

INGAGE: a Tool for the Community

Habinayaa Sivakaran

This project was conducted as a team with Callum Bowles, Jenna Kim, and Martina Todorova

The Problem

The process of planning for a city's future often leaves out the voices and inputs of the residents - especially those who are vulnerable and have been marginalized. There is a lack of an accessible platform where members of our communities can engage. As a result, there is a gap of communication between the voices of the people who are residents and those who are in charge of developing the city. This stunts the growth of the city to become a smart community.

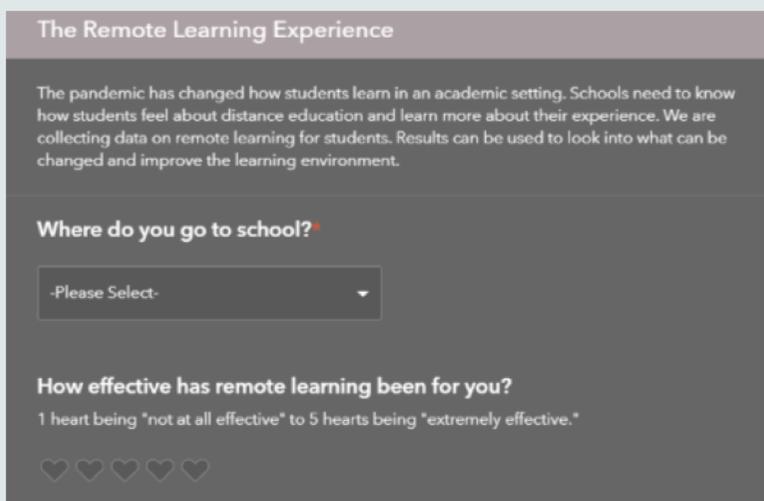
The Vision

Our vision is to set the City of Maple Ridge in British Columbia on the path to becoming a smart city. According to McKinsey & Company, a smart city intertwines digital technology and data to make better decisions and improve the quality of life for their community (2018). We created a real-time community-led database called INGAGE to bridge that gap and improve the cultural and social inclusion of a person by fostering a dialogue with everyone else in a community. It will give a voice to all members of the community allowing government bodies to focus on building solutions to problems that really matter.

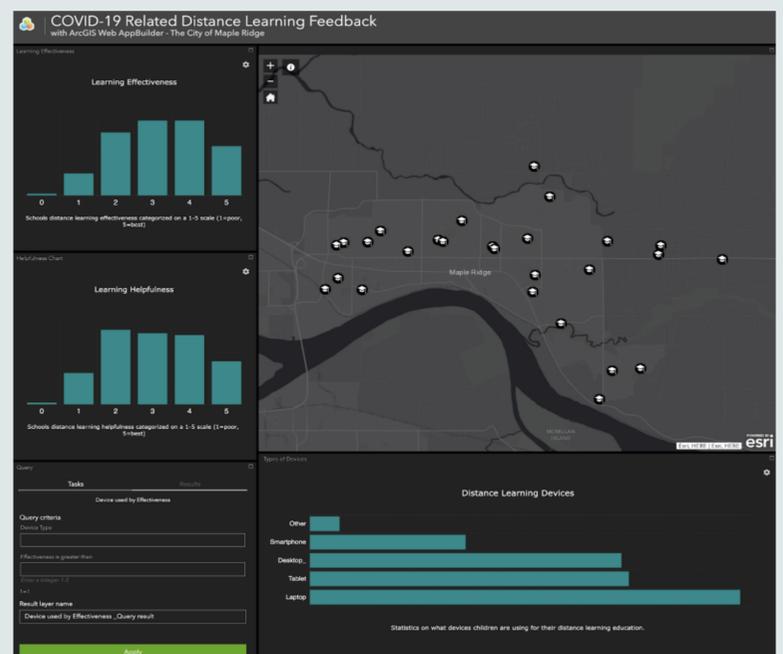
Method

INGAGE was created using ArcGIS Online and Survey 123 in conjunction with Safe Software's Feature Manipulation Engine (FME) to acquire spatial data directly from residents to contribute towards city development and policy planning. The software was chosen because Maple Ridge is already a customer of ESRI, meaning little to no additional training would be needed to implement and maintain the solution. The compatibility of ArcGIS Online and FME allows for the solution to be automated and the methodology can be easily recreated to solve many issues that residents care about.

