

## **CPSC 481: Foundations of HCI, Fall 2024 Project Part II**

### **Vertical Portfolio Document**

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### **Tutorial 5 Group 3**

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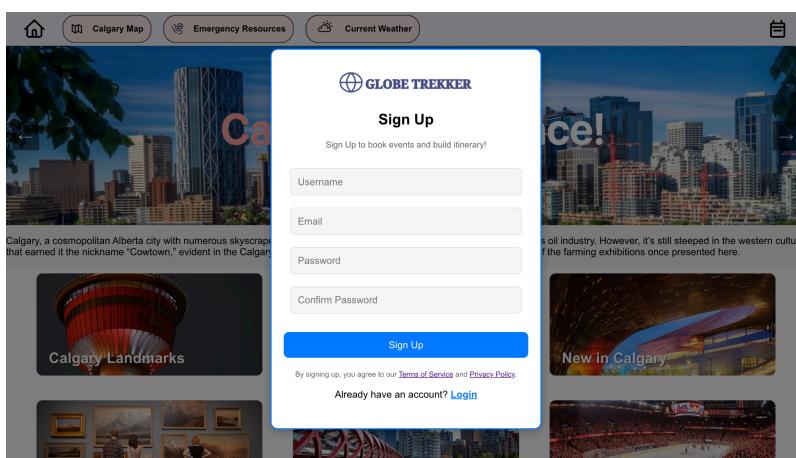
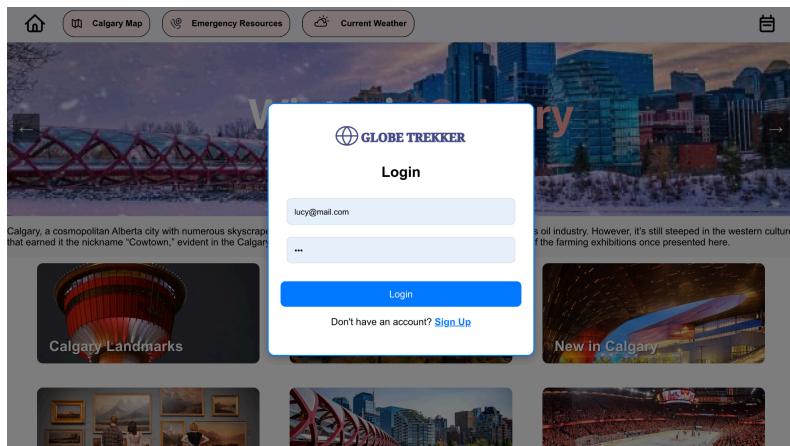
## 1. Final Implementation with screenshots

**Redesign Rationale:** The users of the application need to explore Calgary landmarks and events efficiently while performing tasks like booking tickets or viewing detailed descriptions. The redesigned vertical prototype focuses on enhancing critical workflows. Users value simplicity and efficiency when booking and cancelling events. Direct booking integration and confirmation feedback through the corresponding modals reduces user uncertainty and avoids redirections.

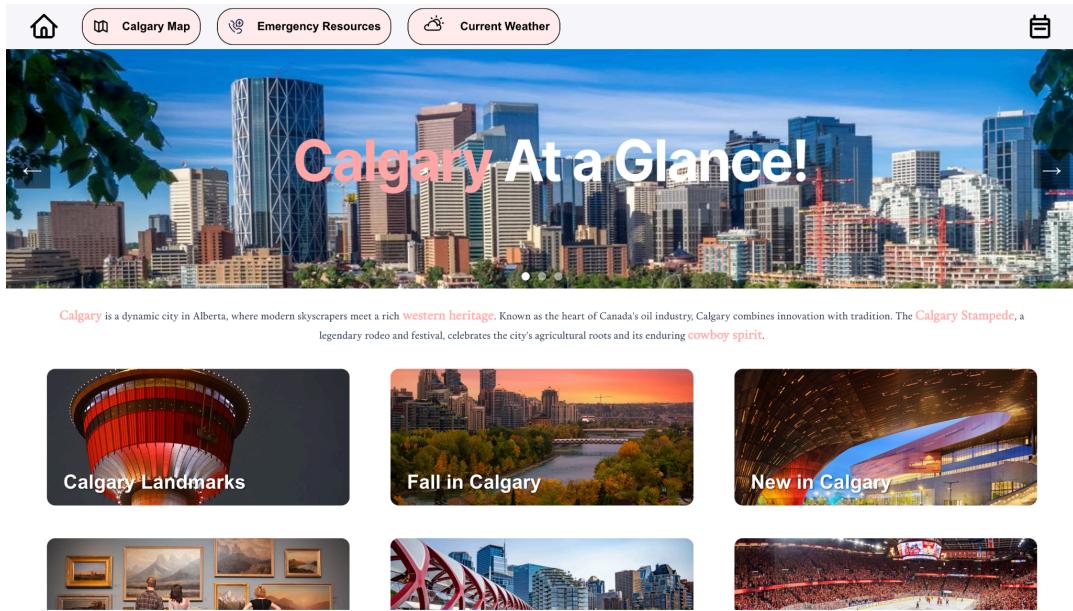
**Implementation Details:** The GlobeTrekker app is built using react as the primary javascript framework. React's component based architecture and efficient rendering make it an ideal choice for developing a dynamic and responsive application for exploring Calgary's landmarks, restaurants and events.

