



# Enhancing Access in Physical Spaces Through NaviLens

Afton Harper



Afton Harper and dog guide Payton at Springfield Airport, scanning the women's restroom NaviLens code

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# About me

Afton Harper, Projects Coordinator at  
empower: abilities





BIDI (Bi-Directional) QR codes  
developed by Mobile Vision  
Research Lab at the University of  
Alicante in Partnership with  
startup NaviLens

# About NaviLens

Introduction

# Typical navigational signage isn't available to the blind or visually impaired

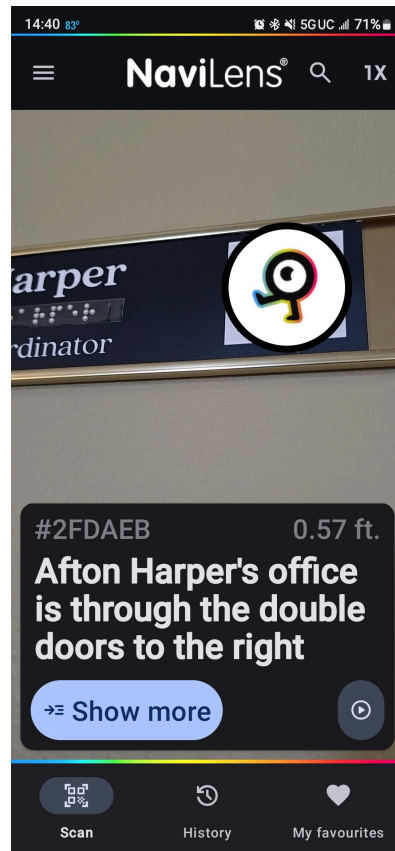
NaviLens can supplement signage and provide real-time information in multiple languages to anyone using the app



# NaviLens versus NaviLens GO

## NaviLens

- Designed for a blind or visually impaired user to scan their surroundings and read signage that may not be available otherwise

