

Final Report



Date @April 30, 2023

NOTL Museum Interactive Map

Project Summary

Current Status

Phase

Delivery

Objective

The Niagara-On-The-Lake Museum requires an interactive map for their visitors.

- An interactive map for the Niagara-On-The-Lake Museum which will provide locations of exhibits, entrances and exits, washrooms, and other museum services that may be required by visitors. When a user clicks on an exhibit or service, further information will be displayed.
- A database which allows staff to easily update the information displayed on the map

Value

Provide the museum with an easy to maintain product whilst also providing an enhanced experience for customers exploring the museum and its exhibits.

Stakeholders

- Victoria Peel (vp19ew)
- Andrea Baker (ab20zg)
- Hannah Chan (hc18tc)
- Jacob Lavell (jl17hg)

- Katherine Joun (kb09xf)

Customer Name

- Niagara-on-the-Lake Museum

TA

- Brendan Park

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Initial Backlog

The initial backlog contained 36 user stories. As no scoping details or requirements document was provided by the client, the team created a set of requirements based on other examples of interactive maps on the web.

Milestones

Sprint 1 -January 31st, 2023 - February 14th, 2023

Goal: First iteration of a completed wireframe.

As well as designing the look and feel of the product, in the first sprint the team mainly focused on trying to understand what was required to complete the project and so tasks were split between design and research. Three items were not completed, this was mainly due to poor understanding of how long specific tasks would take and therefore over-committing. All 3 items were rolled over into the the next sprint

Date	Event	Issue	Completed	Scope
Tue, Jan 31 2023, 6:11pm	Sprint started	W2023-22 Tech Stack W2023-26 Accuracy of map locations W2023-14 Clear and intuitive layout W2023-9 Seamless aesthetic with rest of the website W2023-17 Large web elements W2023-13 Readable colour contrast W2023-30 Predictive Text	0	45
Wed, Feb 01 2023, 12:35pm	Estimate updated	W2023-9 Seamless aesthetic with rest of the website	0	45 → 43
Tue, Feb 14 2023, 2:31pm	Issue completed	W2023-22 Tech Stack	0 → 3	43
Tue, Feb 14 2023, 2:39pm	Issue re-opened	W2023-22 Tech Stack	3 → 0	43
Tue, Feb 14 2023, 2:50pm	Issue completed	W2023-30 Predictive Text	0 → 3	43
Tue, Feb 14 2023, 3:10pm	Issue completed	W2023-13 Readable colour contrast	3 → 6	43
Tue, Feb 14 2023, 3:25pm	Issue completed	W2023-17 Large web elements	6 → 19	43
Tue, Feb 14 2023, 3:25pm	Issue completed	W2023-14 Clear and intuitive layout	19 → 32	43
Tue, Feb 14 2023, 3:26pm	Removed from sprint	W2023-22 Tech Stack	32	43 → 40
Tue, Feb 14 2023, 3:26pm	Removed from sprint	W2023-9 Seamless aesthetic with rest of the website	32	40 → 37
Tue, Feb 14 2023, 3:26pm	Removed from sprint	W2023-26 Accuracy of map locations	32	37 → 32
Tue, Feb 14 2023, 3:27pm	Sprint completed	W2023-14 Clear and intuitive layout W2023-17 Large web elements W2023-13 Readable colour contrast W2023-30 Predictive Text	32	32

Sprint 2 - February 14th, 2023 - February 28th, 2023

Goal: Site aesthetically complete (not functionally complete).

Sprint 2 was not successful with only one task completed. In planning for sprint 2 the time team members would be able to commit during midterm break was not taken into account. The team also encountered a major knowledge base issue as non of the team were very familiar with Git, there were access issues for several team members which persisted throughout the sprint. It was also decided that, for clarity and to get a better understanding of what was involved in completing a task, user stories needed to be broken down into smaller tasks.

