

Heuristic Evaluation

Scotiabank Toronto Waterfront Marathon website

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Table of Contents

1. Introduction	3
1.1 Site	3
1.2 Target user	3
2. Method	5
2.1 Process	5
2.2 Tasks	6
3. Findings & recommendations	7
4. Limitations	11
5. Bibliography	13
6. Appendix.....	14
6.1 Group evaluation tables.....	14

1. Introduction

1.1 Site

For our heuristic evaluation, we conducted an analysis on the Scotiabank Toronto Waterfront Marathon website (<http://www.stwm.ca/>). This site provides visitors with information about participating in the marathon, which is part of the Canada Running Series. Registration for the event, and all series-affiliated marathons, takes place on a separate site called *Race Roster*. The Waterfront Marathon site also serves as a hub for information related to the event such as sponsorship opportunities, involved charities, volunteer opportunities, training programs, and travel for non-local participants. Past participants in the marathon can also use the site to browse photos and view their results.

The site features a static title banner with links to alternative versions of the site for several different countries, links to the organization's social media accounts, and a countdown to race day. Below the banner is a static universal navigation bar with pull-down menus, underneath which content is presented throughout the site. Above the top banner is a pull-down menu allowing the user to navigate to websites for other Canada Running Series events. The site was designed by Attention Web and Graphic Design, a British Columbia-based web design firm.

1.2 Target user

There are multiple target users for the Scotiabank Toronto Waterfront Marathon site, including prospective participants, past participants, volunteers, spectators, media, charities, and sponsors. For the purposes of our evaluation, we identified prospective participants as critical target users.

Registration is featured prominently as a call-to-action in various places throughout the website, suggesting that prospective participants were prioritized stakeholders in the design of the website and that registration in particular was situated as a key

event. Prospective participants may also use the site in order to view information about the marathon, as well as training, supplementary events, potential awards, and, for visitors from outside of Toronto, travel and tourism information.

For the purposes of our evaluation, we have made several assumptions about our target user, including that they are English-speaking and are reasonably familiar with navigating websites.

2. Method

2.1 Process

Three evaluators took part in this evaluation. Based on Nielsen's recommendations for how to proceed with a heuristic evaluation, we engaged in both individual assessments and group debriefing (1995). We spent roughly one hour each on our individual evaluations, beginning with an initial perusal of the site to gain a general understanding and engage in some preliminary analysis based on the heuristics. Following this, we outlined our target user and developed a set of tasks based on scenarios (see section 2.2). We then completed a second round of individual evaluations, running through the tasks of our target user and considering their specific goals on the site through the lens of each heuristic.

Following our individual evaluations, we met to determine our final set of usability issues and accompanying severity scores. We began by discussing our general perceptions of the website, and then engaged in a detailed examination of each member's findings through the lens of Nielsen's *10 Usability Heuristics* (1995). Evaluators explained their findings and advocated for certain issues to be included or excluded, and for issues to receive a given severity score. We scored our final list of usability issues bearing in mind central themes from our initial discussion.

Some disagreements arose in producing our group evaluation. We addressed these issues at our debriefing session and in subsequent correspondence as we developed our final report. Evaluators were given the opportunity to rationalize their findings and ratings, which were then discussed until consensus was reached. In several circumstances, evaluators recorded the same issue under different heuristic categories. We therefore frequently debated which heuristic category should be designated to a given issue. We resolved these cases through discussion and through careful examination of the heuristics.

There were also occasional circumstances in which evaluators disagreed on severity scores. In such instances, we considered the impact of the issue on our target user and the overall user experience of the site in order to determine an appropriate score. We also examined scores given to previous issues as a means of comparison. Our success through this evaluation process relied on each member's ability to make an individual assessment and communicate their thoughts and opinions clearly to the group. Through this process of discussion, we pared down our findings to a succinct but thorough list of critical usability issues in the site.

2.2 Tasks

In carrying out our evaluation, we conducted the following target user tasks:

1. Register for the Scotiabank Toronto Waterfront Marathon.
2. Determine logistical details:
 - a. The cost and deadlines for registration;
 - b. How to receive a race packet;
 - c. Parking information and information about relevant road closures;
 - d. The race course (starting & finishing lines.)
3. Find the following race details:
 - a. Course amenities;
 - b. Chip information;
 - c. Awards.
4. Determine the schedule for the race weekend and relevant events outside the marathon.
5. Find information about accessibility accommodations.
6. Find information accommodations for non-local runners.
7. Find general information about running a marathon:
 - a. How to train;
 - b. What to expect on race day;
 - c. Race etiquette.

