

# Mid-Grant Technical Review

Tenafly High School Lemelson-MIT InvenTeam™



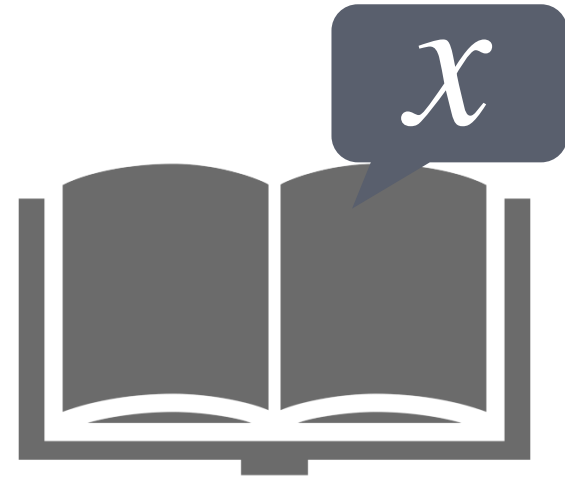
Feb. 24, 2014



6:00 pm



Tenafly High School



LEMELSON-MIT  
**InventTeams**<sup>™</sup>

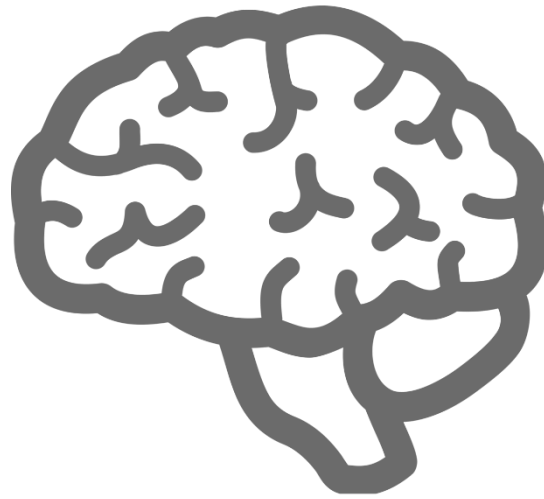
# Alzheimer's Disease

*A form of Dementia that affects the way the brain works.*

