




WAYBOUND

Let's get started!



PROBLEM

GPS is a crucial element to our everyday lives in terms of wayfinding, but it's slowly replacing our ability to intuitively and intentionally know where we are going and where we are.

If you depend solely on GPS, you're more likely to ignore your surroundings and ability to mentally map your location and orientation.

Depending on GPS can be a gamble, as we are often faced with unreliable connectivity and loss of battery life in our smartphones.



SOLUTION

Create an app that allows users to build and test their directional skills. As they wayfind and orient themselves in their environment, users will be directed in ways that encourage them to use cardinal directions (rather than relative directions) and identify major landmarks. This new form of wayfinding will hopefully allow users to slowly decrease their reliance on GPS, and enable them to tap into their sense of direction as they hadn't before.

Ultimately, this solution should be a fun and engaging experience for users who would like to develop their sense of direction.



THREE CELL MAPPING

Research shows that mammals need only three basic types of cells to navigate space.

These cells are found within the hippocampus:

1. Direction cells tell us where our head is pointing
2. Place cells tell us a location in an environment
3. Grid cells tell us the distance we cover as we move



EGOCENTRIC vs. ALLOCENTRIC

Egocentric thinking in terms of navigation:

Depends on our own bodies in context: “The table is to my right.”

Allocentric thinking in terms of navigation:

Depends on the context of the overall and global environment: “The table is on the northern wall of the room.”



THE ROLE OF LANGUAGE

Many cultures around the world have no vocabulary for egocentric navigational language and coordinates, and rely solely on cardinal directions.

As a result, the people in these cultures (and who speak these languages) have an almost super-human sense of orientation, regardless of the circumstances they are in at any given time.



GEOGRAPHIC LOCATION AND AGE

*Communicating with geographic coordinates compels the youngest ages to **pay attention to their surroundings and environment.***

Geographic language drills in the concepts of geographic orientation.

Studies show that children in geographic languages can use geographic location as early as 2 years old and fully master the system by 8 years old.



GPS USAGE

One study recently conducted August 2013-March 2014 asked “Which type of apps have you used either on cell/ smartphone or tablet in the last 30 days?”

Out of 5,914 adults, 54% of them used maps and navigation.

For reference, 46% of them used social networking and 28% used apps for searching.

The adult usage of GPS on smartphones rose from 21% to 41% between 2011 and 2013.



TARGET MARKET

Waybound's demographic will target those who have a smartphone, the largest age groups who own smartphones being those **ages 18-24, 25-35, and 35-44 years old.**

Millenials will be particularly targeted, however, due to their predisposition to use their smartphone as a navigation aid to get directions of point-of-interest: **47% of millenials vs. 27% of Gen X and 15% of Baby Boomers.**

Additionally, Waybound's features cater the most to users living in city environments with gridded street layouts.



PERSONA



Janet, age 32

Janet has been living in a major metropolitan city for the past year. She moved to the city after college and took a job in the downtown area. The transition from her small hometown has been difficult for her when it comes to wayfinding, as she gets used to taking public transportation and traveling on foot as her primary means of getting around.

Janet has made countless mistakes when it comes to getting around the city, like catching a bus on the wrong side of the street which sends her in the opposite direction of where she's headed. Additionally, because she isn't used to downtown environments, she sees many of the city streets as indistinguishable from one another. She makes wrong turns often on foot and ends up wasting a lot of time backtracking.



PERSONA



Carlos, age 22

Carlos has moved to San Francisco to study abroad for the next year of his schooling. He is fairly unfamiliar with the city, especially intimately, but can indicate certain major landmarks of the city that he's read about in his travelers guides.

Carlos would like to familiarize himself with San Francisco a bit more in addition to having a better understanding of the city's layout relative to the places he will be frequenting--mainly his apartment, his campus, local parks, and good coffee shops to study at.



