



Maps, Apps, Oh My!

Presented by

Carla Guzman and **Abhishek Rana**

Mentored by

Dr. Cheryl Fogle-Hatch

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Project Overview and Goals



- Exploring two wayfinding and navigation applications, **GoodMaps** and **Waymap**.
- These applications help blind or visually impaired users in navigating through an indoor or outdoor space using spoken directions.
- Our goal was to create visual guides for sighted folks to familiarize them with these applications to eventually help blind visitors in navigating through currently inaccessible spaces.

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Our Team



- **Dr. Cheryl Fogle-Hatch**

Founder of MuseumSenses, Archaeologist, Researcher, Writer

- **Carla Guzman**

Graduate Student, NYU ITP

- **Abhishek Rana**

Graduate Student, NYU IDM

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Project Timeline



Kickoff Meeting

together as a team to lay out a plan and do readings focusing on accessibility tools for the blind.

First meeting with our mentor.

Cheryl explained the final outcome of the project and discussed GoodMaps and Waymap.

Started creating the **visual guides** for GoodMaps and Waymap.

Explored Accessibility Tools

like VoiceOver, Siri, Audio Descriptions to better understand the working and experience of spoken instructions.

Research on GoodMaps and Waymap —

brainstormed different forms of visual guides for sighted people.

Cheryl reviewed the **long descriptions** for the visual guide. Completed the visual guide **brochure**.

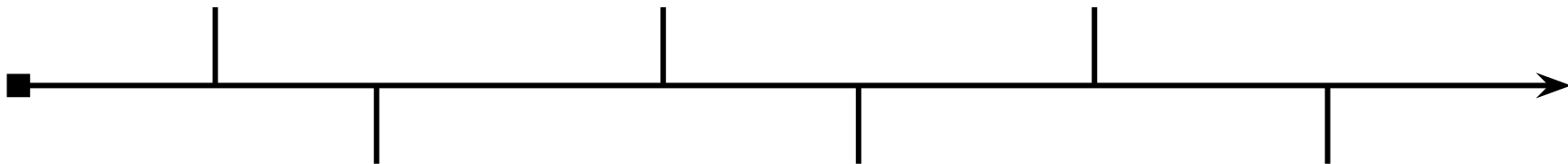


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About GoodMaps



- Born out of the American Printing House for the Blind.
- It is a digital mapping and accessible navigation company focused on making buildings more accessible, welcoming, and safe.
- It uses advanced LiDAR, machine vision, and machine learning to create a geospatial technology platform.
- Their mission is to improve the accessibility, safety, and productivity of indoor spaces by creating accurate and secure 2D and 3D digital maps, providing accurate positioning, and a trusted wayfinding experience.

About GoodMaps



- As of today, it is available in 119 indoor locations around the world.
- Some of their major customers include
 - Transpennine Express – entire network. UK
 - Network Rail – mainline terminals. UK
 - West Midlands Trains – UK
 - London Northwestern Rail - UK
 - SoundTransit – Seattle, USA
 - BART – San Francisco, USA

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About Waymap



- As of today, it has been tried and tested in North America and Europe
- They have teamed up with major companies like Verizon
- Waymap is based on pre-programmed routes
- Based on location
- Based on Military technology
- CEO, Tom Pay, is blind, and an advocate

About Waymap



- Doesn't rely on standard GPS like other map technologies.
- Determines location between 10 degrees.
- Doesn't require WiFi or Mobile Internet
- Not just for blind community, universal design
- Must be compliant with the ADA

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Visual Guides



- Coming up with the visual guides was an interesting experience; although the target audience was sighted users we still wanted to make sure these guides were accessible and only had necessary descriptions.
- We first gathered relevant graphics and then prepared descriptions for each of the visuals which were then reviewed by our mentor, Cheryl.
- After getting feedback from our classmates, we decided to include QR codes that would take people to the website, and useful video tutorials and reviews.



Visual Guide for GoodMaps



Make your buildings
more accessible, welcoming, and safe

with

Goodmaps

www.goodmaps.com



Advantages

More Accurate

Our positioning technology comes within a few feet, while other companies' accuracy varies between a dozen and 30+ feet. For people who are blind or a first responder, this improvement in accuracy makes digital maps actually usable.