### Screenshots:

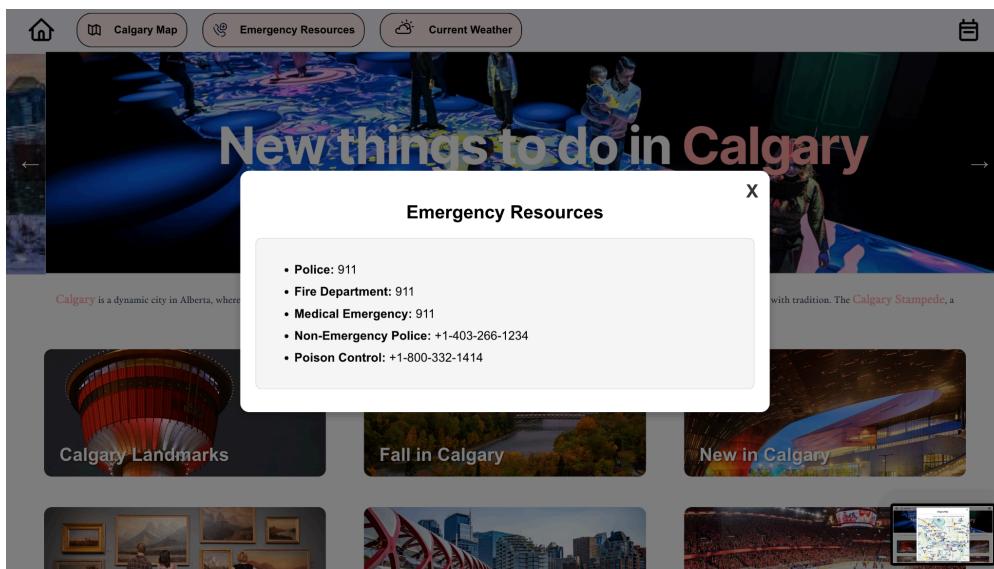
Login/Sign Up Page: Nothing substantial was modified.



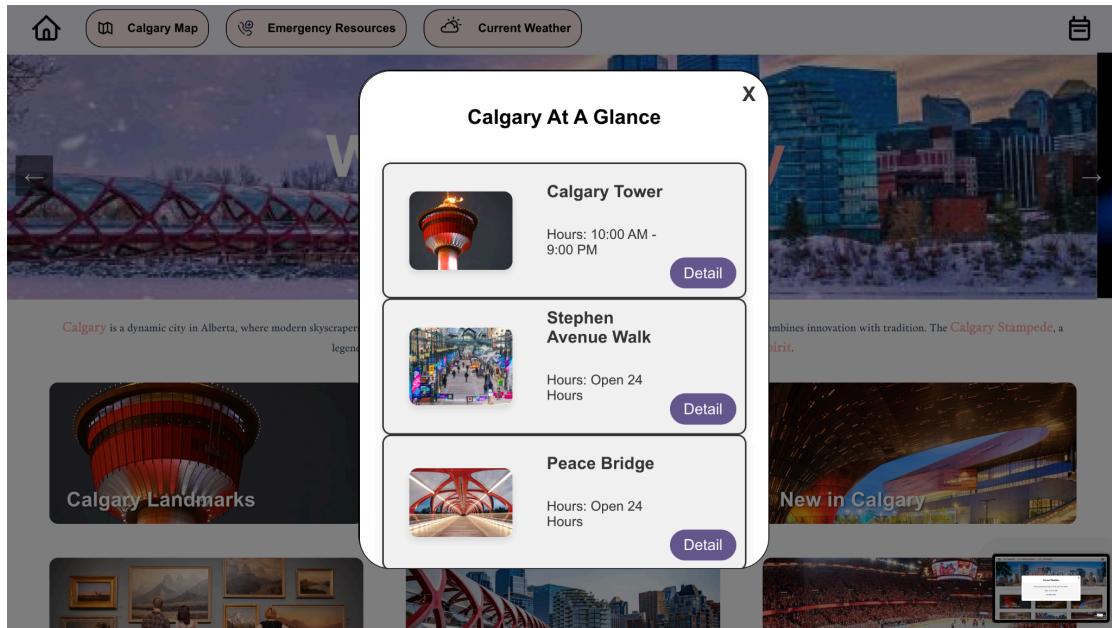
**Main Page:** Removed the “view” button from the carousel, modified the styling of the description of calgary.



