



**UP DATA SCIENCE
SOCIETY**
Powered by Data Driven People

Hack-A-Street

Pre-Work Kit



Objectives of the Pre-Work Kit:

- ☐ Help you organize your ideas
- ☐ Prepare a strong foundation for your presentation
- ☐ Align your goals with the judging criteria
- ☐ This pre-work kit will serve as the basis for your presentation

Instructions

- ❑ Make a copy of this Google Slide.
- ❑ Fill out each slide with your team's information, insights, solutions, and references.
- ❑ This deck will serve as the basis for your presentation.
- ❑ Upload your completed Pre-Work Kit deck in this [Google Folder](#) by **Jan. 18, 1:30 PM.**

Mobilite

Foryasen, Blix D.

Lim, Jerico C.

Mapanao, Jessy Cassandra M.

Challenge Insights & Proposed Solution

- | | |
|----------------------------------|---|
| Understanding the Problem | <i>Summarize your understanding of the issue you aim to address. What's the core challenge?</i> |
| Proposed Solution | <i>Briefly describe your main idea or concept. What makes it innovative or impactful?</i> |
| Key Impact Areas | <i>List up to 3 benefits or outcomes your solution will achieve.</i> |

Use bullet points, images, or sketches to make this slide visually engaging!

**Lack of community engagement
results in suboptimal mobility
planning .**

Manila, Philippines

Rank 60

out of 65 cities in the world at the Urban Mobility
Readiness Index 2023

60th

Out of 65 cities in Public
Transport

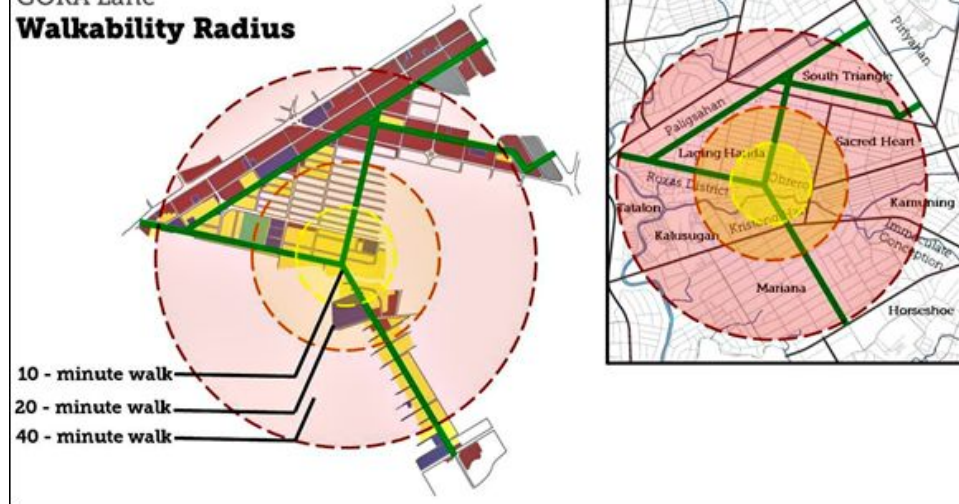
51st

Out of 65 cities in
Sustainable Mobility

The streets we walk tell stories of neglect, but they also hold opportunities for transformation.

The consolidation of all transportation industry players is a crucial precondition to achieving urban mobility (Gaabucayan-Napalang, 2024).

GORA Lane Walkability Radius



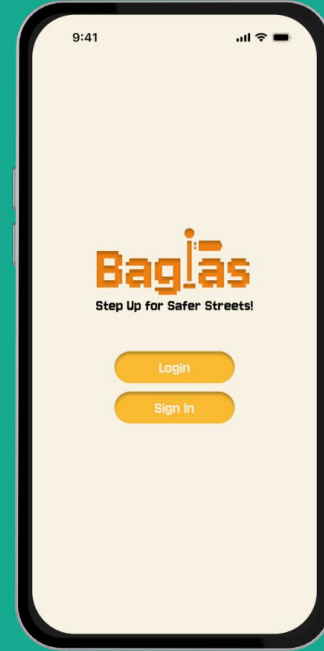
Projects like Quezon City's GORA Lane and Iloilo's #MoveTogether demonstrate the potential for improved walkability and active mobility.



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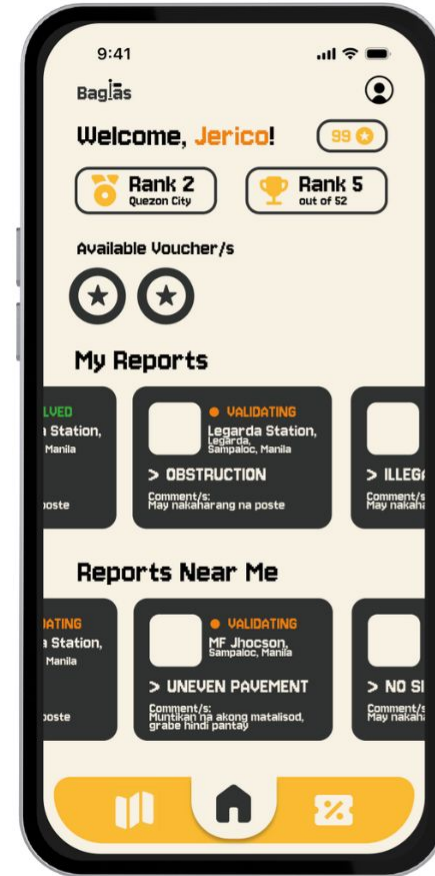
Baglās

Step Up for Safer Streets!



