



TorontoWalks

A custom Walk Generator based on YOUR
interests

Amy Gordon



TorontoWalks

Main Steps in Generating a Custom Walk...

— — —



Gather Data

Gather Data



TorontoWalks

Cabbagetown People
The Social History of a Canadian Inner City Neighbourhood

Plaques On the Street
Remarkable Lives
Necropolis
St. James Cemetery
Infamous People and Places
Sources

Ernest Thompson Seton 1860 - 1946
Writer, Self-trained Biologist, Scientific Illustrator and Naturalist

Plaque located at: 6 Aberdeen Avenue, Toronto, ON, Canada

Ernest Thompson Seton is one of the most important 19th-Century Toronto novelists.

Seton began his career as a scientific illustrator and was a self-trained biologist.

From the 1890s until his death he wrote about 60 books, including magazine articles and short stories. His book *Wild Fables*, first published in 1898, has never been out of print. His wilderness stories brought him praise from such notables as contemporaries as Andrew Carnegie, Rudyard Kipling, Roosevelt, Leo Tolstoy and Mark Twain.

It is said that he had an almost mystical reverence for the wilderness.



A maple tree on the southwest corner of Laing Street and Memory Lane, a block south of Queen Street, is reputed to be the tree that inspired Alexander Muir to compose the song "The Maple Leaf Forever" in 1867. For many years it became like a second national anthem before fading away. I have printed the words to the song at the very bottom of this page. Reading those words may give you some idea as to why the song is no longer popular. A 1958 Grand Orange Lodge of British America plaque is near the tree and reads as follows:

Coordinates: 43.663153 -79.327211



Principal of nearby Leslieville Public School who was inspired to write Canada's national song "The Maple Leaf Forever" by the falling leaves of this sturdy maple tree.

www.acotoronto.ca/show_building.php?BuildingID=3883




photo credit, courtesy of Bob Krawczyk

BUILDING INFORMATION

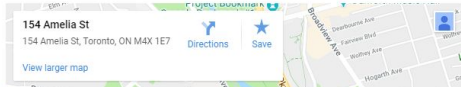
Name & Location: **154-156 Amelia Street**
154-156 Amelia Street
Cabbagetown, Toronto

OTHER IDENTIFICATION

Status: Completed

Year Completed: unknown

Map:



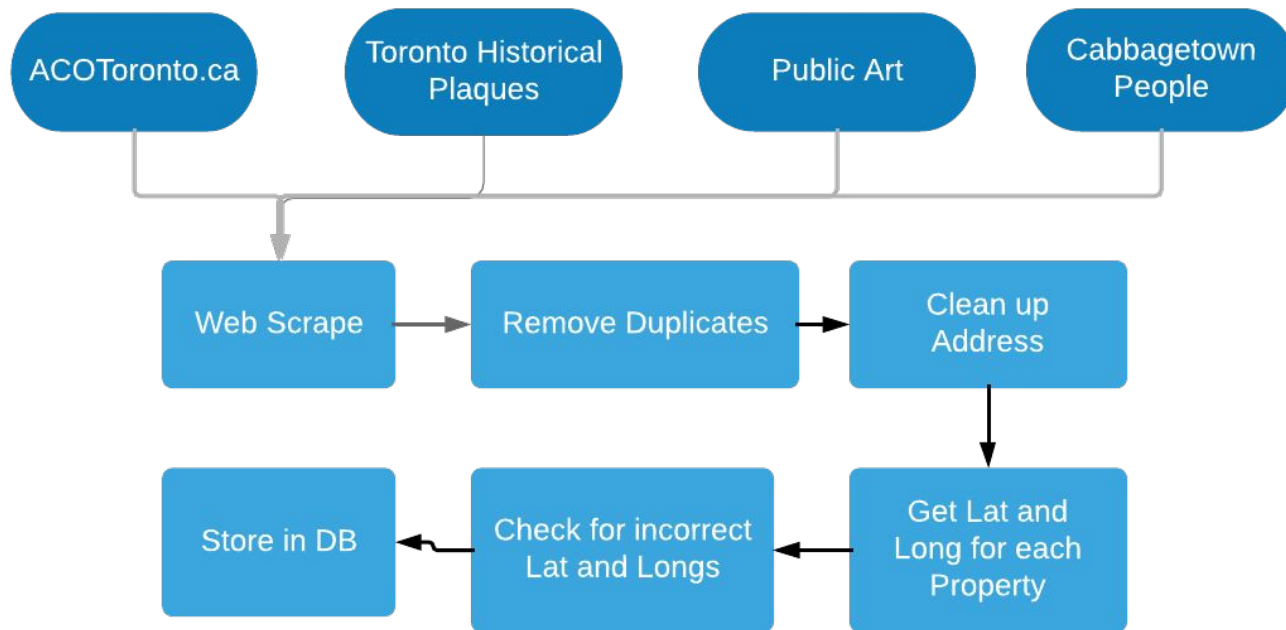
154 Amelia St
154-156 Amelia St, Toronto, ON M4X 1E7
View larger map