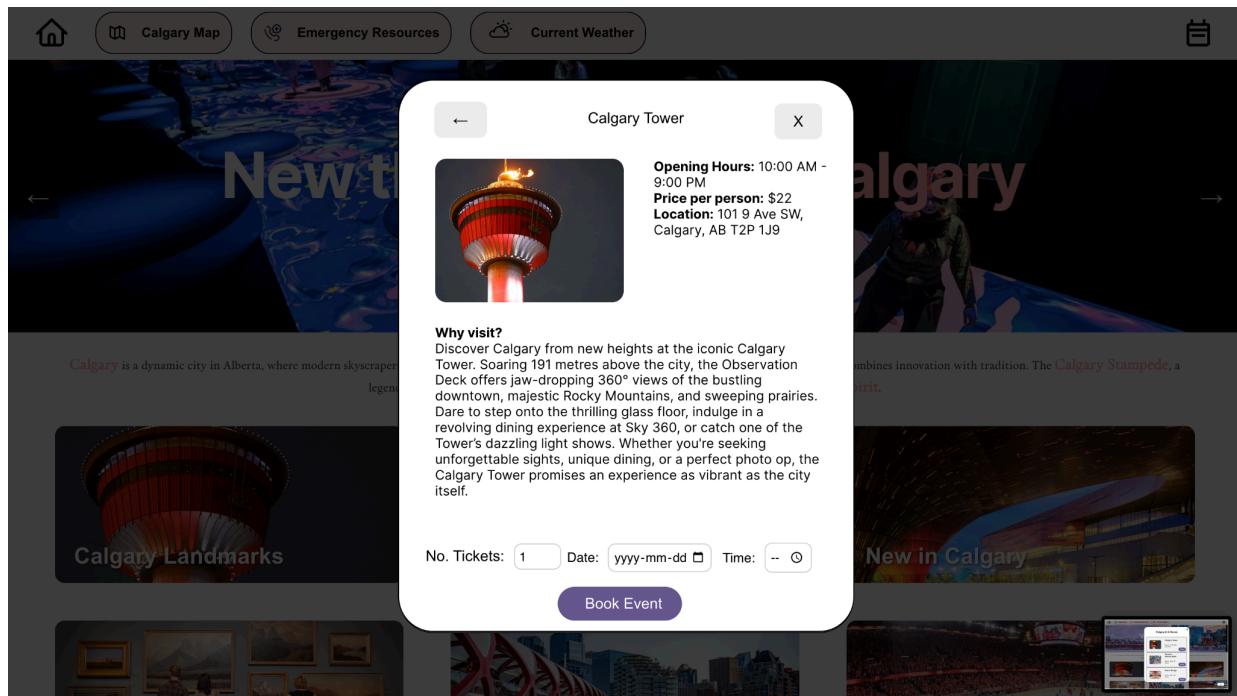
**Emergency Resources Button:** Reduced the amount of text in the popup



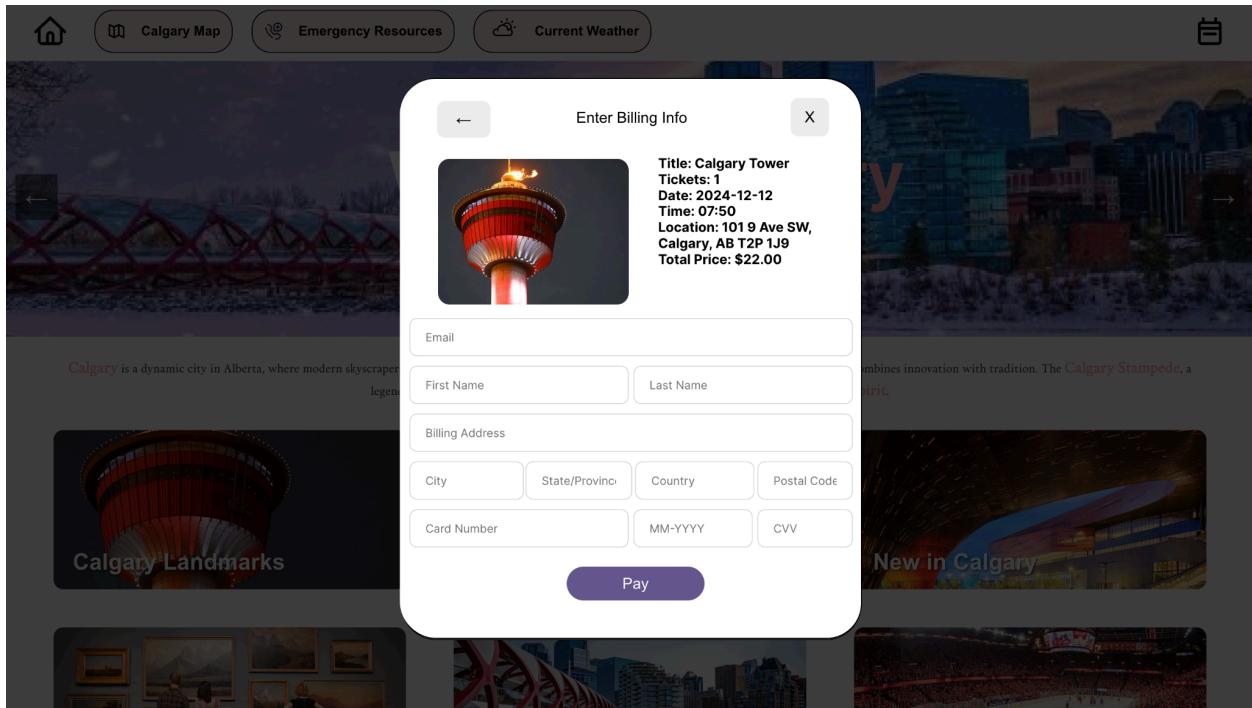
## Calgary At a Glance Popup: Added corresponding titles and hours to each event/landmark



