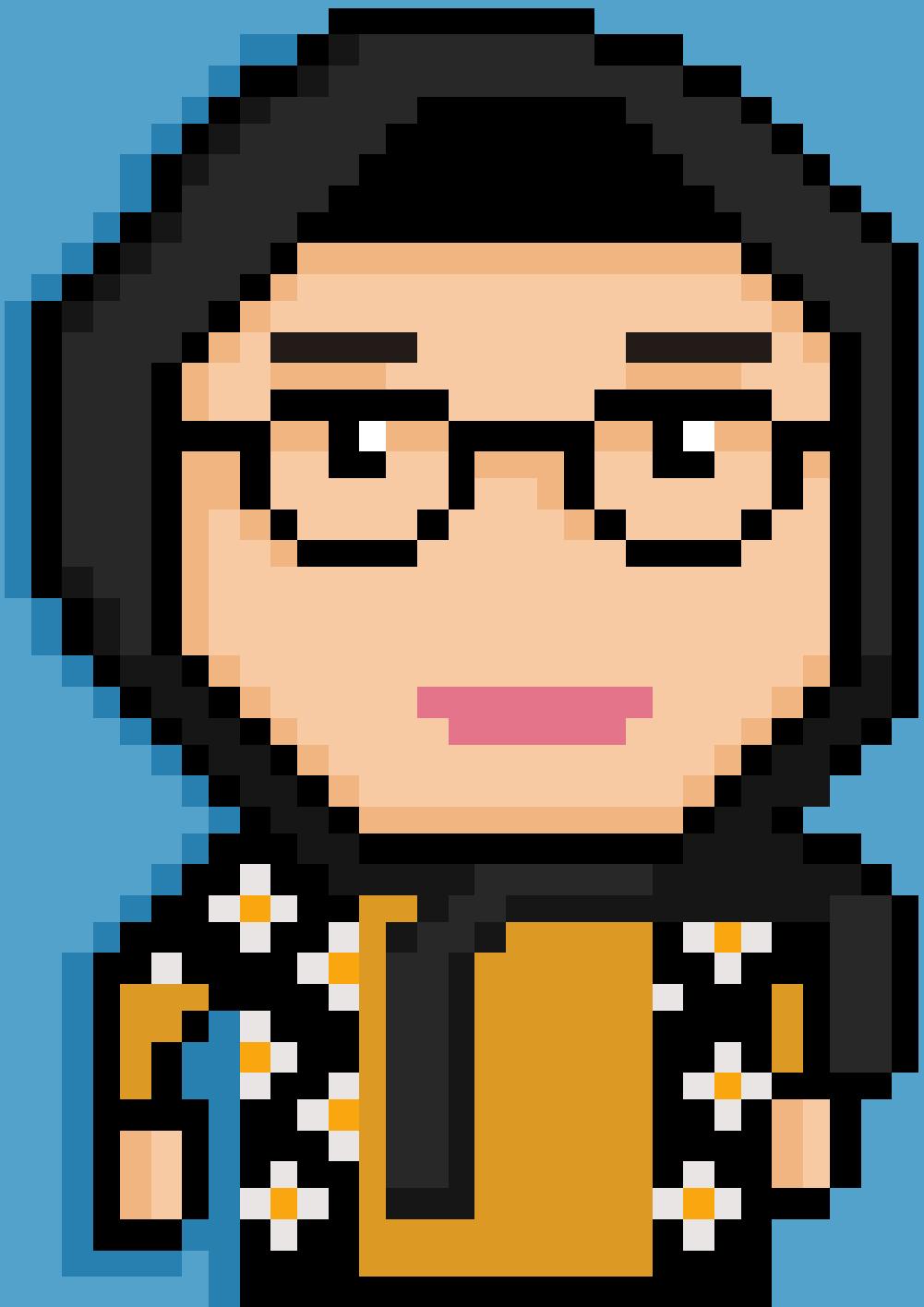




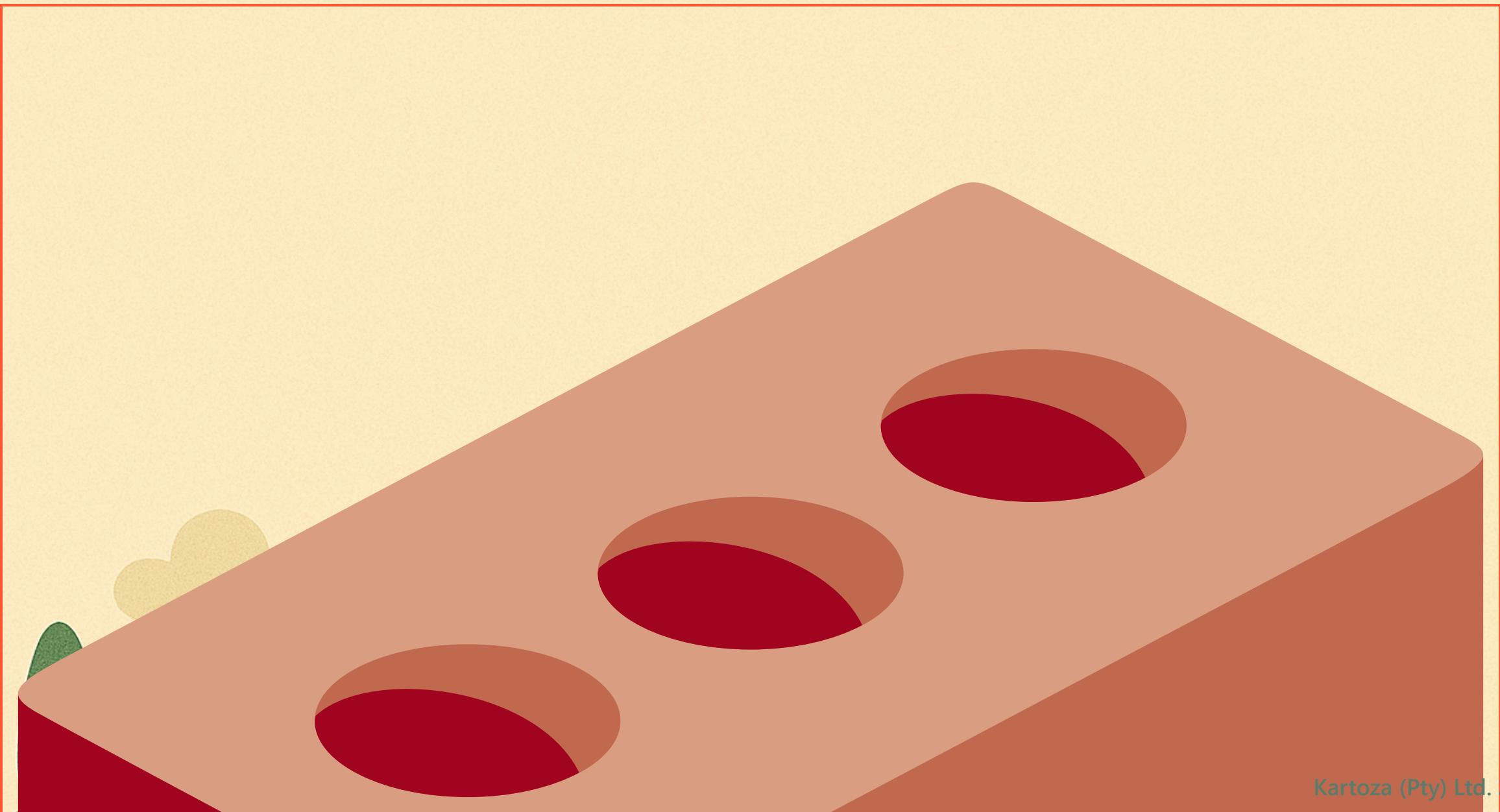
Infrastructure Mapper - Culinary Facilities

