

Enhancing Inclusivity: Innovations in Community Program and Facility Booking Usability

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Abstract

It is an unfortunate reality that many government websites, particularly municipal ones, have significant usability problems caused by dated or ill-thought-out designs. Often, users of these websites include those with poor average technological literacy—particularly those from older generations. Unfortunately, the design of these older websites, tending to have less emphasis on commonplace UX practices, only exacerbates this difficulty.

In this study, we investigated the design of the City of Markham's eConnect (aka ezReg) website, a municipal website where citizens can register for recreational programs and book facilities owned by the city. Our goal was to discover ways to make older websites such as these more accessible to those who are less technologically literate, including older generations. To pinpoint design flaws, we collected feedback on Markham's current booking site through surveys and structured interviews. We then developed a prototype to help address them and conducted a usability study to gauge the success of our efforts. In the end, our redesign addressed many of the design flaws, measurably improving usability.

Keywords: Usability, Technological Literacy

Introduction

Markham eConnect (aka ezReg) is a website hosted by the city, where residents have the option to register for recreational programs, such as children's soccer programs. Additionally, residents have the opportunity to book facilities owned by the city, for example, tennis courts. While a helpful tool for most citizens, the website is dated, coming from a time when web UX was less

well-established. It is filled with convoluted design decisions that inhibit the website's usability and puts a strain on its users. Some of these design decisions include “barcode”-based registration and search systems. To register for eConnect, users must enter a “client barcode” number provided to them by the city, obtained in person at a civic center. Program search is also primarily barcode-based; users are expected to already know the barcode of the program they wish to register before. These barcodes again have to be obtained in person. Other poor aspects of the design of the website were small in comparison; however, they contributed towards an overall unpleasant experience. Problems included contrast issues, long paragraphs explaining how to use the system, and important information being kept behind multiple layers of interactions.

To discover and design effective improvements to these issues, we investigated the extent to which they affect usability, especially those less proficient with technology. Through this research, we were able to create a booking interface more accessible and usable for people who would otherwise struggle with these technologies.

To investigate effective alternatives to these poor design decisions, we conducted a literature review into the interactions of the elderly and disabled with different types of computer systems. Through this review, we identified common pitfalls of interface designs, as well as solutions to overcome them.

To establish more concrete user experience requirements, a preliminary survey was sent to 29 respondents, and interviews were held among 3 participants. This initial phase of gathering information was useful in discovering main concerns users had about the website, and was critical in deciding which design flaws to prioritize.

After we gathered our initial requirements, we then developed a prototype for an alternative version of the website. We attempted to address many of the user experience requirements we had elicited, omitting some due to time constraints. We then used this prototype in a series of usability tests to gauge its effectiveness.

Finally, we conducted a usability study of the new prototype. Feedback from 6 interviews confirmed the validity of most of our key design points, and also helped to identify some steps for further improvement. With these suggestions, strides can be made towards making software more accessible, usable and accommodating for individuals of various backgrounds and abilities, especially for those lacking technological literacy.

Problem Statement

The objective of this project was to redesign Markham eConnect, a recreational program and facility booking website, with improvements that would make it more efficient, appealing, and usable by people from various backgrounds and abilities.

With an emphasis on the elderly and those of diverse cultural backgrounds, we identified that the current website lacks adequate accessibility features, making it challenging for older people to utilize the service effectively, alongside its many usability and design violations.

Our aim was therefore to design a solution with a focus on simplicity, clarity, accessibility, and intuitive navigation; minimizing complex interactions, accommodating those of various vernaculars, and reducing the learning curve for older users.

Literature Review

To better understand the problem space, we conducted a brief literature review into usability for older adults. Our findings are summarized here.

Web accessibility design recommendations for people with cognitive disabilities

Friedman and Bryen explore web accessibility for the cognitively disabled. They compile a list of various guidelines for accessibility across the world and diagnose the most common guidelines. Examples of how to improve accessibility to the cognitively disabled included using graphics alongside text, ensuring text was simple and clear, using consistent navigation and design, and more.

User experiences of older adults navigating an online database of community-based physical activity programs

Lowndes and Connelly explore the experiences of older adults using a database of local physical activity programs, comparing the feedback with available guidelines and assessing the database for completion. They found several issues that older adults struggled with such as website navigation, unclear language, and a confusing page layout. They recommend redesigning websites to follow available guidelines in order to improve accessibility for older adults.

Redesigning websites for older adults: a case study

Patsoule and Koutsabasis investigate how to incorporate the requirements of older adults into web technologies through the redesign of a touristic web portal. Through this, it was identified that changes such as ensuring consistent styling, adding tabbed browsing, and simplifying user input greatly increased the usability of a website for older adults.

Analysis of Navigability of Web Applications for Improving Blind Usability

Takagi et al investigate the inaccessibility of visual-based websites such as shopping websites to the visually impaired. Takagi et al also explore the methods visually impaired people use to tackle these barriers. The researchers use automatic analysis and manual inspection of how the visually impaired navigate these sites and analyzed the data to provide design alternatives that are more accessible such as enabling landmark-based navigation on a website, improving HTML specification, and simplifying the navigation interface.

Designing User Interfaces for the Elderly: A Systematic Literature Review

Dodd, Athauda, and Adam conducted a large-scale literature review into the question of how to design interfaces suitable for use by diverse populations of older adults. By categorizing the findings of 30 relevant studies, they discover three main types of challenges experienced by these users: physical issues, lack of computer experience, and cognitive issues. Following, they describe how UI element design, nontraditional input methods, plain language, and “cognitive evaluation” testing have been repeatedly shown to improve usability outcomes in the face of these challenges.

Gathering of User Requirements

To establish user experience requirements, we conducted an online questionnaire and interviews with direct observation.

Our questionnaire was distributed primarily to undergraduate students studying computer science, mathematics, and statistics, as well as some high school students. It received 29 responses.

We also conducted three interviews. These were intended to elicit rich, qualitative responses from segments of our target audience more difficult to reach with an online questionnaire, particularly older generations. These interviewees were primarily working adults and parents.

From both our questionnaires and interviews, we analyzed qualitative responses for common themes. These included dissatisfaction with the “barcode”-based search interface, a desire for improved data categorization, and strong discontent with the overall layout, especially on mobile devices.

The questionnaire also solicited quantitative responses, primarily using a 7-point Likert scale. However, we found most of these results to be inconsistent at best. A larger, more representative sample may have helped in this regard.

Prototype

Having established user experience requirements, we set out to create a prototype for an improved version of Markham eConnect. The prototyping software of choice was Axure RP.

Our prototype version of Markham eConnect aims to provide an overall better user experience, as well as to make common

tasks more learnable, efficient, and satisfying. The tasks of focus were

1. registration and login;
2. program browsing, search and registration; and
3. facility browsing, search and booking.

The main features and abilities of the prototype are as follows:

- Users can easily register for a new account by clicking the "Sign Up" button and providing required information like first name, last name, email address, password, and password confirmation. Password validation ensures that the passwords match and that a valid email address is provided during registration. Existing users can log in and sign up to their accounts by clicking the "Login" button and entering their login credentials or clicking on the sign-up button to sign up for an account. The option to reset the password is available in case users forget their password. Screenshots of these are found in Appendix 1A section.
- Users can search for programs by category or using keyword search. The search results display relevant programs matching the keyword, along with short descriptions.
- Users can filter the programs based on age, making it easier to find suitable programs for specific age groups. Once users find a program of interest, they can proceed to view more details and register for it. This is displayed in the Appendix 1B section
- Users can view detailed information about a chosen program, including available dates and times. To register for a program, users need to log in to their accounts. If not logged in, they can do so or sign up for a new account directly

from the program details page. After logging in, users can add the desired program to their cart and proceed to the checkout process for payment.

Facility Booking:

- Users can search for facilities either by category or using keyword search. They can also search for a specific facility using the top-bar search option. Once the desired facility is found, users can view the scheduling form to select the date, start time, and end time for their booking. After scheduling the booking, the facility is added to the user's cart, and they can proceed to checkout for payment. Please refer to Appendix 1C section.

Overall, the prototype streamlines the user experience by providing clear navigation, validation checks, and easy access to necessary actions like registration, login, program browsing, and facility booking. Users can efficiently perform tasks related to Markham Recreation activities, making it convenient and user-friendly.

Usability Study

For our usability study, we adopted a mixed-methods approach to comprehensively assess the prototype's usability. The chosen methods were direct observation, semi-structured usability interviews, and a usability questionnaire. 6 volunteers were recruited for this.

Direct observation involved having participants perform tasks using both the current platform and the developed prototype while being observed through screen and voice recording. This allowed us to capture users' interactions and thought processes in real time. Participants were instructed to "think out loud" during the tasks, providing insights into their

decision-making and uncovering any pain points or confusion they experienced.

Throughout direct observation, we monitored time taken, number of errors made, and the number of interactions each user had while completing each task. This allowed us to quantitatively measure the effectiveness and practicality of our design through this direct observation process.