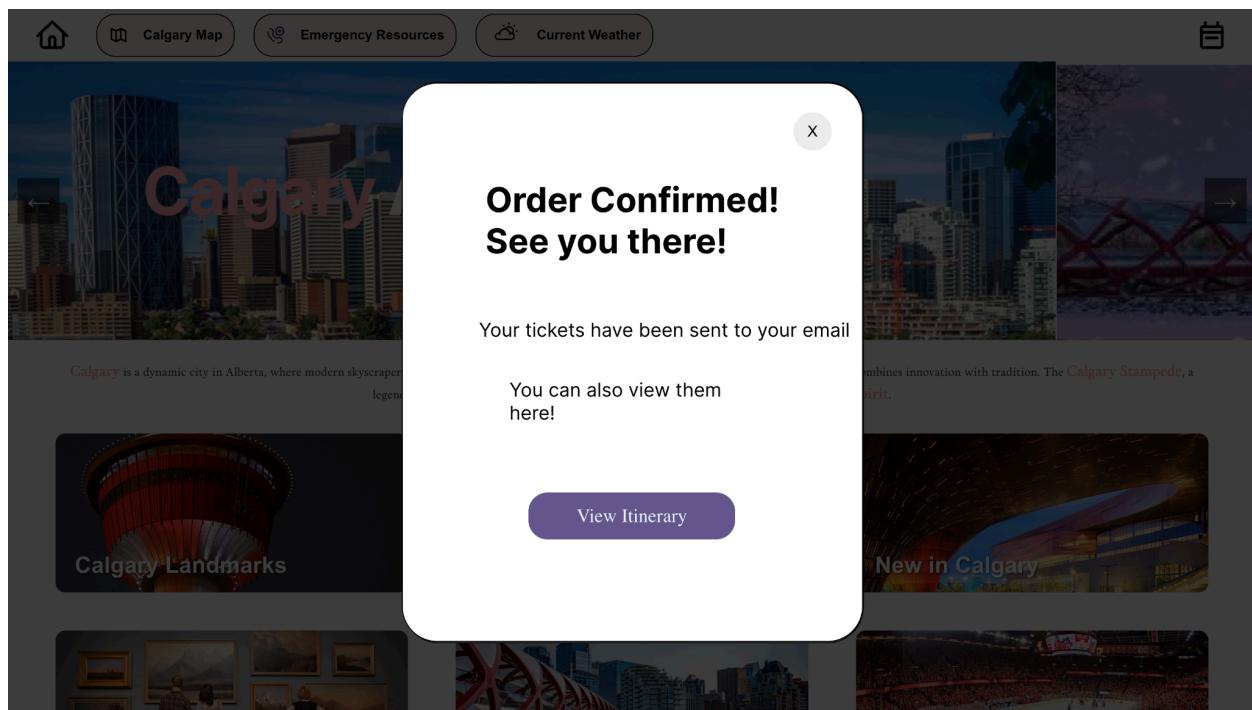
## Details Popup: Modified the price entity to display the exact price per person of the event



**Booking Popup:** Added “city” input section to the booking popup



**Confirmation Popup:** Nothing was changed



## Details popup in calgary landmarks page

The screenshot shows a mobile application interface for exploring landmarks in Calgary. At the top, there are navigation icons for Home, Calgary Map, Emergency Resources, and Current Weather. On the right, there is a calendar icon. Below these, a list of landmarks is displayed. The first item is the "Calgary Tower", which has a large image of the tower at night, its opening hours (10:00 AM - 9:00 PM), and a "View Details" button. A modal window is open over the list, providing more information about the Calgary Tower. The modal title is "Calgary Tower". It contains a smaller image of the tower, its opening hours (10:00 AM - 9:00 PM), price per person (\$22), and location (101 9 Ave SW, Calgary, AB T2P 1J9). Below this, a section titled "Why visit?" describes the tower's features, including its height, views, and dining options. At the bottom of the modal, there are fields for "No. Tickets" (set to 1), "Date" (yyyy-mm-dd), and "Time" (dropdown menu), followed by a "Book Event" button. To the right of the modal, there is a filter section with checkboxes for "Family Friendly" (checked), "Accessible" (checked), and "Group Activities" (unchecked). Other landmarks listed include the Central Library and Telus Spark, each with their own images, opening hours, and "View Details" buttons.