More Usable

We bring digital maps to life, delivering value immediately for your venues and those who use them. GoodMaps creates apps, free of charge to the user like a person who is blind or first responder, that allow the user to actually use the map.

More Simple

GoodMaps doesn't require an infrastructure or dozens of costly Bluetooth beacons in a building. By utilizing LiDAR and image recognition, we provide fast and accurate maps of indoor spaces at a fraction of the effort and costs.

More Secure

GoodMaps Studio allows venues to control who can access what information about your space. This control is essential for the safety of all those who use your space.

Our Apps

GoodMaps Studio

GoodMaps Studio is at the center of our impact as the data hub that drives our work to make indoor spaces more accessible, safe, and productive.

GoodMaps Explore

An accessible indoor outdoor navigation app.

GoodMaps Outdoors

A fully accessible turn-by-turn GPS app for iOS and Android. It has all the outdoor navigation features and unique offerings, including extra verbosity for blind users.

What's New?

GoodMaps Explore 2.0 has a visual map, augmented reality view, while still maintaining an entirely accessible app via voiceover. It also has additional haptic features for Deaf-Blind users.



Our Process



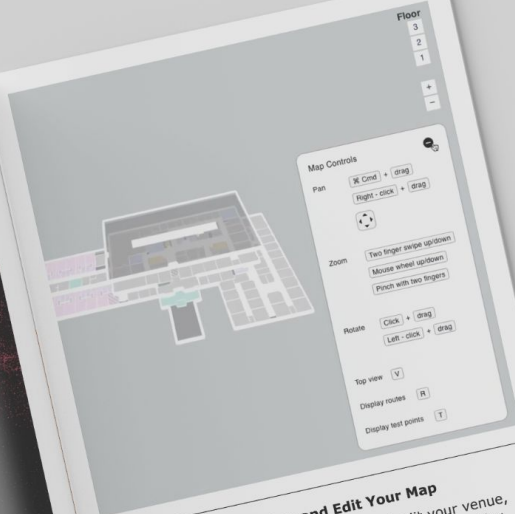
Step 1: Scan Your Building

We walk through your space with a LIDAR backpack that takes 360 degree images, laser measurements and video footage.



Step 2: Develop Your Map

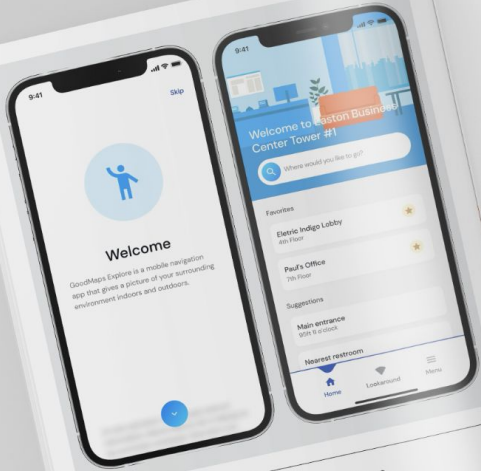
We develop an accurate and detailed digital map of your space using the scan and image data. Maps are processed and hosted on GoodMaps Studio. Mapped data is presented in multiple views: 2D floorplan, LIDAR point cloud, and 3D model.



Step 3: View and Edit Your Map

Use GoodMaps Studio to manage and edit your venue, control access and permissions to mapped data. You can: add names in multiple languages, update Points of Interest (POIs), and decide what mapped data different types of users can access.

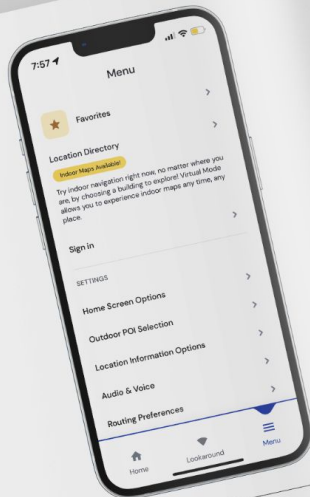




Step 4: Share Your Map

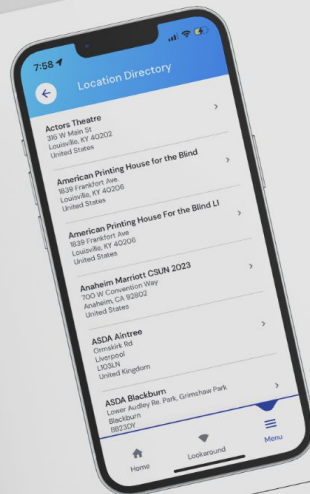
Publish your map to our navigation app, GoodMaps Explore, and to other platforms of your choosing. Go live to the world!

