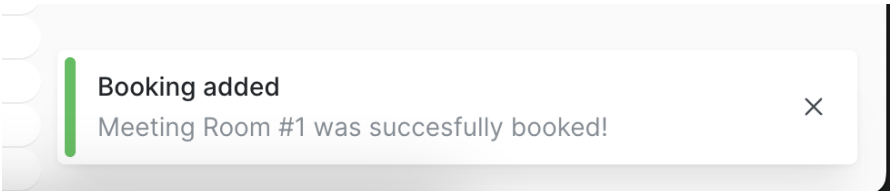
UI design principles and usability heuristics

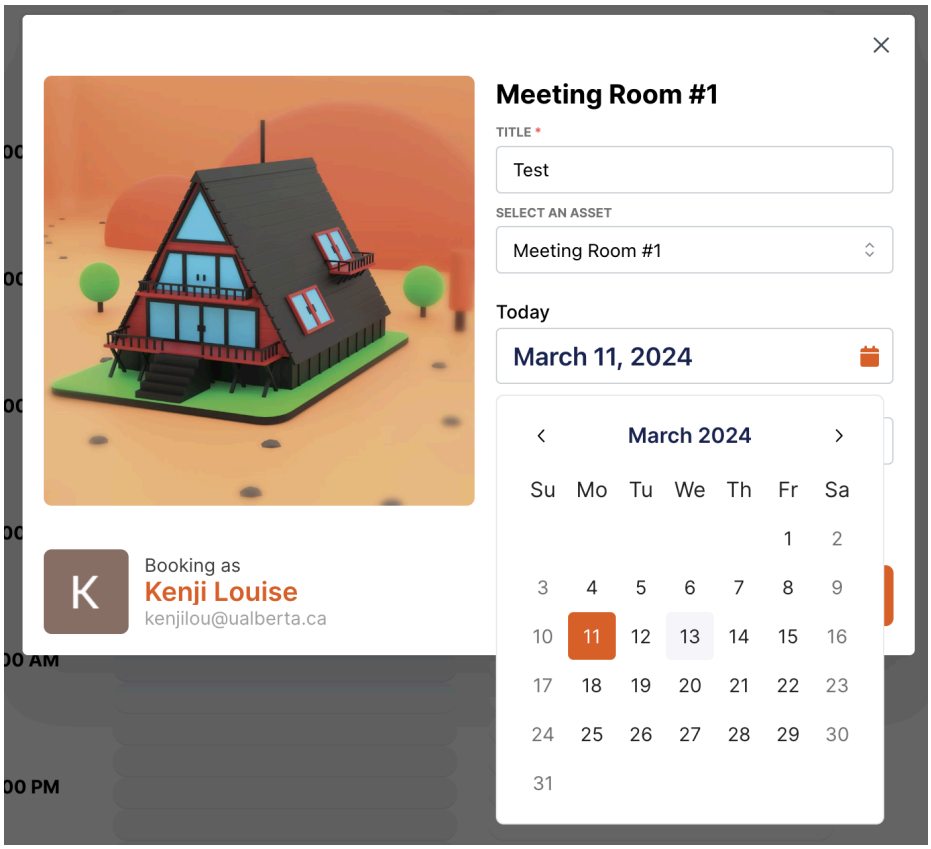
1. ## Visibility of System Status

    The team ensures users are always informed about what is happening through clear and timely feedback. For instance, when users submit a booking form, a confirmation notification indicates that the request was processed. Additionally, the toast component includes colors that suggest the booking status, providing users with a visual representation of the process's completion. Through these examples, our application exemplifies how keeping users informed with feedback and status indicators significantly improves the overall user experience.



2. ## Match Between the System and the Real World

    The team ensures that the interface speaks the users' language, with words, phrases, and concepts familiar to the user rather than system-oriented terms. For example, when users need to input dates, our application uses a calendar view, allowing them to pick dates naturally and intuitively, just as they would on a physical calendar. Furthermore, placeholders and default values are present to be clear and constructive instead of cryptic texts. This approach makes our application more intuitive and easier to use and reduces the learning curve, making technology feel more like an extension of the real world.