**Itinerary page:** Removed the horizontal calendar view of the itinerary page. Modified so it only shows the users booked events. Modified the styling.

The screenshot shows the "Your Itinerary" page. At the top, there are navigation icons for Home, Calgary Map, Emergency Resources, and Current Weather. Below these, a header says "Your Itinerary" with a back arrow and a edit icon. Underneath, there is a row of date buttons: 2024-12-12 (selected), 2024-12-17, 2024-12-24, and 2024-12-29. The main content area displays three itinerary items as cards:

- Calgary Tower**: Includes an image of the tower, time (07:50), location (101 9 Ave SW, Calgary, AB T2P 1J9), tickets (1), and total price (\$22.00). A "View Tickets" button is to the right, accompanied by a calendar icon.
- Stephen Avenue Walk**: Includes an image of the walkway, time (08:53), location (8 Ave SW, Calgary), tickets (4), and total price (\$0.00). A "View Tickets" button is to the right, accompanied by a calendar icon.
- Chinese Cultural Center**: Includes an image of the center, time (20:51), location (197 1 St SW, Calgary, AB T2P 4M4), tickets (1), and total price (\$0.00). A "View Tickets" button is to the right, accompanied by a calendar icon.

**Famous Landmarks Page:** Increased the amount of cards displayed horizontally to 4

The screenshot shows a mobile application interface for 'Famous Landmarks'. At the top, there are four navigation icons: 'Calgary Map', 'Emergency Resources', and 'Current Weather' on the left, and a search icon on the right. Below the header is a back arrow and the title 'Famous Landmarks'. The main content area displays eight cards arranged in two rows of four. Each card includes a thumbnail image, the landmark's name, and its opening hours, followed by a 'View Details' button.

Calgary Tower	Peace Bridge	Chinese Cultural Center	Wonderland
Opening Hours: 10:00 AM - 9:00 PM	Opening Hours: Open 24 Hours	Opening Hours: 10:00 AM - 6:00 PM	Opening Hours: Open 24 Hours
<a href="#">View Details</a>	<a href="#">View Details</a>	<a href="#">View Details</a>	<a href="#">View Details</a>

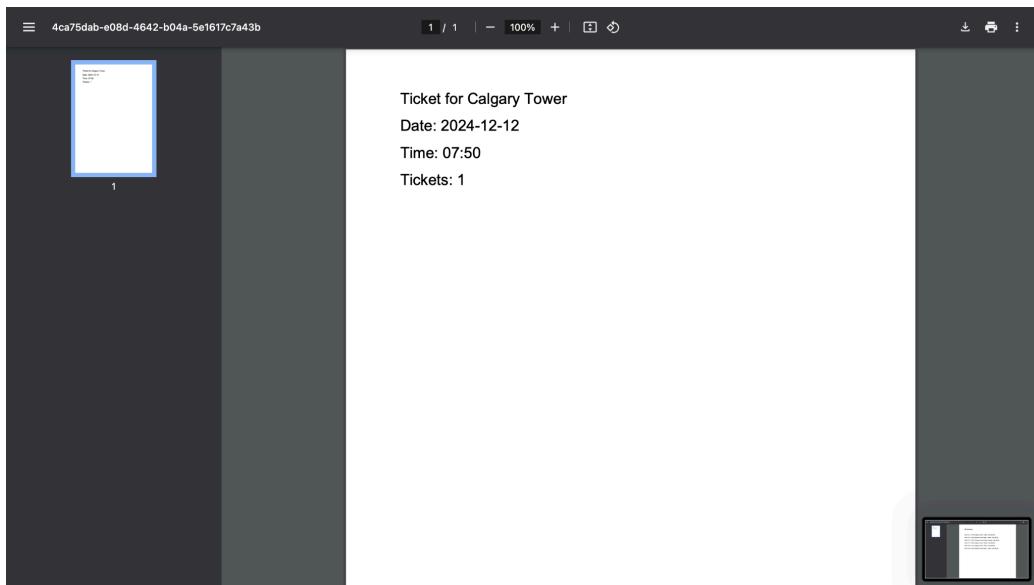
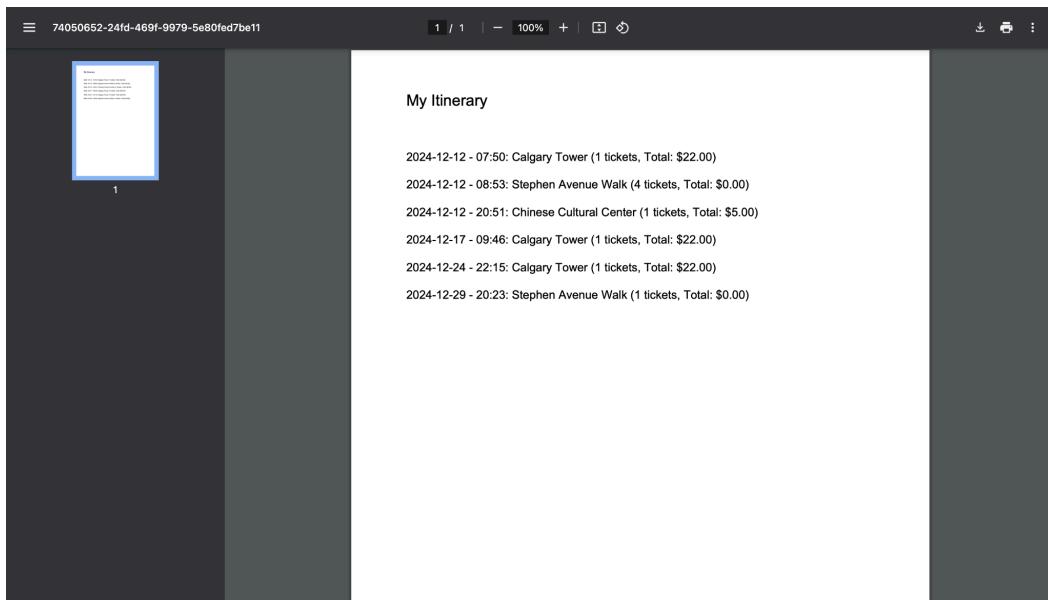
Saddledome	Prince's Island Park	Telus Spark	Plaza Theatre
Opening Hours: 8:00 AM - 5:00 PM	Opening Hours: Open 24 Hours	Opening Hours: 9:00 AM - 4:00 PM	Opening Hours: 10:00 AM - 6:00 PM
<a href="#">View Details</a>	<a href="#">View Details</a>	<a href="#">View Details</a>	<a href="#">View Details</a>

