

# Milestone 4

## Heuristic Evaluation

### **Introduction:**

The process of creating an interactive system new people is not easy. For the three milestones, our group has went through the process of brainstorming, designing, evaluating, building prototypes, and evaluating again after getting feedback from our ideal users. Along the way, we have incorporated HCI concepts and theories of design such as UCD, Gestalt's principles, Don Norman's principles and more to serve as guiding principles on how we assessed our next steps. In this milestone is a summarisation of the heuristic evaluation we conducted on our high-fidelity prototype from Milestone 3. Each member (four in total) of our group will do this by using Nielsen's Heuristics as our way to explore, understand, and evaluate the HCI usability of our website interface.

### **Evaluation Process:**

Each of our group members did a walk through on all of the interactive aspects of our website, regardless of depth and detail. With Nielsen's Heuristics as a guide, we use it as a way to organise our thoughts and ask the necessary questions about our interface:

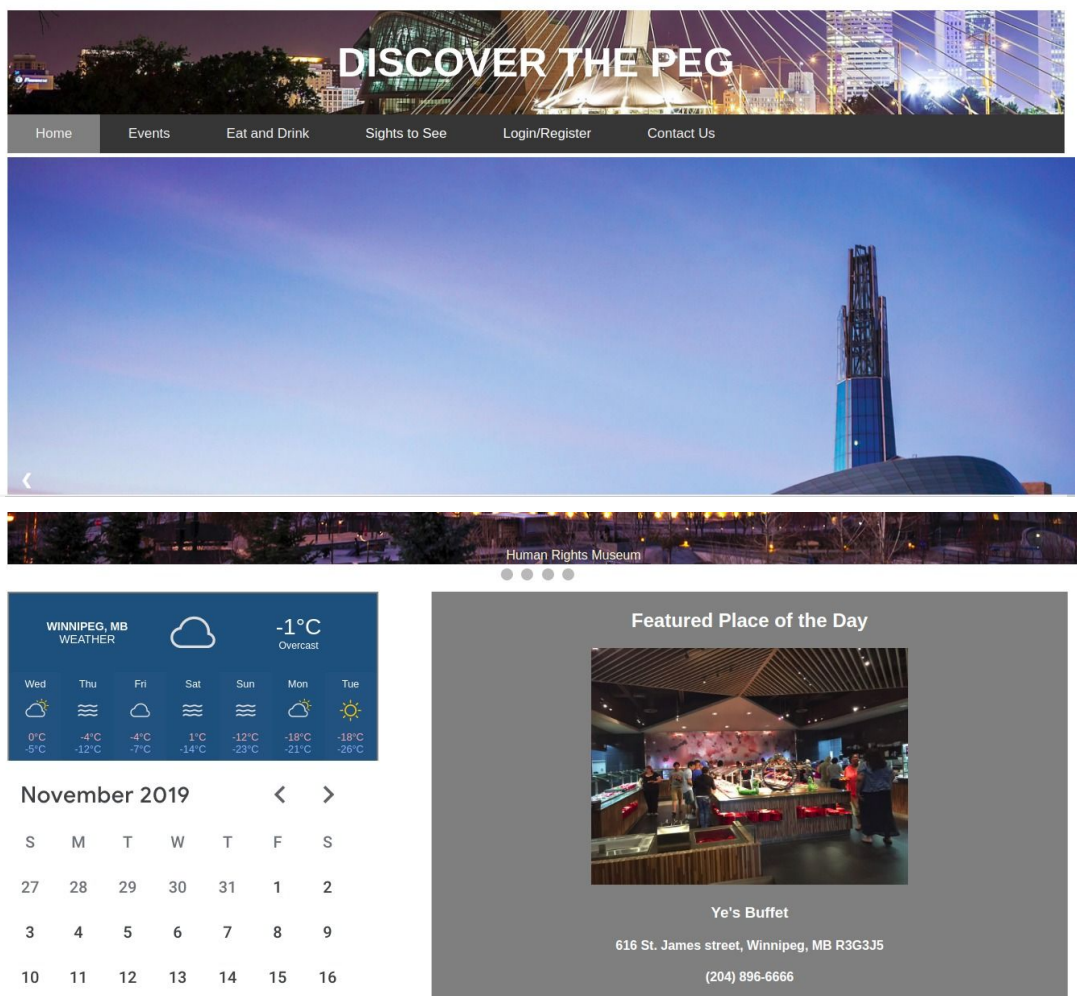
- *Visibility of the System's Status:* Are we giving the user enough information of what is happening in the website?
- *Match Between the System and Real World:* Are things arranged in a logical manner? Is the language understandable?
- *User Control and Freedom:* Did we provide them a way to go back to another page? To get to the home page? If so, is it communicated properly?
- *Consistency and Standards:* Do things look consistent? Is the website easy to learn?
- *Help Users Recognise, Diagnose, and Recover from Error:* Do we have the appropriate error messages (e.g: when creating an event?)
- *Error Prevention:* Did we provide the user enough safeguards to affirm that they are aware they are about to conduct an important action?
- *Recognition Rather Than Recall:* Have we leveraged the user's existing knowledge of websites to the best of our ability?
- *Flexibility and Efficiency of Use:* Are we catering to all types of experience? Are events open to all types of users? What if they are not logged in?
- *Aesthetic and Minimalist Design:* Are the information we are keeping relevant?
- *Help and Documentation:* Is help easily searched? Did we provide enough information about how to use the website, or has the design principles we applied done that for us?