We also conducted semi-structured usability interviews with each participant. These interviews aimed to gather qualitative feedback on their experiences with the interface, allowing participants to express their thoughts more freely. The interviews provided deeper insights into aspects of the design that may not have been captured by observations or questionnaires. Participants were encouraged to explain their pain points and highlight any aspects they enjoyed about using the prototype.

In addition to direct observation and interviews, we administered a usability questionnaire to all participants. The questionnaire mainly consisted of Likert-type questions based on Nielsen Norman's '10 Usability Heuristics for UI Design.'¹ This approach aimed to obtain quantitative data on usability heuristics, allowing us to quantify participants' perceptions of the prototype's usability. The questionnaire provided us with quantifiable metrics to assess the overall usability of the prototype and identify specific areas that may require improvement.

The usability study was conducted in a controlled setting. This setting provided a neutral and distraction-free atmosphere for participants to interact with the prototype and allowed us to monitor and record participants' interactions accurately, ensuring reliable data collection.

Participants were assigned three specific tasks to perform using the prototype. The first task involved registering for an account on the platform, evaluating the ease of the registration flow, and the clarity of the steps involved. The second task required participants to find, book, and pay for a soccer program for an 8-year-old child while being logged in. This task assessed the efficiency of the program search, booking process, and payment flow. The third task focused on booking a tennis facility for the specified time, evaluating the effectiveness of the facility booking feature and the user-friendliness of the calendar or scheduling system.

Results

The following qualitative data were analyzed using grounded theory analysis from the usability interview and observations.

First Impressions: There was an overwhelming theme of "Outdated/Cluttered Interface" for the current website, with problems of information density and aesthetics. Some problems repeatedly mentioned were the small font size and difficult navigation. The prototype was praised for its simplicity, with participants stating that they enjoyed the simple design. One recurring problem was that the 'image carousel' was too distracting and fast.

Task 1: The original website was frustrating enough for users to often quit before the allowed time was up. This was due to the strange barcode requirement that only some participants managed to correctly identify as the problem. The prototype on the other hand was described as more "trustworthy", such that participants felt that they could trust it with their personal details.

Participants had a much easier time completing the task with the prototype.

Task 2: The barcode search requirement on the current site confused participants; this was a time-consuming hurdle for many. Another such hurdle was the unintuitive categorization of programs, as participants could often find multiple categories that the given program could be in, and were unsure of how to proceed. This was not an issue in the prototype, as participants were able to instantly find a category that their program belonged to, and generally completed the task with ease.

Task 3: A conceptual difficulty that many participants experienced was differentiating between what a “Program” and “Facility” was. This could be seen as either an issue with the experiment itself (not making such distinctions clear in task instructions) or a failure of the interface in creating mental structures through symbolism and iconography. This occurred for both interfaces tested and caused many participants to fail to complete the task. Still, many of the problems from task 2 on the current website reappeared: bad categorization and barcode-only search. Again, the current prototype was generally easier to use for those who did not make the aforementioned error.

Quantitative data: 2 Likert scale questions were asked in the post-study questionnaire.

On a scale from 1-10, how would you rate the experience of our website? The response averaged 7.9 (with 5 participants), with the lowest being 7 and the highest 9.5. Overall, a resoundingly positive response.

On a scale of 1-10 how aesthetically pleasing is our website, and why? Averaged 7.8 (with 3 participants), with the lowest

being 6.5 and the highest 9. A generally positive response.

Limitations

The study itself was admittedly severely limited, the biggest contributor to this being our participants. Across requirements gathering and the usability study, we had only 38 unique participants. Additionally, a large portion of our participants were not in our target audience, with less than 10% of our population being over the age of 50. Both of these factors contribute to our data being potentially biased. We hence caution against drawing any firm conclusions from these results; they can, however, be seen as hinting at potential future work in this area. To make our sample methods more representative, we would need to expand our test population, as well as recruit more participants directly from the target demographic. The data we have already collected could then be reconciled with the data produced by the larger participant pool.

Another severely limiting factor was the amount of time we had for the study. As the entire study was conducted over the course of four months between other university coursework, each phase was much smaller in scope and much less thorough than would be ideal. The rushed nature of the study impacted the quality of data collected; there was minimal time to conduct literature review, leading to potentially missed issues or existing solutions. Similarly, the short turnaround time required for the prototype resulted in bugs and missing or placeholder information, impacting the validity of our usability study. And last but not least our study was not pre-approved by an ethics review board, again due to time constraints of the course project format. Overall, time constraints greatly hindered the integrity of the study and, had more time been allotted, the study itself would not have faced as

many external factors that risk invalidating our results.

The last major limitation of the study was the inexperience of those working on it. As this was the first HCI study for all of the authors, interview methods were applied imperfectly, potentially biasing the data. There was also inexperience with prototyping tools, with this being the first time that many of the researchers were exposed to the chosen prototyping software of Balsamiq Wireframes and Axure RP. The inexperience with this software reduced the quality of our prototypes which in turn reduced the quality of our usability studies, since many users were confused or concerned with mistakes within the prototypes.

All of these limitations point towards the study itself being admittedly flawed and thus not fully credible. However, this does not mean the study is useless. Many of our conclusions here could be investigated further in a more credible manner, preferably while addressing the limitations of this study. Further investigation with these limitations addressed could more rigorously validate our findings.

Future Work

Based on the results from our usability study, potential future work includes further refining our prototype by fixing minor issues that the participants faced. Future work could also focus on creating new features and alternative designs, and comparing them, to produce a better overall product.

Notification Banner

Based on participant feedback, it was revealed that the current notice banner lacks the ability to grab the user's attention. This is an important issue to address given its significance in conveying crucial updates to

our users. It is essential that the notice banner becomes the first element users notice upon visiting the platform. As such, we plan on changing the text color to a dark red, and the background color to a lighter red to ensure that the notice stands out prominently and effectively communicates essential information to users.

Search Button

During the usability study, it was observed that some users, notably older participants, were not familiar with technology and faced difficulties in using the search feature on the top of the page. In particular, they were unaware of the need to press the Enter button in order to get the search results. To address this, we will add a search button beside the search bar. This addition serves as a visual indicator and allows users to trigger the search function explicitly, ensuring they can use the search feature intuitively, without confusion.

Login

By analyzing user feedback, we identified that the login process lacks a confirmation message, which may leave users uncertain about their successful login. To rectify this, we will add a login confirmation message that will show up upon successful login, providing reassurance to users. Furthermore, instead of displaying the user's email in the top right corner, we will personalize the experience by showing the user's name, making them feel more welcomed and acknowledged.

Carousel

The carousel pictures on the homepage, which automatically scroll, were noted to be excessively fast, causing distraction. We thus will aim to reduce the scroll speed, so that the user can maintain focus on their tasks without unnecessary interruptions.

Modernizing and Enhancing UI

To further improve the appeal and usability of the website, we plan on modernizing the user interface. This includes adding visual feedback for clickable elements, providing users with a clear understanding of the interactive components on the platform, which some participants struggled with during the usability study.

Choice of Color Scheme

Currently, the webpage uses the color red for multiple elements, which can potentially pose challenges for color-blind users and divert attention from more important elements. For future work, we plan to address this by conducting further research to examine the optimal theme and colors to use. After that, we will revamp the color scheme and overall theme of the webpage to give it a more modern aesthetic, improving the overall user experience.

Parent-Child Program Registration

Based on feedback from a participant, we recognize that parents are typically the users that register their children for programs. Subsequently, we intend to introduce a new feature that allows parents to include their children's information during the registration process. This can include the child's name, age, emergency contact, allergies, or other medical information that program staff may need to know. This enhancement will streamline the registration experience and cater to the specific needs of our users.

Facility Booking Date and Time Selection

Lastly, we will focus on improving the date and time selection for facility bookings. The current design received criticism from interviewees due to its inconvenience in checking for availability and non-standard booking intervals. In response, we aim to revamp the design and integrate it with the calendar to allow users to check facility

availability before choosing a booking time. Additionally, bookings will be based on half-hour intervals, aligning with the city of Markham's standards.

By addressing the issues highlighted in our usability study and implementing the proposed improvements, our prototype will undergo significant improvements, leading to a more user-friendly, intuitive, and usable platform. After implementing these improvements, another usability study could be conducted to discover any possible further improvements. After all, continuous research, refinement and testing are core to the process of user-centered design.

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Appendix

Sample Informed Consent Form

Usability Study – Informed Consent Form

Title: Markham eConnect Usability Evaluation

Investigators: Annanya Sharma, Bao Yang, Beier Mu, Faraz Malik, Ian Gregory, Kyle Lewis, Omar Patel

I _____ hereby consent to participate in a usability study conducted by the Investigators (listed above) as part of a Summer 2023 project for CSCC10, Human-Computer Interaction, a course offered by the Department of Computer & Mathematical Sciences at the University of Toronto Scarborough. I agree to participate in this study, the purpose of which is to evaluate alternatives towards making government sites more accessible.