A filter menu is open on the right side, showing 'Family Friendly' checked, and other options like 'Accessible' and 'Group Activities' which are unchecked.

**Itinerary Page Cancel Event:** Reduced the size of the popup, modified styling to match app aesthetic

The screenshot shows a mobile application interface for 'Your Itinerary'. At the top, there are four navigation icons: 'Calgary Map', 'Emergency Resources', and 'Current Weather' on the left, and a search icon on the right. Below the header is a back arrow and the title 'Your Itinerary'. The main content area displays three itinerary items: 'Calgary Tower', 'Stephen Avenue Walk', and 'Chinese Cultural Center'. Each item has a thumbnail image, the activity name, and details like time, location, and total price. A 'View Tickets' button is also present next to each item. A central modal dialog box is open over the itinerary list, asking 'Are you sure you want to cancel this event?' with 'Yes' and 'No' buttons.

## Mock pdfs for exporting itinerary and e tickets: Displayed info from itinerary into blank PDF



## System Features

- **Digital platform for tourists**
  - **Features:** The app features interactive details modals with relevant information, integrated booking functionality, and a dedicated button for viewing itineraries.
  - **How it Addresses User Needs:** The platform centralizes information about Calgary's landmarks, events, and restaurants, offering seamless navigation and convenience by allowing users to access details and book events directly within the app.
- **Customizable User Friendly Interface**
  - **Features:** The application offers intuitive navigation, dynamic modals with rich content, and filtering and sorting options to enhance user experience and streamline exploration.
  - **How It Addresses User Needs:** The application enhances user experience through customizable filtering, intuitive navigation, and streamlined actions like in-app ticket booking.
- **Immersive Content for Exploration**
  - **Features:** The application provides rich event descriptions and integrates images into popup modals for an engaging user experience.
  - **How it Addresses User Needs:** The application enhances user engagement and trip planning with detailed descriptions and images, inspiring tourists to explore Calgary's attractions.
- **Booking System for Landmarks and Events**
  - **Features:** The application simplifies booking by integrating ticket selection features, including quantity, date, and time, directly within the details and booking modals.
  - **How it Addresses User Needs:** The app streamlines booking with integrated ticket selection options in the details and booking modals.
- **Interactive Navigation**
  - **Features:** The app ensures seamless navigation with buttons like "View Itinerary" and multi-page transitions, including close buttons in modals.
  - **How it Addresses User Needs:** The app's intuitive navigation and efficient linking enhance task orientation and reduce user frustration, ensuring a seamless experience for both new and tech-savvy users.

**Summary:** The implemented features align with user needs by offering a seamless and enjoyable digital experience tailored to tech-savvy tourists. From exploration to booking, GlobeTrekker reduces friction, saves time, and provides value at every stage of the user journey. By addressing these key needs and tasks, GlobeTrekker has the potential to become an indispensable tool for tourists visiting Calgary.

