AI Exploration

Digital Kitchener Innovation Lab

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The Digital Kitchener Innovation Lab seeks to apply **design thinking** and **human-centred** approaches to explore problems through **collaboration** and **experimentation**.

DESIGN SPRINTS

RAPID PROTOTYPING

TECHNOLOGY EXPLORATION

Technology exploration in the Innovation Lab

LEARN ABOUT EMERGING TECHNOLOGIES AND HOW THEY WORK

PROTOTYPE POSSIBLE CITY APPLICATIONS

UNDERSTAND OPPORTUNITIES, EFFORT LIMITATIONS AND RISK

AI experiments

Conversational AI with large documents

Connecting citizens with open data

Multi-language capabilities

Conversational AI

Could large language model enabled “chatbots” help us create more dynamic opportunities for residents to find the information they’re looking for?

- **What we did**
  - Created Chatbots using AI models to interact with large documents like the Municipal Code or zoning bylaws
- **What we learned**
  - Models perform better out of the box for more common language and more effort would be required to train models to perform well in specific domains.
  - The more thoughtfully we structure our documents and data for consumption by AI models, the more accurate the results.

Leveraging Open Data to connect citizens with their community

Could we use AI with our open data sets to help residents more easily make use of this information?

What we did:

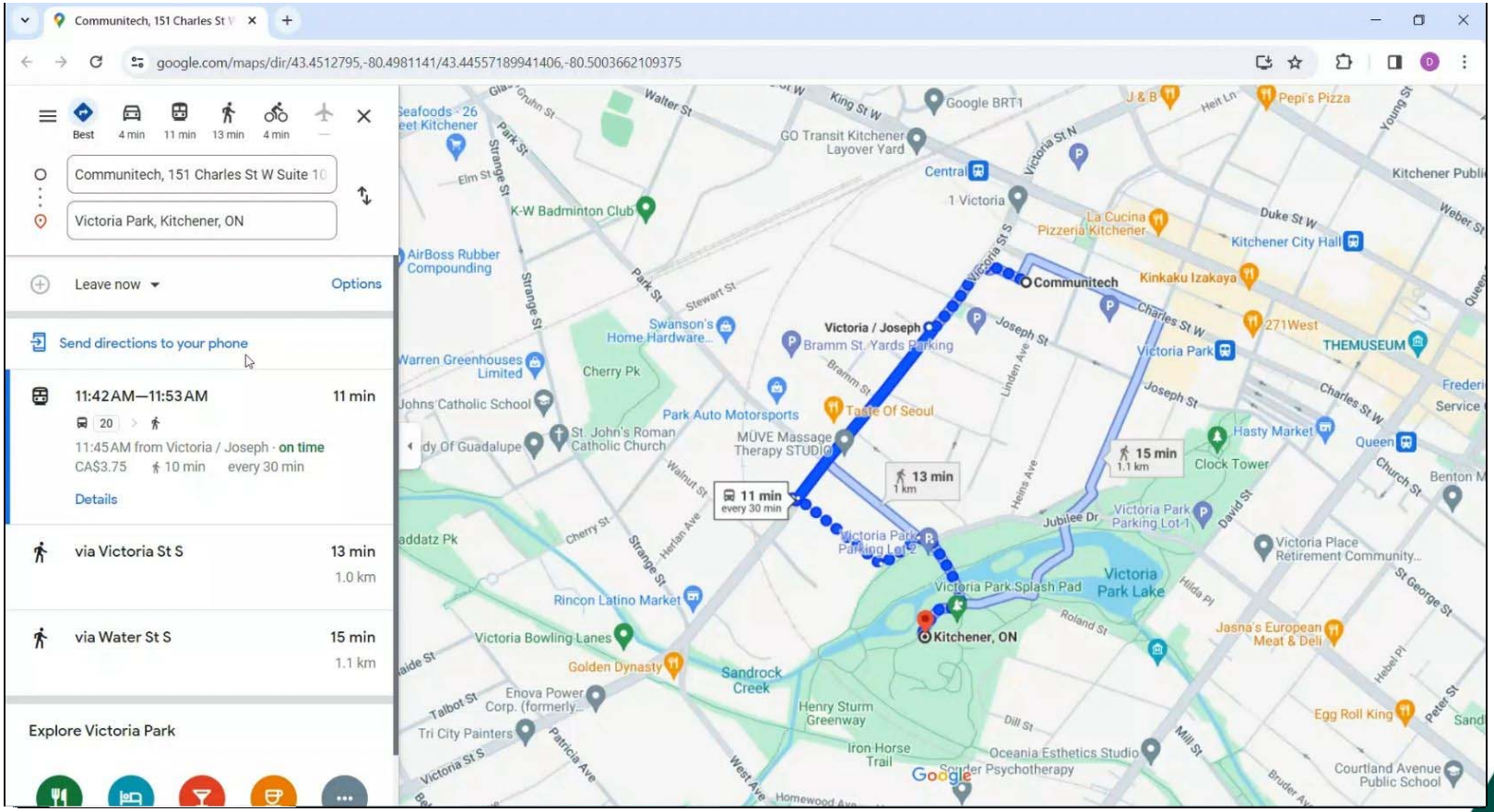
- Created a “Local Guide” app that uses conversational AI alongside our open data sets on community amenities to connect citizens with things to do in their community.

What we learned:

- Large language models performed quite well with this type of common language and structured data
- There are opportunities to improve user experience by formatting the output to be consistent and user-friendly

KITCHENER

Local Guide Demo



Multi-lingual support

Could large language models with multi-lingual support help residents find information they're looking for when out in the community?

- **What we did**
  - Created an app where residents could take an image of a sign in the community and interact with the content and other supporting content in their own language and receive responses in the same language.
- **What we learned**
  - Multi-language support performs better for more common languages.
  - Effort would be required to properly connect the app with key supporting information.

Summary

Artificial Intelligence holds a lot of potential for the city in creating efficiencies that could help us to better understand the city at scale and enable citizens to more easily access information.

To move forward in adopting AI the City should:

- Continue to leverage our technology governance processes to:
  - Ensure proper evaluation of new technologies that include AI
  - Engage the community on the use of AI and ensure transparent communications on AI adoption
- Identify high impact use cases for further exploration and validation.
- Develop the infrastructure and data models necessary to support the use of AI.