To summarise this review for this milestone, we focused this evaluation on the aspects of our prototype that we mutually felt to have violated Nielsen's heuristics. To have them in common across all our evaluations highlights that it is definitely an issue, and prominent enough that the group has come into an agreement about them as an HCI usability issue. Four aspects of our prototype is identified to have such issues, these are: scaling, navigation, error prevention/helpful information, and efficiency.

### Scaling:

First impressions are everything, and scaling is part of it. Images, which is a big part of our design and one of the key aspects of our intention strong visual communication to our user, does not scale well. That is, the appearance of the images varies between different browsers (Chrome and Safari were our primary browsers) and it was not able to handle different window sizes. This is especially evident with our homepage slideshow, which is our key visual indicator in priming the user's mental model about the website's purpose: to showcase Winnipeg's events, activities, and notable places.

We have agreed that the disarray caused by the scaling is a potential navigation issue, as well as an inconvenience for users who browse on their phone -- something that our ideal users are known to do according to our dataset in Milestone 1. Because the images are large, it covers a majority of the screen especially when scaled, preventing the user from being aware of potential signifiers that there is content underneath these giant photographs. This issue with scaling could decrease the interest of users in using the system in the future, as the lack of good scaling reflects on their impression of the website's quality as well as the nuisance of having to operate the site as a maximised window for full potential.



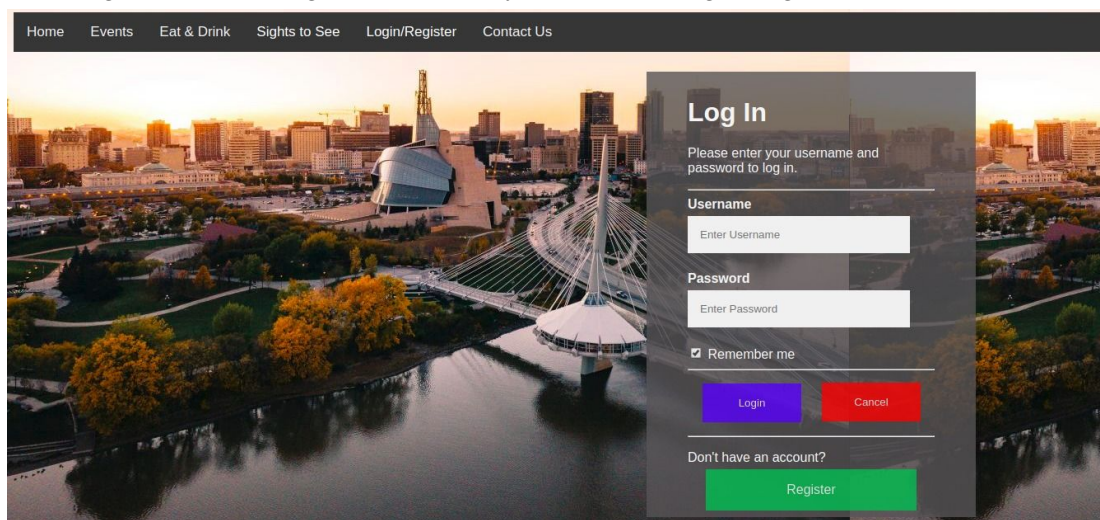
This aspect of the interface violated Nielsen's Flexibility and Efficiency of Use. This rule states that the system will have an increased use and engagement if you can do more with less

-- resulting in faster navigation, and less steps to get to the user's goal with the system. Instead of decreasing the interaction the user has to do with the interface, the inconsistency in scaling increases the steps that user has to do to finish a task connected with their goals. This is highly inefficient. During our evaluation meeting, we thought of numerous solutions to solve this problem and one of our feasible ones is to decrease the size of the pictures of famous places on the main page and add an automatic transitioning function in displaying the pictures, so the user won't have to click on the arrows on the left side and right side of the pictures when they want to see more photos. Moreover, some other suggestions from our group members included changing features such as adding an automatic slideshow header for the main page, so it would be unique for that page.