## 2. Heuristic Evaluation

- **Evaluation Process:**

- The main method used for the evaluation of the application was Nielsen's 10 usability heuristics, and the evaluation was performed by all 4 members of the development team. Each evaluator inspected the user interface independently, and focused on how well it aligned with the heuristics. The evaluators identified usability issues by exploring features, navigation, and workflows. After individual evaluations, the findings are aggregated to identify patterns and prioritize issues. Issues are rated on a scale from 0-4, with 4 being the most severe, and each issue is assigned reasonable recommendations to address it and align with the corresponding heuristic.

- **Findings:**

Heuristic Violated	Description	Location	Suggested Fix	Severity Rating
2	Opening hours when viewing the attraction pop-up detail are vague. Users might assume those hours apply everyday, which is misleading if it has different weekly schedules.	Landmarks Details Dialog	Use day indicators like "Weekdays" and "Weekends" to provide clarity	2
2	The "price per person" may not always be the same between different age groups	Landmark Details Dialog	Add multiple rows for tickets and make each have a drop down to select an age group. Move Date and Time drop downs to above the list	2
1	Lack of loading indicators, could leave users unsure if the task is in progress or not	Main Page	Add a loading screen if the page is taking an unusual amount of time to load	2
6	The login/sign-up is forced, but is shown inside a popup dialog. Might indicate to users that it's skippable.	Login/Sign up page	Move the login/sign-up to a separate that is shown to the user at the start	2
1	Map isn't interactive or updated with booked events	Navigation bar	Make the map update booked event markers	2

4	Buttons not standardized over the pages.	Whole system	Make the buttons same color and on hover colors.	2
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- **Summary:**

- The application successfully addresses key user needs with features like dynamic modals, filtering, and seamless navigation. However, there are opportunities to improve error handling and provide application status back to the users. By addressing these areas, the system can achieve a more robust, user-friendly experience that aligns with best practices in usability design.

### 3. Final Design Critique

#### State of Design

The application design balances usability, functionality, and visual appeal. Its intuitive interface, seamless navigation, and engaging visuals support a positive user experience while addressing diverse user needs such as event exploration and booking.

#### Quality of Design

The design is modern and user-friendly, with a clean layout that prioritizes accessibility and ease of navigation. It uses high-quality images, dynamic modals, and well-placed interactive elements to provide a cohesive and visually appealing experience.

#### What Worked Well

##### 1. User-Friendly Interface

The app's intuitive navigation, clear labels, and interactive elements like modals enhance usability for a diverse audience.

##### 2. Comprehensive Information

Detailed descriptions, opening hours, and location details for landmarks make the app a reliable resource for trip planning.

##### 3. Customizable Filters

Tags like "Family Friendly" and "Accessible" help users personalize their experience, ensuring relevance to their needs.

##### 4. Integrated Booking System

The ability to book events directly from the app streamlines the user journey, reducing

steps and enhancing convenience.

## 5. Visual Appeal

High-quality images and an interactive map create an engaging experience that showcases Calgary's attractions effectively.

## 6. Smooth Navigation

Logical navigation flows, back buttons, and intuitive page transitions make the app easy to use, even for first-time users.

## What Needs Improvement

### 1. Filter Functionality

- Add more granular filtering options, such as location proximity, price range, and user ratings.
- Improve dropdown interactions to enhance clarity and feedback during selection.

### 2. Error Handling

- Display meaningful error messages for issues like no search results or failed content loading.

### 3. Performance Optimization

- Compress images and multimedia to improve loading times and reduce resource consumption on slower networks.

### 4. Onboarding Process

- Introduce a user onboarding flow, such as tooltips or a quick-start guide, to help new users navigate the app efficiently.

## Will the System Work Well for the Identified User?

Yes, the app is well-suited for its target audience, including tourists, families, and locals. It offers relevant information, customizable options, and a streamlined booking process, catering to a wide range of user preferences.

## Will the System Work Well for the Identified Tasks?

Yes, the app supports key tasks like exploring landmarks, filtering preferences, and booking events efficiently. However, improvements in filtering, performance, and onboarding could enhance the overall user experience.

## What are the Design Strengths?

- **Engaging Visuals:** High-quality images and interactive elements provide a visually appealing experience.
- **Accessibility:** Filters like "Accessible" and "Family Friendly" cater to diverse user groups, ensuring inclusivity.
- **Seamless Navigation:** Logical page flows and easy-to-use buttons support effortless movement through the app.
- **Integrated Booking:** Direct booking options within modals simplify the process for users.

## What are the Weaknesses?

- **Limited Filters:** The filter system could benefit from more advanced options, such as proximity or user ratings.
- **Error Handling:** The app lacks meaningful error messages, which could frustrate users during unexpected issues.
- **Performance:** Large image files may lead to slower load times, especially on less robust networks.