I understand that:

- This interview may be audio and screen recorded, if you give permission.
- The following procedures will be used:
 - We will show you various alternative user interfaces. We will explain some aspects of each, and you will have time to explore them.
 - We will request that you perform certain tasks using each of the interfaces.
 - We will ask you questions about the interfaces, your experiences with them, and your opinions about them.
 - We will debrief afterwards, and you will be allowed to ask any further questions.
- There are no unusual risks associated with participating in this study.
- I will receive no compensation for my participation.
- I am free to withdraw at any time during the study without the need to give any explanation or penalty.
- All materials and results will be kept confidential, and, in particular, that my name and any identifying or identified information will not be associated with the data.
- I can contact the course instructor, Naureen Nizam (nnizam@cs.toronto.edu) with any questions or concerns.

PARTICIPANT

Name (please print) _____

Signature _____

Date: _____

INVESTIGATOR(s)

Name _____

Signature _____

Date: _____

Interview Structure and Sample Questions

Interview Structure

- | | |
|-------------------------------------------------------------------------------------------------------------------------------|------------|
| 1. Sign consent form | 3 mins |
| 2. Initial impressions: What are your opinions at first glance? | 3 mins |
| 3. Perform each task on both site designs
(2 min limit per task, once on old site and once on new site; + 1 minute buffer) | 3x5 mins |
| 4. Interview: Semi-Structured Interview (Ask Interview Questions) | 10-20 mins |

Tasks

Ask each participant to perform the following 3 tasks; once on the existing site, and once on the prototype; in different orders between subjects, for counterbalancing.

1. Register for an account (may not be possible for original site)
2. Find, book and pay for a soccer program for an 8 year old child (while logged in) - (also will not actually book on original site, since task 1 cannot be completed)
3. Book a Tennis facility for tomorrow at 5:00 PM

Measures

- Time to complete a task.
- Number and type of errors per task.
- Number of interactions (clicking, typing, etc.)
- (Qualitative) Think-aloud

Questions (Interview)

- On a scale from 1-10, how would you rate the experience of our website? Why did you choose that score?
- What words would you use to describe each design?
- On which design would you prefer to perform task 1? Task 2? Task 3?
 - For each task, what did you find most confusing about each design?
- Would you have left **our** website before accomplishing any of the tasks? If so, when, and why?
- Were there any parts of **our** website that you weren't expecting? Would you prefer the website with or without them?
- Based on your experience, what improvements or changes would you recommend for **our** design? Is there anything else you'd like to add about your experience with **our** design?

Final thoughts?

Interview Notes – Ian

Interviewer: Ian Gregory
Interviewee: Elderly relative

First impressions

Original:

- Photo is nice
- Text contrast is readable

New:

- Carousel pictures move too fast – can't look at them
- Similar to other websites

Task 1

Original:

- Reading instructions for "How to register online" and "Steps to register"
- Trying to click in the instructions, but no links
- Would print the instructions to keep from being rushed
- Unsure about client barcode; can't click anywhere to find out

Timed out.

New:

- Scrolled down initially, scanning the homepage
- Nothing at top that says "Account" or "Start Account" or "Begin Account"
- Found "Sign Up" and clicked
- Filled out form fields
- Password placeholder looks like typed characters
- Clicked "Log In" at the bottom instead of completing signup

Spent full length of time completing task.

Task 2

Original:

- Scrolled down looking for programs
- Scrolled back up and clicked "Programs" tab
- Read instructions
- Went immediately to category list in Filters on left
- Clicked "Summer Camps" category (can play soccer at a summer camp)
- Don't want to go through alphabetical list trying to find soccer; looking around for other UI elements
- Read tooltip on "Complex" dropdown and clicked; after reading, figured that it will not help
- Clicked "Fitness"; not here either
- Didn't know whether it should be in "Fitness", "General Programs", or "Pay before you Play" (because interviewer mentioned needing to pay for course)
- Clicked "Browse for Courses"
- No barcode number; unsure of how to get one

Timed out.

New:

- Clicked Soccer program on homepage

Interviewer participant asked to perform the task again, ignoring the homepage entry.

- Scrolled down and up, then clicked "Programs" tab
- Scanned page, then clicked "Soccer" category
- Scrolled list down
- Asked whether to choose Indoor or Outdoor; interviewer replied to choose one
- Clicked on "Kids' Indoor Soccer"
- Scrolled down and clicked "Add to Cart"
- Cart opened, participant clicked "Next" and "Next"
- Confused about price discrepancy: \$50 vs \$15
- Knew how to complete transaction ("Complete Purchase"), but refused to due to price discrepancy, thinking it could be fixed

Spent full length of time completing task; did not finish due to price discrepancy error.

Task 3

Original:

- Entered "tennis for adult" into homepage search bar; responded with "Please enter a valid number"
- Confused, as do not have a number for tennis courts
- Hovered and read tooltip: "Enter program barcode number"

- "How do I get a barcode number?"
 - Scrolled down and read instructions: "Before you begin, you need a client barcode"
 - Participant expressed continued confusion about not being able to find how to get a barcode
 - Entered "adult tennis pro" into homepage search bar, then recognized that this would not help (no more characters are allowed)
 - Clicked "Programs" tab
 - Further confusion about how to find a barcode for tennis
- Timed out.

New:

- Used "Search for program or facility" bar at top
- Entered "tennis times for tomorrow", then clicked X button, deleting the text; assumed search was not working
- Clicked "Programs" tab again
- Entered "tennis" into Programs search
- Unsure how to actually perform the search
- Clicked "Fitness" category on Programs page
- Saw only "Toddlers' Dance Time"; not what is wanted
- Clicked "Programs" tab again
- Entered "tennis times", then clicked X again
- Entered "tennis" in top search bar again

Help from interviewer: "I'm going to give you one small hint. You have 'tennis' entered there; now press the Enter key"

- Pressed the Enter key
- Search results page appeared
- Changed "Programs and Facilities" dropdown to just "Facilities"
- Seeing no change, changed filter back to "Programs and Facilities"
- Looking for a way to specify a time of 5:00pm
- Clicked "Help" tab at top
- Clicked "How do I register for a program?" (resulting in placeholder text)

Interviewer gave 30 second warning.

- Entered "tennis" into Facilities search.
 - Clicked "Apply filters"; participant did not recognize that the search result was clickable
- Timed out.

Questions:

On a scale from 1-10, how would you rate the experience of our website? Why did you choose that score?

> 7. Some parts are good; e.g., good sized print, fine pictures. But difficult to navigate.

What words would you use to describe each design?

> Old: Confusing: barcodes, lack of space between text.
> New: Information given is clear.

On which design would you prefer to perform task 1? Task 2? Task 3?

> Task 1: New design.
> Task 2: New design, because pictures helped.
> Task 3: New design.

Would you have left our website before accomplishing any of the tasks? If so, when, and why?

> Would have left the old design due to confusing barcodes. Unsure how to find barcodes.
> Would not have left new design, due to not needing barcodes. However, Tennis not appearing in Program categories was confusing. (Participant Programs tab to book Tennis facility; was aware they were booking for personal use.)

Were there any parts of our website that you weren't expecting? Would you prefer the website with or without them?

> No; little experience with similar websites for booking programs. Participant has some experience with websites in general, but not this type

Based on your experience, what improvements or changes would you recommend for our design? Is there anything else you'd like to add about your with our design?

> More program categories. Browsing by category is good.

Debriefed; end of interview.

Interview Notes – Bao

Participant 2

7/21/2023

Start Time: 1:17 pm

Initial impressions: (Freely exploring/thinking out loud)

On Prototype:

- Overall the appearance of it looks okay, would like to see more images added to programs/facilities
- Likes the color scheme and how everything is very simple/minimalistic
- Finds the carousel scrolling on the homepage a bit distracting

On original website:

- Looks very outdated, messy, and clustered
- Felt overloaded with the amount of text being displayed on each page
- Found it difficult to read the words (had to zoom in)
- Does not look like a trustworthy website even tho it's a website for the City of Markham

Task 1:

On Prototype:

Steps the user took: (Done in 24 seconds)

1. Clicked Sign Up button
2. Entered all the required details, confirmed their password
3. Clicked Sign Up

On original website: (Done in 20 seconds)

Steps the user took: (Done in 24 seconds)

1. Clicked the Login button
2. Read info, notices it required a barcode
3. Exited login, clicked help->newcustomers
4. Noted that you have to call to create an account

Feedback/comments:

On the prototype, it was really easy and self-explanatory for me to register for an account. I liked how it automatically logs me in once I sign up. For the original website, the process made me not want to register for an account. I was confused when I saw that it required a barcode and I don't like how I had to read a lot of text to understand how to log in. The need to call in order to create an account would deter me away from making one, I find it very inconvenient and do not like phone calls.