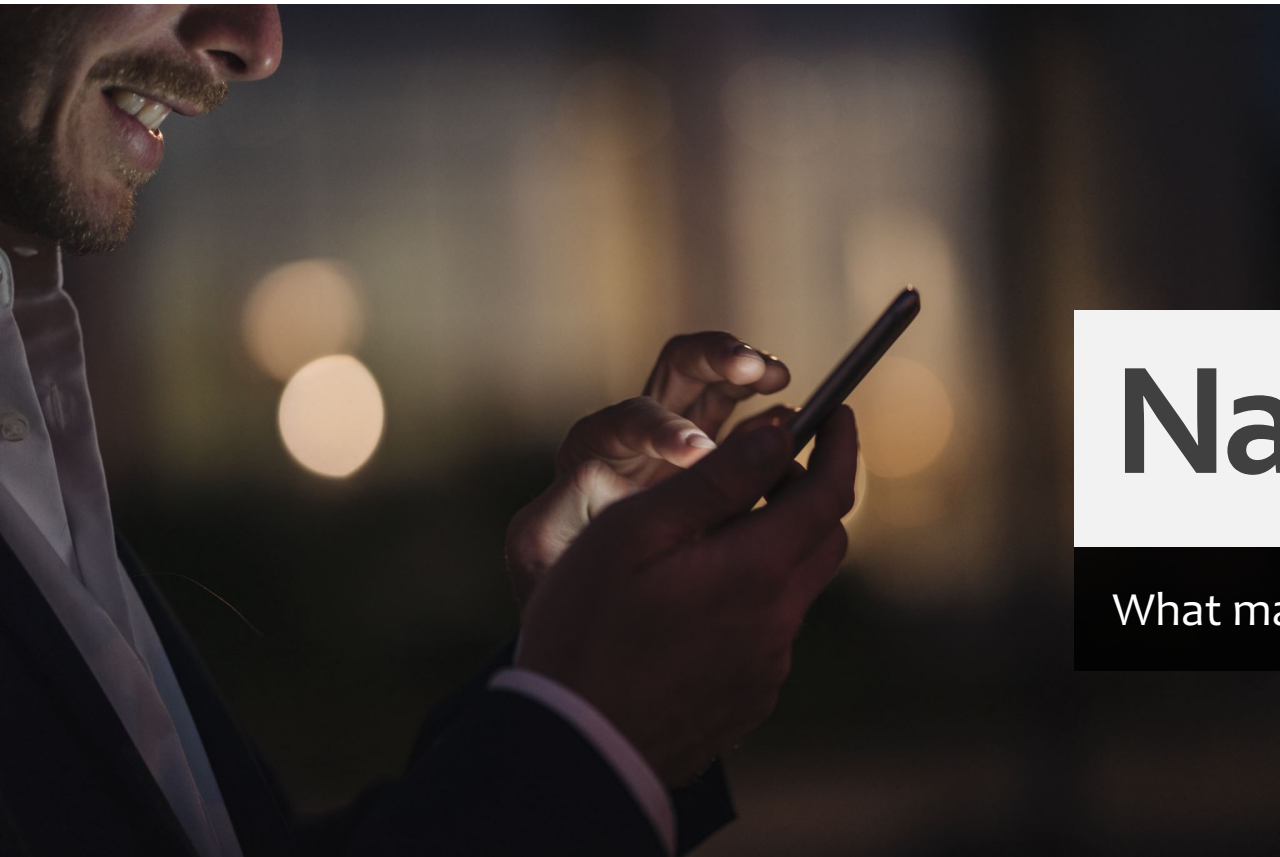


## NaviLens GO

- provides in-station navigation, trip planning information, train arrivals and service status information to help sighted users navigate the station and the system.

Afton Harper is the Projects Coordinator and Volunteer Coordinator for empower:abilities.





# NaviLens Features

What makes them different than regular QR codes

Programmed and designed for people who are blind/VI

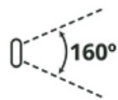
- Capable of reading the labels from long distances, depending on the size of the marker.
- No need for focusing, which is essential for people with visual impairments.
- It detects multiple tags simultaneously, efficiently communicating them to the user.
- Translates to 36 languages based on device settings



