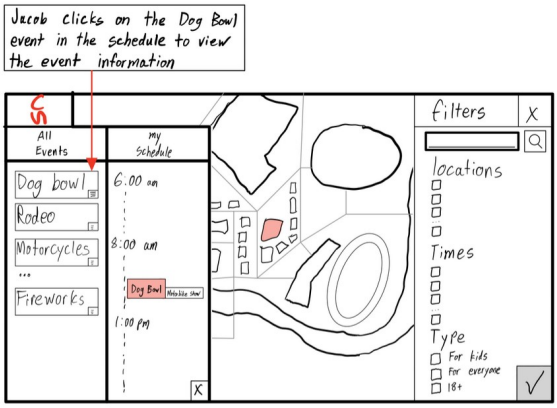
Prototype of a potential mobile layout

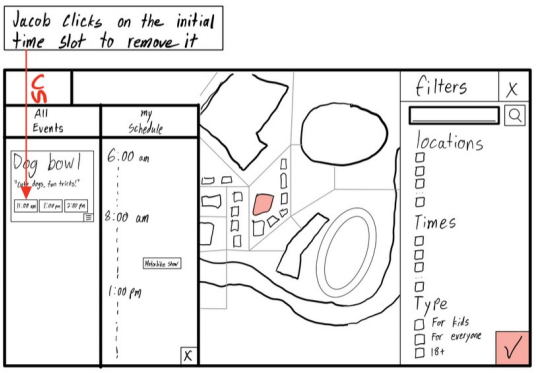
Scenario Walkthrough Visuals

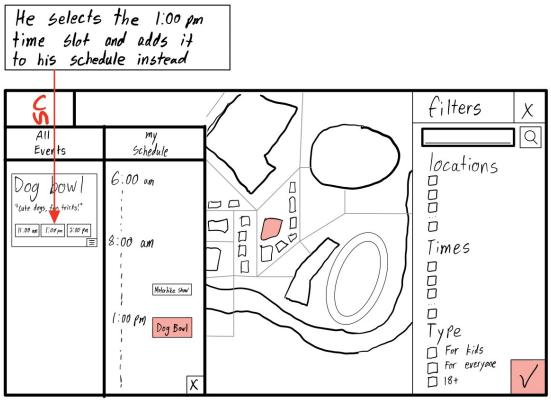
Scenario 1



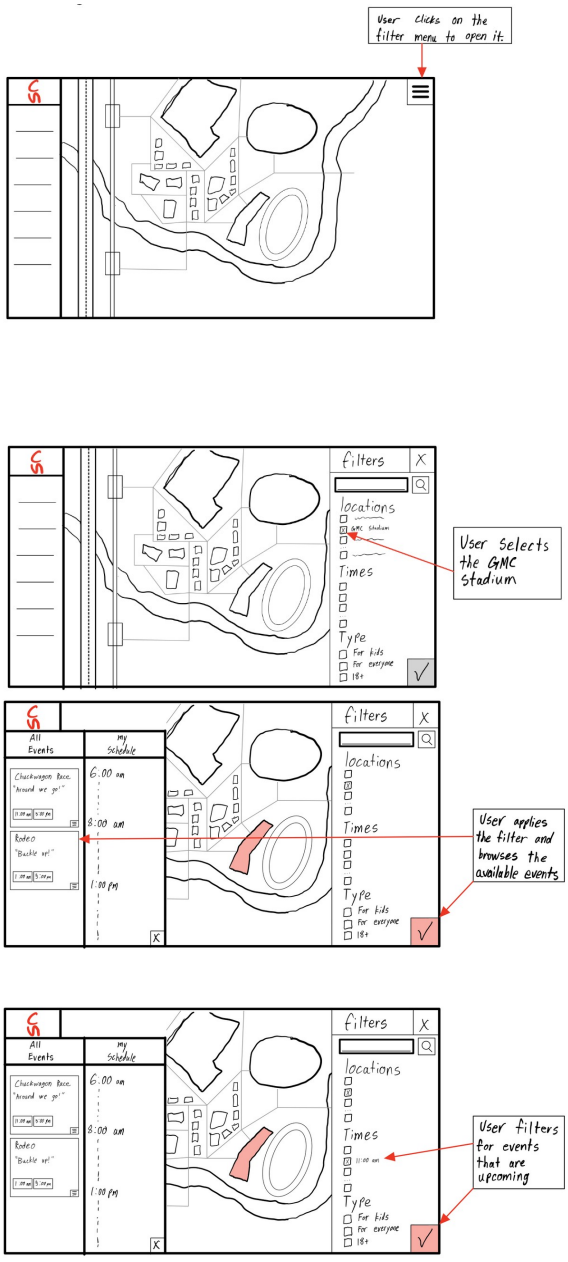

Jacob types in "Dog Bowl" and searches
filters
locations
Times
Type
For kids
For everyone
18+
All Events
my Schedule
Dog bowl
6:00 am
8:00 am
1:00 pm
Jacob clicks on his Preferred time for the event and adds it to his schedule
Jacob now searches for the motorbike show
Rodeo
Motorcycles
Fireworks
Motorbike Show

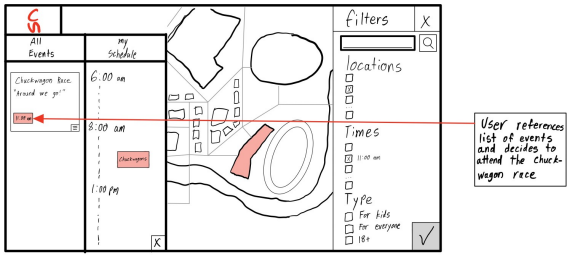

Jacob clicks on the Dog Bowl event in the schedule to view the event information
All Events
my Schedule
Dog bowl
Rodeo
Motorcycles
Fireworks
6:00 am
8:00 am
Dog Bowl
Motobike Show
1:00 pm
filters
locations
Times
Type
For kids
For everyone
18+


Jacob clicks on the initial time slot to remove it
All Events
my Schedule
Dog bowl
6:00 am
8:00 am
Motobike Show
1:00 pm
filters
locations
Times
Type
For kids
For everyone
18+

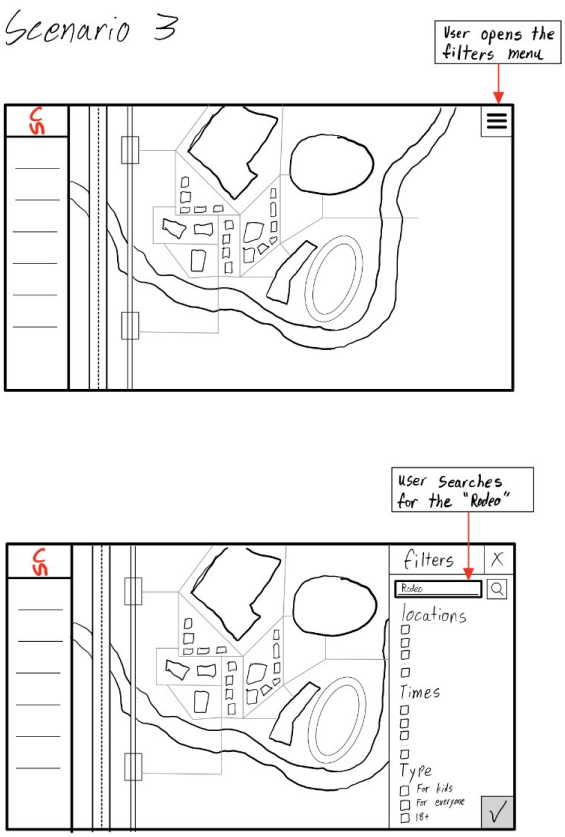

He selects the 1:00 pm time slot and adds it to his schedule instead
All Events
my Schedule
Dog bowl
6:00 am
8:00 am
Motobike Show
1:00 pm
Dog Bowl
filters
locations
Times
Type
For kids
For everyone
18+