Hefni Rae RA



About Me

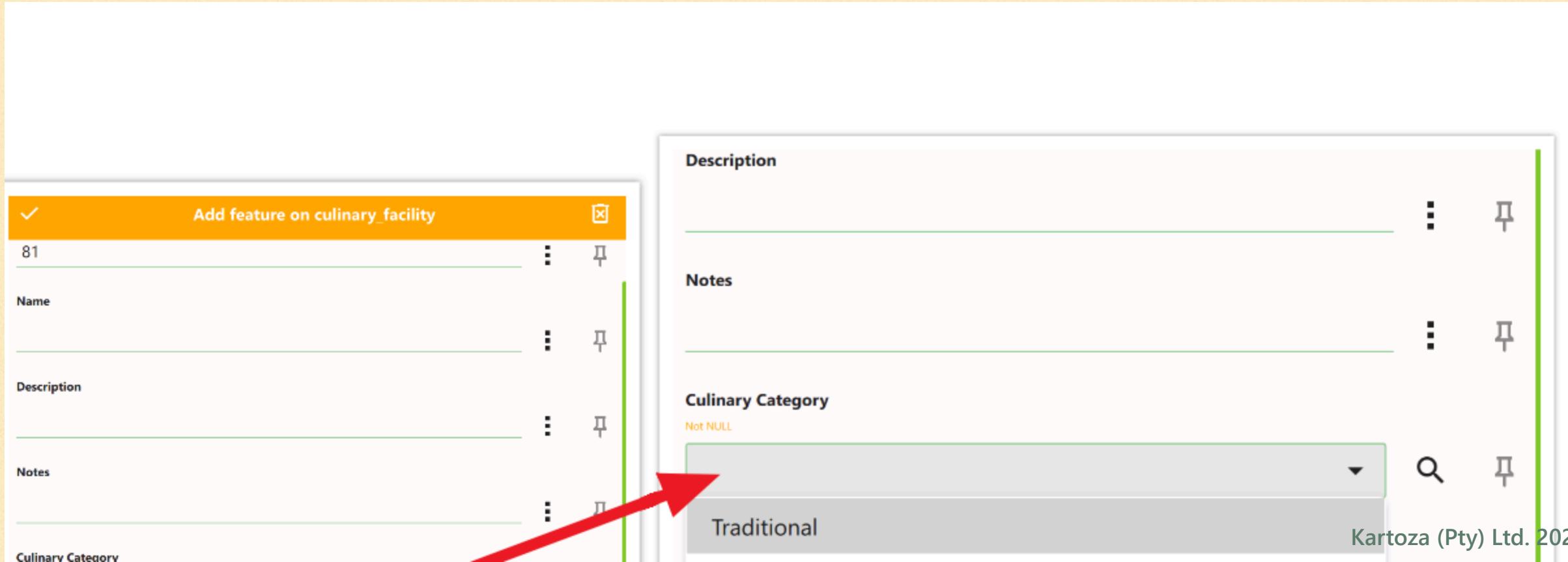
- Intern at **Kartoza**
- Bachelor of Engineering, majored in Geodetic Engineering
- Currently exploring GIS with a growing interest in open-source GIS. Passionate about GIS and map styling.
- Tools used: QGIS,





The Forms

QGIS smart forms created to collect and validate field data efficiently.



The screenshot shows the QGIS Smart Forms interface. On the left, a feature creation form titled "Add feature on culinary_facility" is displayed with a primary key value of "81". The form includes fields for "Name", "Description", "Notes", and "Culinary Category". A red arrow points from the "Culinary Category" field towards a dropdown menu on the right. The dropdown menu is titled "Culinary Category" and has a validation rule "Not NULL". It contains a single option: "Traditional". The bottom right corner of the interface displays the copyright notice "Kartoza (Pty) Ltd. 2025".