Task 2:

On Prototype:

Steps the user took: (Done in 26 seconds)

1. Clicked programs->Soccer->Kids' Indoor Soccer
2. Added Afternoon Indoor Soccer to cart
3. In cart: Next->Pay with existing card -> Complete Purchase

On original website:

Steps the user took: (Done in 52 seconds)

1. Clicked Register for Programs->general programs->children(wanted to look for a soccer section but there was none)
2. Kept clicking next page on search results until page 6
3. On Soccer Indoor:Children, clicked show courses
4. Clicked View details on a course

Feedback/Comments:

On the prototype, it was very intuitive, the use of icons made it easy to locate the soccer section at first glance, and the booking and cart system was also very simple to use.

On the original website, the search design needs a lot of work. I didn't understand the barcode search and when I was browsing the general programs, I expected a category for soccer but there wasn't any. The labels under general programs are confusing because it includes ages but also types of activities, these don't seem to be categorized well. Also, I had to keep clicking the next page because it was sorted in alphabetical order, but it would be much easier if they had the option to go to that letter of the alphabet.

Task 3:

On Prototype:

Steps the user took: (Done in 34 seconds)

1. Clicked Facilities->Tennis Courts->Angus Glen Tennis Center
2. Picked tomorrow's date on the calendar
3. Set the Start time to 5:00PM (attempted to type in the time after several clicks to set the time because found it slow, did not work so continued to click the arrows to set the time)
4. Clicked Schedule Facility->Next->Pay with existing card -> Complete Purchase

On original website:

Steps the user took: (Done in 1min 7 seconds)

1. Clicked Facilities->Facility Booking
2. On search: set time between 5pm-11pm, limit to angus glen tennis center
3. Clicked search
4. Clicked View details on court 2 -> View availability->july 22
5. Backtrack to close all the details
6. Checked "Book", clicked add

Feedback/Comments:

On the prototype, it was similar to booking the soccer program, very easy to do. I just don't like the time selection, it's pretty slow to click the arrows until my desired time. Would prefer if I could just type it in.

On the original website, I filtered the time but I don't think it did anything to the results. I completely missed the book button and instead kept viewing further details about the availability of the facility. It would be better if there was a book/schedule button on the details page with the

available items. I didn't like having to close all the popups in order to get back to book it. Also, each time something had to load, it was very slow.

Questions:

On a scale from 1-10, how would you rate the experience of our website? Why did you choose that score?

I would rate the experience a 9.5 because each task I needed to do was very easy to accomplish. The only reason I deducted .5 marks is because of the time input, I had to click it a lot of times which I didn't find enjoyable, I would much rather input the time with my keyboard.

What words would you use to describe each design?

The prototype design: intuitive, minimalistic, simple

The original design: messy, clustered, overloaded, unorganized, outdated

On which design would you prefer to perform task 1? Task 2? Task 3?

For all tasks, I would much rather perform them on the prototype because the process is much easier, everything can be done on the website and I don't have to make any phone calls.

For each task, what did you find most confusing about each design?

See Feedback/comments on each task above

Would you have left our website before accomplishing any of the tasks? If so, when, and why?

For task 3, when I was scheduling the time for the tennis court I would not have left but it was definitely not a fun experience and would make me reconsider using the website a second time.

Were there any parts of our website that you weren't expecting? Would you prefer the website with or without them?

Regarding the cart system, I didn't expect there to be a card that was already registered to checkout. I liked that feature and find it very convenient to use.

What was your favorite feature, what feature did you find most useful?

Definitely the navigation bar, it had everything that I needed and makes it easy to navigate

On a scale of 1-10 how aesthetically pleasing is our website, and why?

9 because I did not expect it to be too aesthetically pleasing since it's a city website, just having it professional looking it okay

Finish time: 1:53pm

Interview Notes – Beier

Participant 3

7/22/2023

Start Time: 3:10 pm

Initial impressions: (Freely exploring/thinking out loud)

On Prototype:

- Simple design looks dated to the early 2010s
- Lack of diverse language no Chinese
- The lack of hyperlink in announcement
- Confusing title

On the original website:

- Hard to navigate
- aesthetically not pleasing
- small font size
- design like the late 90s

Task 1:

On Prototype:

- Steps the user took:
- click on log in
 - went straight to sign up
 - entered the necessary information
 - finished registration with ease

Time(2 minute)

On Original website:

- clicked on log in
- tried to find a sign up
- clicked on forgot password
- can't find the registration
- Quits

Time(5 minute)

Task 2:

On Prototype:

- Clicked Soccer then Kids' Indoor Soccer
- Added Afternoon Indoor Soccer to cart
- Click next in cart
- Clicked on payment choose card ends with 1234
- Complete purchase

Time (45 second)

On Original website:

- Clicked on Program
- Clicked on Fitness, cant find soccer
- clicked on summer program, Children page cant find soccer program
- clicked on General program->Children_scrolled to soccer page
- Show course, cant find booking frustrated and quits

Time(4 minute)

Task 3:

On Prototype:

- Clicked on Fields in facilities
- Choose to desire time and pressed schedule facilities
- next choose the card that ends with 1234
- Complete purchase

Time(25 second)

On Original website:

- Clicked on facilities
- Searched on the left tool bar for keywords, no result
- clicked on Search
- flipping through each page trying to find the word court
- found it on page 5 clicked on availability
- chose the desired timeslot and booked

Time(4 minute)

Questions:

On a scale from 1-10, how would you rate the experience of our website? Why did you choose that score?

I would rate the website a 7 out of 10, some feature isn't really implemented, like every program I clicked shows the same kids' soccer program and so does the facilities i choose.

For each task, what did you find most confusing about each design?

I found the lack of confirmation for each task the most confusing, like when registering for programs and facilities there is not confirmation email.

Were there any parts of our website that you weren't expecting? Would you prefer the website with or without them?

I did not expect the change to the font size on the website, I prefer the website with them but the implementation isn't there.

What was your favorite feature, what feature did you find most useful?

My favorite feature of the website is the ease of navigation compared to the old one, where it's messy and all clumped up.

On a scale of 1-10 how aesthetically pleasing is our website, and why?

I would give the website a rating of 6.5, there are many problems with font sizing and alignment which is a pet peeve of mine. As an artist I prefer symmetry. the overall design is clean and more of a simplistic approach.

Which website do you prefer more and why?

I prefer the new website as it ops for easy navigation whereas the old website makes it hard to track anything.

Do you have any recommendations for improvement for the prototype website?

I would recommend adding confirmation to each progress of the website, like registration and confirmation of booking. I would also recommend the alignment of font and design for the website to make it more aesthetically pleasing.

End time: 3:45pm

Interview Notes – Annanya

Participant 1 (starts from 9:49)

Task 1

OG website:

Tries to log in -> needs a barcode -> reads info at home page -> gets navigated to another website for login

Our prototype:

Clicks on login -> then goes to sign up from there -> fills in the information

Feedback:

I can trust this website, the OG one I might consider signing up because it takes me to the other website which is a bit sketchy, and gives uncertainty. The one you have designed is way easier and something that a user can trust.

Task 2

OG website:

Clicks on program -> time out -> clicks program tab -> looks over the category-> goes to general program -> children -> tries different pages -> finally gets to the soccer -> clicks on the details for the first one

Our website:

Browses through the home page -> click on programs -> click on soccer -> scroll through the cards -> click the soccer for right age group -> add to card -> checkout

Comments while doing the task:

The category is very off here, the name doesn't sound too good, a bit confusing. The category is not easy to search. If they have arranges with alphabetic order, they can just provide A, B, C, D ... and I can just search for "S". Did not mention the age group for children. The layout and UI are really bad and can be done differently.

Likes the layout, have the ages on the card with the descript. Way easier.

Feedback:

If I look at the OG website the number 1 problem is the basic categorization is very messed up. A person who is not very much into this program finds it very confusing what

category to click on. And when click on the general program -> children get many options, can just have badminton and then have categories in it. Too many clicks to reach my destination which is making my process more time-consuming and probably very frustrating if I am looking for something have to go through all the tabs to find it. If I have everything laid out, it gets easier. When I have looked at a course, I don't have visually appealing slot information. Very cluttered.

Whereas in your prototype, what I like is, I have the option to select my category / what I am looking for, I can just look for it and get the info. When I click on category, I have all the information upfront, so this is more organized, less cluttered, and less time-consuming and payment method is very easy so this is a much better way of doing it. The filters are good.

Task 3:

OG website:

Tries to find within the filters of "Program" (needed clarification and emphasis on "Facilities") -> clicks on facility tab -> applies filters -> clicks facility availability -> function as tennis -> type as tennis -> clicks on search -> clicks on the first result -> exists

Our website:

Facilities -> tennis court -> clicks on the card -> picks a time -> without picking a time checks out.

Feedback:

confused about what is "Function"? confused if the function is tennis then what is the purpose of type, and what is different between time and function- will probably leave the website here and look for other options. After applying the filters, the time is off.

Confused about what they are talking about, again leave the website and better make a call than use the website.

Good thing that we have provided the price on the page. I think the filters that are provided in the next step should be there, you are already providing me with all the info, already have that so don't need to filter there. So the filter should be under facilities, there is where I will require a filter. I think the calendar can be made simpler by displaying all the available time, if I get all the time in the bubble time if I can see that and pick a time. It shows available but I don't if it's available for my time. So instead, I

just want to pick a date/duration, and then show all the available times. Otherwise, the process is way easier and sorted compared to the other website.