GoodMaps Explore Walk-Through



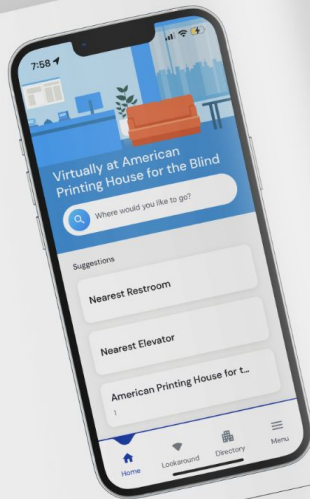
In the **Menu**, explore your **Favorites** or **Location Directory**. Sign In into your account. There are multiple settings to improve your experience.

GoodMaps | Page 10



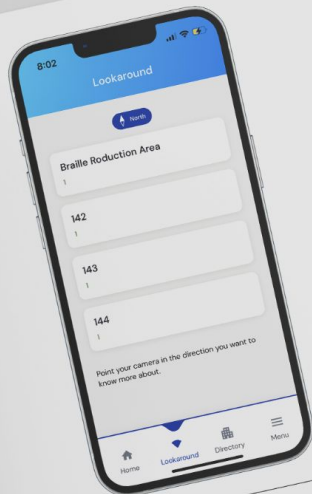
The **Location Directory** stores maps of more than 100 buildings around the world.

GoodMaps | Page 11



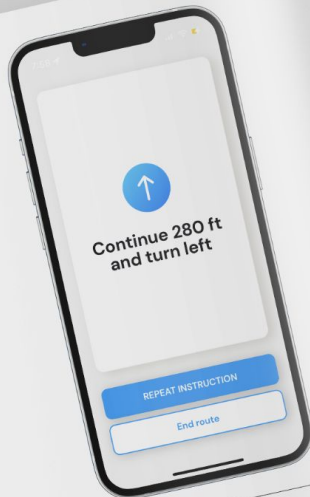
On the **Home** screen, you have the image of the location and the name of the building. Search locations within the building or go to suggested locations.

GoodMaps | **Page 12**



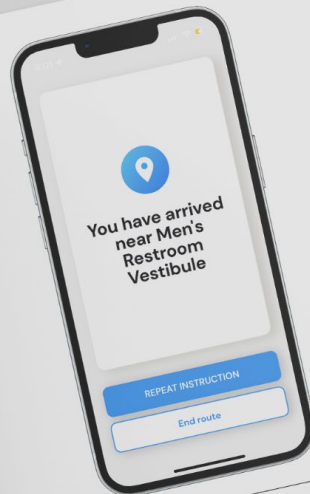
On the **Lookaround** screen, point the camera in different directions to check various locations in those directions. Click on a location and follow instructions.

GoodMaps | **Page 13**



Follow the instructions. If you miss an instructions, click on **REPEAT INSTRUCTION** button at the bottom of the screen.

GoodMaps | Page 14



Once you have arrived at the destination, click on **End route** button to exit the navigation.

