

Executive summary

With the help of the “Nested Model”, our group created an exploratory website based on different sports facilities in Ottawa by resourcing the official dataset from OpenOttawa. In this way, the problem of imperfect updates of seasonal sports facilities is solved. Moreover, a one-stop destination website for searching surrounding sports facilities is provided.

Task Analysis & a Summary from your user interviews

The “Representative Stakeholder” of our group and interviewee was our course professor, an instructor at Carleton University, David Sprague. He lives in Ottawa with his family, and he regularly participates in sports with his children. He is expected to become a user of our website. Therefore the content of his interview will be of great help to our project.

After several interviews and discussions, we summarised the whole project's function as follows: Our data visualization is developed for “Discover” consumption (exploratory visualization). Users are free to search, filter, and explore the sports facilities they are interested in by our visualization.

All in all, according to the above analysis of user needs, we have determined that the tasks required by the projects are:

1. Create a map showing different sports facilities. The users can zoom in and out, move freely, and determine their locations
2. Design icons for each sports facility to enhance users' recognition.
3. Create a list to display all the data information, so as to provide users with more relevant and useful information.
4. In the list, all available facilities are displayed from near to far.
5. The advanced mode allows users to freely filter out the facilities that do not meet their personal needs.

Sketches

In the process of drawing the initial sketch, we experienced some mistakes on the design part. This includes choosing the wrong visualization model, such as pie charts. As users, they want to see intuitive choices rather than knowing the percentage of different facilities. But after we

learned the Lie Factor and the pros and cons of different visualization models, we realized that this choice is not suitable for our website. Besides, cumbersome choices and a large number of web page jumps will make users feel tired when using the website. We believe that a simple and straightforward design is the most important. As mentioned in the class, “Visualizations that are memorable ‘At-a-glance have memorable content.’” Therefore, after constant modification, we think that an interactive map with clickable icons will be the best choice for our data visualization.

We chose to design it according to the “nested concepts” about the overall layout of the website. To reduce the user’s learning cost and prevent the users from getting lost in the many options, we minimize the user’s operational requirements and different buttons. The icon design is the most essential part for us to make users understand the meaning clearly. Therefore, we repeatedly conducted squint tests on all icons in the process of making the website, to ensure the immediate usability of this information. We used the default colour of the map, but for chromatology, this design does not match our icons very well. Low contrast and high saturation always get users’ attention immediately. However, for icons, the lack of brighter colours will lead to identification difficulties. Therefore, we asked people this question during the user's evolution, but most users said that it is acceptable. So we did not choose to change the map to the grayscale background until the end.

Results of your data exploration (including images)

We created a highly interactive and informative website for users to browse and find the most suitable sports facilities for them. We used Carleton University’s location as the demo location, (and we put a red icon on the map). The list on the left is taking the demo location as the center and displaying the available facilities from near to the far.

Export A sport facility index

Carleton University(Demo location)

1125 Colonel By Drive	0.07KM	<input type="button" value="▼"/>
Chamberlain Park	0.51KM	<input type="button" value="▼"/>
Glebe Community Centre and St James Tennis Courts	0.58KM	<input type="button" value="▼"/>
Glebe Community Centre and St James Tennis Courts	0.59KM	<input type="button" value="▼"/>
Glebe Memorial Park	0.59KM	<input type="button" value="▼"/>
Brewer Park	0.66KM	<input type="button" value="▼"/>
Brewer Park	0.74KM	<input type="button" value="▼"/>
Mooney's Bay Park	0.84KM	<input type="button" value="▼"/>
Geoff Wightman Park	0.98KM	<input type="button" value="▼"/>
McNabb Park	0.99KM	<input type="button" value="▼"/>

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Export A sport facility index

Carleton University(Demo location)

1125 Colonel By Drive	0.07KM	<input type="button" value="▼"/>
Surface Colour : Blue		Lights <input checked="" type="checkbox"/>
Court Type : Private Clubs		Accessible <input checked="" type="checkbox"/>
Address: 1125 Colonel By Drive, Ottawa		
Chamberlain Park	0.51KM	<input type="button" value="▼"/>
Glebe Community Centre and St James Tennis Courts	0.58KM	<input type="button" value="▼"/>
Glebe Community Centre and St James Tennis Courts	0.59KM	<input type="button" value="▼"/>
Glebe Memorial Park	0.59KM	<input type="button" value="▼"/>
Brewer Park	0.66KM	<input type="button" value="▼"/>
Brewer Park	0.74KM	<input type="button" value="▼"/>
Mooney's Bay Park	0.84KM	<input type="button" value="▼"/>

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Ex- port

Carleton University(Demo location)

- Lansdowne Park 1.55KM
- MacDonald Gardens Park 2.35KM
- Assessment: Approved site - Conditional
Address: 99 Cobourg Street, Ottawa
- Four Seasons Park 3.17KM
- Assessment: Approved site
Address: 4386 Spratt Road, Gloucester
- Stonecrest Park 3.62KM
- Stonecrest Park 3.64KM