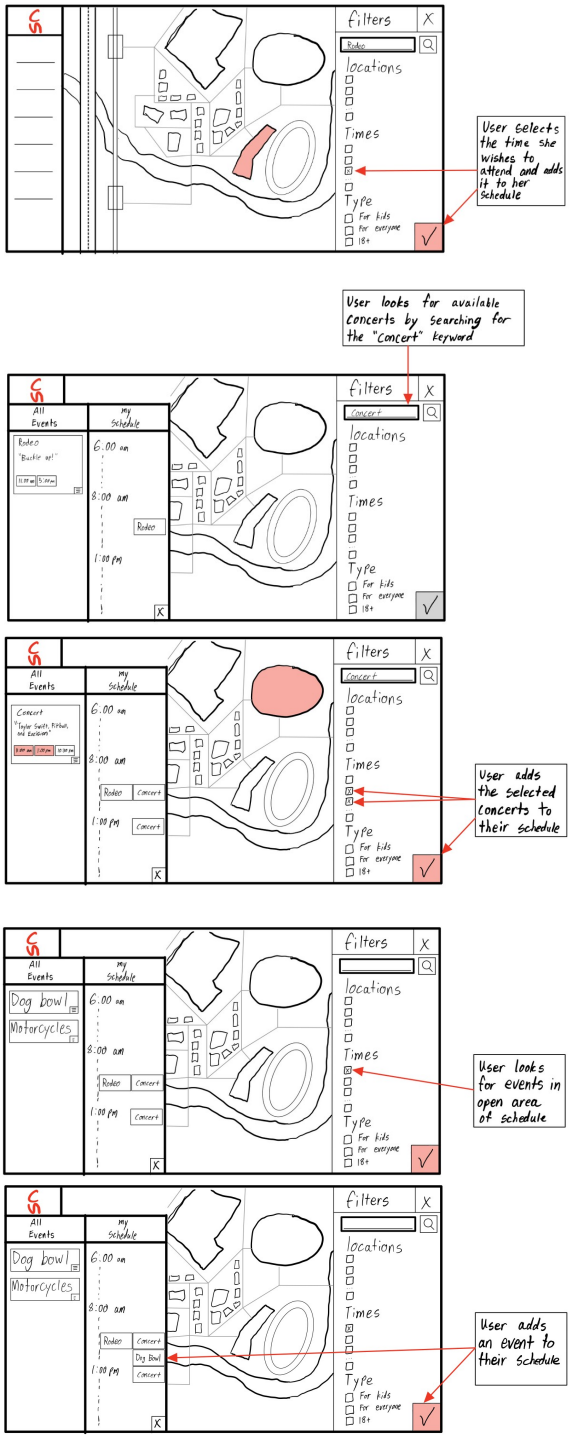
Scenario 2


User clicks on the filter menu to open it.
filters
locations
Times
Type
For kids
For everyone
18+
User Selects the GMC Stadium
All Events
my Schedule
6:00 am
8:00 am
1:00 pm
User applies the filter and browses the available events
User filters for events that are upcoming

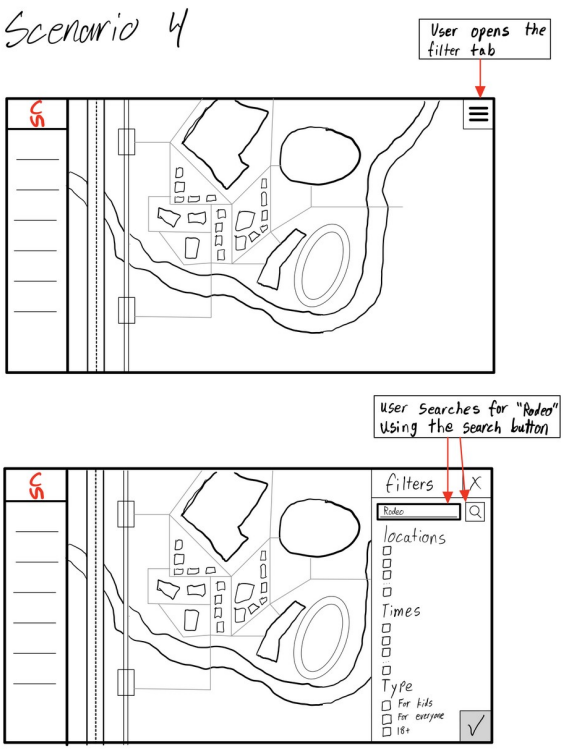

All Events
My Schedule
Chuckwagon Race. "Around we go"
11:00 am
6:00 am
8:00 am
Chuckwagons
1:00 PM
Filters
X
locations
Times
11:00 am
Type
For kids
For everyone
18+
User references list of events and decides to attend the chuck-wagon race

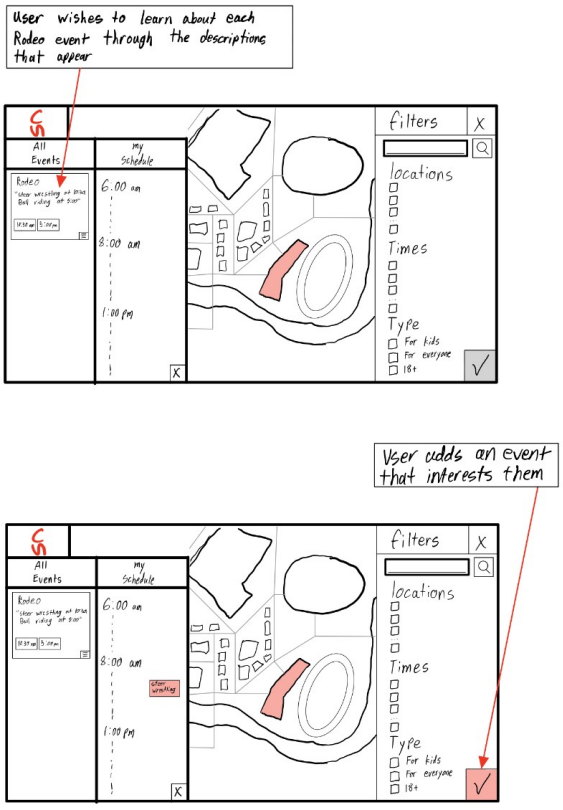
Scenario 3


Scenario 3
User opens the filters menu
User searches for the "Rodeo"
filters
X
Rodeo
locations
Times
Type
For kids
For everyone
18+