Gather Data

Gather Data (cleaning)



TorontoWalks



Measure
Similarity

Match User Interest to Stops



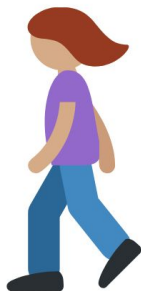
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User Interests

Georgian
Architecture

Explorers

early Toronto
History (1800s)



?

Features about our Points of Interests

Modernist



Art Deco

Built 1875



Public Art

Measure
Similarity

Recommendation Engines are everywhere...



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amazon

Amazon

Customers who bought
this item also bought



LinkedIn

Jobs recommended for you



Netflix

Because you
watched this show...



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Find
"best"
stops

Find Stops

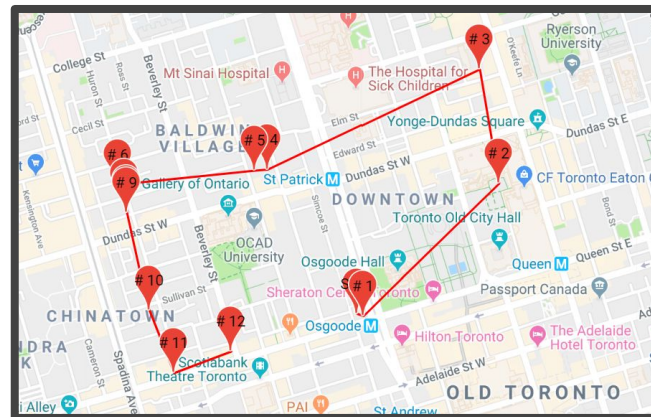
Have Similarity
Scores



Have starting point



Find "best" stops around the
starting point

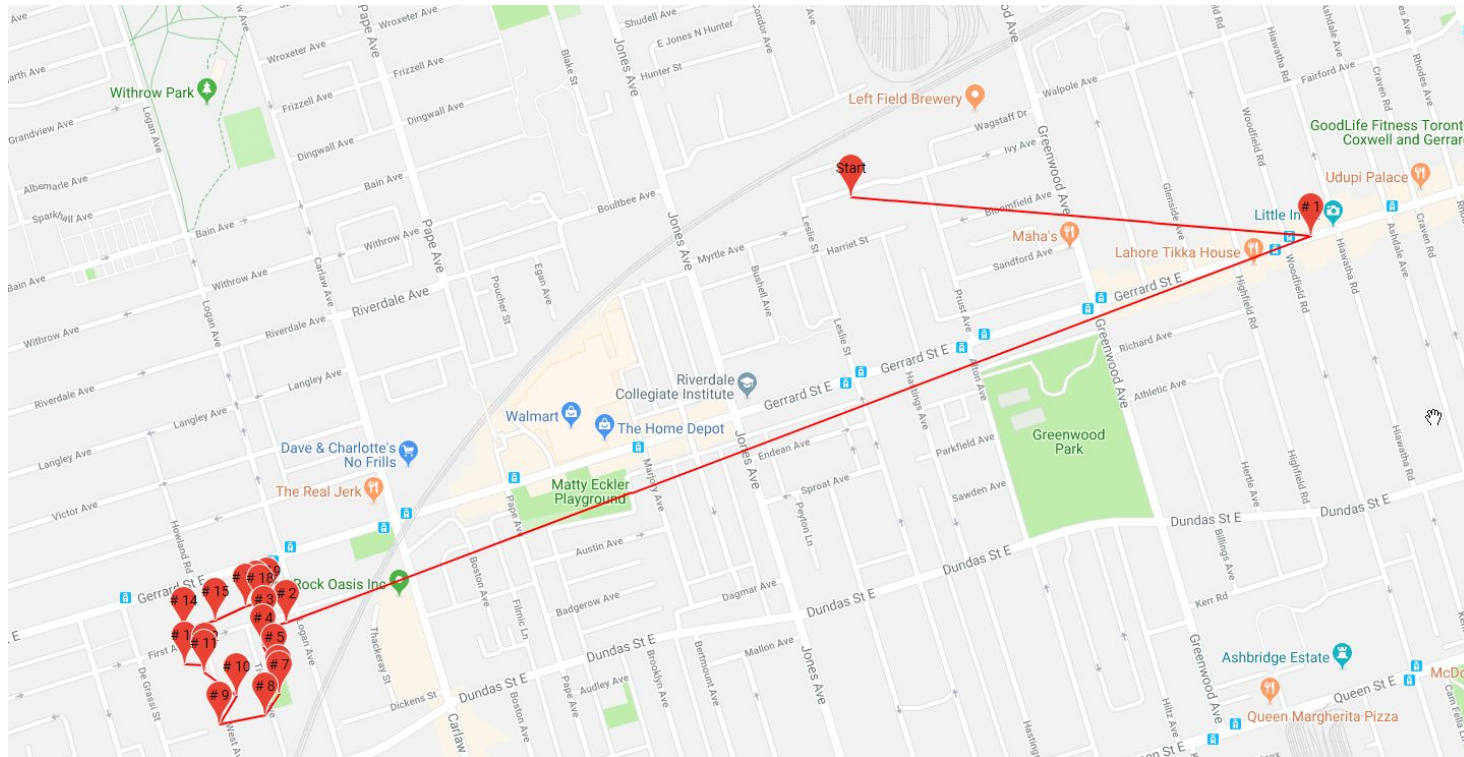


Find
"best"
stops

A problem...



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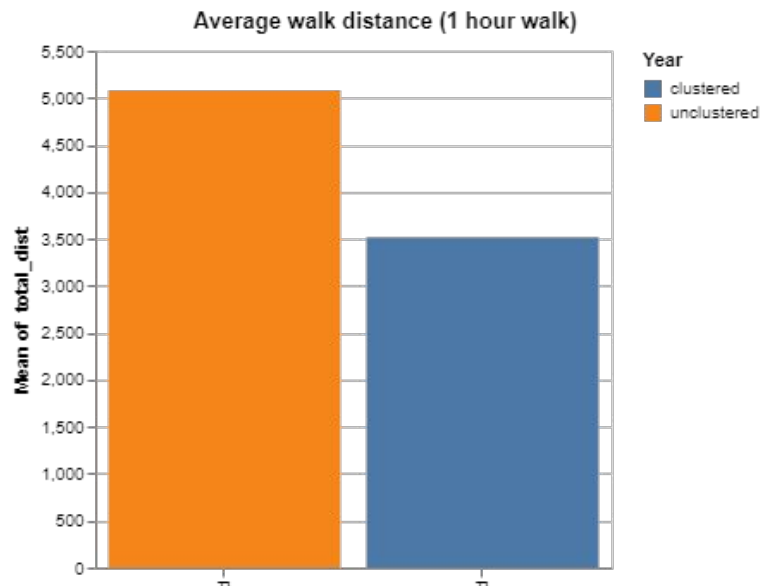


Find
“best”
stops

Clustering to the rescue!