PERSONA



David, age 45

David has been living and working in the same city for many years now. Although he has been familiar with his city for a long time now, he still relies on GPS to help him find his way to new places as well as places he has already been. It's a source of frustration for him that he relies on GPS so much, as it slows him down to constantly be stopping to look down at his phone to second guess himself. He wants to develop his sense of direction in order to be more efficient in finding his way around his city and have confidence in his sense of direction.



SURVEY:

GOOD SENSE OF DIRECTION

1. Do you feel that you've always had a good sense of direction?

2. Was your sense of direction something that was taught to you, or do you feel that it was innate?

3. If you feel your sense of direction was something that was learned, could you please explain how you went about learning this skill?

4. When you orient yourself, do you ever picture yourself in your environment from a birds eye view?

5. Do you use ever GPS to find your way around familiar areas?

6. Do you use ever GPS to find your way around in unfamiliar areas?

7. Do you think you could identify which direction North is, without a compass?

8. Are there certain environments you tend to get lost in more than others? (ie. You get lost more when you're in the city than when you're outdoors, or you tend to get lost only while you're driving.) Please briefly explain.

9. Can you please briefly explain your process in orienting yourself or getting yourself reoriented if you've gotten lost?

10. A little bit about yourself: Age, Gender, Where you live



SURVEY: BAD SENSE OF DIRECTION

1. How often do you use GPS to orient yourself or find your way around?

2. Do you ever use GPS to direct yourself to somewhere you've already been?

3. Do you wish you had a better sense of direction?

4. Have you ever lost wireless service when you were using/relying on GPS to find your way somewhere?

5. Do you use ever GPS to find your way around familiar areas?

5. Do you tend to use step-by-step directional instructions or do you use map view to direct yourself someplace new?

6. Are there certain environments you tend to get lost in more than others? (ie. You get lost more when you're in the city than when you're outdoors, or you tend to

get lost only while you're driving.) Please briefly explain.

7. When you orient yourself, do you ever picture yourself in your environment from a birds eye view?

8. When you describe the location of something nearby, do you tend to give the location based on your own location, or based on the location of something exterior? (ie: "The table is on my right." VS. "The table is by the doorway.")

9. Do you think you could learn to have a better sense of direction?

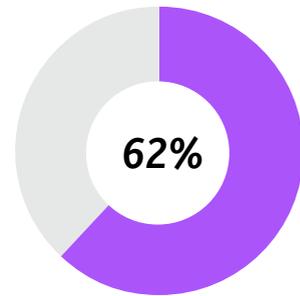
10. A little bit about yourself: Age, Gender, Where you live



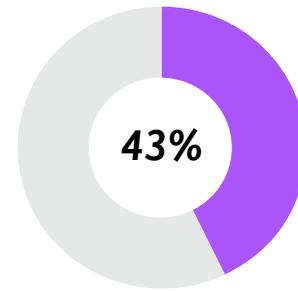
SURVEY: RESULTS



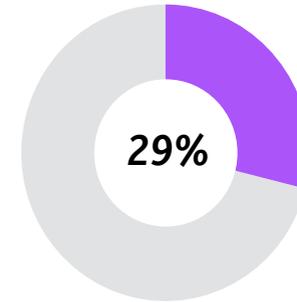
GOOD SENSE of DIRECTION



picture themselves from a bird's eye view when wayfinding and orienting.



said they orient and wayfind using Landmarks.



said backtracking helped them wayfind and orient.

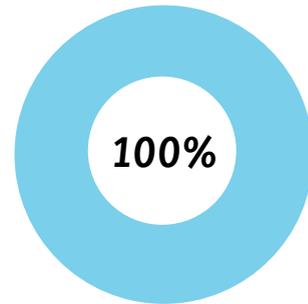


could identify which direction North is.