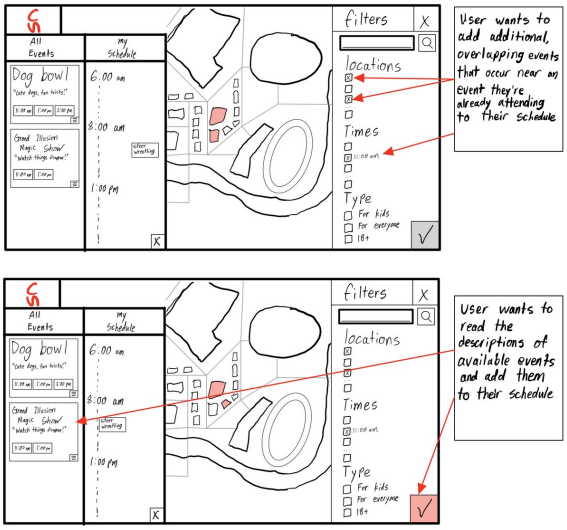

filters
locations
Times
Type
For kids
For everyone
18+
User selects the time she wishes to attend and adds it to her schedule
User looks for available concerts by searching for the "concert" keyword
All Events
My Schedule
6:00 am
8:00 am
1:00 pm
Rodeo
Concert
User adds the selected concerts to their schedule
Dog bowl
Motorcycles
User looks for events in open area of schedule
User adds an event to their schedule

Scenario 4


Scenario 4
User opens the filter tab
User searches for "Rodeo" using the search button
filters
Rodeo
locations
Times
Type
For kids
For everyone
18+


User wishes to learn about each Rodeo event through the descriptions that appear
All Events
my schedule
Rodeo
6:00 am
8:00 am
1:00 pm
filters
locations
Times
Type
For kids
For everyone
18+
User adds an event that interests them
All Events
my schedule
Rodeo
6:00 am
8:00 am
1:00 pm
filters
locations
Times
Type
For kids
For everyone
18+

Scenario 5


All Events
my Schedule
Dog bowl
"cute dogs, fun tricks!"
Grand Illusion Magic Show!
"watch things disappear!"
6:00 am
8:00 am
other meeting
1:00 PM
filters
locations
Times
Type
For kids
For everyone
18+
User wants to add additional, overlapping events that occur near an event they're already attending to their schedule
User wants to read the descriptions of available events and add them to their schedule

Grading Sheet

Student Names and Emails

Aleks Valianski	aleksandr.valianski@ucalgary.ca
Caitlin McConnery	caitlin.mcconnery@ucalgary.ca
Cale Morash	cale.morash1@ucalgary.ca
Delaram Bahreini Esfahani	delaram.bahreiniesfa@ucalgary.ca

Structure and Format

	Included	**Not included**
Portfolio in PDF	1	0
Section separators	1	0
Name on outside cover	1	0
Name and contact information on the first page	1	0
This grading sheet included in portfolio	4	0

	Complete	**Missing portions**	**Not included**
Table of contents	2	1	0

	Great: no problems	**Good: Few minor problems**	**Poor: Problems throughout**
Appearance (organization, layout, whitespace)	6	4	0

	No typos, grammatical or spelling errors, clear writing style	Minor typos or grammatical errors or spelling mistakes or some writing may be a bit vauge	Problems in two areas (spelling, grammar, style)	Problems in all three areas
Language and writing style	7	5	3	0

Setting the stage

	Clear and complete (yes)	Clear and complete (no)	
Background	1	0	
Expected uses of the system	1	0	
System constraints	1	0	
	Lists user groups along with relevant skills and experience	**Lists user groups with no additional information**	**Information not included**
Expected users	2	1	0
	Clear & complete	**Some information missing or unclear**	**Information not included**
Work context	2	1	0
	Spoke directly with actual users	**Spoke with a representative of the user**	**Made it all up**
Approach for getting background information for tasks	2	1	0

Tasks

	Appropriate No (5-7)	**Fewer than what's needed for the usage of the system**	**No tasks were included in the portfolio**	
Number of tasks	2	1	0	
	Covers all relevant activities	**Missing a few important tasks**	**Missing many important tasks**	**No tasks were included in the portfolio**
Coverage of the tasks	8	6	2	0
	No violations	**A few minor violations**	**Many violations throughout**	**No tasks were included in the portfolio**
Do the tasks follow the properties of a good task?	8	6	2	0

Prototypes

	Two or more	**One**	
Number of versions /iterations	2	1	
	Marked improved from version to version	**Few and/or superficial changes from version to version**	**No evolution between prototype versions**
Evolution of prototypes	6	2	0

	Provides a clear idea of how prototype changed from version to version	**Describes changes but some parts are unclear**	**None**
Description of how prototypes evolved	4	2	0

Requirements

	Requirements are grouped into categories with clear and detailed explanations based on the users and their tasks	**Requirements are grouped into categories, no indication of how functions were put into particular categories**	**Requirements are shown in a single list, no attempt at prioritization**	**No requirements listed**
Description of system functions to be implemented	5	2	1	0

Walkthroughs

	Walkthroughs for all relevant tasks	**One**	**Zero**	
Number of walkthroughs performed	4	1	0	
	Walkthroughs conducted, all or most usability problems were caught	**Walkthroughs conducted, some minor problems were missed**	**Walkthroughs conducted many minor or several serios problems were missed**	**Walkthrough not performed**
Results of conducting the walkthrough algorithm	10	8	4	0

	Walkthrough results summarized for each scenario/task **An analysis conducted that summarized for all tasks what are the high level and major problems**	**Walkthrough results summarized for each scenario/task but not for all tasks**	**Walkthroughs conducted and results shown in table but no additional analysis, summarizing problems**
Analysis of walkthrough results	6	3	0
	Walkthrough easy to follow (eg, included diagrams at relevant points of walkthrough, diagrams are annotated)	**Some points of the walkthrough difficult to follow (e.g. walkthrough description doesn't match interface, more diagrams would have made things clearer)**	**Walkthroughs not conducted**
Ease of following/ tracing the walkthrough	6	3	0

Tutorial Presentations

	Provides clear background information, good tasks presented requirements properly categorized	**Minor problems: some background information unclear, minor violations in the descriptions of the tasks, requirements could better justified**	**Poor: task violate many properties of good tasks, or background missing or largely incomplete, requirements are not justified**	**No presentation**
First presentation: Phase one and two	4	3	1	0
	Walkthrough: caught most problems, clear indication of what future improvements should be **Prototype: Gives a good feel for how the interaction unfolds, covers main system functions**	**Walkthrough Missed a few minor problems in the walkthrough** **Prototype: Some parts of the interaction unclear, a few minor system functions (relevant to task) or a major function is missing**	**Walkthrough: Missed many minor problems in the walkthrough or a few major usability problems** **Prototype: several main system functions missing**	**Walkthrough Many serious problems were missed in the walkthrough** **Prototype: main system functions were missing**
Second presentation: Phase three & four	4	3	1	0
All team members completed all weekly MVP surveys to due date	Complete	Incomplete		

Horizontal Prototype

Redesign Rationale

Menu Ambiguity

One valuable piece of feedback we received regarding our initial prototype was on the ambiguity of our menus. For example, the use of a hamburger menu icon for our filters menu. To remedy this, we have incorporated simple pull-out side menus with arrows showing the direction that they will pull out. Each set of arrows is complimented with a descriptive title when the menu is closed.