Date	Event	Issue	Completed	Scope
Tue, Feb 14 2023, 3:46pm	Sprint started	W2023-22 Tech Stack W2023-9 Seamless aesthetic with rest of the website W2023-26 Accuracy of map locations W2023-23 Multiple devices W2023-4 Ability to update exhibit info	0	32
Tue, Feb 28 2023, 2:39pm	Issue completed	W2023-22 Tech Stack	0 → 3	32
Tue, Feb 28 2023, 2:44pm	Estimate updated	W2023-22 Tech Stack	3 → 8	32 → 37
Tue, Feb 28 2023, 3:04pm	Removed from sprint	W2023-23 Multiple devices	8	37 → 26
Tue, Feb 28 2023, 3:05pm	Removed from sprint	W2023-26 Accuracy of map locations	8	26 → 21
Tue, Feb 28 2023, 3:05pm	Removed from sprint	W2023-4 Ability to update exhibit info	8	21 → 11
Tue, Feb 28 2023, 3:05pm	Removed from sprint	W2023-9 Seamless aesthetic with rest of the website	8	11 → 8
Tue, Feb 28 2023, 3:21pm	Sprint completed	W2023-22 Tech Stack	8	8

Sprint 3 - February 28th, 2023 - March 14th, 2023

Goal: A fully functional front-end of the map website that doesn't need to be connected to the database. First iteration of database finished.

Sprint 3 was more successful and the changes made to the planning process worked however, some team members were still experiencing Git issues which held up progress meaning some tasks had to be removed from the sprint and put back into the backlog. Additionally, the team were unable to acquire any of the data the museum has shared with the university.

Date	Event	Issue	Completed	Scope
Tue, Feb 28 2023, 3:45pm	Sprint started	W2023-23 As museum management I need to map to be usable on most devices so that the majority of our visitors can access it regardless of their device (phone, tablet, laptop) W2023-26 As museum staff, I would like to ensure that the map accurately reflects the museum layout. W2023-4 As a museum curator, I need to be able to update photos and exhibit information at each map location W2023-9 As museum management, I want to ensure that the look and feel of the interactive map matches the rest of the website to create a cohesive experience. W2023-51 As a developer I want to create a database that can be updated by staff W2023-27 As a visitor, I would like to see a map that provides more information on museum exhibits when a location is clicked W2023-10 As museum management, I need links to the rest of the website on the map page, to ensure that users are able to navigate the site easily.	0	43
Mon, Mar 13 2023, 7:05pm	Issue completed	W2023-10 As museum management, I need links to the rest of the website on the map page, to ensure that users are able to navigate the site easily.	0 → 3	43
Mon, Mar 13 2023, 7:06pm	Issue completed	W2023-51 As a developer I want to create a database that can be updated by staff	3 → 6	43
Mon, Mar 13 2023, 7:26pm	Removed from sprint	W2023-26 As museum staff, I would like to ensure that the map accurately reflects the museum layout.	6	43 → 38
Mon, Mar 13 2023, 7:26pm	Removed from sprint	W2023-23 As museum management I need to map to be usable on most devices so that the majority of our visitors can access it regardless of their device (phone, tablet, laptop)	6	38 → 27
Mon, Mar 13 2023, 7:26pm	Removed from sprint	W2023-9 As museum management, I want to ensure that the look and feel of the interactive map matches the rest of the website to create a cohesive experience.	6	27 → 24
Mon, Mar 13 2023, 7:26pm	Removed from sprint	W2023-27 As a visitor, I would like to see a map that provides more information on museum exhibits when a location is clicked	6	24 → 16
Mon, Mar 13 2023, 7:55pm	Sprint completed	W2023-4 As a museum curator, I need to be able to update photos and exhibit information at each map location W2023-51 As a developer I want to create a database that can be updated by staff W2023-10 As museum management, I need links to the rest of the website on the map page, to ensure that users are able to navigate the site easily.	6	16

Sprint 4 -March 14th, 2023 - March 28th, 2023

Goal: Deploy database and prepare backend and frontend must be fully responsive.