3. Findings & recommendations

In our heuristic testing evaluation, issues designated as usability catastrophes surrounded two central themes: firstly, general inconsistency and disorganization throughout the site, and secondly, lack of flexibility and support for users. Overall, the team determined that throughout the site, information is organized unclearly and counter-intuitively, rendering the user frequently uncertain of how to find information or find their way back to previous pages.

The most important task we identified for our target user was the registration process. On the home page alone, there are at least five ways to navigate to the registration page: in the navigation bar, twice on the carousel, on a large button on the right side of the page, and in the navigation bar at the bottom of the page. Given that this task is critical to the operations of the site, giving the user ample opportunities to register is logical; however, this compromises the simplicity of the site by complicating user's navigation decisions. Furthermore, registration takes place on a separate site from the affiliated company *Race Roster* without providing warning to the user, as do several other call-to-action buttons on the site, such as the option to volunteer. Without this warning, in the case of registering, the site does not lead directly to the option to register for the Toronto marathon specifically, but shows a list of events from which the user has to find and select it, which could lead to errors and further confusion since the marathon is not prominently visible on the *Race Roster* site.

The website contains a large amount of extraneous information, obscuring important information that should be prominent. Rather than using "progressive levels of detail" as suggested by Instone's *Site Usability Heuristics for the Web*, all information in the navigation bar is laid out in excessive pull-down menus, making it difficult for the user to find the information they are seeking (1997). This is particularly egregious in the case of the "What's New" tab, which contains separate links to news archives dating back to 2003, but not including 2014 or 2015, and

obscuring arguably the most important category in the menu; namely, the media centre, which provides prospective media with information on how to obtain credentials for the race. User navigation is also hindered by poor organization of information on the site, with related content scattered across distinct pages under counter-intuitive categories. If the user is seeking information about accessibility accommodations, for example, some information can be found under the heading “Wheelchair Information,” whereas more general information related to accessibility can be found under the less obvious title “Race Etiquette.”

Relevant information on the site is further obscured by large amounts of space dedicated to sponsor logos, social media plug-ins, and long testimonials, which are not placed consistently throughout the site and frequently distract from important information related to business goals, such as registration and tourism. Far from employing a minimalist approach in design and layout, the site fails to effectively prioritize content, with the net result that throughout the site, important information is obstructed by copious nonessential content.

Consistency issues also abound on the site with varying degrees of severity. Most problematically, appearances of links and buttons are inconsistent throughout the site, further hindering the user’s ability to easily navigate it. This inconsistency prompts the user to question whether things on the page are clickable, prompting frustrating “mental chatter” as the user hovers around the page to test what they can click (Krug, 2014, pp. 15). Other inconsistencies include varying page layouts, size and colour of headings, and wording in the navigation bar and on pages.

Unclear wording and use of jargon are also problematic on the site; for example, if the user seeks information about training from the navigation menu, several training options are listed, but a prospective participant may be unfamiliar with the different brands and programs and uncertain where to click. In addition, a link titled “training programs” may appear to lead to a general list of training options, but it in fact takes the user to online, individual training programs. For our target user in

particular, a prospective participant who may never have taken part in a marathon, the specific language employed throughout the navigation bar may be unfamiliar and confusing. This further contributes to the overall difficulty of obtaining their desired information while combatting the “data dump” approach of the site’s design.

Overall, recall and flexibility are limited by excessive unimportant, inconsistent, and disorganized information throughout the Scotiabank Toronto Waterfront Marathon site. Distracted by all the noise, the user cannot perform key tasks related to business goals for the organization easily or quickly. Rather, intuitive navigation for our target user and other visitors to the site is hindered by content overload and a disorienting, cluttered design aesthetic.

On the basis of our findings, our recommendations are as follows:

1. Edit and reorganize current content, prioritizing key users and tasks.

Content throughout the site should be pared down, removing completely that which does not clearly correlate with users and business goals and eliminating redundancies. Taking a hierarchical approach to content, information that is less important should be “deeper” into the site map (such as media archives), whereas key information and calls-to-action should instead be easily accessible from the front page and navigation bar and featured more prominently. In order to improve users’ ability to “scan” content, walls of text should also be edited in favour of using shorter paragraphs and point-form wherever possible (Krug, 2014, pp. 22).