12x times farther than QR and barcode



Very fast  
1/30 seconds to read



Wide angle reading up to 160°



Reading in all light conditions



Accuracy & Orientation



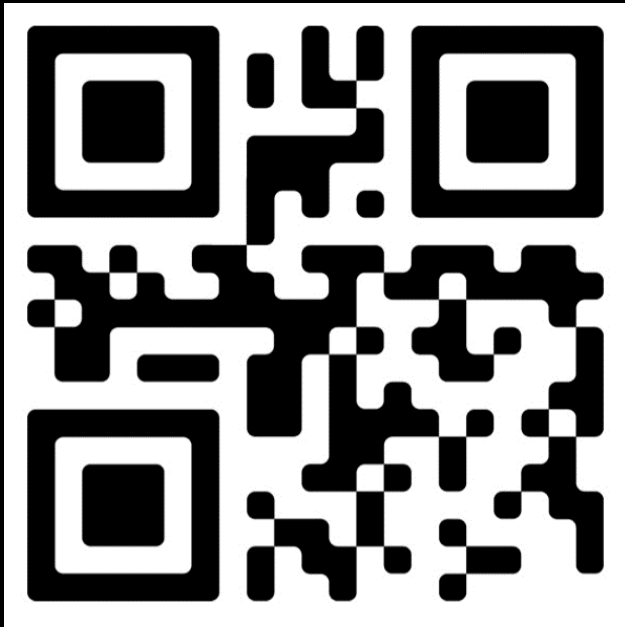
Unfocused



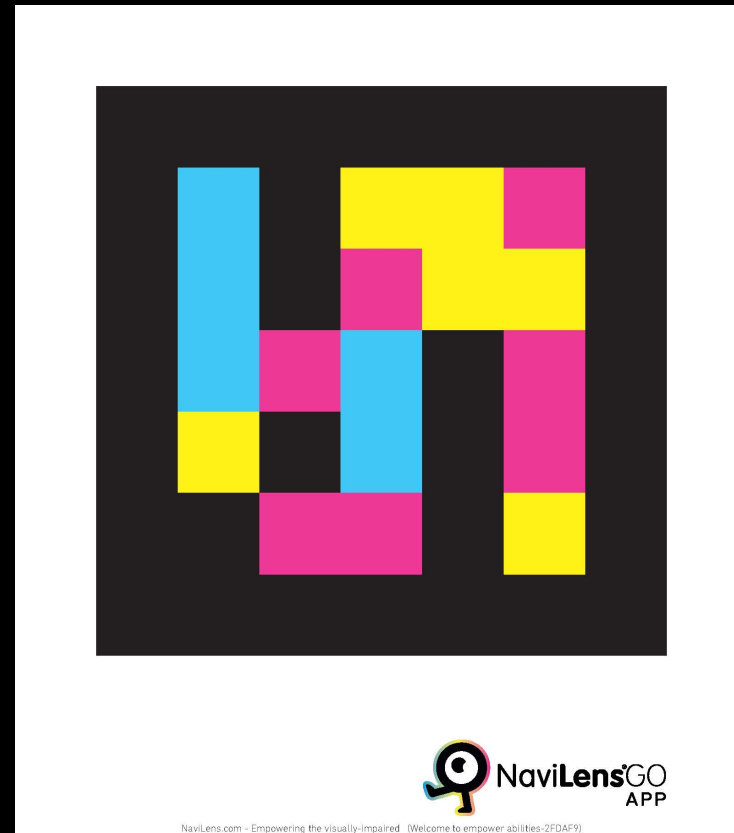
# NaviLens Codes versus regular QR codes

Both hold information, but NaviLens is specifically designed for a blind or visually impaired user

## Typical QR Code



## NaviLens QR Code



# Types of NaviLens Codes

## Personal Codes (Completely free)

- Free to download and use
- 500 pre-generated, blank codes of various sizes
- Intended for personal annotations that can be shared with up to 5 friends and family
- Can be printed, cut, and pasted in any area of your home or office
- Can serve as personal labels and navigational signage

## Public/Commercial Codes (free and paid)

- Paid option
- Fully Customizable codes that can be updated at any time
- Information is available to anyone using the NaviLens and NaviLens GO apps
- Free option
- Free NaviLens kits that are pre-programmed and cannot be customized
  - Educational Institutions
  - Associations
  - Health Centers
  - Libraries
  - Events