3. **User Control and Freedom**

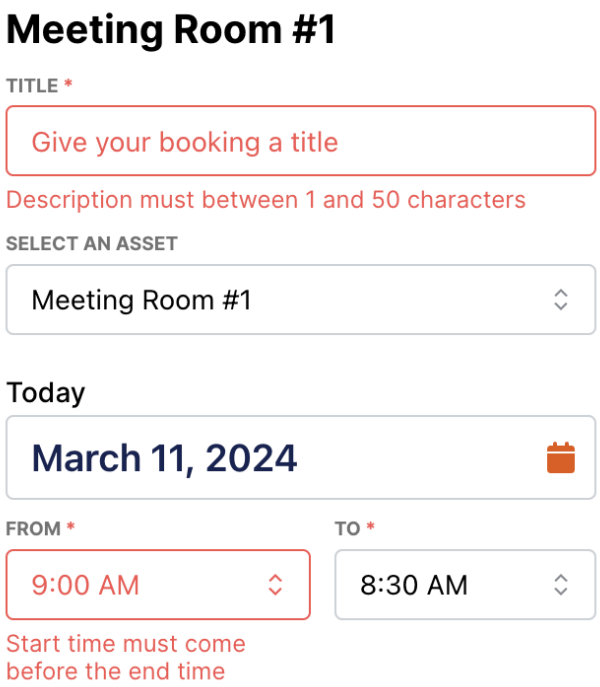
The team accommodates users' careless actions, allowing them to navigate away without hassle. For example, suppose users accidentally start creating a new entry. In that case, they can easily cancel their action by clicking a "Close" button, which immediately takes them back to the previous page without any data loss or unnecessary prompts. Similarly, for users who might find themselves in a deep navigation path, a Navigation bar is provided on every page, ensuring they can return to the starting point effortlessly. This level of control and flexibility enhances user experience and empowers users, giving them the confidence to explore our application without the fear of making irreversible mistakes.

4. **Consistency and Standards**

The team ensures that users experience a seamless and intuitive interface. For example, our application uses standardized icons and terminologies across all pages, such as a pencil icon for editing, aligning with familiar web conventions. Furthermore, a navigation bar is consistently placed across different pages, allowing users to find their way without relearning layouts intuitively. Actions like cancelling an operation or backing out of a current process are also standardized; users can easily find a clearly labeled "Cancel" or "Close" button in predictable locations, enabling them to leave unwanted actions swiftly without navigating through complex procedures. Sticking to familiar UI standards and ensuring consistency makes our application more user-friendly and efficient, streamlining the user experience.

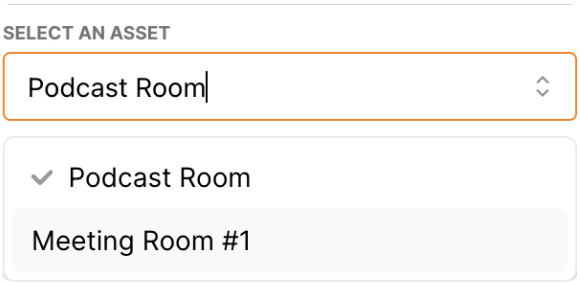
5. **Error Prevention**

The team incorporated this principle by actively reducing the likelihood of errors before they occur. For instance, our app utilizes form field validations that notify users of incorrect inputs, like entering an invalid time in the time field, preventing the form submission until the errors are corrected. Moreover, before any significant actions are executed, our application prompts users with a confirmation, ensuring they have a chance to reconsider or confirm their intention. This approach not only helps avoid unintended actions but also reduces the need for users to navigate through potentially inconvenient processes to rectify mistakes, enhancing both the user experience and the efficiency of interactions within our app.



