

Aveiro Tech City Living Lab

Al-Powered Platform for Smart City Issue Detection & Resolution

Danilo Silva o Guilherme Santos o João Pinto o Pedro Pinto o Tomás Santos

Advisors

Susana Sargento o Pedro Rito o Duarte Raposo

25.02.2025

Smart City Problems

• **Manual incident reporting** – Citizens report incidents manually, often through inefficient channels like phone calls or emails.



 Lack of real-time validation – Authorities have no automated way to verify whether an incident has been resolved.



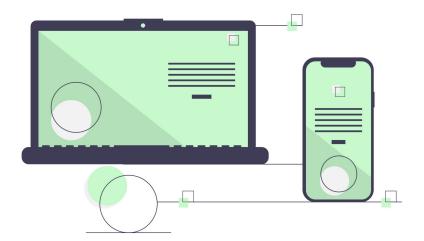
 Unstructured issue management – Authorities lack an organized information system to track and prioritize the most urgent and recurring urban issues efficiently.



Our Solution



Al-Powered Platform for Smart City Issue Detection & Resolution





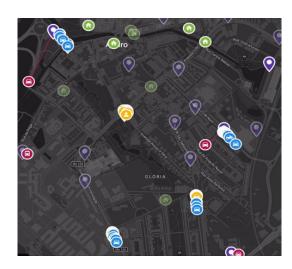
Aveiro Tech City Living Lab

- Detection Identifying resolved issues and finding new ones in real time.
- **Integration** Connecting with the ATCLL infrastructure for event persistence.
- Validation Testing with the autonomous vehicle (PIXKIT) in a controlled environment.









Goals

- App Practical city incident reporting for regular users.
- Integration With the Aveiro Tech City Living Lab infrastructure.
- **Platform** Web interface required for the city control center.
- AI Enhancing user experience through intelligent automation.
- Monitoring Ensuring effective system performance and maintenance.
- **Documentation** Providing comprehensive system guidelines.



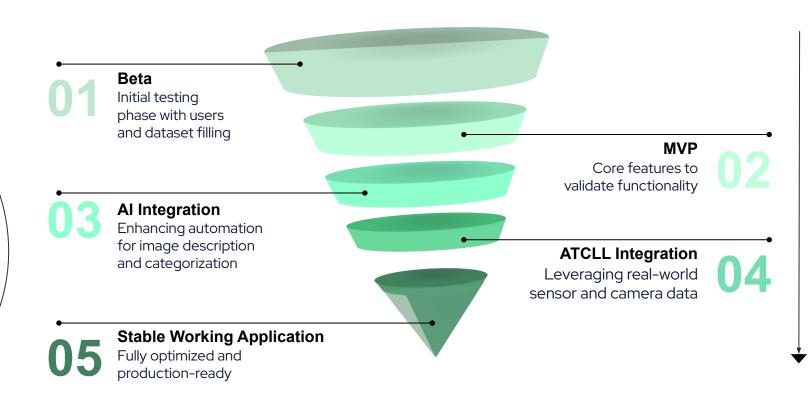
Potential Roadblocks

- **Complexity** Challenges in AI integration.
- Integration Connection with the ATCLL infrastructure.
- **Timeframe** Limited development and testing period.
- **Privacy** Data security and compliance.
- Uncertainty Potential unforeseen technical issues.



COMPLEXITY

Roadmap to a Stable App



Calendar

Week	Date	Description	State	Deadlines
1	11/02/2025	M1 - Requirements, lifecycle objectives and calendar for the project		2
2	18/02/2025	M2 - Mockup, Start Architecture and beta application		
3	25/02/2025		Setup	Presentation
4	04/03/2025			
5	11/03/2025	M3 - Upgrade of Architecture and full application/website		
6	18/03/2025			
7	25/03/2025			Checkpoint
8	01/04/2025	M4 - Al-powered clustering, descriptions and classifications		
9	08/04/2025			Presentation/ Prototype
10	15/04/2025		Start Al	Presentation/ Prototype
11	22/04/2025	M5 - ATCLL integration for detection and correction		
12	29/04/2025			
13	06/05/2025			Checkpoint
14	13/05/2025	M6 - Stable working application, with monitoring.		111
15	20/05/2025			Checkpoint
16	27/05/2025		Docs	Demo
17	03/06/2025	M7 - Prepare final report and documentation		Final Presentation
16	27/05/2025			Poster Presentation

Communication Plan



Technical Communication



GitHub - Version control and collaboration

GitHub Projects - Task management

Team Communication





Slack - Communication with supervisors

Discord - Communication with the group



Questions?

Aveiro Tech City Living Lab

Al-Powered Platform for Smart City Issue Detection & Resolution



Danilo Silva 113384



Guilherme Santos 113893



João Pinto 104384



Pedro Pinto 115304



Tomás Santos 112981