### ***Navigation:***

After identifying navigation as one of the bigger issues in our system during the evaluations, we evaluated this aspect of our site again, but embodying certain persona that will mimic the actions of our potential users. We created a persona loosely based on our ideal user, who harbours existing knowledge of websites, but operating under unconscious cognition. This persona assumes that the website works the same as other websites, and mildly pays attention to what they are doing as they assume to find what they need where they need it.

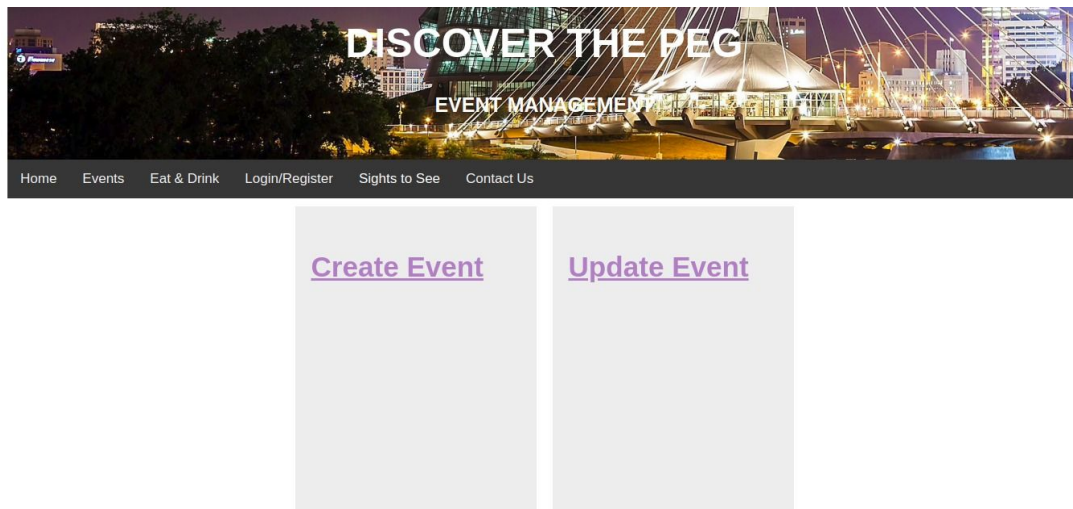
Under this persona, we have concluded that our system doesn't have a clear navigation for users to do some tasks while they are interacting with the interface. For example: the login page. Some of us under this persona assumed the login page to be at the corner, a placement common in numerous websites with a login function. The user then finds themselves switching to conscious cognition to actively look for the Login/Register tab.



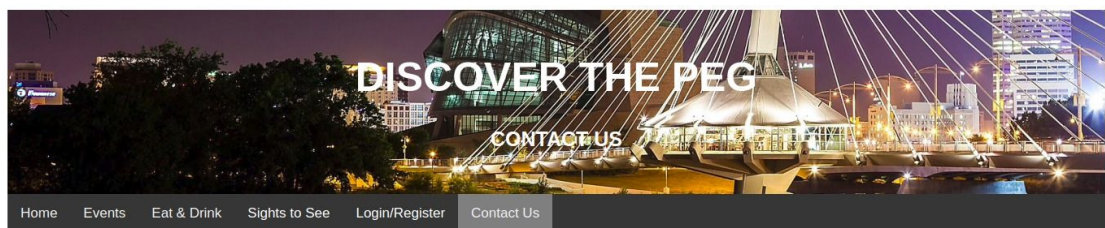
The Login page has a simple design which satisfies the aesthetic and minimalist design rule in Nielsen's Heuristics, keeping all clutter minimum and not including unnecessary information to the design. However, the login page violated Nielsen's User Control and Freedom. The user is always directed to Create/Update Event in the Contact Page, a jump in the user's mental model as there was no organic path or breadcrumbs that told them how they got there.

This was also mentioned in the feedback we received for Milestone 3, and we believe this aspect made our users lose their freedom in using the system. Why? Because they are directed

in a page that was apparently in Contact Us, and this may easily be perceived as a bug. This breaks Nielsen's Visibility of System Status, as the user is informed of where they are, but also misinformed. The tab was toggled active because of a previous design decision of placing the event creation system under Contact Us, and the tab remaining toggled active was a design oversight. The jump between Login/Register and Contact Us leads us to more additional confusion about the system and its general usability. Our group concluded that to remove the active tab marker that suggested that this page was under Contact Us, when it is a separate feature exclusive to users who logged in. That way, there is less confusion.



Moreover, we also noticed that the tab of the contact page in the menu bar will take users to the main page, which violated consistency and standard rule. The interface does not ensure that the graphic element and the menu tab do the same thing. To fix that, we can link it to the proper HTML file.



