NaviLens

Empowering the visually-impaired
Tactile-Paving use case

The visually-impaired people **Wayfinding challenge on transit**

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The Problem

The visually impaired people are not completely independent in ***unknown spaces***

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Because **they can not read** the signage indications

Tactile-Paving is present in some transit facilities

But the users face similar challenges…

Must I TURN to the left or to the right?

Our idea

To use the camera of the mobile phone ***to read the tactile-paving as a signage***

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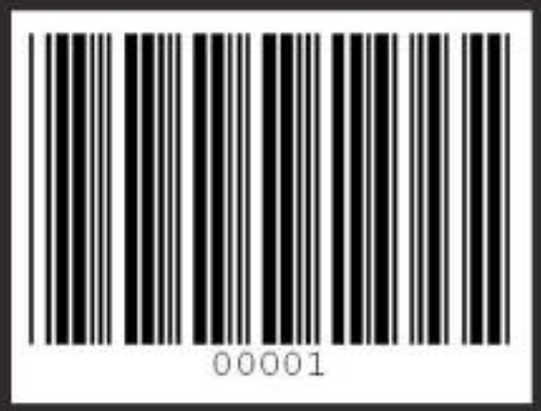
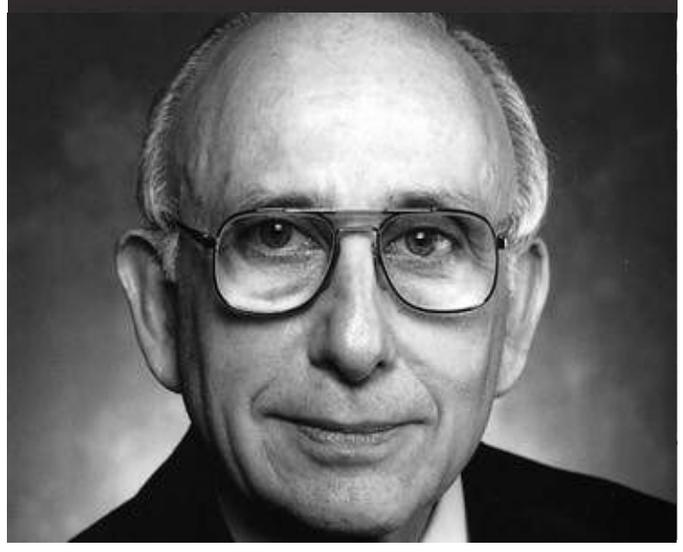
Our first approach was to use QR codes

BARCODE
1952





DATAMATRIX
1987

QR CODE
→ 1994 ←

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But QR codes don’t work…

- *The user needs to have the camera perfectly focused to the QR code*
- *It’s not possible to read while the user is moving*
- *It’s not possible to read a QR with angle*
- *Auto-Focus issues -> very slow to read it*

CONCLUSION:

QR is impossible to be applied for help the visually-impaired

It was imperative to INNOVATE and create something new!

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5 years of intense R&D

2012 -> 2017

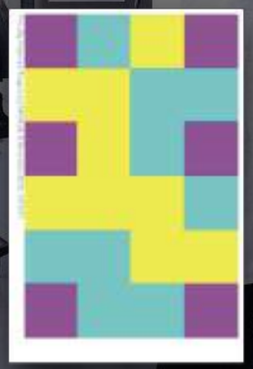
between Neosistec Startup & University of Alicante