✓ Add feature on culinary_facility [x]

81

Name

Description

Notes

Culinary Category

Not NULL

Traditional

Kartoza (Pty) Ltd. 2025



Field Collection

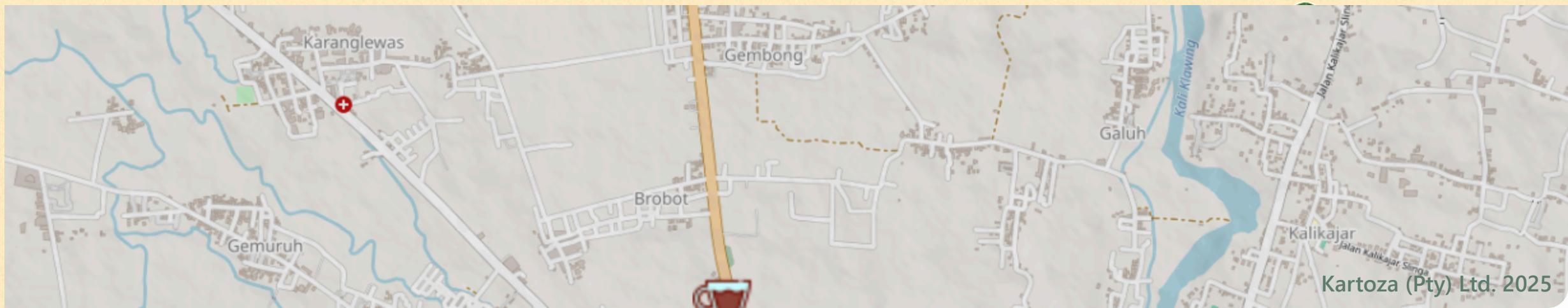
Data collected in the field using mobile GIS apps and GPS-enabled devices.





