Tactile Paths (LVE System) – Smart Stick and Mobile App for Voice Guidance

ACT4DYS

Background

The LVE system ("Loges-Vet-Evolution") is an innovative navigation solution designed for blind and visually impaired people. It was developed in Italy through a collaboration between the Italian Union of the Blind and Visually Impaired ONLUS and the Association of the Visually Impaired ONLUS. The system integrates tactile paving with voice-guided information delivered through a smart stick and a connected mobile phone app. This allows users to receive contextual audio instructions at key urban nodes - intersections, transport hubs, and buildings.

Developed in collaboration with accessibility experts, technology firms, and municipalities, LVE combines traditional tactile cues with digital information layers. It aims to offer a safe, autonomous, and intuitive experience in navigating complex urban areas.

Key Activities

- Installation of LVE tactile tiles at transit stops and key urban areas.
- Development of a smart stick or anklet that reads tags embedded in the paving.
- Integration of mobile app functionality for user customisation.

Impact

- Improved independent navigation for blind and visually impaired people.
- Improved standardisation of pedestrian accessibility.

Challenges & Solutions

- Standardisation of tactile paths across municipalities.
- Cost of infrastructure development and deployment.

Tips for Similar Projects

- Combine physical and digital navigation tools.
- Involve blind users in both technological development and field testing.
- Provide training for public space operators (e.g., transport staff, urban planners).

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Identified Limitations/Weaknesses

- Requires users to own various technologies (smartphone, Bluetooth headset, smart stick or anklet).
- May require upskilling in digital literacy.
- Infrastructure investment is substantial for smaller cities.
- Integrated tech shows limited applicability for deaf-blind persons.

Video

- Watch this **video** from Zero Project

Video Description

Automated description of the project as part of the Zero Project's Innovative Practices 2018.

Images/Other Media

- Available downloads: **Images**

Resources

- **Article** about the project.

Partners

CARDET

Proportional Message

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