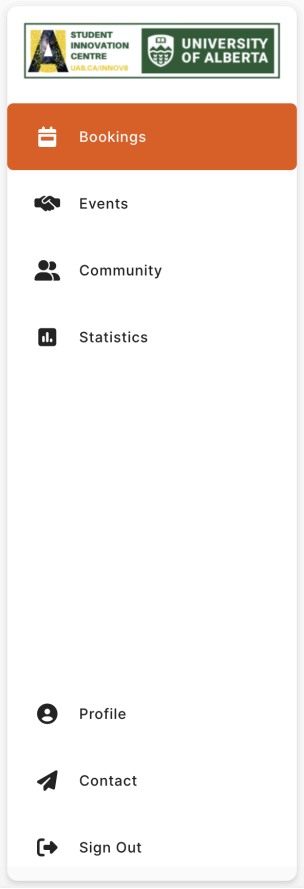
6. **Recognition Rather than Recall**

The team ensures that key elements and options are always visible or accessible. For instance, forms come with a selection tool, preventing users from remembering information from other parts of the app. Also, a confirmation dialogue appears before users complete necessary actions like deleting a booking, ensuring all actions are clear. This approach simplifies navigation, boosts user confidence, and provides a smoother, user-friendly experience.



7. Flexibility and Efficiency of Use

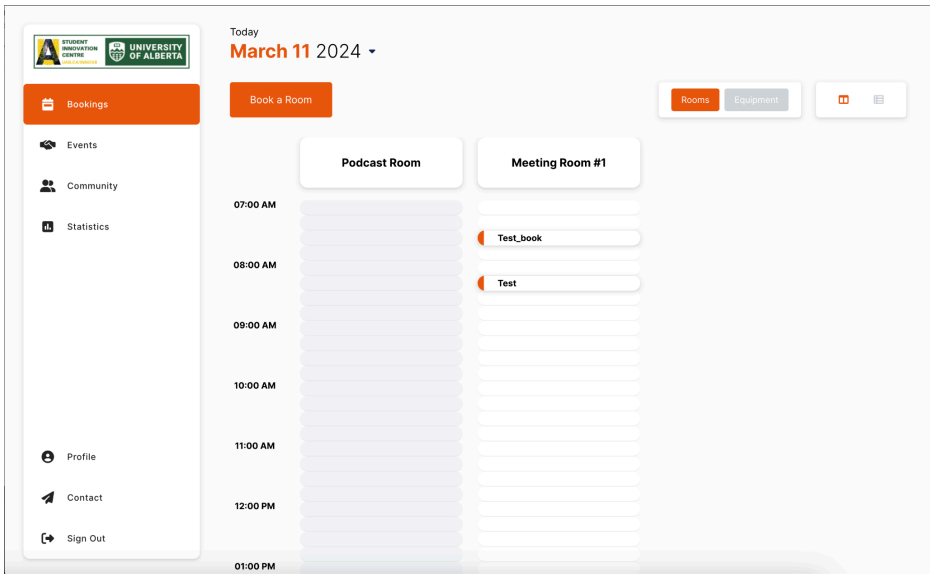
The team has meticulously designed the web application to cater to both novice and expert users by implementing flexibility and efficiency as a core design principle. This approach is achieved by introducing streamlined workflows where all pages are accessible within no more than three clicks, significantly reducing the time and effort required to navigate our application.



8. Aesthetic and Minimalist Design

The team ensures the interface is clutter-free and focuses solely on essential information. Each page design employs a clean layout where only key metrics are displayed, avoiding the common pitfall of overwhelming users with too much data. Similarly, the