2. Reduce the navigation bar and reorganize it according to key users and tasks. Content should also be reorganized in order to pare down the size of the navigation menu. The site should be reorganized with prospective users in mind in order to provide clear paths for their goals on the site and reduce cognitive overload in navigation. Possible navigation bar categories could include “Register,” “Results,” “Media,” “Volunteers,” “About,” and “Contact.” Broad

categories on the navigation bar could also remove the need to use drop-down menus, which frustrate the user who would likely prefer to click a navigation bar option rather than scan further options.

- 3. Introduce general consistency in terms of links, headings, and page layouts.** Consistency should be introduced to the site in order to better orient users to the site and improve their ability to recognize how to navigate to their desired page or task.
- 4. Wherever possible, integrate calls-to-action by using website plug-ins or internal forms, rather than external links, in order to prevent user errors.**
- 5. Provide navigation and error support to users by adding a “support” option and employing error prevention dialogues.** The site should have a support page featuring an FAQ for common errors, and a contact option to report and diagnose errors. The site should also employ error prevention dialogues; in particular, users should receive a notification dialogue when they are navigating off the site, and some instruction when key tasks are housed off the site.
- 6. Improve ease of navigation by adding a “search” function.**
- 7. Reduce “noise” on the site by reassessing placement of sponsor logos, social media, plug-ins, testimonials, and visuals, and incorporating a more minimalist design approach overall.** One measure towards reducing clutter could be to place content exclusively in horizontal rows, rather than using both rows and columns for content.

4. Limitations

A central limitation of our evaluation was our choice of a certain target user; namely, a prospective race participant. As outlined in section 1.2, there are a variety of potential types of users that may seek to use the Scotiabank Toronto Waterfront Marathon website. On the basis of different scenarios specifically related to those users, unique usability issues may arise that we did not discover in our evaluation. For example, our evaluation may not fully account for errors experienced by past runners seeking to review their results since we did not specifically investigate that scenario. To curb this limitation, we underwent an initial general evaluation of the site ahead of attempting the tasks in our usage scenario.

Another limitation of our evaluation, and a general limitation of heuristic evaluation, is the lack of concrete solutions provided by the practice. Nielsen notes that heuristic evaluation “does not provide a systematic way to generate fixes to the usability problems” (1997). While our list of recommendations provides some guidance to designers, a “debriefing session” with designers would be ideal to discuss issues discovered and possible design steps to mitigate them (Nielsen, 1997).

Specifically related to the Marathon website, another limitation of our evaluation is the site designer’s heavy reliance on external sites for calls-to-action and further information. Further usability problems were frequently found to be created on these sites, but evaluating the usability of external websites went beyond the scope of our evaluation.

Although our evaluation is ideal in terms of size for a heuristic evaluation with three evaluators, it is also limited by our own lack of experience in the method. Further, it is limited by the lack of accompanying usability testing, which would likely yield unique results to enrich the quality of our overall recommendations. In *Usability Testing Essentials*, Barnum notes that “no inspection method predicts end-user

problems as well as actual usability testing” (2011). While our study likely identifies the most severe usability problems with the site, it is also likely to include several “false alarms” in terms of minor usability problems that may have no impact on users in usability testing (Barnum, 2011). Ideally, both methods would be employed.

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6. Appendix

6.1 Group evaluation tables

Heuristic name: Visibility of System Status				
Issue #	Brief description of the issue	How was the heuristic violated?	Individual Severity Score(s)	Group Severity Score
1	The site fails to provide a warning dialogue when users are clicking a link to an external site.	Without an indication that the navigation to a new link is not an error, users may be uncertain whether they have navigated to the correct page to complete a given task, or accidentally clicked an ad or incorrect link.	2 - SH 3 - DK 1 - PS	2
2	The indication of the current page and section a user has landed on is very subtle.	Users may be uncertain as to where they are in the site since the current section is only indicated by a discreet change in text colour.	1 (All)	1