Interview questions:

- On a scale from 1-10, how would you rate the experience of our website? Why did you choose that score?
 - OG UI is bad, old looking, and very sketchy, and would not like to make payments there. On the contrary, your website UI is nice, simpler to understand and do tasks, payment method is nice. The only reason why I am not giving 10/10 is that I think you can do better with UI, you can choose colors, or some changes to the UI can make it look better and add to the experience for the user.
- What words would you use to describe each design?
 - OG: old looking - vintage (not in a good way), overload of info making me feel very overwhelmed, very confusing, sketchy
 - Our prototype: very simple to use, straightforward, the right amount of information, user friendly.
- On which design would you prefer to perform task 1? Task 2? Task 3?
 - For each task, what did you find most confusing about each design?
 - Definitely on your platform because the layout is easy to understand.
 - Not confusing, my journey was very simple and straightforward. The only thing I will suggest is regarding the filter, if you provide me earlier would make it easier. The other thing was the availability one, if you show me all the options available rather than me choosing the time and then getting the time that is not available, it's time-consuming.
- Would you have left **our** website before accomplishing any of the tasks? If so, when, and why?
 - I don't think I would, because everything is straightforward and I wouldn't have to make a call to understand. So no, I wouldn't abandon your website.
- Were there any parts of **our** website that you weren't expecting? Would you prefer the website with or without them?
 - I gave you the 2 inputs, place filters in the right place. Giving the user chance to select the time but better to see the available slots.

- Based on your experience, what improvements or changes would you recommend for our design? Is there anything else you'd like to add about your experience with our design?
 - If you can work a little bit with the UI, making it more appealing. Giving it a more modern feel that will help. By saying modern I mean, making the images by adding a curve rather than keeping the edges sharp, these small changes will make a difference. Also on the home page, make the language button smaller. Right now the color for selecting something is red, but the Login is red too - I understand that it's an important button, but having it red is always giving me the thought that I have selected login which should not be the case. You can work around the colors.

Interview Notes – Omar

Participant 2: Professor

First Glance FeedBack

OG website:

- Unconventionally placed elements, such as alerts is under the nav bar
- Alot of text
- Out of date layout
- Text heavy
- Some needs a barcode to access programs from homepage
- Content does not make sense, no call to action that speaks to user

Our Prototype:

- Likes the notice at the top of the page, seems to be part of the website rather than just the page
 - Add actual dates and make it red to stand out
- Conventional Navigation Bar
- Visualizations are quite appealing
- Keyword search bar is more relevant
- There is a disconnect between the homepage and the programs/facility pages
- Likes the frequently asked questions page
- |

Task 1

OG website ~ 40 seconds

Goes to homepage -> Clicks on login -> Gets stuck -> goes to help and finds out you have to call to register -> Could not register

Our prototype ~ 32 seconds

Goes to homepage -> Clicks on login -> Enters information-> clicks register -> successful registration

Feedback:

- Prototype has a better experience more conventional.
- Instead of email address it should say “Logged in as: NAME”.

- A confirmation message would be helpful.

Task 2

OG website ~ 90 seconds

Goes to homepage -> Goes to program tab -> looks for search options -> clicks advanced search -> clicks Soccer Indoor Children

Our prototype ~ 70 seconds

Goes to homepage -> Clicks search bar in nav -> enters information-> Applies filter ->
Clicks program -> adds course/session to cart -> checks out

Feedback:

- OG Website:
 - Barcode search is not good in OG Website
 - OG Website advanced search is robust
 - Layout not too bad
 - Search path is hard to grasp
- Prototype:
 - Has a more efficient search
 - Layout is better
 - Checkout is intuitive
 - However it should ask more information about son/daughter when parents/guardians sign them up
 - Age dropdown should be better organized

Task 3:

OG website ~ 70 seconds

Starts at the programs page -> Goes to facilities page -> Adds filter for tennis -> Views availability -> completes task

Our prototype ~ 55 seconds

Searches for tennis in nav bar search-> Clicks tennis option -> Picks a date and time -> schedules facility -> completes checkout

Feedback:

OG Website:

- Should have a better layout
- Should not show unavailable options

Prototype

- Search and selection of facility is simple and easy
- date and times that are available shown inside the filters would be better then finding outside it
- Time filter should be every 30 mins or hour rather then every minute
-

Interview questions:

- On a scale from 1-10, how would you rate the experience of our website? Why did you choose that score?
 - 8.5 rating, some minor tweaks would help our prototype but it is a drastic improvement from the old website.
- What words would you use to describe each design?
 - OG: unconventional, text heavy, inefficient, unclear, restricted
 - Our prototype: action oriented, user friendly, efficient, visually appealing
- On which design would you prefer to perform task 1? Task 2? Task 3?
 - Task 1: Would rather perform task 1 on our prototype due to it being more straightforward for the user to find and process was straightforward as well

- Task 2: Would rather perform task 2 on our prototype due to it being easier to find the search functionality and it also being more relevant by allowing us to search for programs by name. Also on the OG website it was designed for someone who already knew the barcode and knew about the advanced search option.
- Task 3: Would rather perform task 2 on our prototype due to it being easier to find the search functionality and it also being more relevant by allowing us to search for facilities by name.
- Would you have left **our** website before accomplishing any of the tasks? If so, when, and why?
 - Participant does not think they would have left before completing the tasks. They were not frustrated by the new prototype since the tasks were all possible.
- Were there any parts of **our** website that you weren't expecting? Would you prefer the website with or without them?
 - Was not expecting the email to be displayed when the user logged in, and would prefer the website with the user name displayed instead
 - The shopping cart should update properly, however it is understandable with the current limitations of there not being a dedicated backend, but it would be nice if it could change
- Based on your experience, what improvements or changes would you recommend for **our** design? Is there anything else you'd like to add about your experience with **our** design?
 - Make notice banner stand out
 - When logged in, display a confirmation message and the user's name instead of email
 - Shopping cart would be nice if it would update on change, understandable since it is a prototype and there isn't a proper backend
 - Have the same number of filter options from the original website in the new one as well
 - Have the programs page and facilities page reflect a similar structure and images as the home page to convey to the user that they are on the same website

- For booking facilities do not show all dates, show only dates that are available by highlighting in the calendar and for time selection use 15 min or 30 min intervals rather than minute intervals.

Coded Observational Study Notes

<https://drive.google.com/file/d/1sWB7CJyd2xRpOoDC61ekr-ubw0g42rqJ/view?usp=sharing>

The above document contains organized snippets of each interview sheet, highlighted based on topical relevance. It is also copied on the following pages.

Usability interview snippets

Original

First Impressions

Photo is nice

Text contrast is readable

Looks very **outdated, messy, and clustered**

Felt overloaded with the amount of text being displayed on each page

Found it difficult to read the words (had to zoom in)

Does not look like a trustworthy website even tho it's a website for the City of Markham

-**Hard to navigate**

-aesthetically not pleasing

-small font size

-design like the late 90s

old website has a lot of steps to get to where you need to go (initial impression)

why is there a child on it?

New

likes the quick access for programs

likes to be able to go back from selection

-**Simple design** looks dated to the early 2010s

- Lack of diverse language no Chinese

- The lack of hyperlink in announcement

- Confusing title

Overall the appearance of it looks okay, would like to see more images added to programs/facilities

Likes the color scheme and how everything is very simple/minimalistic

Finds the carousel scrolling on the homepage a bit distracting

- **Carousel pictures move too fast - can't look at them**

- Similar to other websites

Task 1 Original

cliczke start to register (1 mistake)

- had to read the how to on the start page
- tried to click login without entering info (1 mistake)
- clicked to forgot password (1 mistake)
- clearly frustrated
- **ended up click help and got frustrated with the amount of text, giving up**

time 2 mins

Errors 3

Interactions 12

- clicked on log in

- tried to find a sign up

-clicked on forgot password

-can't find the registration

-Quits

Time(5 minute)

Steps the user took: (Done in 24 seconds)

1. Clicked the Login button
2. Read info, notices it required a barcode
3. Exited login, clicked help->newcustomers
1. Noted that you have to call to create an account

- Reading instructions for "How to register online" and "Steps to register"

- Trying to click in the instructions, but no links

- Would print the instructions to keep from being rushed

- Unsure about client barcode; can't click anywhere to find out

Timed out.

Speaker 2: So first thing

Speaker 3: is I am thinking that maybe login will allow me to create a new account.

Speaker 1: Yeah, but this requires

Speaker 2: the client barcode which we don't have.

Speaker 3: I know how would you find it. Please identify yourself.