What is Bagtas?

- an innovative **mobile application** that empowers pedestrians to **actively participate in improving urban infrastructure**. By combining the reporting of road and sidewalk damages with accessibility feedback, the app creates a **collaborative space for users to contribute** to making streets safer, more inclusive, and pedestrian-friendly while being **incentivized for such contributions**.



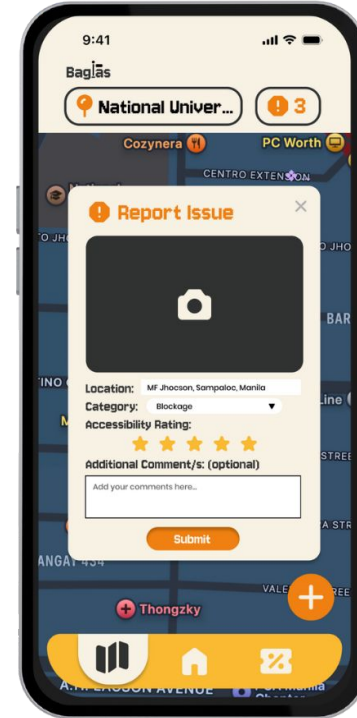
Inspired from...

- ❑ **Geo-Zombie:** a gamified mobile app that engages users in documenting urban accessibility issues through a zombie-themed interface.
- ❑ **Project Sidewalk:** a web tool for labeling pedestrian accessibility issues via Google Street View, using game elements to enhance engagement and support large-scale data collection.
- ❑ **Walkable Bengaluru:** a web-based tool empowering citizens to collaboratively develop local walkability plans, combining issue mapping, solution identification, and budget estimation in a single platform.

Key Features

GPS-tagged damage reports with photo uploads

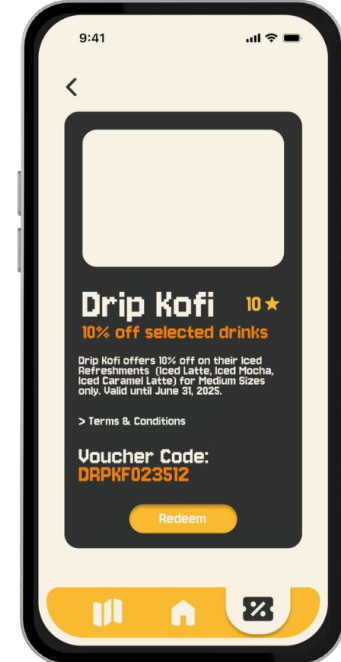
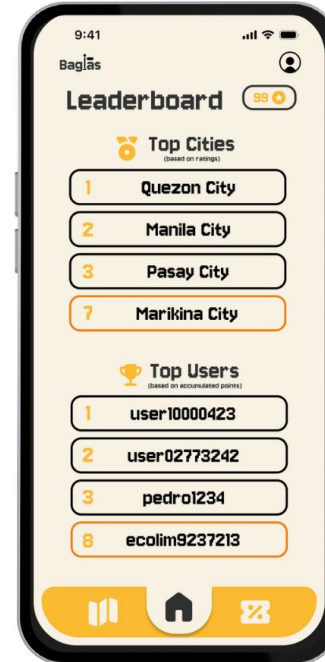
- Data Security - Request for Location and Camera Access and anonymizing user data (RA 10173)
- Data Validation - Flag poor-quality reports by analyzing photo clarity, sentiment analysis, GPS accuracy, and relevance through AI Models (ConvNet).



Key Features

Gamification features featuring points, leaderboards, and rewards

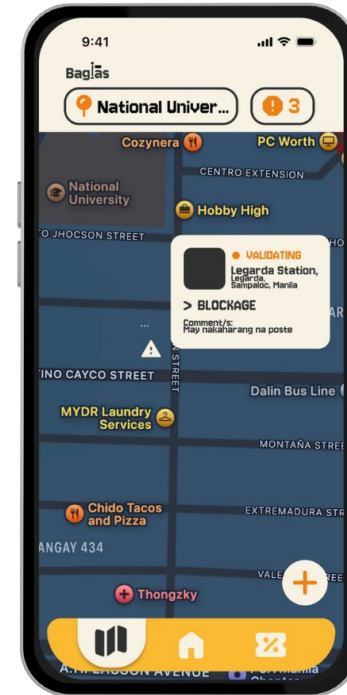
- Public-private partnerships with businesses sustain the reward system in exchange of increased foot traffic.
- Reward Logistics are handled by partnered stakeholders as part of ROI in increased foot traffic