Sprint 4 was successful all tasks were completed with the exception of acquiring data from the museum, as the museum has stated that they have already shared the information with the university and the team were unable to find out who had the

data it was decided that a member of the team would have to visit the museum in person. This required unexpected travel which the teams schedules did not allow for. Git issues were still persisting for some team members but alternative file sharing methods were used as a work around

Date	Event	Issue	Completed	Scope
Mon, Mar 13 2023, 7:55pm	Sprint started	W2023-23 As museum management I need to map to be usable on most devices so that the majority of our visitors can access it regardless of their device (phone, tablet, laptop) W2023-9 As museum management, I want to ensure that the look and feel of the interactive map matches the rest of the website to create a cohesive experience. W2023-27 As a visitor, I would like to see a map that provides more information on museum exhibits when a location is clicked W2023-53 As museum staff I want to be able to make changes to the database W2023-4 As a museum curator, I need to be able to update photos and exhibit information at each map location	0	48
Tue, Mar 28 2023, 1:14pm	Estimate updated	W2023-9 As museum management, I want to ensure that the look and feel of the interactive map matches the rest of the website to create a cohesive experience.	0	48 → 50
Tue, Mar 28 2023, 2:35pm	Issue completed	W2023-9 As museum management, I want to ensure that the look and feel of the interactive map matches the rest of the website to create a cohesive experience.	0 → 5	50
Tue, Mar 28 2023, 2:40pm	Issue completed	W2023-23 As museum management I need to map to be usable on most devices so that the majority of our visitors can access it regardless of their device (phone, tablet, laptop)	5 → 16	50
Tue, Mar 28 2023, 2:41pm	Issue completed	W2023-27 As a visitor, I would like to see a map that provides more information on museum exhibits when a location is clicked	16 → 24	50
Tue, Mar 28 2023, 2:49pm	Issue completed	W2023-53 As museum staff I want to be able to make changes to the database	24 → 40	50
Tue, Mar 28 2023, 3:00pm	Added to sprint	W2023-24 As museum management I need the map to be easy for visitors to access so that our staff don't spend time trouble shooting technology.	40	50 → 51
Tue, Mar 28 2023, 3:00pm	Issue completed	W2023-24 As museum management I need the map to be easy for visitors to access so that our staff don't spend time trouble shooting technology.	40 → 41	51
Tue, Mar 28 2023, 3:04pm	Added to sprint	W2023-26 As museum staff, I would like to ensure that the map accurately reflects the museum layout.	41	51 → 56
Tue, Mar 28 2023, 3:04pm	Removed from sprint	W2023-26 As museum staff, I would like to ensure that the map accurately reflects the museum layout.	41	56 → 51
Tue, Mar 28 2023, 3:15pm	Sprint completed	W2023-23 As museum management I need to map to be usable on most devices so that the majority of our visitors can access it regardless of their device (phone, tablet, laptop) W2023-9 As museum management, I want to ensure that the look and feel of the interactive map matches the rest of the website to create a cohesive experience. W2023-27 As a visitor, I would like to see a map that provides more information on museum exhibits when a location is clicked W2023-53 As museum staff I want to be able to make changes to the database W2023-4 As a museum curator, I need to be able to update photos and exhibit information at each map location W2023-24 As museum management I need the map to be easy for visitors to access so that our staff don't spend time trouble shooting technology.	41	51

Sprint 5 - March 28th, 2023 - April 11th, 2023

Goal: Connect all components and populate database

In sprint 5 a new technology was introduced which created major issues. All those learning the technology had problems getting it to work successfully as a result several features were scaled back and a minimum viable product was created.