We also addressed the feedback regarding the filters menu, as the previous prototypes did not have a ”clear filters” button. As such, we added a button at the bottom of the filters menu to clear out any selected filters if the user would like to search for something else. The last notable change made to the filter menu was making the search bar dynamic, where a ”go” to search button and a suggestion window pop up when text has been added.

Map

Another suggested improvement was the ability to find yourself on the Stampede grounds using geolocation services. We have incorporated the Google Maps API to display the user's location and place pins for locations around the Stampede grounds.

On top of the suggested changes, the Google Maps API has allowed us to add requirements easily. More specifically, we have used the API to add labeled pins to important locations, color-coordinated buildings, directions from the user's location, and boundaries to keep the user within the Stampede grounds.

Additionally, we can include additional descriptions of locations, event ticket purchasing, reviews, and nearby attractions as part of the API. The downside of using Google's implementation of these services is the outsourcing and lack of control. In the reviews, for example, it is unlikely that we can exclusively display reviews related to the stampede, considering that the buildings on the Stampede grounds are generally used year-round.

Schedule

The last critical piece of feedback we received is the lack of a prototype design element that highlights when a user has created a conflict within their schedule. In the case of a conflict, the current horizontal prototype displays both events side-by-side, along with a notice at the bottom that grabs the attention of the user without being annoying.

In comparison to our third iteration prototype, we swapped the placement of the personal schedule and the list of events. This was done to make the program flow nicer, as now the filters and the events they affect are closer together. Furthermore, times are now always displayed within the list of events to allow the user to browse more freely.

Design Principles

Contrast: Within the horizontal prototype, contrast can be seen between sidebars, between events in different schedules, and within the colored buildings on the map. While the majority of the design consists of different shades of red to stick with the traditional Calgary Stampede color scheme, white, black, and various tints of yellow are used to generate contrast.

Repetition: Repetition is used within the ”all events” tab, allowing the user to flow through filtered events. The difference or lack of repetition between ”all events” and ”my schedule” helps to create a level of distinction between them. Repetition is also employed in the fonts that are used. All major categories, such as menu types and filter categories, use a thick font to signify that these explain the content. To maintain cohesion, all other text shares this font as well.

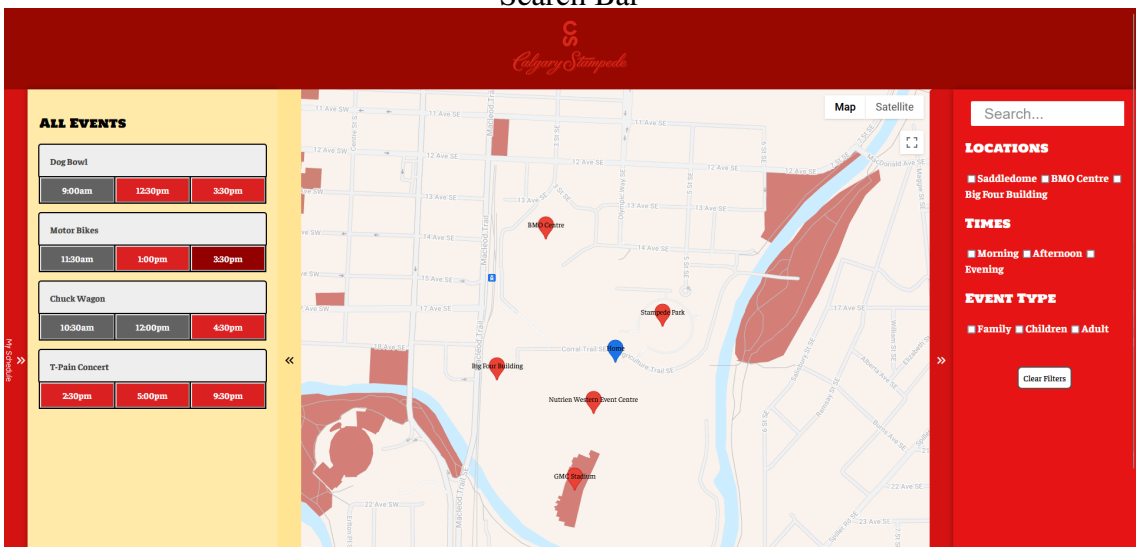
Alignment: To enhance user experience, various methods of alignment were used depending on the use case of each element. For example, text that is meant to be read is aligned to the left, as seen at the top of each menu and within the event descriptions. In comparison, text and other elements that relate to a call to action are aligned to the center. Furthermore, the menus are vertically aligned at the top and bottom to give the appearance of one, seamless entity, with the most relevant element in the middle.