Searching for a QR code readable for the visually-impaired

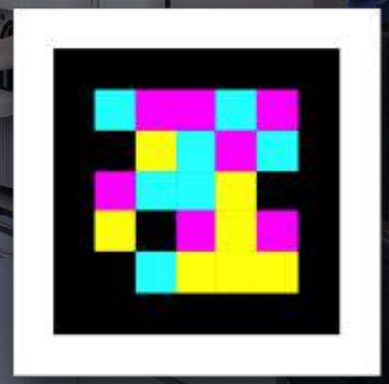
2012

2014

2015



2017



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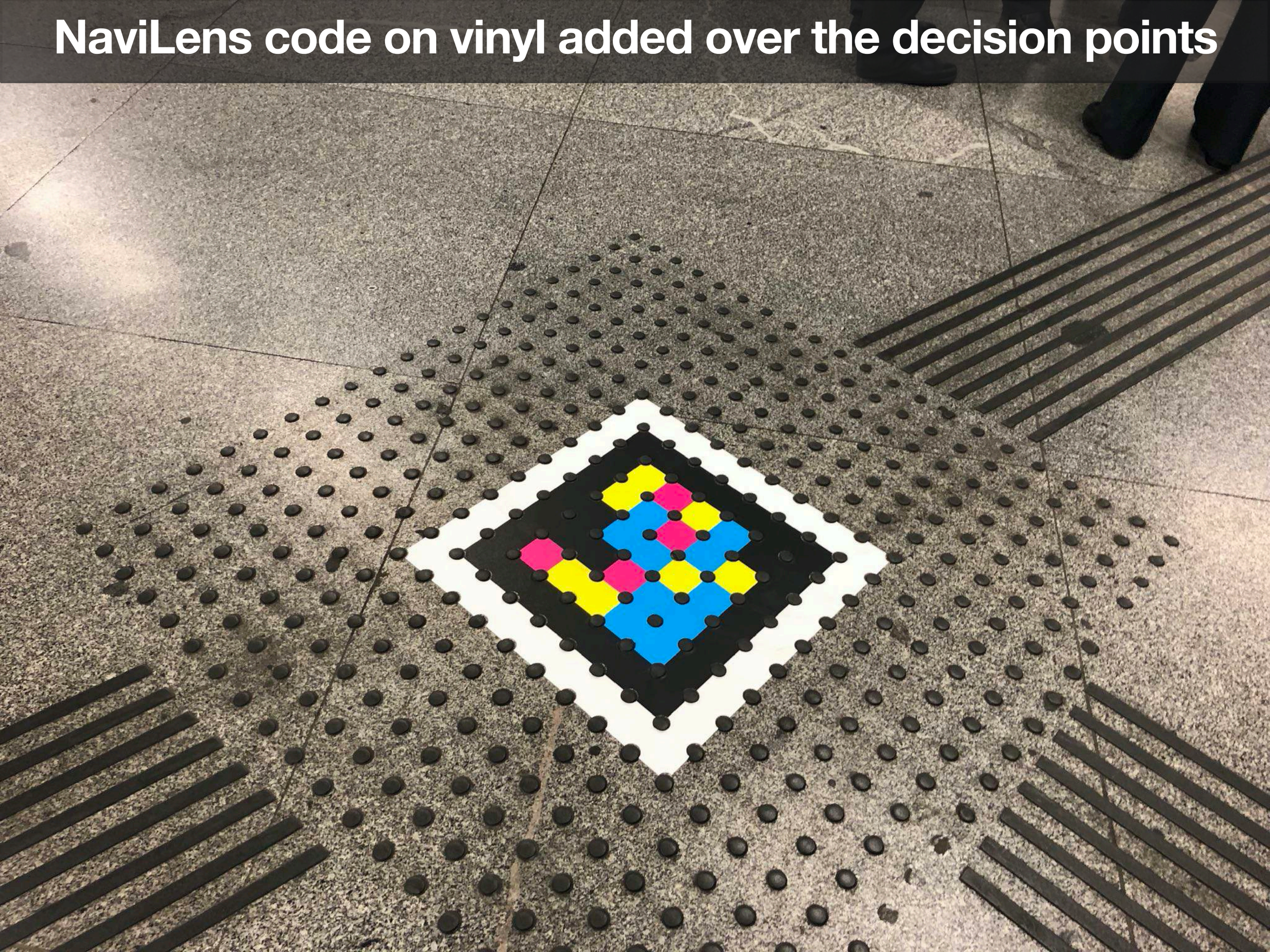
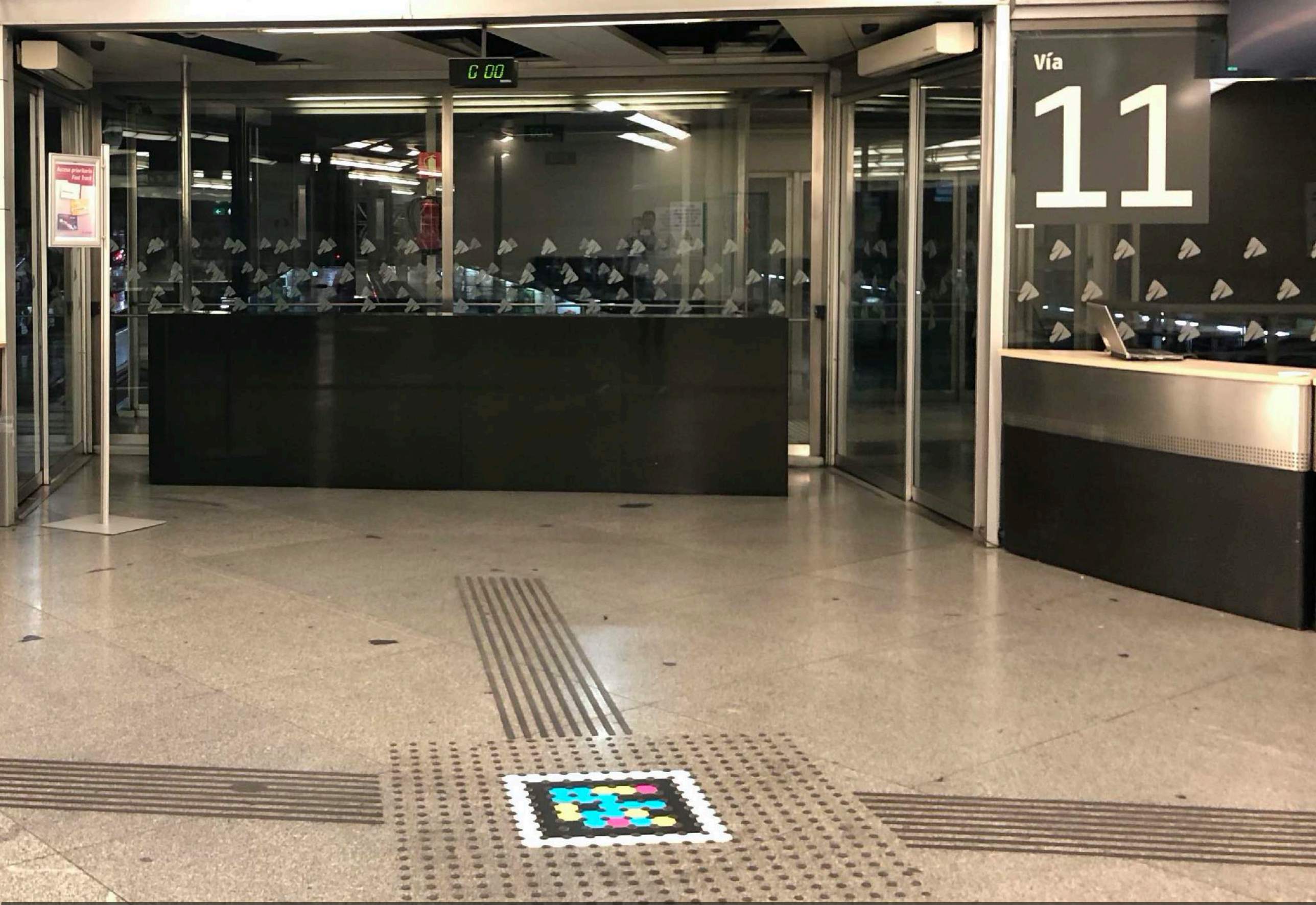
Atocha Station - Madrid