GoodMaps | Page 15



Scan the QR Codes to Learn More



Goodmaps Website



GoodMaps Company Snapshot 2021



GoodMaps User Video Completion CES 2022



GoodMaps Studio Demonstration

Make your buildings
more accessible, welcoming, and safe
with

Goodmaps

www.goodmaps.com

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Visual Guide for Waymap

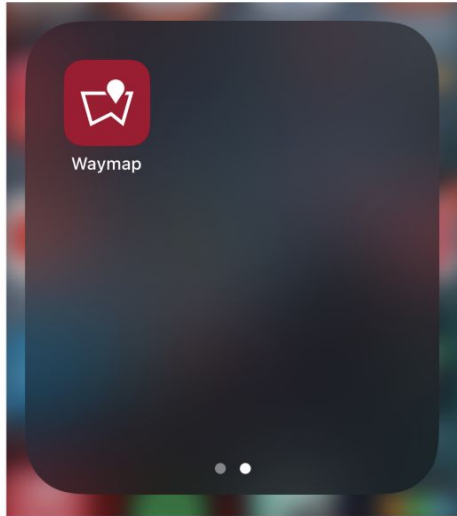


Make your building or organisation
fully accessible

with

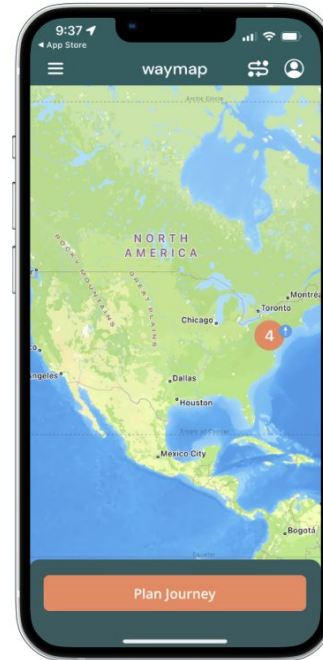


www.waymapnav.com



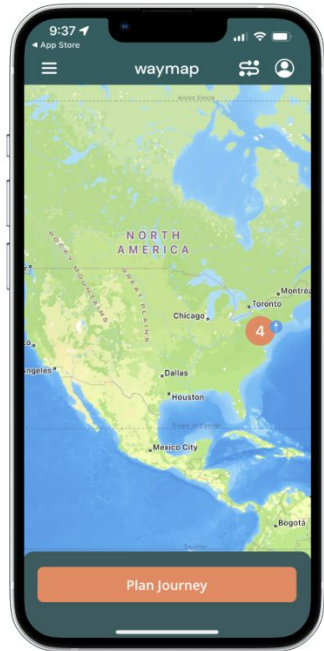
Tap on Waymap application icon.

Waymap | **Page 2**



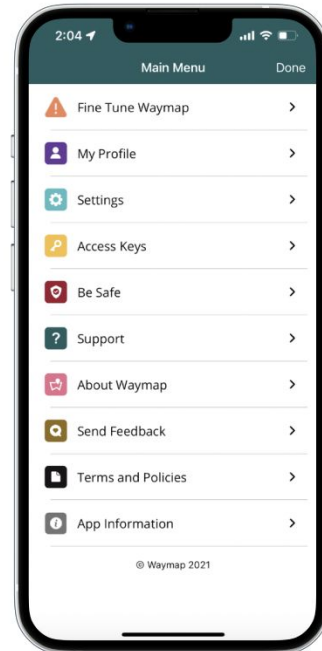
Tap the upper left corner to proceed to the menu.

Waymap | **Page 3**



Tap the upper left corner to proceed to the menu.

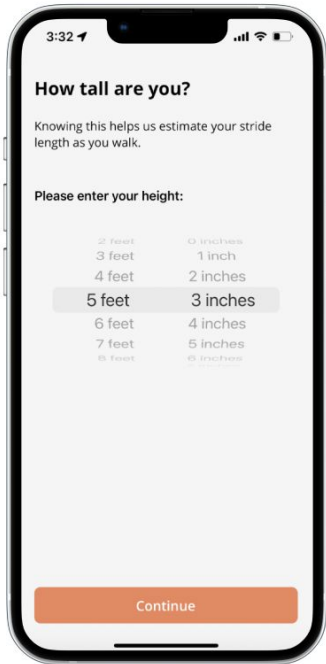
Waymap | Page 3



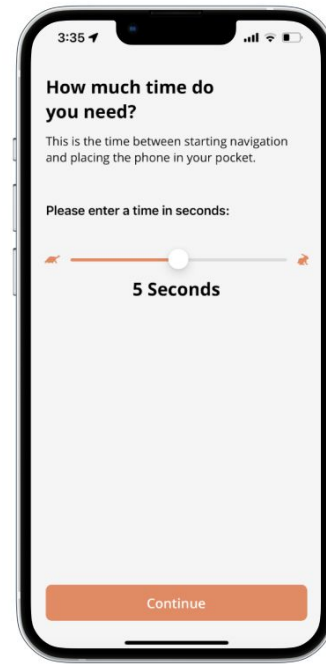
Next, you want to calibrate your app. In order to do so you need to tap on the option for **Fine Tune Waymap**.