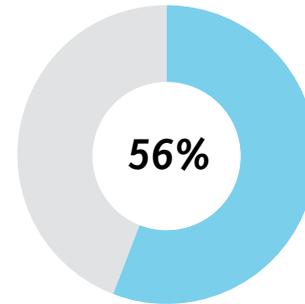
SURVEY: RESULTS



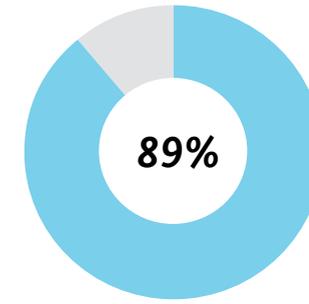
BAD SENSE of DIRECTION



said they use GPS to wayfind and orient themselves.



said they use GPS to help them wayfind to somewhere they have already been.



said they wish they had a better sense of direction.



said they use both map view and step-by-step directions together to wayfind and orient.



said they DO NOT picture themselves from a bird's eye view when wayfinding or orienting.

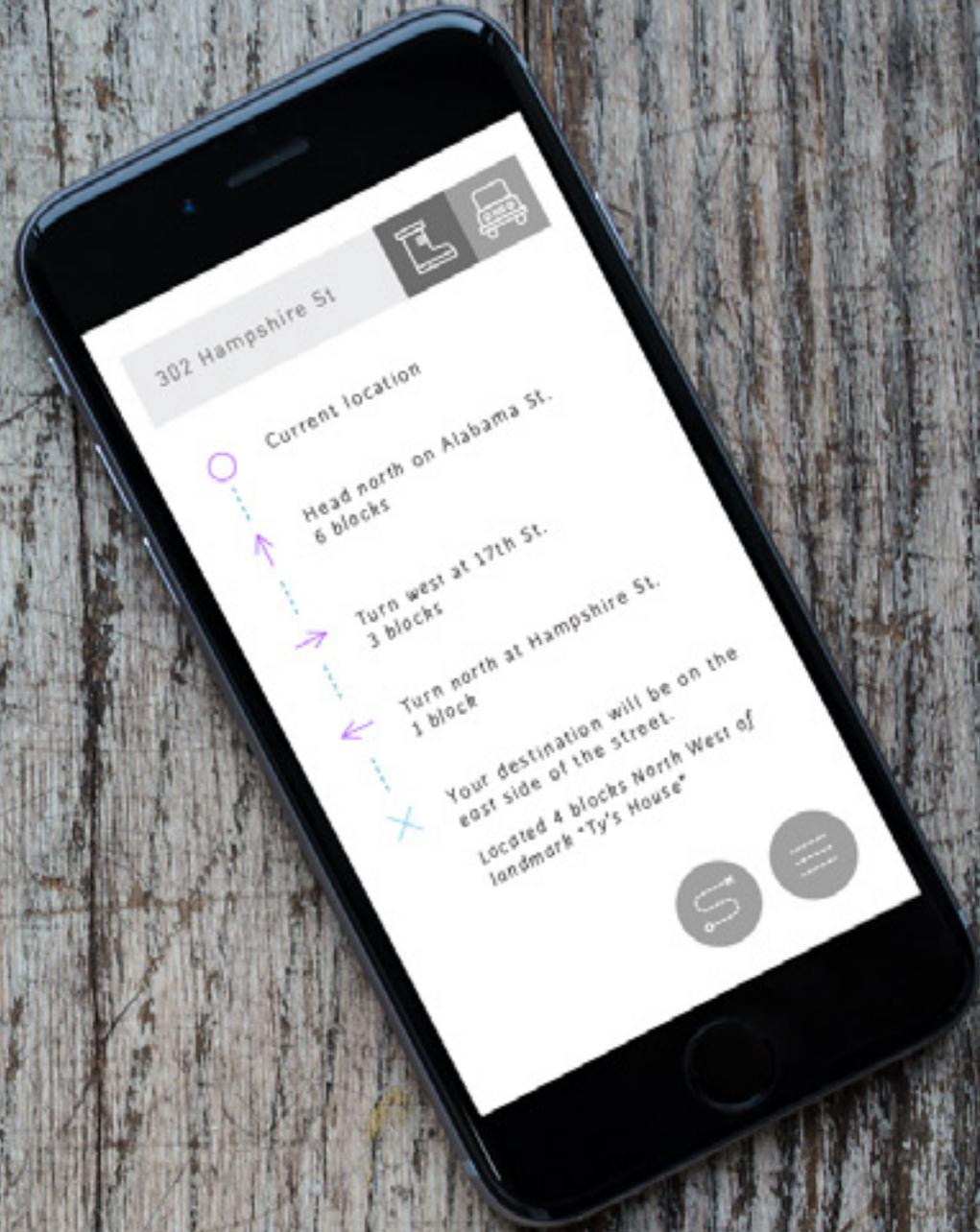
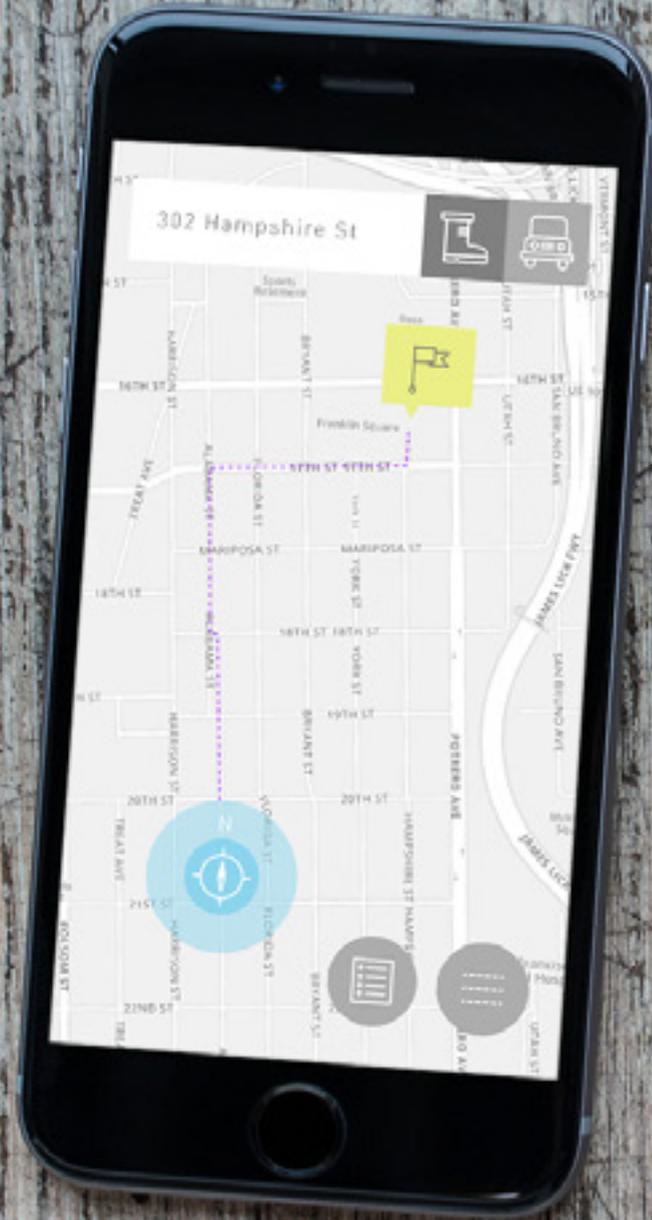


said they believe they could learn to have a better sense of direction.

IDEATING: WORD LIST

<i>Independence</i>	<i>delighting</i>	<i>psychological</i>	<i>learning</i>
<i>fun</i>	<i>adventure</i>	<i>challenging</i>	<i>playing</i>
<i>progress</i>	<i>helpful</i>	<i>thought-shifting</i>	<i>building</i>
<i>self-reliance</i>	<i>easy</i>	<i>elevating</i>	<i>growing</i>
<i>gaming</i>	<i>customizable</i>	<i>directional</i>	<i>exploring</i>
<i>levels</i>	<i>allocentric</i>	<i>intuitive</i>	<i>discovering</i>
<i>user-friendly</i>	<i>educational</i>	<i>north</i>	<i>playful</i>
<i>surprising</i>	<i>how-we-think</i>	<i>seeking</i>	<i>exciting</i>





THANK YOU