Illustrations

Horizontal Prototype

Filter Tab

Search Bar

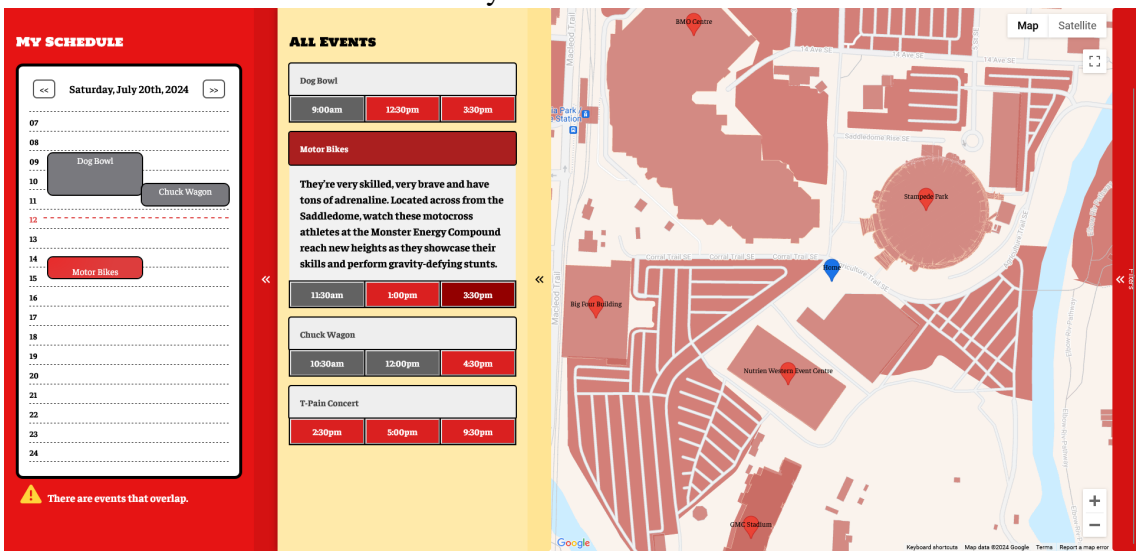


Filter and All Events Tab

All Events tab

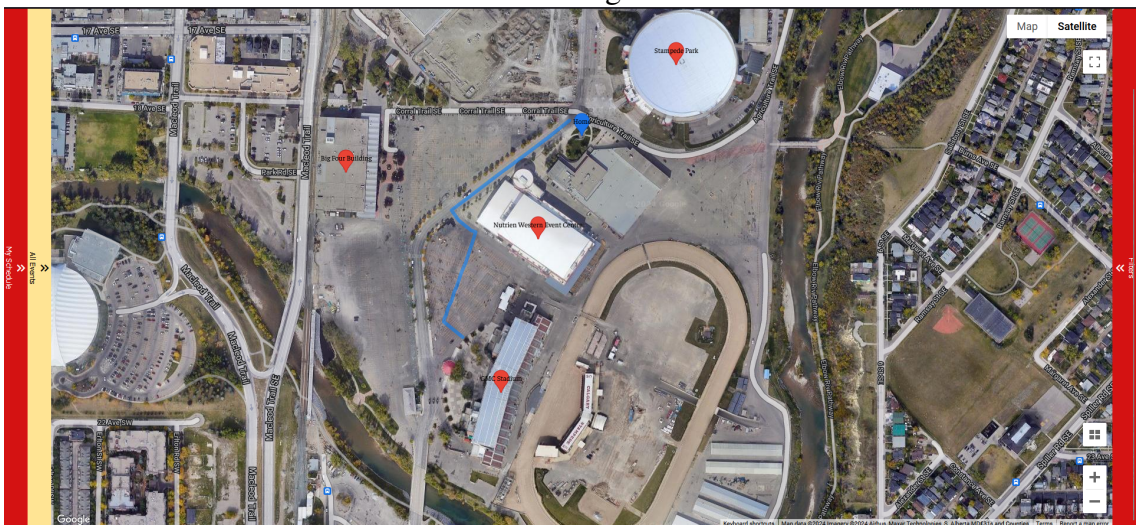
Event Descriptions

My Schedule Tab

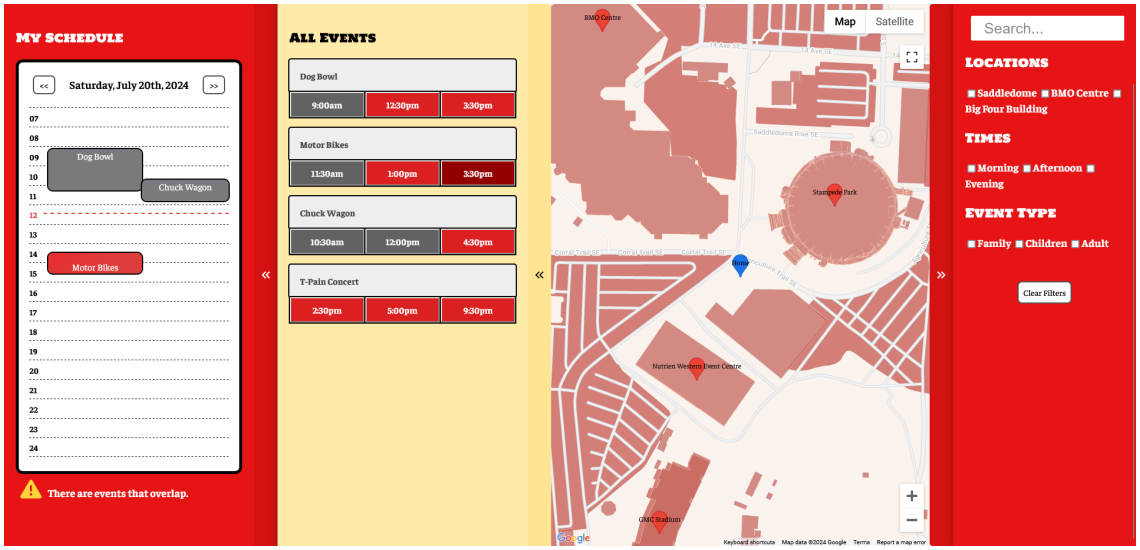


My Schedule and All Events Tab

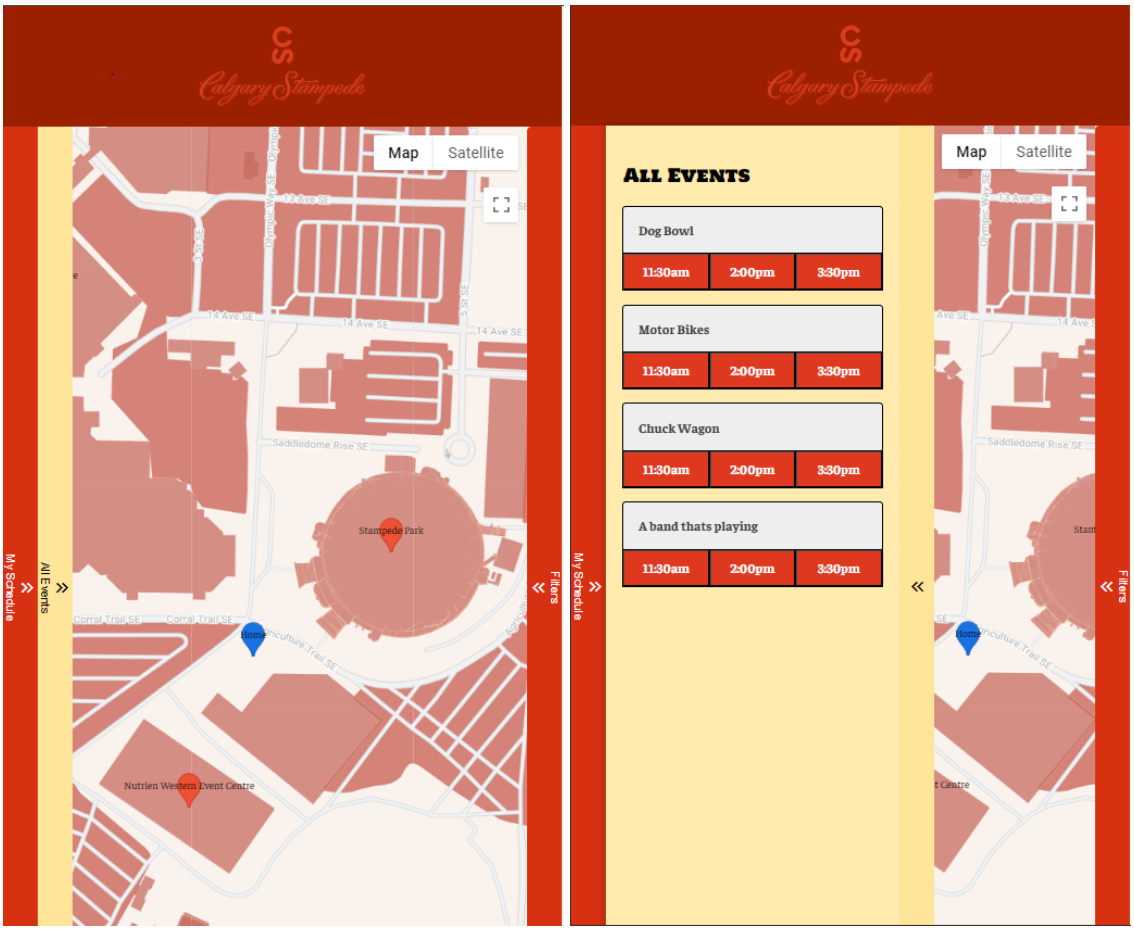
Routing



Satellite View



All Tabs Open



Scaled for Vertical Screens

Part 2

Final Design Rationale

In the demonstration of the original horizontal prototype, we received vast amounts of important feedback and criticism. The team thoroughly reviewed this feedback, resulting in the design changes outlined below. It should be noted that Group 8's heuristic evaluation is heavily referenced in the following sections. For easier reference, it is included in the appendix.