Key Features

Maps for issue tracking

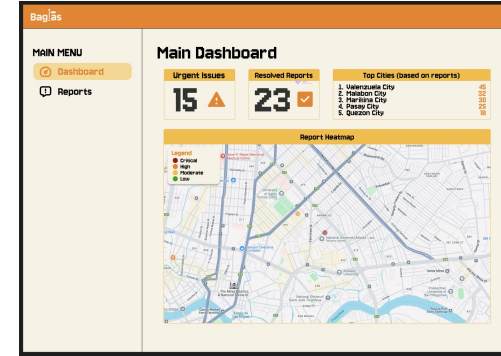
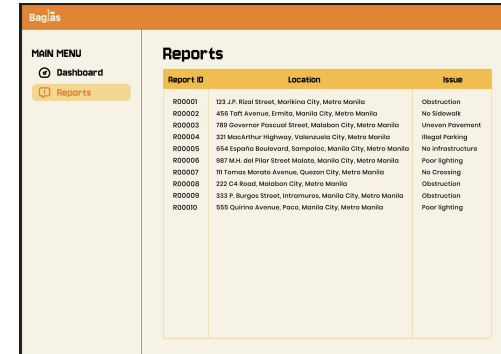
- Map Markers to indicate nearby reports



Key Features

A dashboard for planners with heatmaps for priority areas, user, and report statistics.

- Data Analytics: Multimodal models analyze data features from reports (e.g., 1–5). Gradient boosting models for prioritizing issues.

The screenshot shows the 'Reports' page of the Bagla's system. It features a sidebar with a 'MAIN MENU' containing 'Dashboard' and 'Reports' (selected). The main content area displays a table of reports with columns for 'Report ID', 'Location', and 'Issue'.

Report ID	Location	Issue
R00001	123 J.P. Rizal Street, Makinawa City, Metro Manila	Obstruction
R00002	456 Taft Avenue, Ermita, Manila City, Metro Manila	No Sidewalk
R00003	789 Governor Pascual Street, Malabon City, Metro Manila	Uneven Pavement
R00004	321 MacArthur Highway, Valenzuela City, Metro Manila	Illegal Parking
R00005	654 España Boulevard, Sampaloc, Manila City, Metro Manila	No Infrastructure
R00006	987 M.H. del Pilar Street, Malate, Manila City, Metro Manila	Poor Lighting
R00007	101 Tomas Morato Avenue, Quezon City, Metro Manila	No Crossing
R00008	222 C.A. Road, Malabon City, Metro Manila	Obstruction
R00009	333 P. Burgos Street, Intramuros, Manila City, Metro Manila	Obstruction
R00010	555 Quirino Avenue, Paco, Manila City, Metro Manila	Poor Lighting

Key Impact Areas

☐ Enhance Pedestrian Safety and Accessibility

- ☐ Increase participation in reporting by 50% within the first year, with a focus on accessibility issues.
- ☐ Reduce average repair times by 40% through prioritized issue tracking.

Key Impact Areas

❑ **Promote Active Mobility and Community Involvement**

- ❑ Boost pedestrian traffic by 30% in targeted areas, particularly those with accessibility improvements.
- ❑ Engage at least 10,000 active users in community feedback, discussions, and workshops within the first year.

Key Impact Areas

❑ Support Data-Driven Urban Planning

- ❑ Provide urban planners with actionable insights to improve safety, inclusivity, and maintenance efficiency.
- ❑ Reduce infrastructure-related complaints by 25% through proactive reporting and collaboration.

Bagtas is more
than an app—it's a
catalyst for
collaboration and
change.



References Used

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- ❑ Gaabucayan-Napalang, M. S. (2024, December 25). Sustainable Philippine transport system. *INQUIRER.net*.
<https://opinion.inquirer.net/179467/sustainable-philippine-transport-system>
- ❑ *Green, Green, Green pushes city governments to build better open spaces*. (n.d.).
<https://www.dbm.gov.ph/index.php/management-2/758-green-green-green-pushes-city-governments-to-build-better-open-spaces>
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- ❑ Quezon City Government. (2023, November 6). GORA Lane - Quezon City Government. *Quezon City Government - Official Website*.
<https://quezoncity.gov.ph/program/gora-lane/>
- ❑ Saha, M., Saugstad, M., Maddali, H., Zeng, A., Holland, R., Bower, S., Dash, A., Chen, S., Li, A., Hara, K., & Froehlich, J. (2019). Project Sidewalk: A Web-based Crowdsourcing Tool for Collecting Sidewalk Accessibility Data At Scale. *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*. <https://doi.org/10.1145/3290605.3300292>.
- ❑ *Walkable cities*. (n.d.). Walkable Cities. <https://www.walkablecities.in/>
- ❑ *#MoveTogether Iloilo: Active mobility promotes climate justice and lessens road disparity*. (2023, November 12). The Climate Reality Project Philippines.
<https://climatereality.ph/2023/11/03/movetogether-iloilo-active-mobility-promotes-climate-justice-and-lessens-road-disparity/>



Thank you for answering the Pre-Work Kit!

You will have **5 minutes** to present your work.

We're excited to see your brilliant ideas. Best of luck!

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