Speaker 2: If you did not provide us with this email address you will have the registration office for further details. So I cannot log in from here. If I register for programs for facilities. Okay, make this switch create an account today. So, I think here. you asked me to log in right or like read an account

Speaker 1: yes

Speaker 2: yes so I'm going to go here

Speaker 1: yeah but now it takes you to the other side so this is

Speaker 3: not ideal sign up or login so I am not part of

Speaker 2: once again this one

Speaker 2: is so I am

Speaker 3: creating account for the same thing but a different website

Task 1 Prototype

Speaker 1: Okay, cool. So if I click on login, ...

Speaker 2: Do I have to fill in all the information? ...

Speaker 2: This one is way more easier. It's not taking me to some other website which is making me feel more like I can trust this website. The one that I saw like the original website when I click on sign up, I might consider signing up because it looks a bit sketchy because it is directing me to some other

website that generates a sense of uncertainty whether I'm on the right website or not. So yeah, this is my feedback on how the original website is and what you have designed is way more easier and yeah, something that **user can trust**.

- Scrolled down initially, scanning the homepage
 - Nothing at top that says "Account" or "Start Account" or "Begin Account"
 - Found "Sign Up" and clicked
 - Filled out form fields
 - Password placeholder looks like typed characters
 - Clicked "Log In" at the bottom instead of **completing signup**
- Spent full length of time completing task.

Steps the user took: **(Done in 24 seconds)**

1. Clicked Sign Up button
2. Entered all the required details, confirmed their password
3. Clicked Sign Up

Steps the user took:

- click on log in
- went straight to sign up
- entered the necessary information

-finished registration with ease

Time(2 minute)

first clicked help, confused by the lorem ipsum

- couldn't find the sign up
- Eventually clicked sign in but didn't notice the text to go to sign up and tried to sign in (1 mistake)
- eventually found sign up but was confused on what to put on password field (ended up putting email again)
- was confused by signup error

time - 1:30

Task 2 Original

Old Website

- tried to book using the **barcode search (clearly frustrated by it)**, 1 error
- got confused by the amount of loading
- immediately upset by the text vomit

- clicked fitness in the sub categories, but soccer wasn't there (1 error)
- Clicked general programs then children
- frustrated by having to go through a bunch of tabs to get to soccer
- clicked view details and found the one he wanted
- saw the availability was zero and then didn't know what to do

time - 2:00

Errors - 2

Interactions - 10

On Original website:

- Clicked on Program
- Clicked on Fitness, can't find soccer
- clicked on summer program, Children page can't find soccer program
- clicked on General program->Children_scrolled to soccer page
- Show course, can't find booking frustrated and quits

Time(4 minute)

On original website:

Steps the user took: (Done in 52 seconds)

1. Clicked Register for Programs->general programs->children(wanted to look for a soccer section but there was none)
2. Kept clicking next page on search results until page 6
3. On Soccer Indoor:Children, clicked show courses
4. Clicked View details on a course

Original:

- Scrolled down looking for programs
- Scrolled back up and clicked "Programs" tab
- Read instructions
- Went immediately to category list in Filters on left
- Clicked "Summer Camps" category (can play soccer at a summer camp)
- Don't want to go through alphabetical list trying to find soccer; looking around for other UI elements
- Read tooltip on "Complex" dropdown and clicked; after reading, figured that it will not help
- Clicked "Fitness"; not here either
- Didn't know whether it should be in "Fitness", "General Programs", or "Pay before you Play" (because interviewer mentioned needing to pay for the course)
- Clicked "Browse for Courses"

- No barcode number; unsure of how to get one

Timed out.

Speaker 1: soccer program for eight years.

Speaker 2: Okay, general programs, summer camp swimming, special needs.

Speaker 3: Okay, the category is very off here because having fitness, general programs, pay before you play, the category name doesn't sound too good. It is a bit confusing and if I go in general programs, I would go in children.

Speaker 2: Okay, I think they need to categorize it better. The categories here are not very easy to serve. So if they have alphabetic... If they have arranged it in alphabetic manner, they could also provide us with ABCD because then I can just click on S and check if soccer is there.

Speaker 2: Wow, we have

Speaker 3: the categorization is not good at all.

Speaker 2: We have not mentioned the age

Speaker 2: group. We have done differently.

Task 2 Prototype

New website

- Clicked soccer card on homepage
- confused by missing data
- clicked add to cart
- clicked continue -> keep card -> purchase

time 0:30

Errors 0

Interactions 5

On Prototype:

- Clicked Soccer then Kids' Indoor Soccer
- Added Afternoon Indoor Soccer to cart
- Click next in cart
- Clicked on payment choose card ends with 1234
- Complete purchase

Time (45 second)

On Prototype:

Steps the user took: (Done in 26 seconds)

1. Clicked programs->Soccer->Kids' Indoor Soccer
2. Added Afternoon Indoor Soccer to cart

3. In cart: Next->Pay with existing card -> Complete Purchase

New:

- Clicked **Soccer program** on homepage

Interviewer participant asked to perform the task again, ignoring the homepage entry.

- Scrolled down and up, then clicked "Programs" tab
 - Scanned page, then clicked "Soccer" category
 - Scrolled list down
 - Asked whether to choose Indoor or Outdoor; interviewer replied to choose one
 - Clicked on "Kids' Indoor Soccer"
 - Scrolled down and clicked "Add to Cart"
 - Cart opened, participant clicked "Next" and "Next"
 - Confused about price discrepancy: \$50 vs \$15
 - Knew how to complete transaction ("Complete Purchase"), but refused to due to price discrepancy, thinking it could be fixed
- Spent full length of time completing task; did not finish due to price discrepancy error.

Speaker 2: I really like the way it is designed here because from I can get an idea about what the program is about what age group.

Speaker 2: It is way more simple to understand.

Speaker 1: Would you like to compare between the two?

Speaker 3: If I look at the original website, the first problem is that they have their basic categorization of their events on their homepage is already messed up. If you see a person who is not very much into this kind of program, I would find it confusing whether I should click on fitness or summer caps or pay before you play. These categorizations are not correct. I have to make too many clicks to reach my destination. I have to go and see where it is. I have everything on the main screen. I have a look at the course then say for example if I add this it asks me to okay I don't have if I was logged in again I need to see this is not a very visually it is not very appealing I cannot see it's like Monday Tuesday Wednesday Thursday Friday I don't know whether the times everything is all cluttered I would like it if it is organized in a better way now when I come to your prototype see what I really like is once again if I go back to I have an option. Yeah, so here I have an option to select my particular category of what

I'm looking for so it makes my job easier I just look for it and I get options. Then when I click on soccer I have all the basic information that I need up front so it makes it easy for me to okay I can I know there is the age limit is 6 to 11 so if I'm looking for someone who's eight years old will fit into this category so that is good.

And yeah so this one is way more organized less cluttered less time consuming and payment method is very easy so yeah this is a much better way of doing it compared to the original website.

Speaker 1: Another question like you had a task to look for age for like a child age eight.

Speaker 2: Yes, this is not like this option here it's not obvious to.

Speaker 3: No, no, no, because I was looking I was focusing more on looking for that. Like you know looking at these search results I did not search it properly. If I have this option of explore like I did not explore the page properly if I would have then this is a very good option I can just select the particular age, and then I don't even have to like worry about looking at all the other options. Wait, going through all this so this is a really good filter options so the filters are good because yeah programs and facilities.

Task 3 Original

Old Version

went to programs and started looking for tennis (1 Error)

Was upset by having to go page by page since programs beginning with T were near the end accidentally clicked on taekwondo (1 Error)

clicked tennis for children (1 Error)

clicked view details on one of the children's program slots (1 Error)

was upset by details not showing up when clicking view details

started browsing various tennis programs

Time - 2:00

Errors 4

Interactions - 18

On Original website:

-Clicked on facilities

-Searched on the left tool bar for keywords, no result

-clicked on Search

-flipping through each page trying to find the word court

-found it on page 5 clicked on availability
-chose the desired timeslot and booked
Time(4 minute)

On original website:

Steps the user took: (Done in 1min 7 seconds)

1. Clicked Facilities->Facility Booking
2. On search: set time between 5pm-11pm, limite to angus glen tennis center
3. Clicked search
4. Clicked View details on court 2 -> View availability->july 22
5. Backtrack to close all the details
6. Checked "Book", clicked add

On the original website, I filtered the time but I don't think it did anything to the results. I completely missed the book button and instead kept viewing further details about the availability of the facility. It would be better if there was a book/schedule button on the details page with the available items. I didn't like having to close all the popups in order to get back to book it. Also, each time something had to load, it was **very slow**.

Original:

- Entered "tennis for adult" into homepage search bar; responded with "Please enter a valid number"
- Confused, as do not have a number for tennis courts
- Hovered and read tooltip: "Enter program barcode number"
- "How do I get a barcode number?"
- Scrolled down and read instructions: "Before you begin, you need a client barcode"
- Participant expressed continued confusion about not being able to find how to get a barcode
- Entered "adult tennis pro" into homepage search bar, then recognized that this would not help (no more characters are allowed)
- **Clicked "Programs" tab**
- Further **confusion** about how to find a barcode for tennis

Timed out.