#### Questions? Suggestions?

Feel free to [email us](#) or call 204-322-00xx.

#### About

WinnipegCityInfo is an events website catered to bring you the best of Winnipeg by showcasing events, attractions, and places to stay while enjoying all that the city can offer.

#### ***Error Prevention and Helpful Information:***

Our evaluation all noted that our system's interface lack error prevention and helpful information for the user while they are doing a task with the system. For example, when the



user is doing a task with register page (e.g: registering an account), will not get any notification or confirmation message that they have registered successfully. This aspect from the interface violated Nielsen's Error Prevention as well as Help Users Recognize, Diagnose and Recover from Errors. According to the rule, the system should be able to prevent user from making errors while they interact with the system by putting flag of potential error, as well as providing informative messages based on user action. As a solution, we can alert them to check their email for account confirmation, if an account is already registered with a particular address, wrong/correct password and any other things that is usually expected with error-checking account registry. We also want to make register page helpful by presenting relevant errors when they arise such as: preventing the user from putting incorrect format for password, prevent users from using the existing ID, and as well as the error checking already mentioned prior.

Furthermore, the Create/Update events does not provide users with enough information for the user understand how the task works. This violated Nielsen's Aesthetic and Minimalist Design, as while it is minimalist, it has failed to convey relevant information or generate appropriate descriptions for each option. The update and events page does not give the user any information that their task complete or any errors in their task. Our group thinks we can improve and fix this task by adding the FAQ tab, which will answer questions about Create/Update Event in the system, as well as some messages confirming the user's actions before they event is created completely.

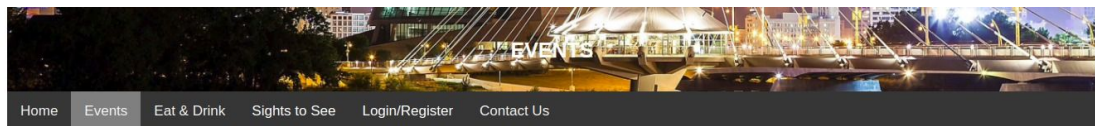
The image displays two screenshots of a web application interface for managing events. The top screenshot is titled "Update Your already created event" and the bottom is "Create an event". Both forms include fields for event name, date, time, cost, and description, along with file upload options for pictures and videos. A sidebar on the left contains navigation buttons: "Go to the Event List" and "Go back to event management page". On the right, there is a Google Calendar widget showing events for December 2019.

### Efficiency:

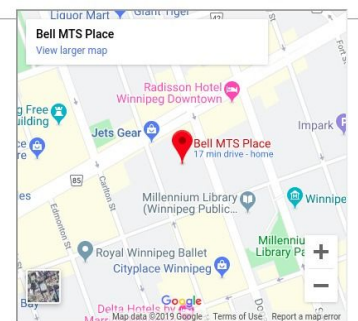
Our system's interface was built based on the purpose of convenience for new people in the city to access to events and places to go around Winnipeg. Efficiency in the system's interface

is the priority requirement for our group to create the system, as we want something convenient and fast. However, during our review, this was a common issue across all our evaluations and have violated Nielsen's Heuristics.

The Events page violated some parts of Efficiency of Use, for the page only give small information about the events within the map. When users want to find more information about the event such as, online ticketing, and reviews, they have to search on other sites which defeats the purpose of this website being an all-in-one convenient system. However, this problem can be fixed easily by adding a link that direct users to the site from the company that held the event to so that user can have further information about the event. If possible, we can also probably find a way to include a widget containing reviews.



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Based on the feedback we get on Milestone 3, we decided to further explore the event creation system as a group and noticed that it violated Flexibility and Efficiency of Use, as the user has to use click on the arrows to increase the date, which increase the interaction between users and the system to finish one task. Some solutions for the problem is allowing user to type what day they want to check out, or we can have a small calendar that allow user choose visually which year and month they want to look at.

### **Conclusion and future development**

Overall, our system's interface is not perfect, the above information is some big parts in our system that violated Nielsen's Heuristics. This heuristic evaluation allowed us to think about and explore the possible changes and improvements we can have on our system. For example, the arrows for the slideshow for the pictures on the main page, sights to see page are too blurry, we could make them more visible which help user in finding the arrow and have better experience in using the system. One of the criticisms of our web interface is that the site looks like any other tourism site than the informative hub we were wanting it to be. This is a potential for confusion for our users who are still trying to understand the goal of the site: a system for new people. We can develop some features in the page such as a way to provide information about lodgings (temporary/permanent), transit route, hotels, airport travel and helpful articles about living in the city. We can also improve our potential FAQ page to possibly include these features, should they belong to the FAQ in the first place.