Heuristic name: Match Between System and Real World				
Issue #	Brief description of the issue	How was the heuristic violated?	Individual Severity Score(s)	Group Severity Score
3	International participants are immediately greeted in English – there is no option of to select a language before entering the site.	Non-English speaking users would not immediately know how to obtain their desired information, creating a barrier to their understanding of the site.	SH - Not included DK - Not included PS - 2	2
4	Navigation bar pull-down menus use overly specific language and context-specific jargon rather than broad	Users without race experience may not understand what several areas of the site refer to due to use of “insider” language, hindering their understanding	3 (All)	3

	categories.	of the site's content and ability to navigate it to complete a given task.		
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Heuristic name: User Control and Freedom				
Issue #	Brief description of the issue	How was the heuristic violated?	Individual Severity Score(s)	Group Severity Score
5	Several links and calls-to-action redirect the user to external sites.	Users may not wish to navigate away from the site and open extra tabs.	SH - Not included DK - Not included PS - 1	2
6	Results and photos for all past race participants are publicly accessible by typing in the name of the participant.	Users may prefer to set their information as private. Having their results and images public by default limits their control over their privacy preferences.	PS - 3 DK - Not included SH - Not included	2
7	Registering for the race requires creating an account through either email or social media.	Related to issue #6, users may not wish to have an online account with the site and instead just register for a single event as a "guest" without having to provide personal information or link up a social media account, which could further compromise their control by prompting the site to post on their behalf or impacting the ads they see on their social media feeds.	SH - 2 DK - Not included PS - Not included	2

Heuristic name: Consistency and Standards				
Issue #	Brief description of the issue	How was the heuristic violated?	Individual Severity Score(s)	Group Severity Score

8	Navigation menus at the top and bottom of the site are redundant, repeating almost entirely the same menu options.	Typically, the top navigation bar of a website contains critical information for key actors visiting the site, while the bottom navigation bar contains “meta” information less commonly used, such as site maps and information about careers at the organization represented on the site. Users may therefore seek out information not represented in the top navigation menu in the bottom menu, such as website support, but are met with mostly the same options as the top bar.	SH - Not included DK - Not included PS - 2	2
9	Headings are inconsistent, in terms of both colour (use of two different reds) and font size, with no clear hierarchy of headings amongst different pages.	Inconsistency of heading styles prompts confusion for the user in terms of the importance of information, and limits their ability to scan pages to seek out specific information.	SH - Not included DK - Not included PS - 2	1
10	Appearances of links are inconsistent throughout the site.	Due to the use of multiple formats for links, it’s unclear what is clickable and what isn’t.	SH - Not included DK - 4 PS - Not included	4
11	Appearances and layout of pages are inconsistent throughout the site.	Information is difficult to read due to use of excessive varying page layouts, image sizes, and colours.	SH - Not included DK - 3 PS - Not included	3
12	External links do not consistently provide links back the website but sometimes contain the logo or banner for the site, e.g. the site for hotel booking features a	Inconsistency is introduced by having the same images be clickable in some places but not others, frustrating the user.	SH - 2 DK - 2 PS - 2	2

	non-clickable version of the banner.			
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Heuristic name: Error Prevention				
Issue #	Brief description of the issue	How was the heuristic violated?	Individual Severity Score(s)	Group Severity Score
13	Race location is difficult to find. Under "Event Location," the option "Click here to see map" leads the user to a map of Toronto without the specific race location marked. Race location can also be found under "Event Info" and "FAQ", but is difficult to find.	The user is seeking a map that indicates the location of the race but is met with a map of Toronto, and has to look elsewhere on the site to find the exact location of the race. There is not a clear page indicating where the race actually takes place, rendering the user prone to errors in seeking this information.	SH - 3 DK - Not included PS - Not included	3
14	When the user clicks "Register" from the navigation bar, they are directed to a page with two buttons reading "Register" and "Confirm."	Users may be uncertain what the distinction between these two buttons are and try to click the wrong one in attempting to register for the marathon.	SH - Not included DK - Not included PS - 1	2
15	Clicking to register off the home page leads the user to a third-party website which lists several marathon events, with the Scotiabank marathon at the bottom.	Indirect registration off the site without instructions on how to properly register from the main site may lead to errors with registration, such as registering for the wrong event.	SH - 3 DK - 2 PS - Not included	3

Heuristic name: Recognition Rather than Recall				
Issue #	Brief description of the issue	How was the heuristic violated?	Individual Severity Score(s)	Group Severity Score