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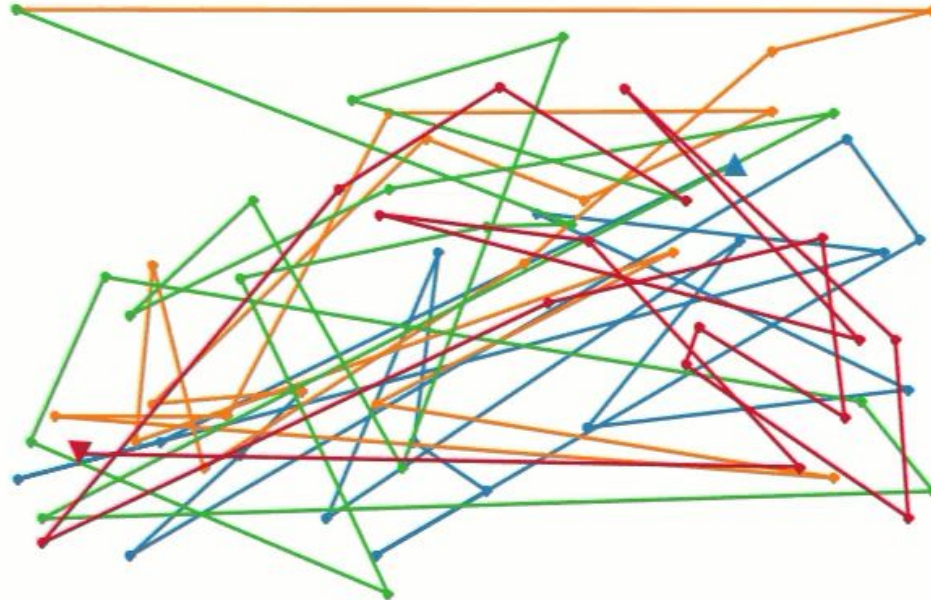
Find
Optimal
Route

Travelling Salesman Problem



TorontoWalks

"Where's Waldo?" search path optimization



© Randal S. Olson



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Main Steps in Generating a Custom Walk...

— — —





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The Live Demo....

The App

— — —



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[Walking Route](#)

[About](#)



TorontoWalks

Welcome to TorontoWalks!

Ready to explore Toronto? Let us generate a custom walking route for you!

Tell us about the types of stops you'd like to discover:

Stop Type: ☐ Buildings/Architecture ☐ Historical Plaques ☐ Public Art

Historical period: ☐ 1700s ☐ 1800s ☐ 1900s ☐ 2000s

Interests (i.e. a topic, architectural style):

Walk Duration:

30 mins

Starting Point: ☒ Fixed ☐ Surprise Me!

If you selected fixed, please click anywhere on the map below to set your starting point

Create my walk!

Map

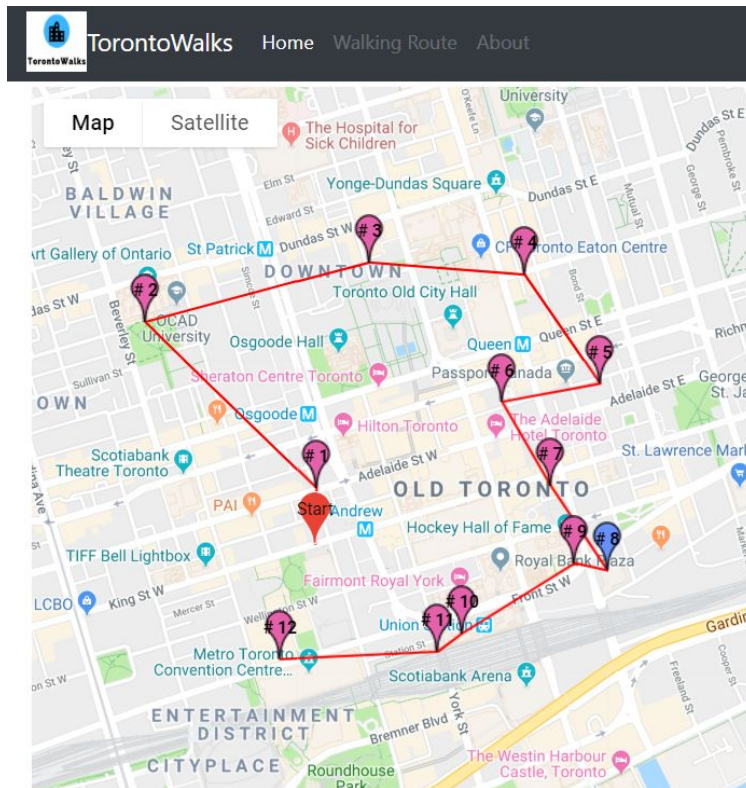
Satellite



Example Generated Walk



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Example Stop

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Canada Life Building


Stop Type: Building

Address: 330 University Avenue Downtown Toronto, ON

Build Year: 1931

Style: Beaux arts

Link for More Information: http://www.acotoronto.ca/show_building.php?BuildingID=1730



This is the only building in the Beaux-Arts style built along University Avenue, which was at one time envisaged to be lined with many such structures. The advent of the depression resulted in a scaling back of this building, leaving the upper floors to decrease in size rather too rapidly, given the massive and heavy base of the building. The beacon on top of the building acts as a barometer of sorts, although many Torontonians can be seen speculating on the exact meaning of the lighting colours and patterns.