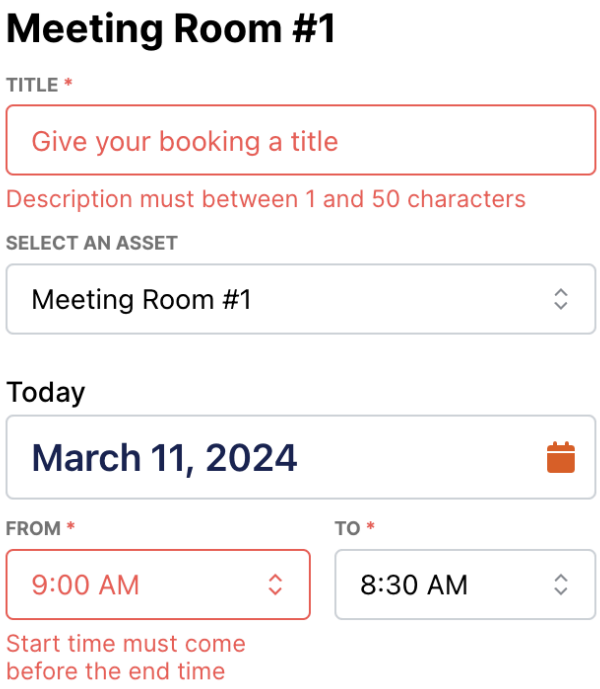
navigation menu is streamlined, presenting only the most crucial sections, which improves user-friendliness and minimizes mental effort. This minimalist approach makes our application more visually appealing. It ensures that users can quickly find what they need without being distracted by redundant elements, thereby increasing the efficiency and effectiveness of user interactions with our app.



9. **Help Users Recognize, Diagnose, and Recover from Errors**

The team applies this principle by providing a non-technical error message. For example, suppose a user enters an invalid time in the booking form. In that case, the application immediately displays a friendly, non-technical error message stating, "Start time must come after end time." This message is specific, avoids vague or technical jargon, and directly guides users toward the resolution. Moreover, when a user attempts to submit a form without completing all required fields, the application highlights the missing fields and provides a clear, constructive message. Such thoughtful error messaging ensures users are always confident about correcting their mistakes, significantly improving the user experience by making error resolution

straightforward and intuitive.



10. Help and Documentation

The team ensures users can find help easily, even though it is already designed to be straightforward. Users can quickly look up answers to common questions. This way, if users ever need extra help, a general search on the internet works, making the app user-friendly but also reassuring and supportive.

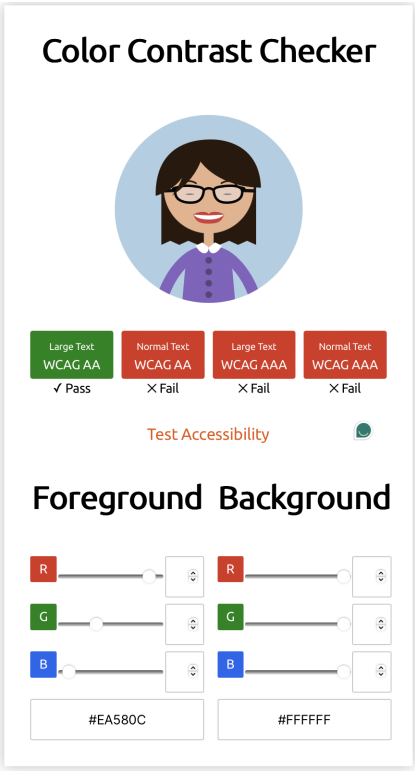
Editing your homepage or custom pages

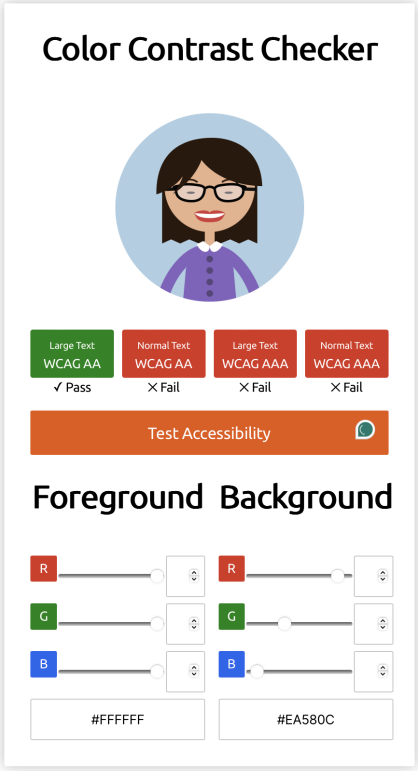
Clicking on the pencil icon will automatically bring you into the Website Live Designer to begin editing your page. For example, clicking on the pencil icon while on your Homepage, or any custom pages, will allow you to edit the page directly, without having navigate through your member area.

