Tearing down silos to build better delivery of city services

The City of Helsinki and IBM Consulting co-create faster, more flexible customer experiences with a digital assistant network

by Kristin Fern Johnson

5-minute read

The City of Helsinki takes care of its own. In fact, it offers its citizens hundreds of services—covering everything from healthcare to housing to infrastructure. Over 38,000 employees help provide those services, making the city the largest employer in the country.

Those services generate enormous quantities of data, continuously building upon an already vast store. “We’ve been utilizing many of our services for a very long time,” says Tomas Lehtinen, Head of Data for the City of Helsinki. “Some of our systems have data going back almost 30 years.”

In 2019, the city established a data strategy to start harnessing the potential of that data. “Our team

wanted to enable data-driven decision-making," says Lehtinen, "as well as to apply that data to optimizing the city's operations and proactively responding to citizens' service needs on their terms."

At the time, each service organization had its own customer service team, and many dealt with high volumes of citizen requests. "Customer service personnel were overworked," says Janne Kantsila, Leading Specialist, Automation Technologies for the City of Helsinki. "At the same time, we wanted to improve the customer experience. Our citizens expected faster service and more flexible service hours. They didn't want to be put in queues."

To help address these issues, the city turned to virtual assistants—or "chatbots"—experimenting with various vendors' solutions across several departments. Once the city had verified

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A new 'multi-chatbot' combines capabilities and data from

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healthcare and social services

how virtual assistants could best serve its citizens, it developed a request for proposal (RFP) for a virtual assistant platform to support its long-term digitalization needs.

Chief among the platform requirements were natural language processing and the ability to connect to other systems—including those of Helsinki's regional internal departments, other Finland cities and outside vendors—using APIs. The virtual assistants also linked to many other areas indirectly, such as the release of the virtual assistant training data on Helsinki Region Infoshare, an open web service established in 2011 over which major cities in the metropolitan area could exchange data. "By opening up our chatbot data, we could help other cities in Finland with their own chatbots, so they wouldn't have to start from scratch," says Kantsila.

Other required capabilities included the ability to connect to process automation via APIs and automated translations. Data privacy laws are stringent in the EU—and even more so in Finland, where transparency and trust are top priorities. The City of Helsinki wanted a solution that could run from a local Finland data center, when needed, to protect highly sensitive data, like social services and healthcare information.

IBM offered the best overall solution for the city's needs—and had a local Helsinki team that could help deliver it.

A network of virtual assistants

Once the RFP was finalized, the City of Helsinki and IBM Consulting™ worked together to design the virtual assistant implementation using IBM watsonx® Assistant, initially running on IBM Cloud®.

The first virtual assistant the team undertook was for the city's Sporting and Outdoor department. "We specified the chatbot scope and designed the user experience—for things like tone of voice and how to fit the chatbot within our chat application on the web pages," says Kantsila. "Then we began gathering the necessary chatbot training model for things like intents and answers to questions."

In co-creating the training model with the city, IBM Consulting applied elements of the IBM Garage™ methodology, a proven development framework that integrates people, processes and technology to transform business and culture. "We didn't have chat logs from customer service available," says Kantsila, "so we ran mini-workshops with customer service personnel to get their input on citizens' most common inquiries."

The team began work on the digital assistant in December 2020 and launched it in early March of 2021—less than three months from the start date. Following publication, the team continued to monitor and refine the virtual assistant training and intent models based on actual customer questions.

Next up was the maternal advisory virtual assistant, which served expectant and new mothers. The department had an existing virtual assistant, but it was structured differently from the IBM watsonx Assistant virtual assistant, and the team had to redesign the intent model and do significant dialog building from the ground up. “Users were quite happy to see that there was a continuation of the chatbot,” says Kantsila.

The team then built an internal IT virtual assistant for employees that incorporated IBM Watson Discovery. When the virtual assistant cannot answer a question, the solution searches through an enormous instruction library for relevant documents to help.