In this example, a survey was created using Survey 123 and asks students about their distance learning experience during the COVID-19 pandemic. In FME survey data was joined to existing point spatial data of the school location from Maple Ridge's open data portal. Multiple transformers were used to manipulate the data into a point layer. Then through FME, the feature layer is uploaded to ArcGIS Online as a map and made into a dashboard. A dashboard allows users to interact with the data presented and view it in relation to its spatial attributes.



Questions from the Survey 123 Survey

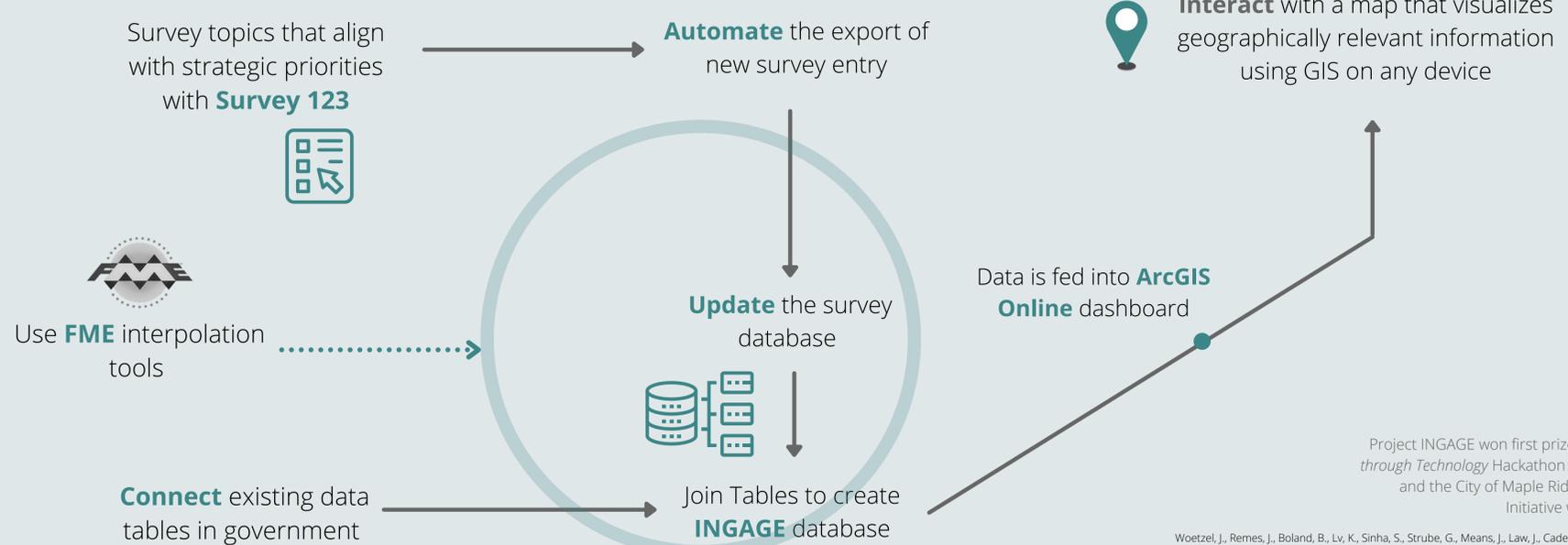


ArcGIS Online Interactive dashboard where users can query by specific data attributes and school locations

Implementation

To implement INGAGE on a large scale. It would be best to focus on integrating the solution to the city's existing data architecture in the future by...

- Automating FME and to update ArcGIS Online dashboard
- Integrating into Maple Ridge's ESRI Enterprise Geodatabase



User Can ...

Query to generate appropriate reports regarding strategy topics

Interact with a map that visualizes geographically relevant information using GIS on any device

Project INGAGE won first prize in the *Connecting the City through Technology* Hackathon organized by HackerEarth and the City of Maple Ridge. Implementation of the Initiative will start September 2021

Woetzel, J., Remes, J., Boland, B., Lv, K., Sinha, S., Strube, G., Means, J., Law, J., Cadena, A., & Tann, V. (2020, October 20). *Smart cities: Digital solutions for a more livable future*. McKinsey & Company. <https://www.mckinsey.com/business-functions/operations/our-insights/smart-cities-digital-solutions-for-a-more-livable-future>

Icons in the infographic are from canva.com