## Conclusion

The application successfully combines usability, functionality, and aesthetics to provide a seamless user experience. By prioritizing simplicity and user-centric design, it offers an engaging platform for exploring Calgary's landmarks and events.

## Key Lessons Learned

- Simplicity in workflows enhances usability, reducing friction in processes like navigation and booking.
- Dynamic modals proved to be a valuable addition, simplifying tasks and improving the user journey.

## Suggestions for Future Improvements

1. Expand filtering options to include more specific attributes like user ratings and price ranges.
2. Introduce user-generated content, such as reviews or ratings, to increase engagement and provide social proof.
3. Implement offline access for saved itineraries to support users without consistent internet connectivity.

## 4. Appendix

- **Code and Files:**
  - **CalgaryLandmarks.js**
    - This file contains an array of objects representing various landmarks and events in Calgary. Each object includes details like the title, image URL, location, description, and other metadata. The data is used throughout the application to dynamically populate components like the modal component and event lists.
  - **DetailsModal.js**
    - This file represents a modal window that displays detailed info about a selected landmark or event. Features include information such as image, title, opening hours, price, location, and a detailed description. Users are able to select the number of tickets, date, and time directly from the modal. It also includes buttons for actions like booking and closing the modal. This file acts as a key interface for user interaction, combining event details and booking functionality.
  - **BookingModal.js**
    - This file provides an additional modal specific for booking events. It's integrated with the details modal and appears when a user chooses to book tickets. The features include ticket confirmation, allowing users to finalize ticket booking based on the data passed from the details modal. This modal focuses on task completion, streamlining the process of booking tickets without navigating to another page.
  - **Itinerary.js**
    - This file displays a list of events booked by the user. It is pointed to by the "view itinerary" button in the confirmationmodal.js file located in the project. The feature includes the ability for users to view the corresponding tickets for events in their itinerary, as well as the ability to delete events from the itinerary.
- **References**
  - **React:** The utilized javascript library for building the user interface
  - **CSS:** For styling the application
  - **JavaScript:** For dynamic interactions and state management
  - **Node.js:** Creating the environment where the app can run
  - **React Router:** Managed navigation and routing between pages
- **Use of AI**
  - TeleportHQ to convert some figma designs into workable code
  - Got advice from ChatGPT on how to make the banners rotate every 5 seconds
  - Button styling : .icon:hover { transform: scale(1.1); } (this makes buttons pop larger on hover)

- Item card shadows/shading adding dimension
- Making the map zoomable

## **5. Grading Sheet**

## **6. Project Grading Guidelines**

Students

Names \_\_\_\_\_

Emails \_\_\_\_\_

*Note: These are just guidelines detailing "convenience" checkpoints. Getting many satisfactory checks does not necessarily indicate a good project (or vice versa).*

<b>Completeness of Project</b>	<b>Missing</b>	<b>Incomplete portions</b>	<b>Satisfactory</b>
Original submission for the first assignment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Part I, A2: Redesign writeup: Screens & redesign rationale	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Part II, A2: Heuristic evaluation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Part II, A2: Redesign rationale & final design critique	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Working end of term demo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All team members completed all weekly 'Most Valuable Team Member' surveys	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To portfolio final due date			

### **Horizontal prototype**

Quality and completeness of the redesign rationale	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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<b>Screen snaps/final design rationale</b>	<b>Poor</b>	<b>Ok</b>	<b>Great</b>
Fixes major flaws in horizontal prototype	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Good rationale behind design	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Design critique indicate major problems?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Design critique indicates how these problems may be solved.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>Your Heuristic Evaluation</b>	<b>Poor</b>	<b>Okay</b>	<b>Great</b>
Problems categorized by heuristics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Major problems detected	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Severity ratings are reasonable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Main points of the evaluation are summarized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sophistication and quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	<b>Poor</b>	<b>Okay</b>	<b>Great</b>
<b>Completed system</b>			
Depth of interface shown	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Breadth of interface shown	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-interface aspects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Graphical design</b>	<b>Poor</b>	<b>Okay</b>	<b>Great</b>
Visual appearance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sensibility of layouts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Evaluating the project</b>	<b>Poor</b>	<b>Okay</b>	<b>Great</b>
Simple and natural dialog	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Speaks the users language	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Minimizes memory load	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Consistent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Provides feedback	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clearly marked exits	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shortcuts for experts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
User error handling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Provides relevant help	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Technical aspects</b>	<b>Major problems</b>	<b>Adequate</b>	
Robust/bulletproof	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Final video figure and project demonstration</b>	<b>Unacceptable</b>	<b>Adequate</b>	
Gave a good feel of system?	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Overall impression</b>	<b>Poor</b>	<b>Okay</b>	<b>Great</b>
Final design	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Design evolution	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Portfolio	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Heuristic evaluation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Implementation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Final demo and video figure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>