User Experience

The general user experience for the Stampede Navigator application went through a proper redesign process to make the UI less jarring and easier to interpret. As listed in the first row of Group 8's heuristic evaluation, the map "takes over a considerable amount of the screen." While the navigation aspect of the application is a critical requirement, we did address this issue to some degree by having the sidebars open initially when launching the application, consequently resolving row 14 of the evaluation. One important criticism we received during the presentation was the lack of distinction between separate events due to the color palette being used. To address this, we changed the background color of the header from red to white. This allowed us to create some distinction between the header, the Calgary Stampede logo within it, and the potently red schedule panel.

Separate Panels

The separate panels displayed as part of the original horizontal prototype received the most constructive criticism compared to other components. Specifically, this is seen in rows 3-12 and 18-22 of Group 8's heuristic evaluation, comprising 15 out of 22 listed heuristic violations. Admittedly, we wanted to create a novel approach to the original problem where the map was the central focus of the application. After reviewing the heuristic violations, we decided to combine the filter panel with the events panel. From a user perspective, this splits their attention between the map and the side panels while creating a correlation between the list of filters and the available events. This design change addresses rows 1, 7, 8, 14, and 15. The added functionality to hide certain events based on selections from the filter panel reinforced this correlation.

Filters Tab: Originally the available filter checkboxes were ordered horizontally, making them hard to read as outlined in row 10 of Group 8's heuristic evaluation. To remedy this, the filters are now presented vertically. This creates more distinction

between the filters, allowing users to read through the list seamlessly. The search bar was scrutinized due to the lack of outlined functionality within the horizontal prototype. This can be seen within rows 11 and 12 of Group 8's heuristic evaluation. To address row 11, auto-complete functionality was added to provide the user with relevant events. As for row 12, an "X" icon appears within the search bar when the user has typed an event they are searching for. Clicking on the "X" clears the input, allowing further events to be searched without manually deleting each character.

Events Tab: With the horizontal prototype, the event description functionality was hidden due to its lack of indication. This was highlighted in row 5 of Group 8's heuristic evaluation. As such, we implemented their suggested fix by adding drop-down arrows for each event to indicate a call to action. The following row mentions the discrepancy between event titles and descriptions, in which the description is in bold text. This design choice differs from the standard notation of titles and descriptions. The text size was adjusted to fit the standard sizing.

Schedule Tab: The final tab to address is the schedule tab, which makes up rows 18-22 in Group 8's heuristic evaluation. To address row 20, we created a simple browser pop-up window to alert users of conflicting events. For row 21, we wanted the event overlap warning to be visible but not cumbersome for the user to dismiss in case they want a schedule with overlapping events. We decided that the new warning indicator paired with the dividing events for shared times within the schedule is sufficient for indicating overlapping events to the user. While the remaining schedule tab suggestions provide useful ideas for further implementation, the majority of the effort was targeted toward the baseline dynamic functionality between the schedule and selections from the events tab.

Discussion

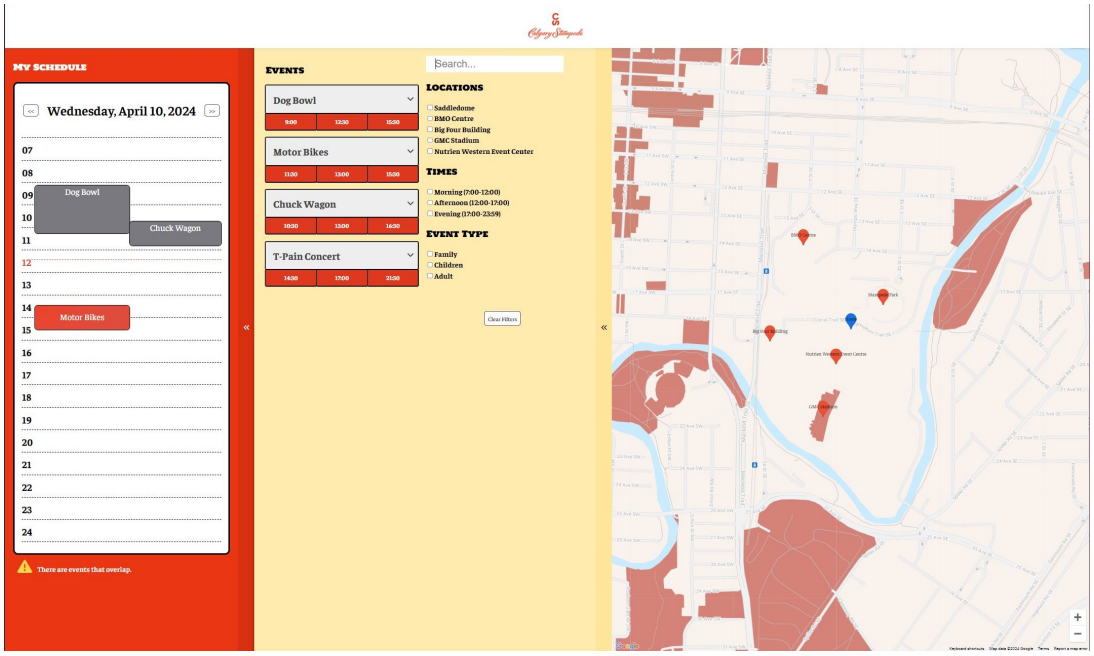
The progression of the Stampede Navigator application saw an unintuitive novel approach to a schedule builder turn into a streamlined combination of an event planner and a navigation system that can enhance the Calgary Stampede experience. By integrating the Google Maps API directly into the application, users can discover and find events across the Stampede grounds, whether they're next to the Ferris Wheel or on their couch at home. Despite this progression thanks to the constructive criticism provided, the final vertical prototype does not include several suggestions. One of these suggestions from Group 8's heuristic evaluation is a tutorial button that describes how to use the application to its full potential. A simple but intuitive question mark button with a pop-up

window of descriptions would go a long way in helping technologically inexperienced users with the application's basic functionality.
An analysis of the final vertical prototype led to the discovery of additional heuristic violations and nuisances outside of those listed by Group 8:

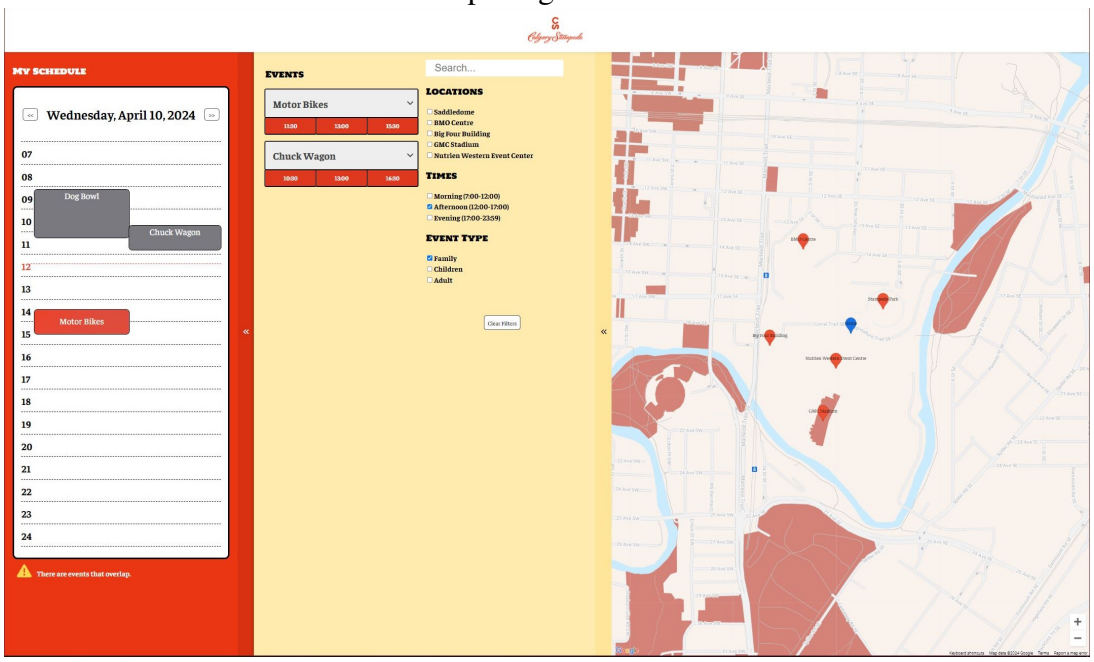
- Directions from "Home" to the desired location may not be the shortest path - not a heuristic violation but certainly annoying for users.
- Dates within the schedule tab are not restricted to the actual timeline of the Calgary Stampede - Violation of heuristic 5, error prevention.
- Location of the event is not included in the schedule - violation of heuristic 6, recognition rather than recall.
- Mobile aspect ratios can provide a "point of interest" list through Google Maps API whereas other aspect ratios do not - violation of heuristic 8 but in favor of heuristic 7.

While addressing these violations would prove useful in optimizing the user experience, the overall functionality of the final vertical prototype meets the essential requirements in a simple but effective manner. Attendees can expect to have most of their expectations met if they are looking for an effective way to plan their next visit to the Calgary Stampede.