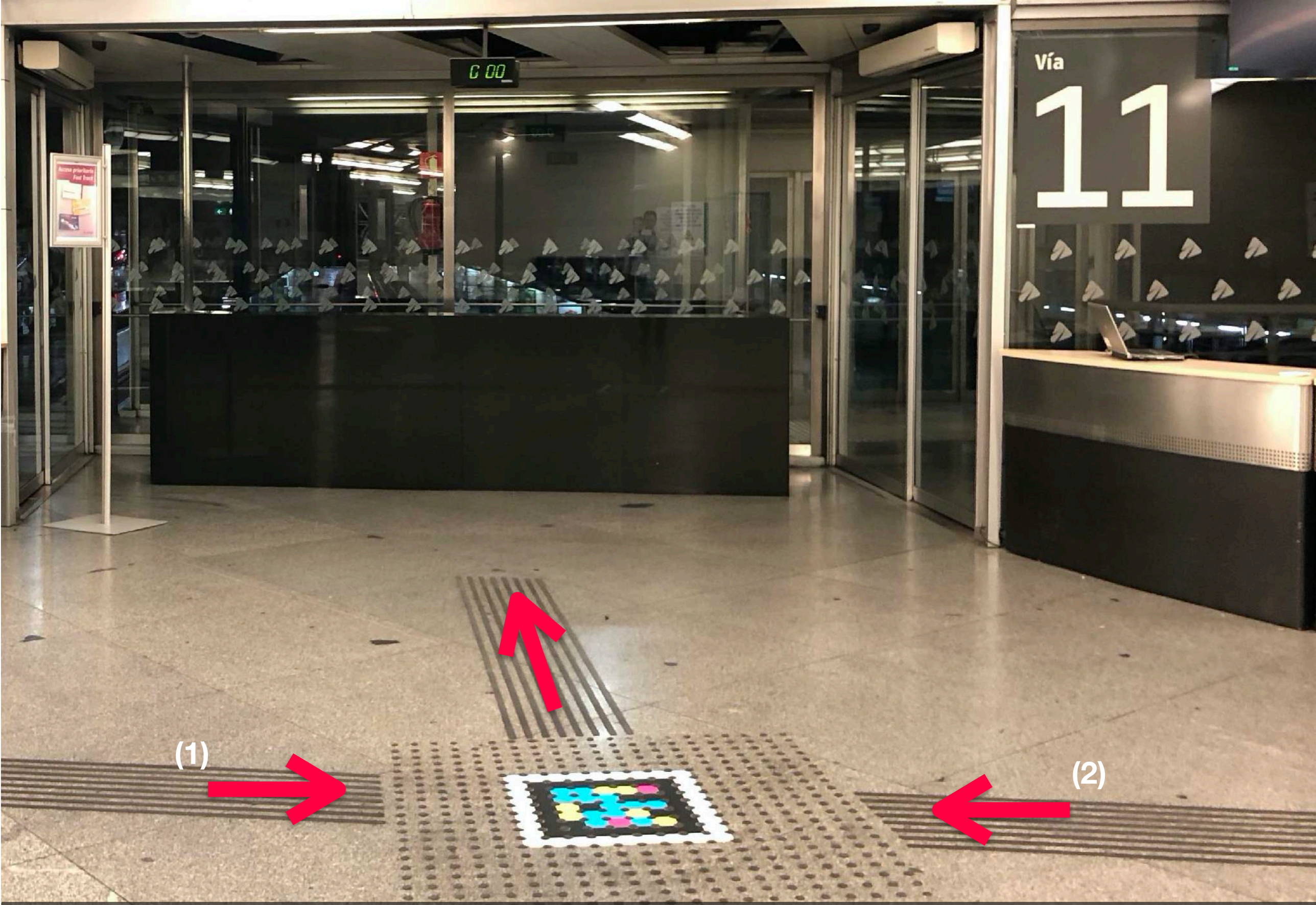
Atocha Station existing tactile-paving

NaviLens code on vinyl added over the decision points





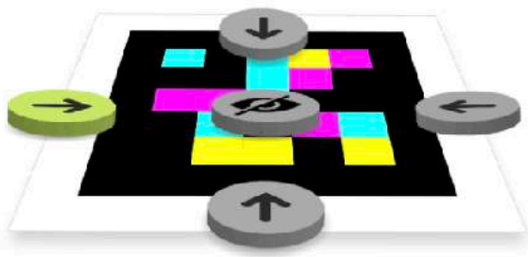
Platform 11 - Atocha Station



Two possible origins. How to solve the guiding?