**MEMORY**

**RECOGNITION**

**COMMUNICATION**



**MOTOR SKILLS**

**DECISION MAKING**

Loss of *Independence* and *Self Sufficiency*

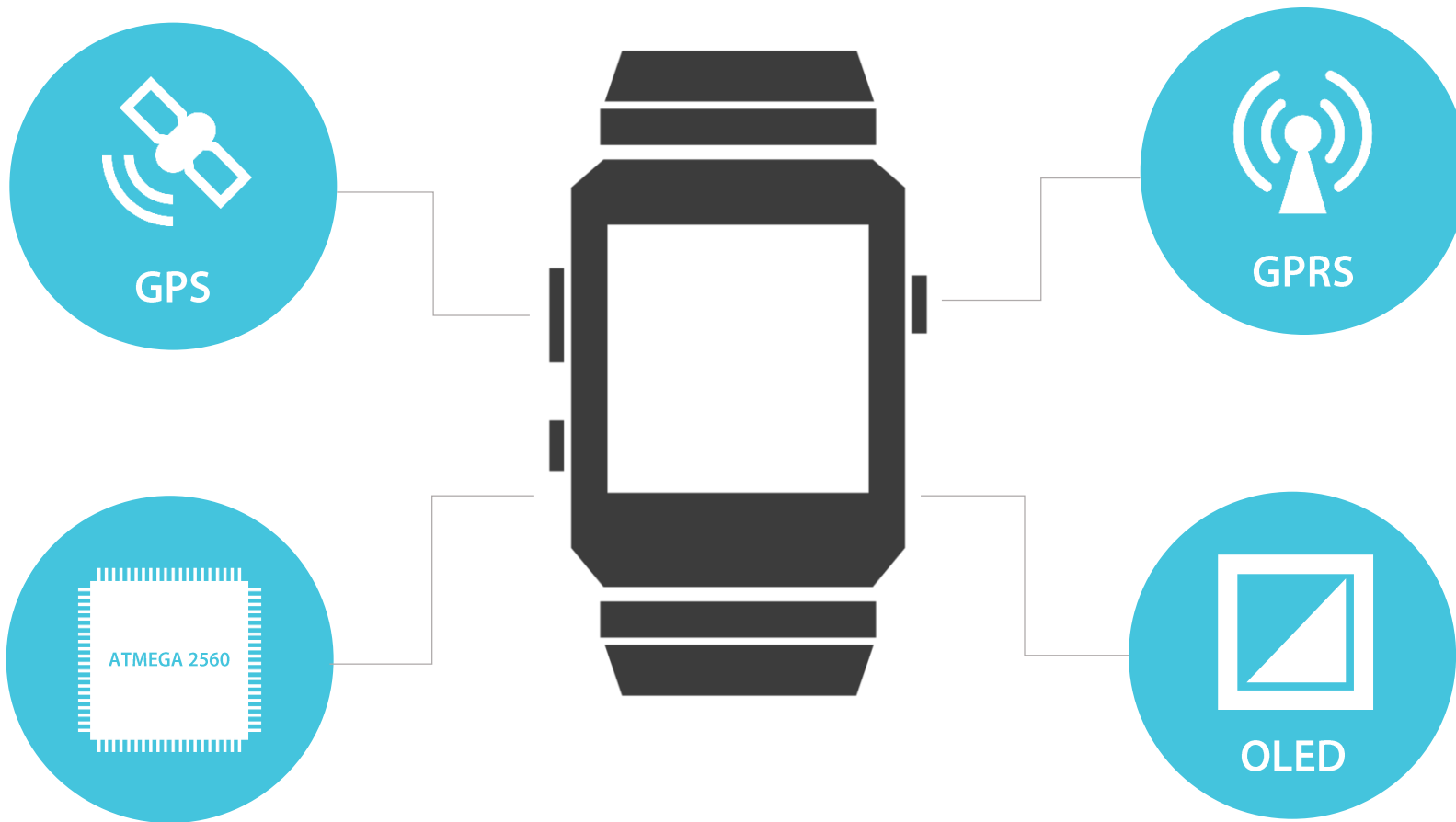
**THE PROBLEM**

# **Wandering and Disorientation**

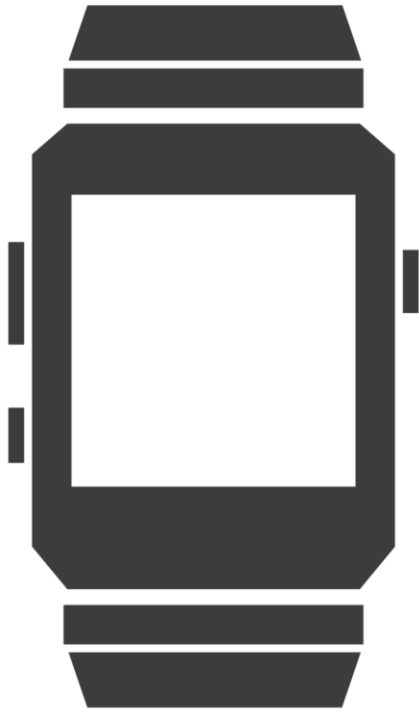
OUR SOLUTION

# Patient Interactive **Smartwatch** and **Docking Station**



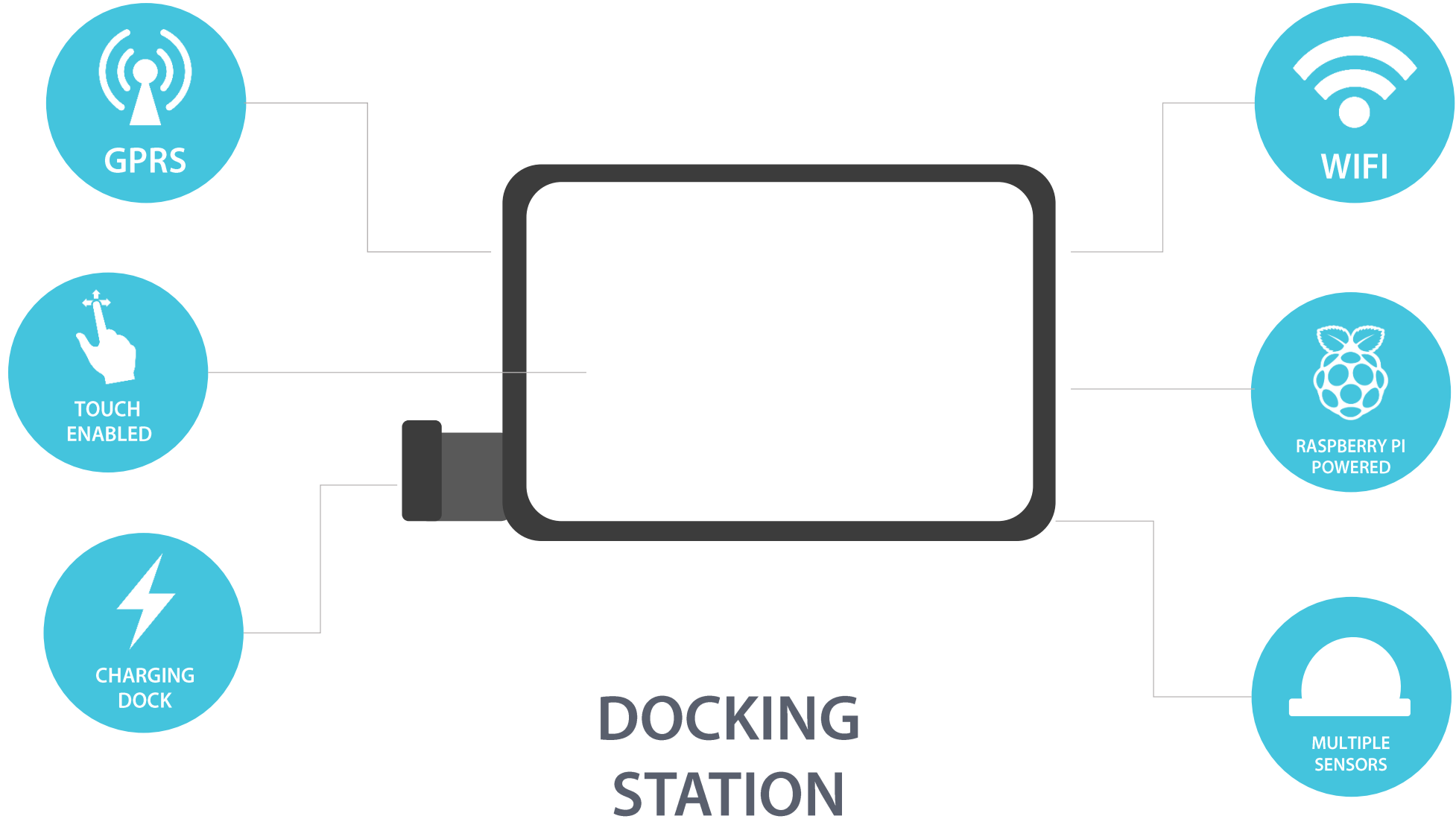