Accessibility

1.1 Colour Accessibility

The team started by considering the colours from the client's office to have more interaction factor as part of the overall colour theme of the web application, given that the office presents solid and bold colours, such as red, orange, and grey. By taking the exact type of orange present in the client's office, the team created a lot of possible colour combinations of different variations of all three main colours relative to the client's office. The team decided to go with an orange and white combination as the colour theme. The team then started developing a high-fidelity design with this colour theme, presented it to the client, and got approval. The team continued with this colour theme despite not entirely passing the accessibility colour contrast checker provided. However, the team remains open to better ideas and is willing to consider future changes to ensure that the web application not only looks appealing but is also accessible to all users.





1.2 Controls Accessibility

The development team took a proactive approach to prioritize web accessibility by incorporating features tailored for users who navigate with tabs. In the original design, we ensured smooth left-to-right tabbing, aiming to improve the platform's usability for keyboard-centric users without any specific user feedback prompting these considerations.

Recognizing the needs of users relying on tab navigation, we strategically placed carousel controls at the bottom of each carousel from the outset. This design choice aimed at accommodating a broader user base, acknowledging the diverse ways individuals interact with our platform.

To prevent potential confusion and ensure user control, the decision was made in the original design to eliminate automatic carousel looping or spinning. This proactive measure reflects our commitment to enhancing the overall user experience by avoiding unnecessary disruptions.

The introduction of a "Create New Asset Booking" button served as a proactive step in simplifying interactions for users, eliminating the need for mouse-dependent actions like dragging columns. This design element demonstrates our team's commitment to anticipating and addressing potential accessibility challenges, contributing to an overall more user-friendly and inclusive platform.

For the future sprint, the team is considering adding alt text labels for images on the website. This is to make sure that people using screen readers can easily understand and access the content. It's a potential step we're thinking about to make the platform more user-friendly and inclusive.

Implemented hover effects have been introduced to underscore interactable elements. Upon hovering, the cursor gracefully transforms into a pointer, indicating navigable features. Conversely, when users encounter non-interactive fields, the cursor adopts a disabled appearance. This subtle

yet effective visual distinction enhances user comprehension, contributing to a user-friendly platform experience.

To facilitate user-friendly adjustments of time slots and ensure visibility of all columns, the team opted to disable carousel scrolling. This decision enables users to easily drag and drop new time slots while utilizing carousel controls positioned at the bottom for seamless column navigation. Recognizing the importance of constant access to these controls, the team is planning to elevate and fix them, ensuring their persistent visibility for users. This enhancement aims to streamline the column management process, providing a more intuitive and consistent experience moving forward.

Performance

First Contentful Paint (FCP): This metric measures the time it takes for the first content element to appear on the screen as the page loads. A fast FCP ensures that users perceive the website as loading quickly and that they are engaged with content early in the loading process. We do have a fast FCP!

We've used Lighthouse Labs scoring to measure our website performance.
Speed Index: The Speed Index quantifies how quickly the contents of a page are visibly populated. It provides a more comprehensive view of the loading experience than FCP alone, taking into account all content elements and their display times.
Speed Index is high for most pages except the Bookings page since that involves mostly custom css instead of pre-made libraries.

Total Blocking Time (TBT): TBT measures the total duration of time between First Contentful Paint (FCP) and Time to Interactive (TTI) where the main thread of the browser is blocked and unable to respond to user

input. Minimizing TBT is essential for ensuring a smooth and responsive user experience.
We've got low blocking time for now.

Bibliography

OpenAI. GPT-3.5 Architecture Language Model. March 10, 2024. https://chat.openai.com/