Speaker 1: Okay, now we can move on to our third task the last. If this book attendance facility for tomorrow at 5pm.

Speaker 2: Okay, so as I already said their **categories are not very nice I will look at**. Before you play general category and this I'm booking for.

Speaker 1: Like booking a tennis court or like booking a tennis facility.

Speaker 2: Okay, okay, now facilities so okay they have facilities search with.

Speaker 2: limit to.

Speaker 3: Okay, so I'm going to go to the next one. Dressing rooms.

Speaker 2: Facility information facility.

Speaker 3: date whatever. Okay, so I'm going to go.

Speaker 2: That's again.

Speaker 3: Between and time. Okay. **What's functions function what is function**. So I have to look at what tennis right.

Speaker 1: But.

Speaker 3: Okay, private lesson type. So this doesn't make sense. If I'm the function is tennis then.

What is the purpose of type here.

Speaker 1: Why am I selecting? Like I don't get the purpose. What is different about type and function? So I'm confused and I'll probably leave the website there and I will look for some other option.

Speaker 2: And if I go on, okay.

Speaker 3: Well, Thursday, I'm getting these options. Let's select this one.

Speaker 2: Okay, so these are the book ones available is 830 am. Okay, so the time is off like I cannot understand. It says Thursday. 1230 am. And this is 830 am. And so I'm already confused about what they are talking about. So again, I would leave the website and probably make a call and then do the reservation rather than using the website to do it. Okay.

Task 3 Prototype

New Version

- **clicked tennis under programs on the homepage (1 error)**
- was taken to kids soccer (error with the website)
- tried to enter in times within the soccer page as if the text was editable (1 error)
- Blindly stumbled for a bit
- had to intervene by mentioning the facilities tab
- Clicked fields (1 error)
- tried to type into the search but didn't overwrite the "fields" placeholder (1 error)
- upset that couldn't find time as a filter
- gave up completely

time - 1:35

Errors - 4

Interactions - 14

On Prototype:

- Clicked on Fields in facilities
- Choose to desire time and pressed schedule facilities
- next choose the card that ends with 1234
- Complete purchase

Time(25 second)

On Prototype:

Steps the user took: (Done in 34 seconds)

1. Clicked Facilities->Tennis Courts->Angus Glen Tennis Center
2. Picked tomorrow's date on the calendar
3. Set the Start time to 5:00PM (attempted to type in the time after several clicks to set the time because found it slow, did not work so continued to click the arrows to set the time)
1. Clicked Schedule Facility->Next->Pay with existing card -> Complete Purchase

On the prototype, it was similar to booking the soccer program, **Very easy to do**. I just don't like the time selection, it's pretty slow to click the arrows until my desired time. Would prefer if I could just type it in.

New:

- Used "Search for program or facility" bar at top
- Entered "tennis times for tomorrow", then clicked X button, deleting the text; assumed search was not working
- **Clicked "Programs" tab again**
- Entered "tennis" into Programs search
- Unsure how to actually perform the search
- Clicked "Fitness" category on Programs page
- Saw only "Toddlers' Dance Time"; not what is wanted
- Clicked "Programs" tab again
- Entered "tennis times", then clicked X again
- Entered "tennis" in top search bar again

Help from interviewer: "I'm going to give you one small hint. You have 'tennis' entered there; now press the Enter key"

- Pressed the Enter key
- Search results page appeared
- Changed "Programs and Facilities" dropdown to just "Facilities"
- Seeing no change, changed filter back to "Programs and Facilities"
- Looking for a way to specify a time of 5:00pm
- Clicked "Help" tab at top
- Clicked "How do I register for a program?" (resulting in placeholder text)

Interviewer gave 30 second warning.

- Entered "tennis" into Facilities search.
 - Clicked "Apply filters"; participant did not recognize that the search result was clickable
- Timed out.

Speaker 1: And if I go on your website, and I know there's facilities here.

Speaker 2: And I can

Speaker 3: find my key was I can see the tennis court here. But if I have to do it, I can search also that is a good option. Very direct and then yes, good thing they have provided us like you have provided with the time per hour. So price per hour.

So that is good. Now any facility type indoor outdoor. Okay, if I once again, if I go on facilities. So I think the filters that are provided in the next step here should be here.

Speaker 1: Okay.

Speaker 1: Because when I'm looking for when I'm making that search here you're already providing me with the filters like you're providing me with all the information like I know the rate.

I know the details here I have a brief description about the tennis court. So I think when I already have this I do not need to filter it further where I need to.

Speaker 2: Like when I'm looking for making my search, I need the filters here so that I can search for that exact thing.

Speaker 3: Right now I have brows by category. So if I'm doing that I would require the filter. Okay, now if I go here, I have this one click on it. And so the prices given here but the price.

Speaker 1: There's a disc. Yeah.

Speaker 3: But that's okay. It's just a prototype. So, okay, so I can. Good. I know what time pick a time. Okay, if I select.

Speaker 2: Okay.

Speaker 3: Instead of having 915. I would say. Okay.

Speaker 2: Okay.

Speaker 3: So, I think the calendar can be made simpler by providing me all the available time like. If I get time slots in that bubble but if there are buttons say if I have I can pick duration or like just all the time the court is available. So if I get to see that and then I can pick the time. Okay, I need it for this to this time right now I will have to it shows available but I don't know whether it is available for my time or no. So, yeah, so availability if I can see it. I just have to pick a date and based on that date if you show me all the time that is available. I think maybe you can do pick a date and duration and all the time that is available for me.

Speaker 1: Okay.

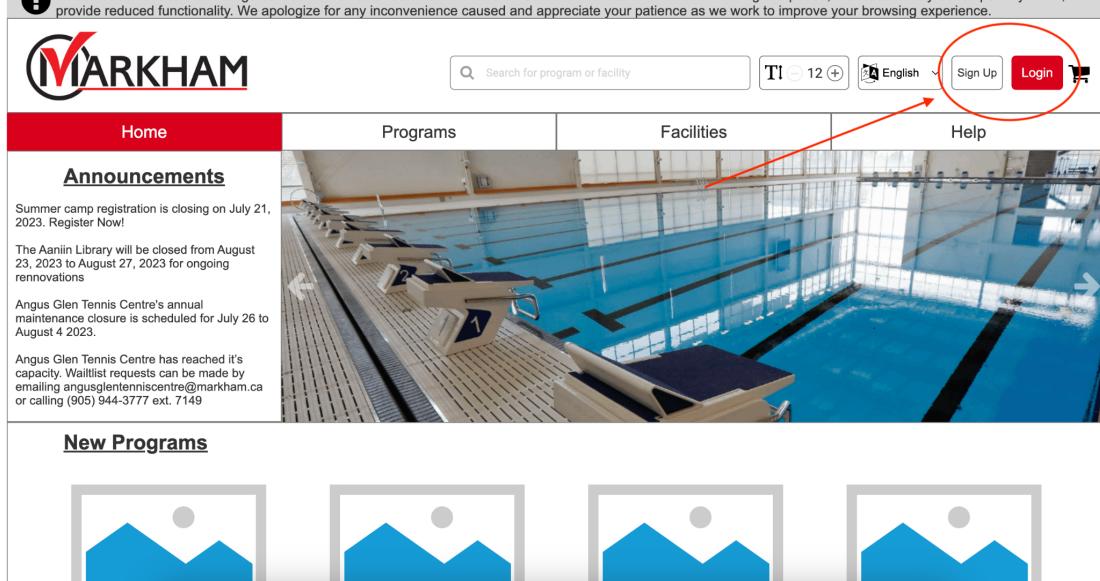
Speaker 3: So that will make it more simpler. Yeah. Okay.

Speaker 1: Otherwise the process is way easier and sorted over here compared to the original website. So yes. Okay.

Interactive Prototype Demo

Appendix 1A Sign up and Log in feature

Notice: Our website will undergo scheduled maintenance on <DATE> from <START TIME> to <END TIME>. During this period, the website may be temporarily down, or provide reduced functionality. We apologize for any inconvenience caused and appreciate your patience as we work to improve your browsing experience.



The screenshot shows the Markham website homepage. At the top right, there is a navigation bar with a search bar, language selection (English), and buttons for "Sign Up" and "Login". A red circle and arrow highlight the "Login" button. Below the navigation bar is a menu with "Home", "Programs", "Facilities", and "Help". The "Announcements" section contains several text blocks about summer camp registration, library closures, and tennis centre maintenance. To the right of the announcements is a large image of an indoor swimming pool with lane lines and starting blocks. Below the announcements is a section titled "New Programs" featuring four placeholder images of blue mountains with a sun icon.

Sign Up

First Name Last Name
 *Required *Required

Email Address
 alice@example.com *Required

Password
 *Required

Confirm Password

User Login

Email Address
 alice@example.com

Password

[Forgot Password?](#)

Sign In

[Don't have an account? Sign Up](#)

Appendix 1B Browse Filter and Register for program

Notice: Our website will undergo scheduled maintenance on <DATE> from <START TIME> to <END TIME>. During this period, the website may be temporarily down, or provide reduced functionality. We apologize for any inconvenience caused and appreciate your patience as we work to improve your browsing experience.