Source: <http://www.acotoronto.ca/>



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Check it out! Find your walk...

<http://68.183.55.22:8000/>





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Future Enhancements

— — —

- Save details on user preferences and generated walk to auditing table in database
- Provide a mechanism for users to accept/reject/edit a generated walk so can eventually build a proper recommendation engine
-



Questions?

<https://github.com/ag2816/TorontoWalks>

Appendix...



Recommender Engines

Looks at user and item features

users

	age	gender	country	lang	family?	horror?
John	24	M	CA	EN	N	Y
Erica	63	F	US	EN	N	Y
Anne	10	F	CA	FR	Y	N
Liz	38	F	IT	IT	Y	N
Jim	45	M	UK	EN	Y	Y

	scary	funny	family	anime	drama	romance
John	N	N	Y	N	Y	Y
Erica	N	Y	N	N	Y	N
Anne	N	N	Y	N	N	Y
Liz	Y	N	Y	N	N	N
Jim	N	Y	Y	Y	N	N

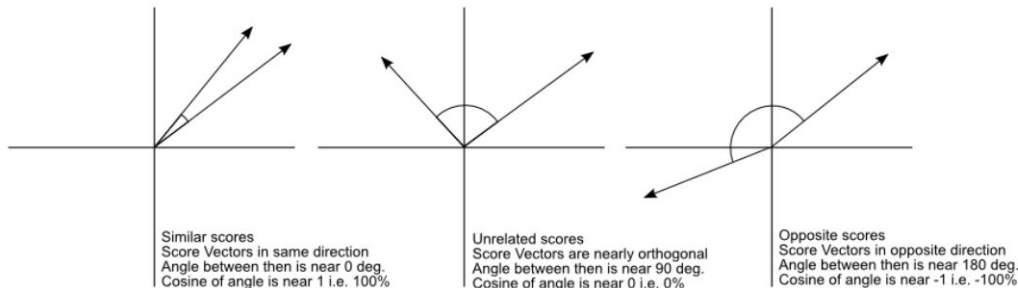
items





MATH!

$$\text{similarity} = \cos(\theta) = \frac{\mathbf{A} \cdot \mathbf{B}}{\|\mathbf{A}\| \|\mathbf{B}\|} = \frac{\sum_{i=1}^n A_i B_i}{\sqrt{\sum_{i=1}^n A_i^2} \sqrt{\sum_{i=1}^n B_i^2}},$$



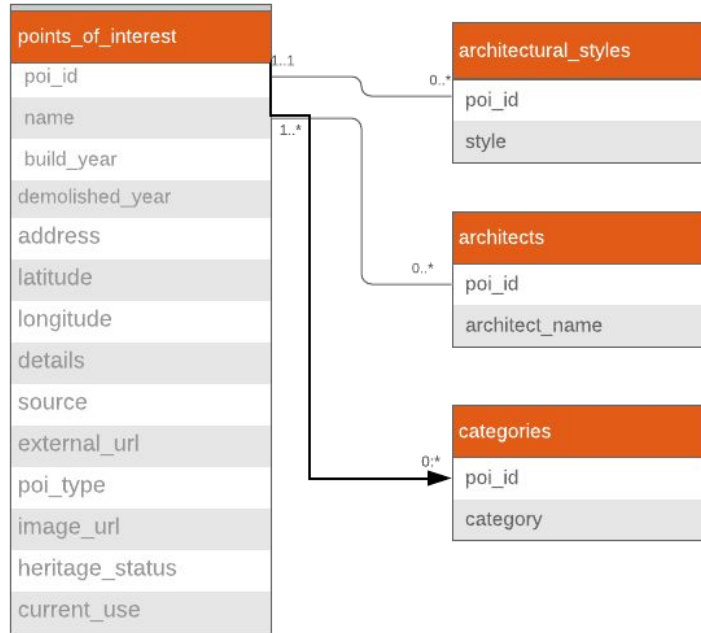
The Cosine Similarity values for different documents, 1 (same direction), 0 (90 deg.), -1 (opposite directions).

Prepare
Data

Database ERD



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Application Flow