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Ex- port

Carleton University

- 1125 Colonel By Drive
- Chamberlain Park
- Glebe Community Centre James Tennis Court
- Glebe Community Centre James Tennis Court
- Glebe Memorial Park
- Brewer Park 0.66KM
- Brewer Park 0.74KM
- Mooney's Bay Park 0.84KM
- Geoff Wightman Park 0.98KM
- McNabb Park 0.99KM

FACILITY_TYPE

Arena Community Centre Change Hut Fieldhouse Trailer

Rink Type

Puddle Rink Double Surface Rink with Puddle

Boards Type

Permanent Seasonal None

Toilet

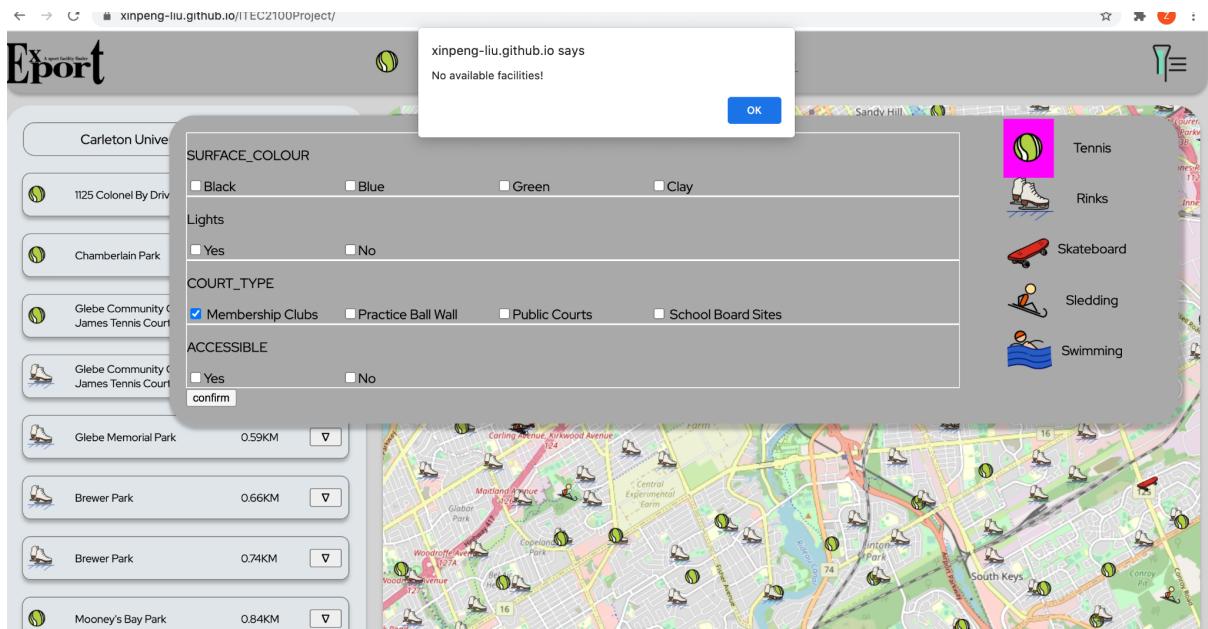
Yes No

Lights

Permanent Seasonal None

confirm

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A discussion of the results and what you think your results may represent ?

We think we have achieved the goal we had set up when we started the project from the user's evaluation and feedback. We believe this project has provided the citizens of Ottawa with an efficient website for exploring sports facilities. However, we found there are many sections that we have to improve. In general, most users found our project to have a good layout design and an explicit data structure. Users comment that they could understand most of the functionality of the page. However, they have also given us valuable advice on the problems we still have with our webpage, which has helped us enormously.

After reading all user reviews, we decided to accept a part of the valid opinions. First of all, the user thinks that we can add interactive design to the buttons on the left and the map on the right, but we currently think that such changes may not be technically possible for us, so we decided to abandon this comment. Second, users are confused about how the "Refresh" button is used on our homepage, so we choose to cancel this function directly. So, all the data in our dataset will continue to be automatically refreshed all the time instead of needing to click the button. Third, the user said that sometimes our advanced filter does not appear in any facility when click "Submit", the reason is some data did not match the filter conditions, so we will make a pop out of "No facilities found" when there is no facilities match.

All in all, we believe that a mature research website should be based on user needs and make new user-friendly as much as possible. Therefore, we believe that in such a situation, we should listen to users' opinions to make the corresponding improvement is the best solution. Therefore, we believe that the same task breakdown and group work can be applied to many future jobs. Through this project, we are not only improving our coding skills but also gaining lots of professional skills in our future works.

Any additional graphs from data analysis/exploration that you completed after the first data exploration assignment

After our first data exploration assignment, we learned that visualization's ultimate goal is to display data most concisely rather than to complicate the data. Clarity is an important part when presenting data. If users feel that their attention will be distracted when they enter a web page, then the data set and the analysis of the data will fail because the user will not look at it. We believe that any user will want to obtain useful information in a short period of time, not spending a few hours on a website. To sum up, the data set must be concise and clear in the analysis and production.