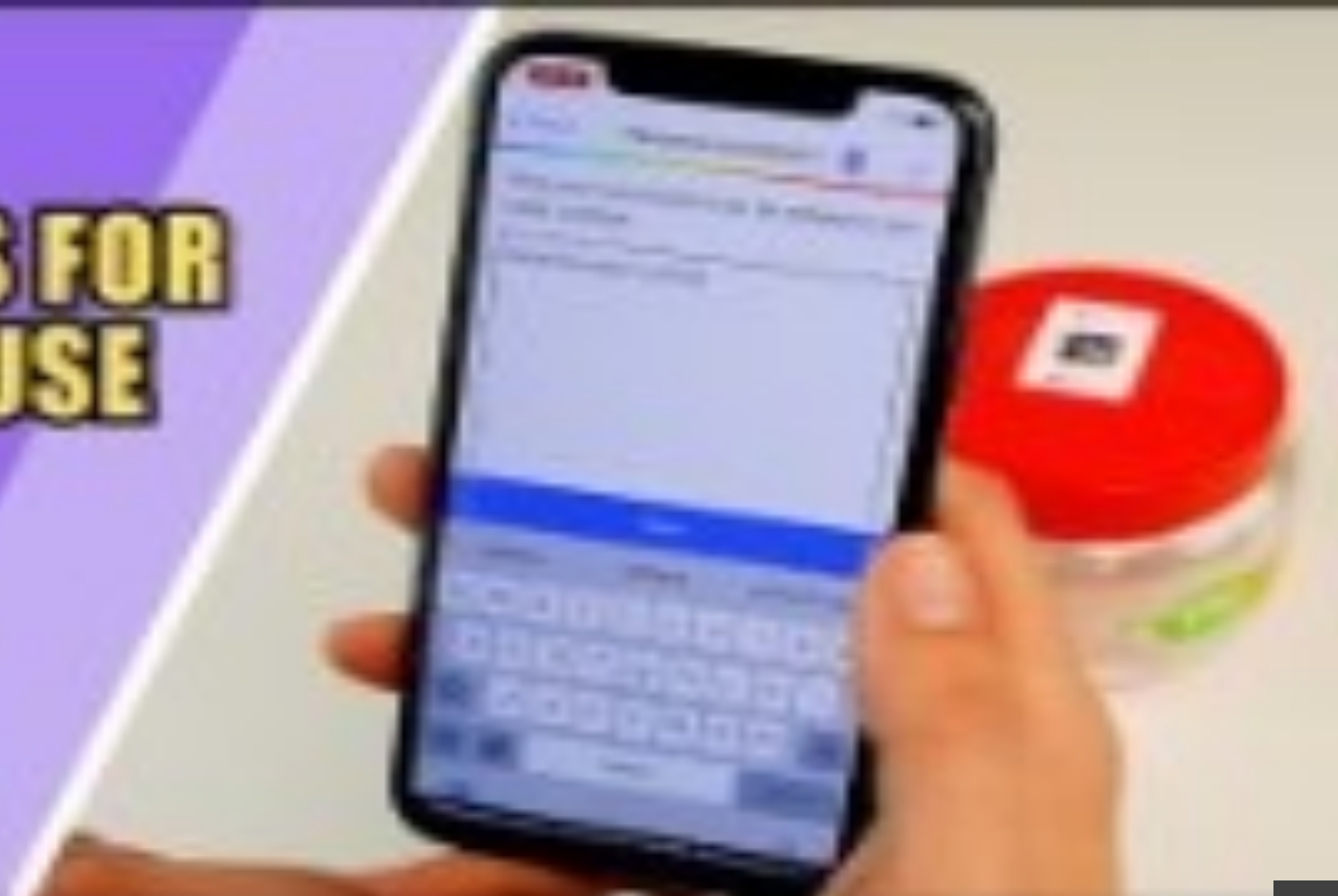
# Types of Codes: Personal

Case Study

# Downloading and setting up free personal codes

## NAVILENS FREE CODES FOR PERSONAL USE

How to download  
the codes and  
add notes to them



# Personal and Home Use Application of NaviLens Codes







# Types of Codes: Public/Commercial

Empower: abilities: a Case Study





# NaviLens Implementation in an Office or Center Setting



## NaviLens Layout



1450 W Cambridge St. Springfield, MO 65807

### Goals of the Project

- To provide navigational information to move about the building independently
- To provide information related to office residents and key locations such as bathrooms and exits
- To provide room layout description to assist in moving throughout a space confidently

### Code Indicators

- • Navigation information
- • Room identification
- • Space description
- • Office designation

### Space Descriptions

- Describe the room dimensions and layout
- room item codes work to locate key aspects of a room, such as the sink, or drinking fountain