Floor

Wall



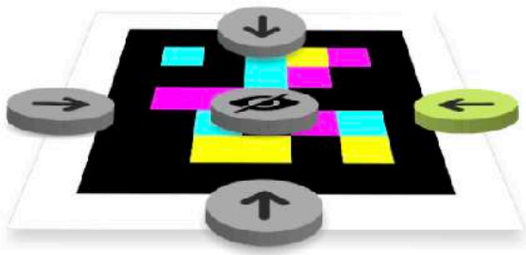
Floor - Left angle

[FLOOR_L: Turn LEFT to access platform 11]

The NaviLens code can distingue the scanning side

Floor

Wall



Floor - Right angle

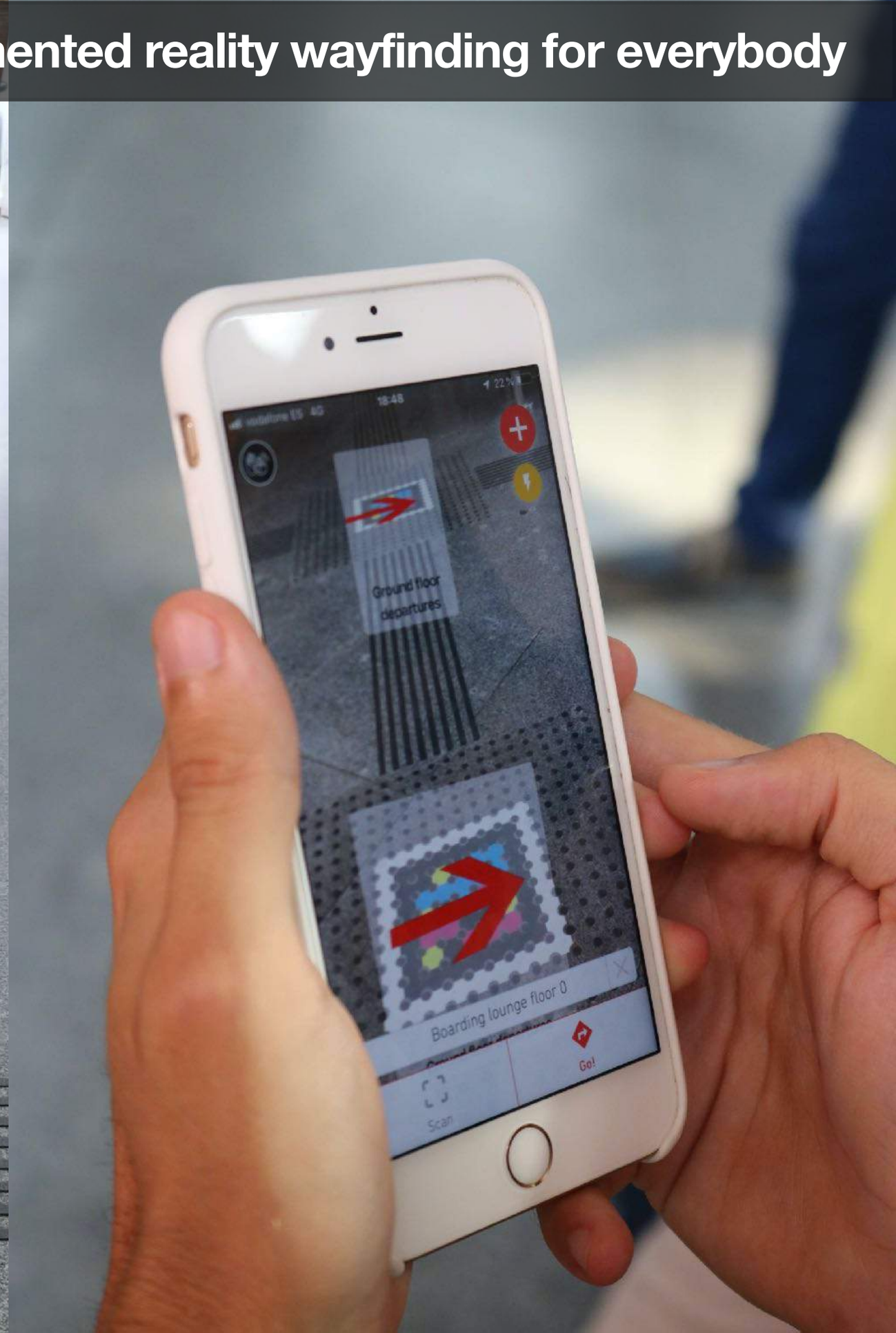
[FLOOR_R: Turn RIGHT to access platform 11]