MARKHAM eConnect

Search for program or facility T1 12 + English Sign Up Login

Home	Programs	Facilities	Help
Announcements			
Summer camp registration is closing on July 21, 2023. Register Now!			
The Aaniiin Library will be closed from August 23, 2023 to August 27, 2023 for ongoing renovations			
Angus Glen Tennis Centre's annual maintenance closure is scheduled for July 26 to August 4 2023.			
Angus Glen Tennis Centre has reached its capacity. Waitlist requests can be made by emailing angusglen@markham.ca or calling (905) 944-3777 ext. 7149			
New Programs			

MARKHAM eConnect

Search for program or facility T 12 + English Sign Up Login Cart

Home Programs Facilities Help

Announcements

MARKHAM eConnect

Search for program or facility T 12 + English Sign Up Login Cart

Home Programs Facilities Help

Programs

Find By Keyword

Search for program by keyword

Browse By Category



Fitness



Ice



Soccer



Swimming

Customer Service Phone number: 905.477.5530 Email: customerservice@markham.ca	Address Markham Contact Centre 101 Town Centre Boulevard Markham Ontario L3R 9W3	Hours of Operation Monday to Friday: 8 AM - 5 PM (excluding statutory holidays)
--------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------

! **Notice:** Our website will undergo scheduled maintenance on <DATE> from <START TIME> to <END TIME>. During this period, the website may be temporarily down, or provide reduced functionality. We apologize for any inconvenience caused and appreciate your patience as we work to improve your browsing experience.

MARKHAM eConnect

Search for program or facility T 12 + English Sign Up Login Cart

Home Programs Facilities Help

Announcements

[!\[\]\(647e44ea77c89a016b9d36ad68afc84b_img.jpg\) Search results](#)

Kids' Indoor Soccer

Ages 6–11

1-hour casual games of soccer for school-age children. No experience necessary.
Indoor running shoes required.



Dates & Times

Afternoon Indoor Soccer | \$15

Times: 4 pm - 5 pm

Location: Aaniin Community Centre

Days: Mon, Wed

Availability: 6 left

Please log in to
add to your cart

[Login](#)

Evening Indoor Soccer | \$15

Times: 6 pm - 7 pm

Location: Aaniin Community Centre

Days: Tue, Thu

Availability: 6 left

Please log in to
add to your cart

[Login](#)

Afternoon Indoor Soccer | \$15

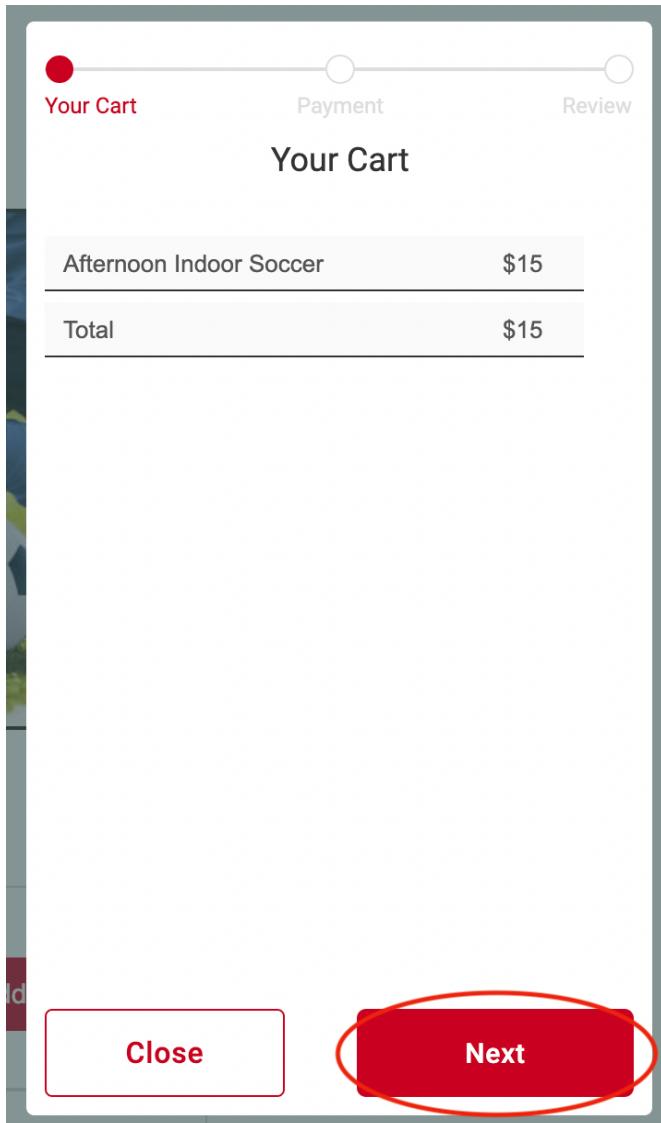
Times: 4 pm - 5 pm

Location: Aaniin Community Centre

Days: Mon, Wed

Availability: 6 left

[Add To Cart](#)



Appendix 1C Browse Filter and Register for Facility

Notice: Our website will undergo scheduled maintenance on <DATE> from <START TIME> to <END TIME>. During this period, the website may be temporarily down, or provide reduced functionality. We apologize for any inconvenience caused and appreciate your patience as we work to improve your browsing experience.

The screenshot shows the MARKHAM eConnect website. At the top, there is a notice about scheduled maintenance. The header includes the MARKHAM eConnect logo, a search bar, and links for T12+, English, Sign Up, Login, and a shopping cart. Below the header, there is a navigation menu with Home, Programs, Facilities (which is circled in red), and Help. The main content area features an image of an indoor swimming pool with lanes and starting blocks. To the left of the image, there is an 'Announcements' section with information about summer camp registration closing on July 21, 2023, and the Aanlin Library being closed for renovations. Below the announcements is a 'New Programs' section. At the bottom of the page, there is a footer with links for Home, Programs, Facilities (which is highlighted in red), and Help, along with a search results link.

Aaniin Community Centre Pool

5665 14th Ave Rate: 25/hr

Large, modern pool located inside Aaniin Community Centre. The name "Aaniin," pronounced [ah-nee], means "hello" or "welcome" in Ojibway. The name was chosen to welcome Markham's many diverse communities, to celebrate Canada's 150th anniversary of Confederation in 2017, and in honour of our First Nations people. Aaniin Community Centre & Library is the City's latest facility. The 122,000-square-foot, fully accessible facility is located on more than 13 acres of land and has state-of-the-art amenities and features.

Sorry,
no image
available

Dates & Times

Calendar

Pick a date

<	July	>				
S	M	T	W	T	F	S
01	02	03	04	05	06	07
08	09	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

1

2

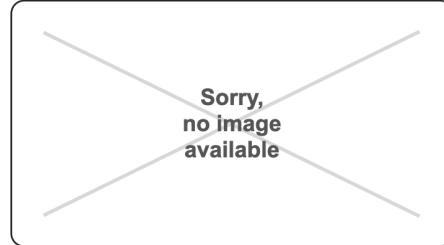
Search results

Aaniin Community Centre Pool

5665 14th Ave

Rate: 25/hr

Large, modern pool located inside Aaniin Community Centre. The name "Aaniin," pronounced [ah-nee], means "hello" or "welcome" in Ojibway. The name was chosen to welcome Markham's many diverse communities, to celebrate Canada's 150th anniversary of Confederation in 2017, and in honour of our First Nations people. Aaniin Community Centre & Library is the City's latest facility. The 122,000-square-foot, fully accessible facility is located on more than 13 acres of land and has state-of-the-art amenities and features.



Dates & Times

Calendar

Pick a date

August 14 2023

Start Time End Time

Pick a time

10 : 30 AM Available

11 : 30 AM

MARKHAM eConnect

Search for program or facility T1 12 English Login

- Home
- Programs
- Facilities
- Help

Search results

Aaniin Community Centre Pool

5665 14th Ave Rate: 25/hr

Large, modern pool located inside Aaniin Community Centre. The name "Aaniin," pronounced [ah-nee], means "hello" or "welcome" in Ojibway. The name was chosen to welcome Markham's many diverse communities, to celebrate Canada's 150th anniversary of Confederation in 2017, and in honour of our First Nations people. Aaniin Community Centre & Library is the City's latest facility. The 122,000-square-foot, fully accessible facility is located on more than 13 acres of land and has state-of-the-art amenities and features.

Dates & Times

Calendar

Pick a date

August 09 2023

Start Time End Time

Pick a time

8 : 21 PM

10 : 21 PM

Your Cart

Aaniin Community Centre Pool	\$75
Total	\$75

Close

Customer Service
Phone number: 905 477 5530
Email: customerservice@markham.ca

Address
Markham Contact Centre
101 Town Centre Boulevard
Markham Ontario L3R 9W3

Hours of Operation
Monday to Friday: 8 AM - 5 PM
(excluding statutory holidays)

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