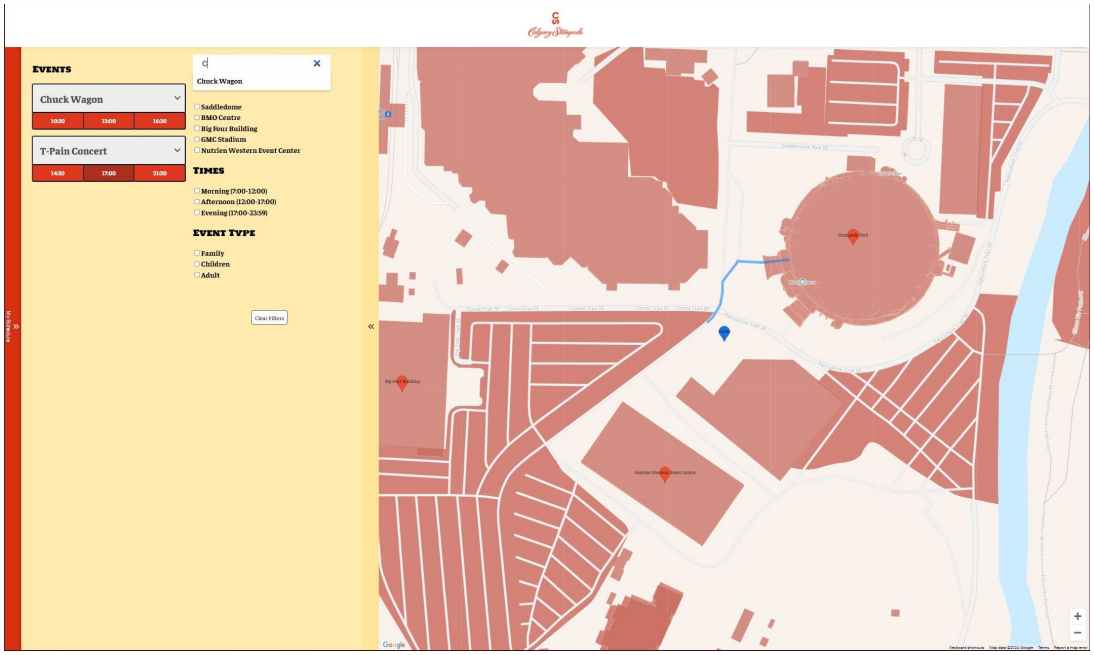
Illustrations



Opening Screen



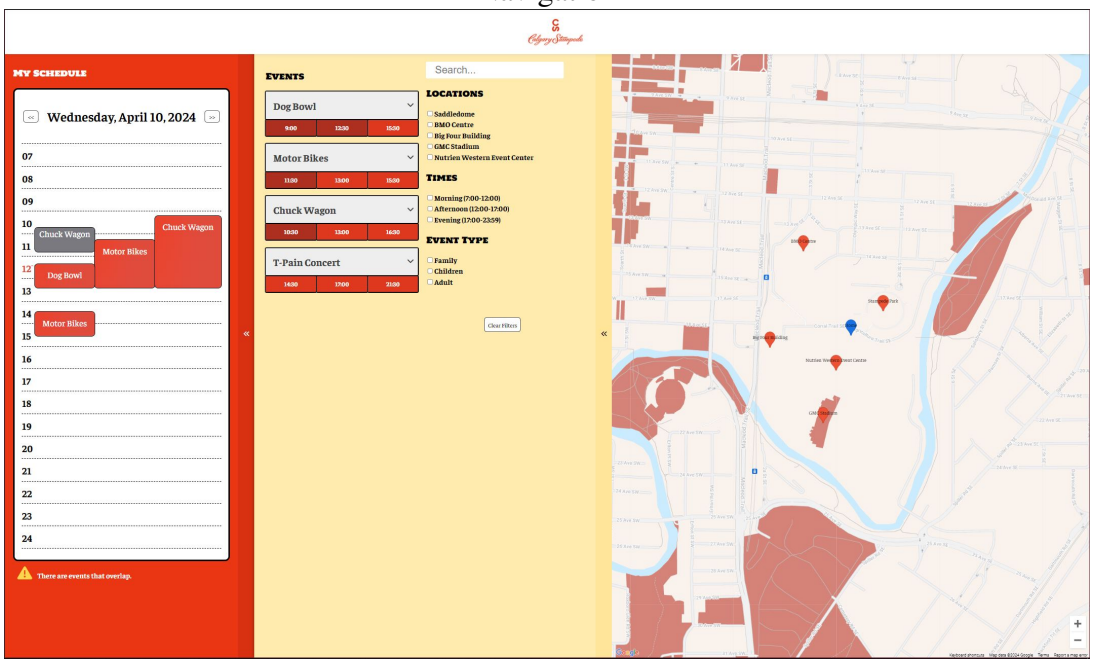
Apply Filters



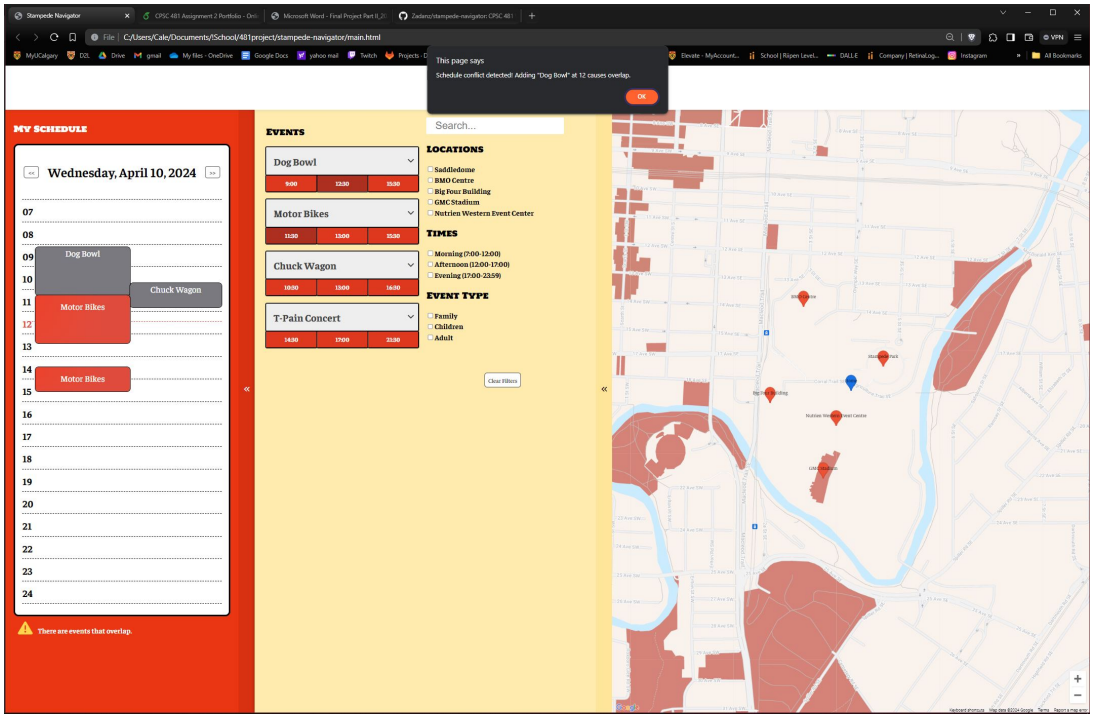
Auto-complete Functionality

Collapsed Side Panel

Navigation



Overlapping Events



Overlap Error Message

Appendix

https://github.com/Zadanz/stampede-navigator

Group 8 Heuristic Evaluation for Group 1

Final Spreadsheet:

Name	Heuristic Violated	Description	Location	Suggested Fix	Severity Rating (1-4, 4 most severe)
Parth	3	Map takes over a considerable amount of the screen	All	Add an option to hide the map	2
Shaheryar	10	The overall application has no clear way that shows how to perform certain functions such as removing an event from the calendar.	All	Have a tutorial button on all the screens that shows users how to perform common tasks..	3
Parth	1	No pictures or icons associated with the events	All events tab	Add pictures for each of the event	2
Parth	1	Not obvious on first glance that the grayed out buttons are events that have taken place already	All events tab	Add a strikethrough the button text or gray out button text slightly more	1
Mason	2	It is not clear that the events are selectable to see the description	All events tab	Add an option to indicate a dropdown description	2
Mat	8	For a clicked event, the description of the event is in bold, and larger than the title of the event, making the visual hierarchy confusing	All Events	Make the event description text non-bold, and a smaller font size than the title text	1
Sukhnaaz	7	Having to check through two menus for overlaps can be slow	Events\ Schedule	Selections in Events can just be grayed out when overlapping	1
Parth	1	Difficult to navigate between the set filters and the filtered events	Filter events tab	Add the filters on the All events bar	3

Parth	1	Filter options are hard to identify as the filter name and options have almost similar font size and same color	Filter tab	Make filter names font color and size distinguishable to the options	2
Mason	1	The checkbox options are poorly organized and difficult to read	Filter tab	Reorganize checkboxes	3
Parth	6	Searching doesn't give a list of events available, rather need to use recall rather than recognition	Filter tab	Give users a list of search results while they are still searching	3
Parth	7	When searching, there no direct way of clearing out all contents of search bar	Filter tab	Add a cancel button	2
Parth	1	Font too small within the tags and the map	Main	Increase font size	4
Mat	1	At an initial glance, the user only sees a large map, and it was difficult to tell that there were menus on each side	Main Screen	Open one or more of the sidebars by default, when the user enters the site	3
Shaheryar	2	The website navigation system is very untraditional which makes it difficult to understand and makes the scrolling process inefficient. Especially with 2 navbars on the left and 1 on the right	Main Screen	Consider changing the navigation from a horizontal scroll method to a traditional “new page” method or vertical scroll method.	4
Mat	8	Color of Logo at the top of the screen is very similar to the background, making it hard to see	Main Screen	Adjust the contrast/color of the logo, so that it stands out more compared to the background	3
Parth	6	There is no clear indication on the map as to the event taking place at a certain location	Routing	Add events name to the location as well	3
Mason	3	It is not clear that selecting a time will add it to your schedule	Schedule tab	Add a step to confirm the addition	3

Mason	3	There is no clear way to remove an event from your schedule. The schedule tab has no clear exit marked for when a user wants to leave the page. There is also no undo or cancel button nearby.	Schedule tab	Implement a method to remove the event, or undo the last task	4
Parth	5	No error prevention given to user before selecting the events they want to attend	Schedule tab	Add a pop up to let users know there are conflicting events and allow them to by pass	3
Mason	5	The event overlap warning is not clearly visible	Schedule tab	Increase font size and center in tab and move the warning message so that it is above the schedule itself, so that it is immediately visible to the user	2
Parth	9	No clear indication of which events that overlap	Schedule tab	Make it clear on schedule to show what events overlap	2

Summary

We encountered three main issues with the interface:

1. The readability of the map (and where events take place on the map), making it harder for users to see the location names on the map or in general users would want an option to see the events taking place at a certain location.

    To fix this, increasing the font size of each location would help, and making it easier to tell where events take place on the map, by either adding them to the map directly, or using different colors for events, and displaying a legend on-screen.

2. Not having a clear way to remove events from the schedule. In general, users would want to undo accidental clicks/adding events to their schedule by removing them from their schedule.

Add a simple way to remove events from the schedule, either by having an "undo" button, or having the ability to remove events individually.

3. Navigation system is untraditional, and somewhat unintuitive, which makes it harder for users to navigate between the “My Schedule” and “All Events” page and can become too clustered on mobile view.

   Change to a more traditional navigation interface, either by having a navigation bar at the bottom/top of the screen, or by using a vertical scroll system so the relevant information is a scroll up/down away.