Providing the blind one accurate guiding to its destination

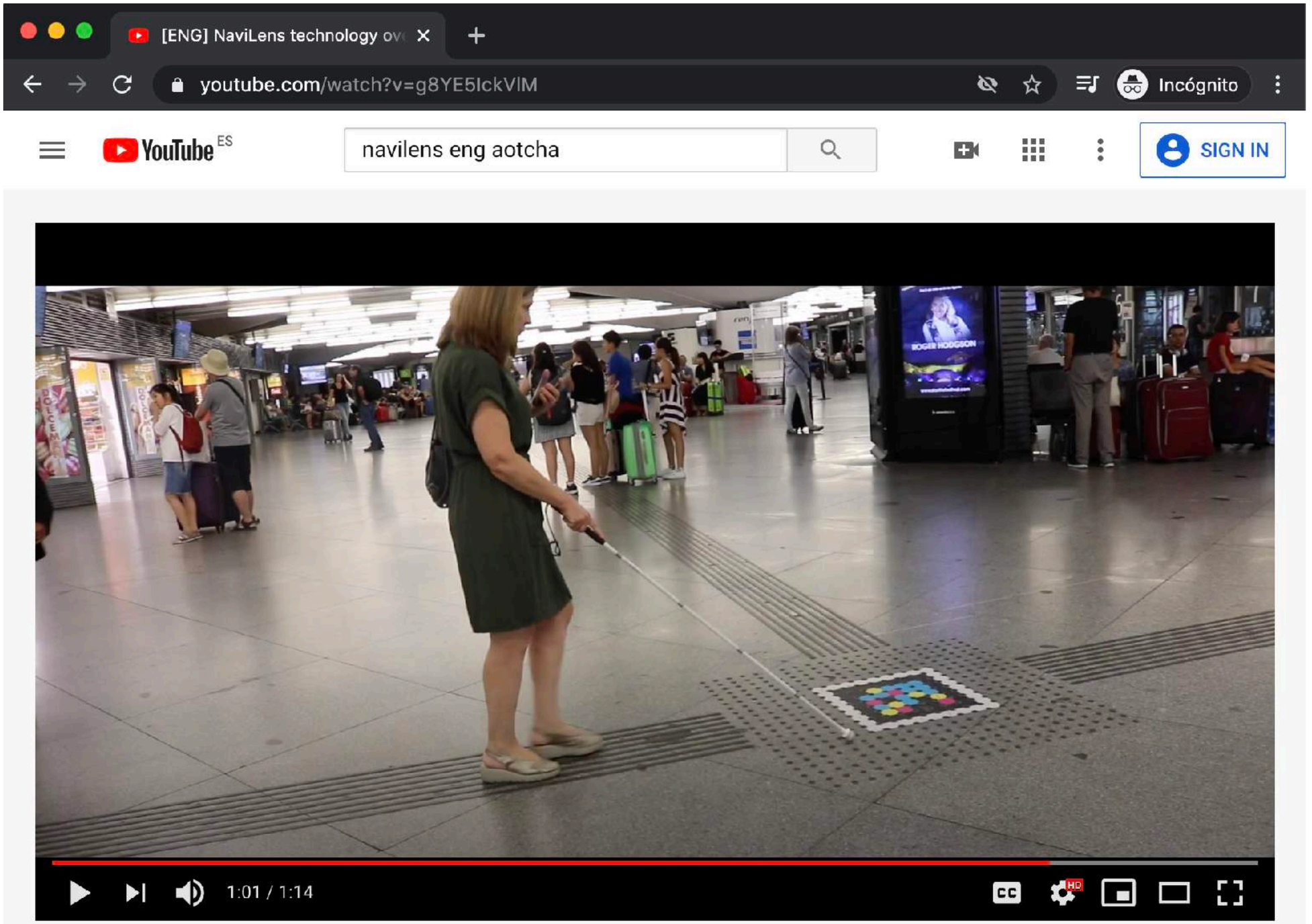
Achieving a full independently wayfinding for the blind users