Following the IT virtual assistant, the team developed a rental housing services virtual assistant, a financial services virtual assistant to help with billing and other finance-related inquiries and an International House Helsinki virtual assistant to help immigrants and new international employees settle in the Helsinki capital region.

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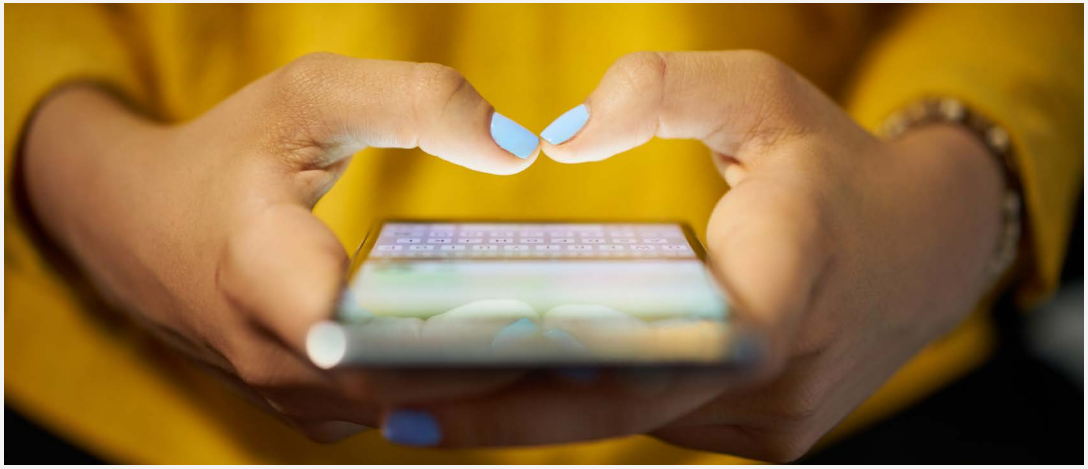
The virtual assistant of the future

Currently, the City of Helsinki is running 10 virtual assistants, including a "multi-chatbot" that combines virtual assistants from several healthcare and social services organizations into one. Typically, the virtual assistants handle up to 300 customer contacts per day and can handle most inquiries from start to finish. The "multi-chatbot" takes advantage of IBM Watson Language Translator to translate skills training services, which are in Finnish, into Swedish and English, the other two predominant languages in Finland.



"The 'multi-chatbot' is part of our long-term vision for chatbots," says Kantsila. "We want to tear down the silo walls that separate our organization, so they're invisible to the user. Ultimately, we want to provide self-service features with our chatbots, enabling citizens to take action. Such cases could include changing an invoice due date or canceling an appointment."

Innovation is top of mind in developing new virtual assistants. "We don't just want to automate existing processes," says Kantsila, "but rather think of new processes that can deliver services to citizens proactively, more efficiently and in a more user-friendly way."

Employees are also starting to embrace the new technologies. “Our employees are learning how to use different kinds of data and AI-based systems,” says Lehtinen. “Sometimes they’re afraid that a new system like AI is going to take their jobs. But now they are seeing that it’s supporting them and giving them more time to devote to helping patients and other citizens.”

The City of Helsinki team continues to meet weekly with a local IBM team to plan and develop new virtual assistants and capabilities. “It really helps that the IBM team is open-minded and solution oriented,” says Kantsila. “Now that we have the foundations in place, we want to develop our existing chatbots further to gain even greater value. With IBM, we can throw around a lot of crazy-seeming ideas and openly discuss and refine them. I think because of that, we are moving into an even more exciting phase.”

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About the City of Helsinki

The City of Helsinki (link resides outside of ibm.com) is a government entity that provides a large number of services for its 650,000 citizens. Those services cover a wide range of areas, from healthcare to education to land use. With approximately 38,000 employees, the city is Finland's largest employer.

Solution components

- IBM Cloud®
- IBM Consulting™
- IBM Garage™
- IBM watsonx® Assistant
- IBM Watson Discovery
- IBM Watson Language Translator