Waymap | Page 4

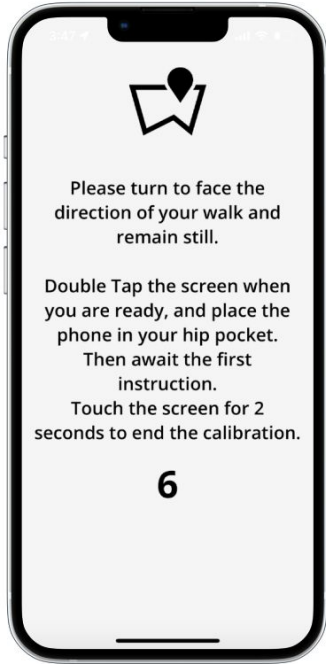




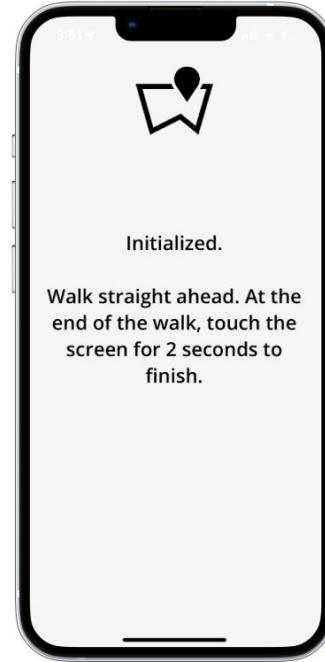
Next it will ask you for your height. Enter by scrolling down for feet and inches. Then hit the continue button at the bottom.



Next it will ask how much time you need between navigating. You can slide your finger right or left for slow and fast speed.



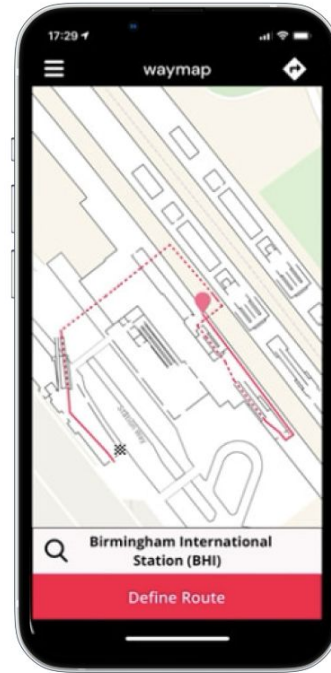
The narrator will guide you to face the direction of your walk. Double tap the screen when ready. Then wait for instruction.



Once initialized the narrator will count your steps.



Select from different options while navigating.



Map of the location and option to define route.



Scan the QR Codes to Learn More



Waymap Mobile
Application



Waymap Website



Waymap User
Reviews



Waymap + MTA

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Challenges and Solutions



- **Limited information** about GoodMaps and Waymap.
 - Dug deep into their website, YouTube, social media user reviews.
- Information on websites seem **overwhelming** and **complex**.
 - Focusing on visuals and breaking down into steps.
- These navigation apps **do not support** navigating from one point to another **within a room** (for example, checking out art pieces in a museum).
 - We have set up a meeting with Waymap & GoodMaps representatives to know more about the future plans for this issue.

Notes from our meeting with

Waymap's Marketing and Community Manager:



- It is available in a limited number of locations including Washington DC
- On the go Waymap trials in the UK and LA at Loyola Marymount University, Poland, Australia and the UK
- Actively exploring with public museums in the USA and UK and very similar orgs to provide an audio tour experience when you are near a particular item in a museum.
- Troubleshooting within the app and some faq and visual maps.

Notes from our meeting with

Waymap's Marketing and Community Manager:



- The app works well with VoiceOver and accessibility mode and high contrast mode to help with low vision users
- Plan Be my Eyes, a phone help service within the app can have access to the screen. Video and audio guides to train staff if someone needs help.
- Different from other apps like Goodmaps because they don't focus so much on the infrastructure.
- Plan to share our visual guide and connect them with our mentor.

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Conclusion & Next Steps



- Learned about accessibility tools, different wayfinding and navigation applications, and the different technologies they utilize.
- Writing descriptions for images without overwhelming the user.
- Printed the visual guides in form of A5 brochures so they can be easily used to advertise at different venues.
- **Next Steps:** Circulate these brochures and encourage institutions and buildings to become more accessible.

Thank You