As easy as adding a vinyl NaviLens code over the tactile paving

And at the same time delivering augmented reality wayfinding for everybody

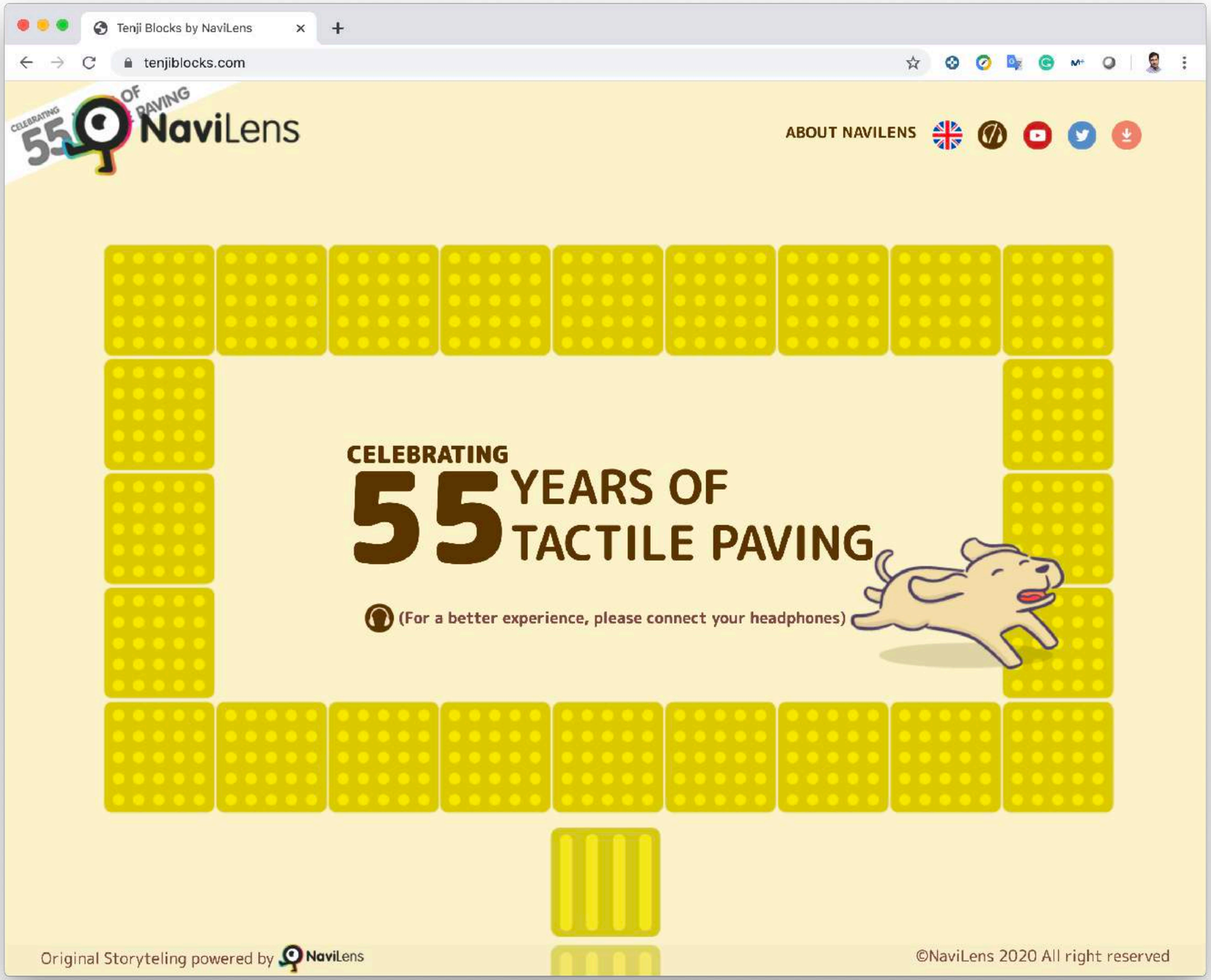


See the visually-impaired users testimonies



[ENG] NaviLens technology over tactile paving at the Madrid Puerta de Atocha Station

https://youtu.be/g8YE5IckVlM?t=7



Visit tenjiblocks.com for more information about the story of the tactile-paving

Thank you!
The NaviLens Team

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