Date	Event	Issue	Completed	Scope
Tue, Mar 28 2023, 3:15pm	Sprint started	W2023-5 As museum management, I would like to ensure that only authorized staff have access to updating information. W2023-8 As a visitor, I would like to be able to quickly identify the locations of museum services, such as information, washrooms, security W2023-26 As museum staff, I would like to ensure that the map accurately reflects the museum layout. W2023-58 Connecting database to backend W2023-4 As a museum curator, I need to be able to update photos and exhibit information at each map location	0	42
Tue, Apr 11 2023, 2:37pm	Issue completed	W2023-8 As a visitor, I would like to be able to quickly identify the locations of museum services, such as information, washrooms, security	0 → 3	42
Tue, Apr 11 2023, 2:42pm	Issue completed	W2023-5 As museum management, I would like to ensure that only authorized staff have access to updating information.	3 → 11	42
Tue, Apr 11 2023, 2:50pm	Issue completed	W2023-58 Connecting database to backend	11 → 19	42
Tue, Apr 11 2023, 2:50pm	Removed from sprint	W2023-26 As museum staff, I would like to ensure that the map accurately reflects the museum layout.	19	42 → 37
Tue, Apr 11 2023, 2:50pm	Removed from sprint	W2023-60 Connecting database to frontend	19	37 → 29
Tue, Apr 11 2023, 3:10pm	Sprint completed	W2023-5 As museum management, I would like to ensure that only authorized staff have access to updating information. W2023-8 As a visitor, I would like to be able to quickly identify the locations of museum services, such as information, washrooms, security W2023-58 Connecting database to backend W2023-4 As a museum curator, I need to be able to update photos and exhibit information at each map location	19	29

Sprint 6 - April 11th, 2023 - April 25th, 2023

Goal: Have a full working system.

Due to earlier set backs the team knew that it was not possible to complete of the features initially scope as such the purpose of the final sprint was to fix system bugs and clean-up UX and UI. Another Git issue was encountered which held up progress. The technologies which were used in the backend caused too many problems when they were applied to the front-end so an alternative method had to be researched and implemented

Date	Event	Issue	Completed	Scope
Tue, Apr 11 2023, 3:16pm	Sprint started	W2023-26 As museum staff, I would like to ensure that the map accurately reflects the museum layout. W2023-60 Connecting database to frontend W2023-61 Cleanup UI and UX for backend W2023-4 As a museum curator, I need to be able to update photos and exhibit information at each map location W2023-62 Tighten up security restrictions	0	49
Tue, Apr 25 2023, 2:41pm	Issue completed	W2023-60 Connecting database to frontend	0 → 8	49
Tue, Apr 25 2023, 2:48pm	Issue completed	W2023-62 Tighten up security restrictions	8 → 21	49
Tue, Apr 25 2023, 2:49pm	Issue completed	W2023-61 Cleanup UI and UX for backend	21 → 34	49
Tue, Apr 25 2023, 2:49pm	Issue completed	W2023-26 As museum staff, I would like to ensure that the map accurately reflects the museum layout.	34 → 39	49
Tue, Apr 25 2023, 2:50pm	Sprint completed	W2023-26 As museum staff, I would like to ensure that the map accurately reflects the museum layout. W2023-60 Connecting database to frontend W2023-61 Cleanup UI and UX for backend W2023-4 As a museum curator, I need to be able to update photos and exhibit information at each map location W2023-62 Tighten up security restrictions	39	49

Project Lifecycle

Project Launch

Report Deadlines

- ✓ Project Proposal (Due: Tuesday, Jan 17th)
- ✓ First Sprint and Backlog (Due: Tuesday, Jan 31st)
- ✓ First Progress Report (Due: Sunday, Mar 5th)
- ✓ Second Progress Report (Due: Sunday, April 2nd)
- ✓ Final Report (Due: Sunday, April 30th)

Presentations

- ✓ Mandatory progress presentation: Tuesday, March 14th
- ~~Optional progress presentation: Late March or early April~~
- ✓ Final mandatory presentation: Last week of April

Discovery

Before the first sprint started the team took time to understand the scope of the project. We tried to anticipate what the client would need. We took inspiration from other museums implementation of interactive maps, we used the brief from the virtual reality project to understand the clients “brand” as well as the type of customer they attract. We also spent a lot of time understanding the accessibility requirements for websites by familiarizing ourselves with AODA

Findings from our research can be found [here](#)

Planning and Design

As our team were unfamiliar with front end technologies we had to use the planning and design phase not only create wireframes for the UI of the map but also research the technologies available to implement the user stories

Details of our tech stack can be found [here](#)

Development

Our second development phase has included adding features to the responsive front end of the site as well as designing and building both the database and the UI pages for staff database interaction.