16	Information is not intuitively organized leading to confusion, e.g. critical information about registration is not found under “Register” but under “Event Info”; parking information and road closures are housed in separate areas of the navigation bar; the race course is under “FAQ” rather than “Event Info.”	Navigating the site requires recall rather than recognition, as one has to move between many convoluted links in order to seek related information.	SH - 3 DK - 4 PS - 3	4
17	Navigating to the home page is challenging; one can either click the banner, which does not appear distinctly clickable as only a small rectangular image within it provides navigation to the home page, or click the “home” button on the navigation bar, which is only minimally distinguishable from the other menu options.	Navigation to the homepage is not obvious on each page and requires user recall, limiting their ability to trace their steps backward to the home page.	SH - 3 DK - 3 PS - Not included	3
18	From the “Volunteer” tab on the navigation menu, users can click a “volunteer now” button, which redirects to a form that prompts you to type in your name in order to view your volunteer shift, presumably from the most recent event. There is no explanation on that page of when volunteer registration	The user has to recall dialogue from the previous page in order to recognize why the current, third-party page lacks the action they intended to take.	SH - Not included DK - 4 PS - Not included	3

	for new users will actually be available; the user has to return to the previous page to clarify that volunteer registration is not yet open.			
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Heuristic name: Flexibility and Efficiency of Use				
Issue #	Brief description of the issue	How was the heuristic violated?	Individual Severity Score(s)	Group Severity Score
19	Similar information is presented in multiple places in different formats (e.g. information from "Race Weekend Schedule" can be found in different places throughout the site but contains no links).	Linking to and bookmarking the site are hindered by lack of clarity around where the "best" information on a given topic can be found.	DK - 2 SH - Not included PS - Not included	2
20	Navigation bar titles occasionally obscure contained information e.g. some accessibility information is housed under the heading "Wheelchair Information"; other under "Race Etiquette."	Finding this link and sharing information related to accessibility accommodations is challenging, as with other topics on the site.	DK - 3 SH - Not included PS - Not included	4
21	The site does not have a search bar.	Users cannot search the site for their desired information to complete a given task; instead, they must search around the navigation bar and guess where information might be held.	SH - 4 DK - 4 PS - Not included	4

Heuristic name: Aesthetic and Minimalist Design

Issue #	Brief description of the issue	How was the heuristic violated?	Individual Severity Score(s)	Group Severity Score
22	The site contains multiple registration buttons, which link to different pages.	While this is a key call-to-action on the site, it is excessive and frustrating to the user to feature it repeatedly on the same pages.	SH - 1 DK - 2 PS - 3	2
23	Lengthy pull-down users are difficult to scan for relevant information and fail to effectively highlight important information.	Pull-down menus are counterintuitive since users are inclined to click on the navigation bar to navigate to pages on the site, rather than click to navigate a menu. The lengthiness of the menus hinder users' ability to scan the page for relevant information and make the navigation bar appear overloaded and confusing.	SH - 4 DK - Not included PS - Not included	4
24	Visual design of site is excessively busy.	Overall, the design aesthetic of the site is busy looking due in part to information overload and design inconsistencies, and in part to aesthetic choices.	SH - 1 DK - Not included. PS - Not included	1
25	Images and ads are frequently low quality with visible pixelation effect, including in the static title banner.	Low quality images hinder the overall appearance of the page, making the website look unprofessional and adding further distractions for the user.	SH - Not included DK - 1 PS - Not included	1
26	Pages feature excessive walls of texts and confusing text layout.	Information is not presented effectively for scanning.	SH - Not included DK - 3 PS - 3	3

Heuristic name: **Help Users Recognize, Diagnose, and Recover from Errors**

Issue #	Brief description of the issue	How was the heuristic violated?	Individual Severity Score(s)	Group Severity Score
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27	Site does not provide dialogues in error states.	In cases examined in this evaluation, when users encounter errors, they are not prompted with a dialogue and instead must discern how to recover from the error.	DK – 3 SH – 3 PS – Not included	3
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Heuristic name: Help and Documentation				
Issue #	Brief description of the issue	How was the heuristic violated?	Individual Severity Score(s)	Group Severity Score
28	Help and documentation are not available on the site.	There are no links for site support or issue reporting.	SH – 1 DK - 4 PS - Not included	4