Collection Results

- **Total features collected:**
 - Points: 80
- **Area covered:** 15 km²



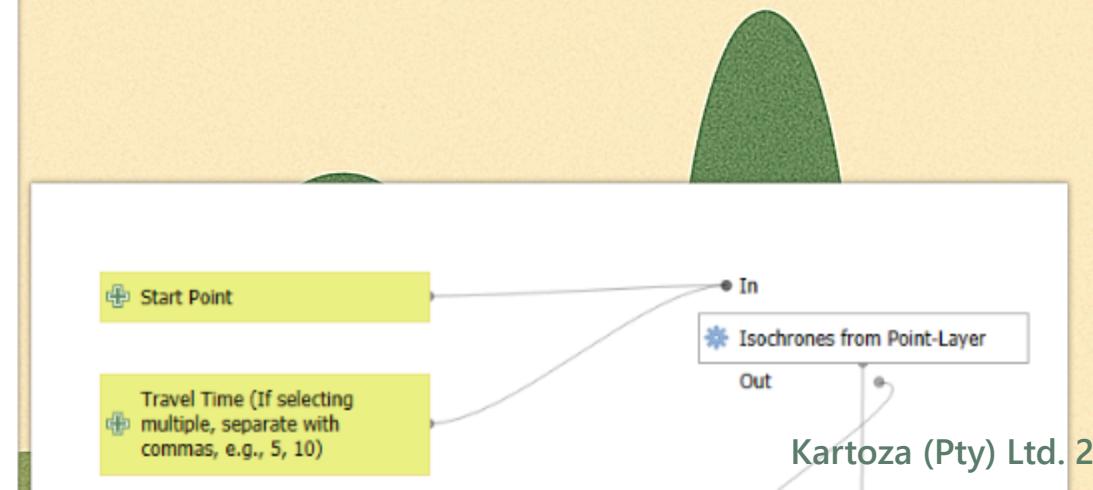
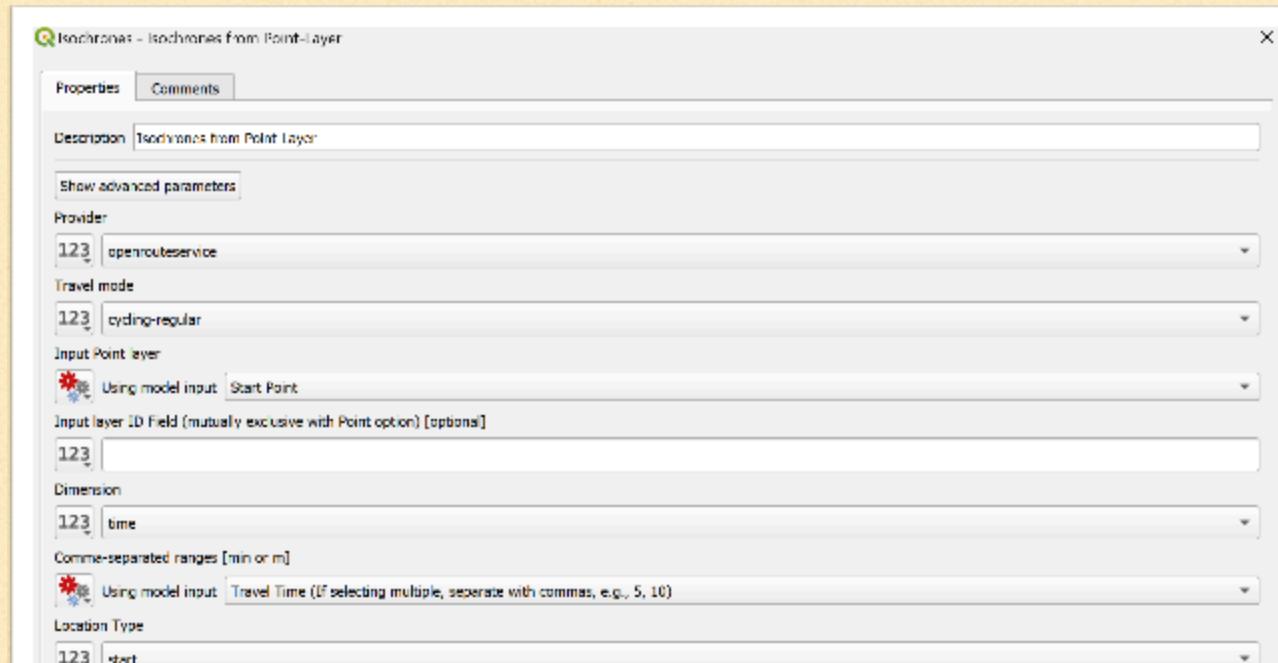
? Analysis Problem

- How can we determine culinary facilities that are reachable within a specific travel time from a central point?
- Which culinary facilities that can be reached within 8 minutes and offer the best combination of **low price, high ratings**, specific **facilities** like Wi-Fi and indoor seating, and specific **category** like Cafe/Bakery?