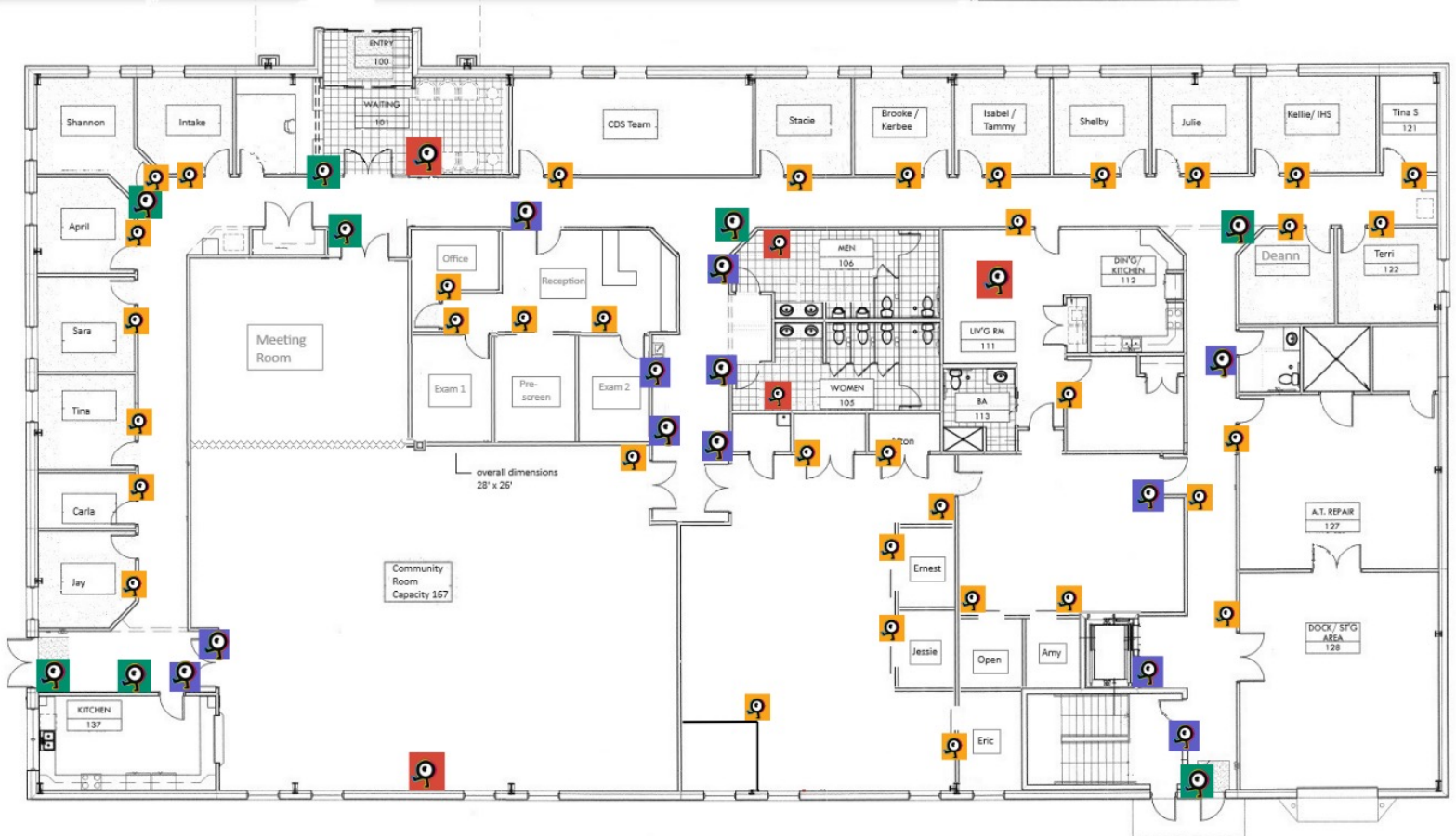
## Code Indicators

Green- Navigation information

Blue - Room identification

Red- Space description

Yellow - Office designation



# empower: abilities: A CIL Case Study

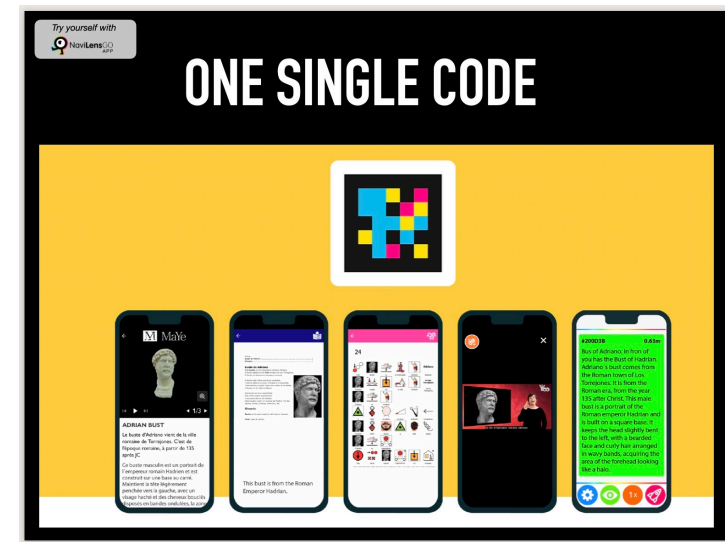




# NaviLens is Global Technology



Bus Stop in Valencia



Code from the Archaeology Museum in Murcia







# Questions





# Thank You

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