Code for the project can be found [here](#)

Delivery

Whilst the project is not being delivered to the client in phases we have seen the project as being developed in 3 phases

- Static, responsive website showing the map with the locations of interest
- An interactive website which pulls information from the database to populate its views

- Accessibility features added as well as an user friendly database interface

Development Features

Working System

Full code files can be found [here](#)

Completed Feature: Frontend UI \ UX

Overview

Design a clean and intuitive layout for museum visitors to access the map on multiple devices

User Stories

ID	DESCRIPTION	STATUS	POINTS
W2023-14	Clear and Intuitive Layout	✓ Done	13
W2023-23	Multiple Devices	✓ Done	11
W2023-17	Large Web Elements	✓ Done	13
W2023-13	Readable Colour Contrast	✓ Done	3
W2023-9	Seamless Aesthetic with Existing Museum Site	✓ Done	5
W2023-27	Additional Info Available on Map	✓ Done	16
W2023-53	Easily Accessible for Visitors	✓ Done	1
W2023-10	Links to Rest of Website	✓ Done	3

Completed Feature: Interactive Map

Overview

The map elements should pull from a database to populate views

User Stories

ID	DESCRIPTION	STATUS	POINTS
W2023-51	Create database and queries	✓ Done	3 points

ID	DESCRIPTION	STATUS	POINTS
W2023-53	Ability to Make Changes to Database	✓ Done	14 points

Completed Feature: Authorised Access

Overview

Only authorised users should be able to access database.

User Stories

ID	DESCRIPTION	STATUS	POINTS
W2023-5	Ensure only authorised staff have access	✓ Done	21 points

Outcome

As a result of the the various set backs all of the features the team identified initially were not able to go into production. As a result the team focused on meeting the criteria set out in the course outline document.

Our Challenges

- Story Point Allocation
 - Learning curve when estimating
 - Needed to incorporate time to learn new technologies
 - Due to novice skills in most of the technologies being used difficulties in being able to predict how long a task would take.
- Dependent Tasks in Same Sprint
 - Learning curve in assigning tasks and how to prioritize in the most effective way
- Starting Tasks Before Tech Stack is Done
 - We created pages using html/javascript which was unusable when we switched to using React for connection with Supabase
- Velocity/Capacity Calculations

- We did not always take into account particular weeks that were busier/quieter for certain team members
 - Learning all the tools
 - Novice skills in web development for some team members
 - Novice Git skills for most team members
 - Using Scrum Meetings Effectively
 - Learning as we went about how to use meetings effectively
 - Communication with Client
 - Little to no communication with client meant the team had to also be the client
-

Team Contributions

- Victoria
 - Documentation
 - Ensuring correct use of Jira
 - User stories
 - Building database and basic queries
 - Building backend UI
 - Building database
 - Connecting backend UI to database
- Andrea
 - Documentation and meetings
 - User stories
 - Collecting data from client
 - Ensuring connection from map website to existing website
 - Building backend UI
 - Designing database

- Connecting backend UI to database
- Hannah
 - Researched tech stack
 - Set up systems such as Jira and Git
 - User stories
 - Created style guide
 - Ensured seamless aesthetic with original website
 - Connected front-end to database
- Jacob
 - Designed Frontend
 - User stories
 - Built responsive front-end
 - Added interactive front-end features
 - Connected front-end to database
- Katherine
 - Designed frontend
 - Designed backend UI
 - User stories
 - Deployed database to Supabase
 - Created log in access for authorised users



Related Documents

- [Test Documentation](#)
- [User Manual](#)
- [Database Design](#)
- [Wireframes](#)