⚙️ Methodology

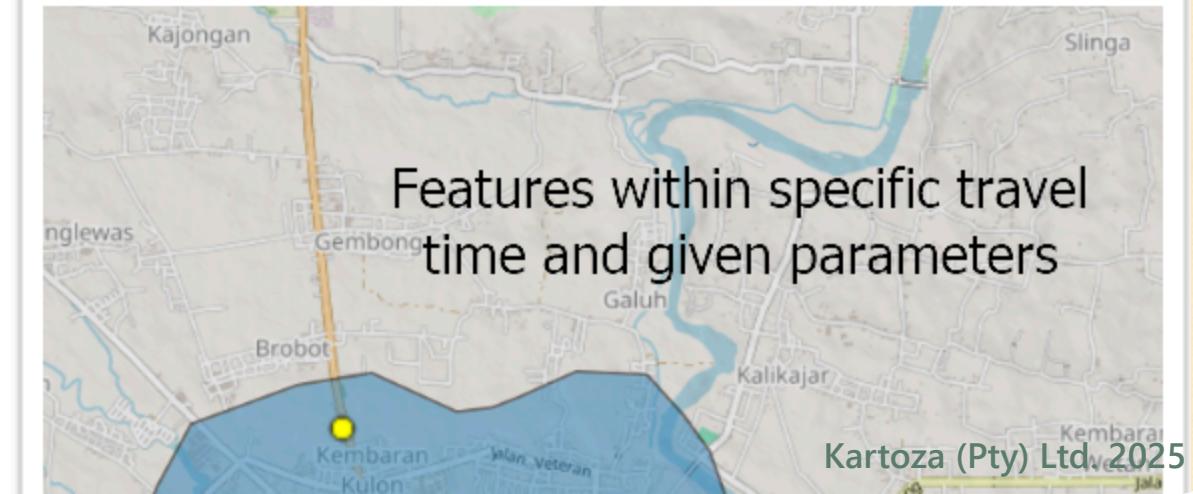
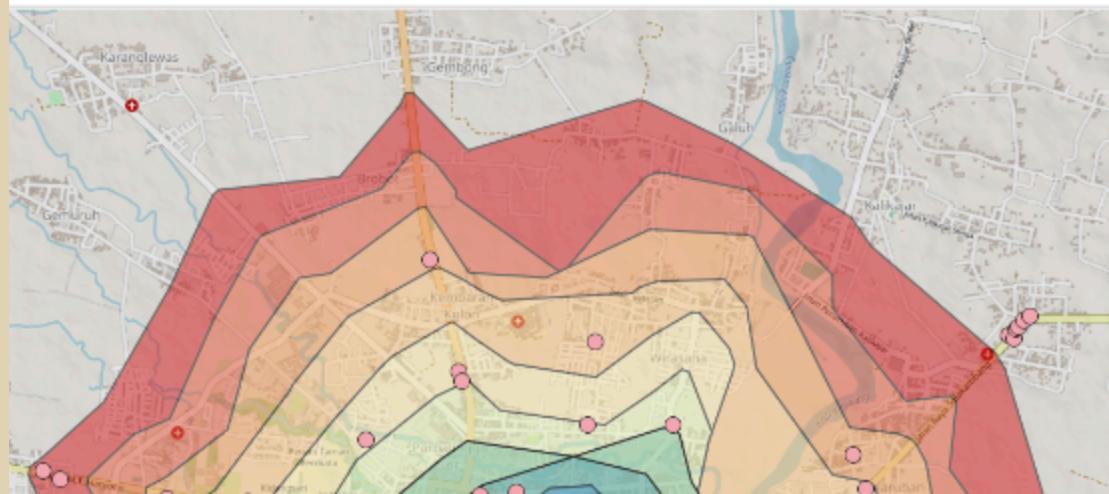
- A custom QGIS Model Designer diagram used for repeatable spatial processing.





Results

- Isochrones analysis output
- Features within specific travel time and given parameters.





Insights

- Average Price Range by Category
- Rating Distribution
- Top Categories with High Ratings
- Most common facility
- Most common category
- Facilities Coverage
- Facilities by Category



Further Research

If I had more time, I would:

- Develop a specific travel mode for motorcycles to better represent real conditions, possibly using custom routing technology.
- Improve the model so users can select facilities and categories using dropdowns connected to the lookup table, ensuring updates are reflected automatically.
- Increase the study area and collect more data to improve the analysis



My Internship Experience

Highlights

- Mastered QGIS and explored various GIS tools and workflows
- Contributed to impactful projects
- Improved problem-solving, adaptability, and critical thinking
- Enhanced time management while balancing multiple tasks and responsibilities
- Improved English communication skills through professional and collaborative engagements



Contact Me

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Prompt: Create a GIS related image for the Analysis Problem slide