# SMARTWATCH



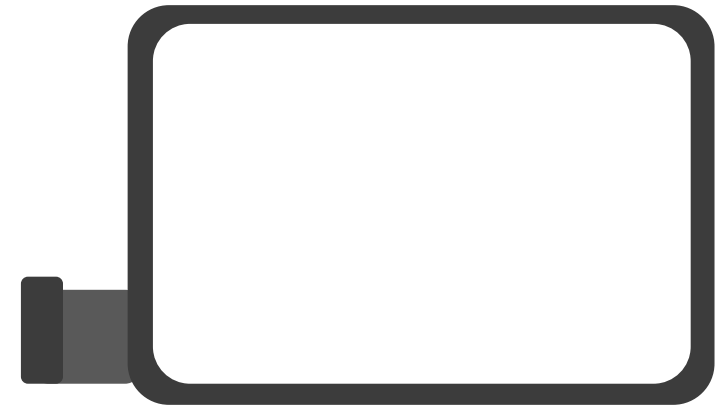
## SMARTWATCH - KEY FEATURES

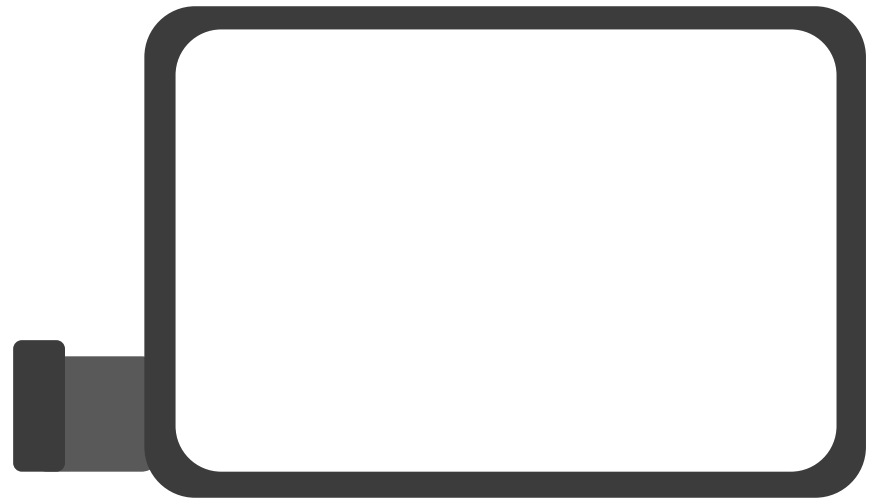
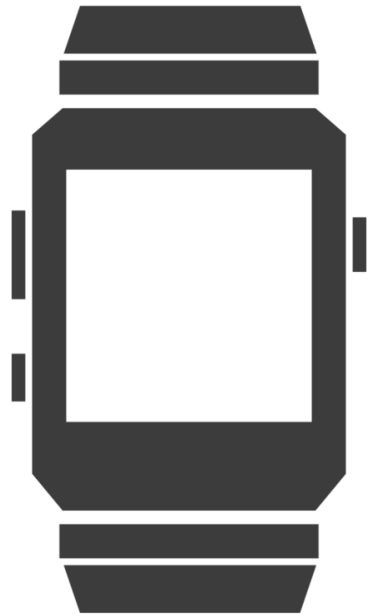
- Normal digital watch functionalities.
- Tracks Patient using GPS Coordinates
- Emergency SOS System
- Interactive Alert Mechanisms by:
  - Default System
  - Caretaker

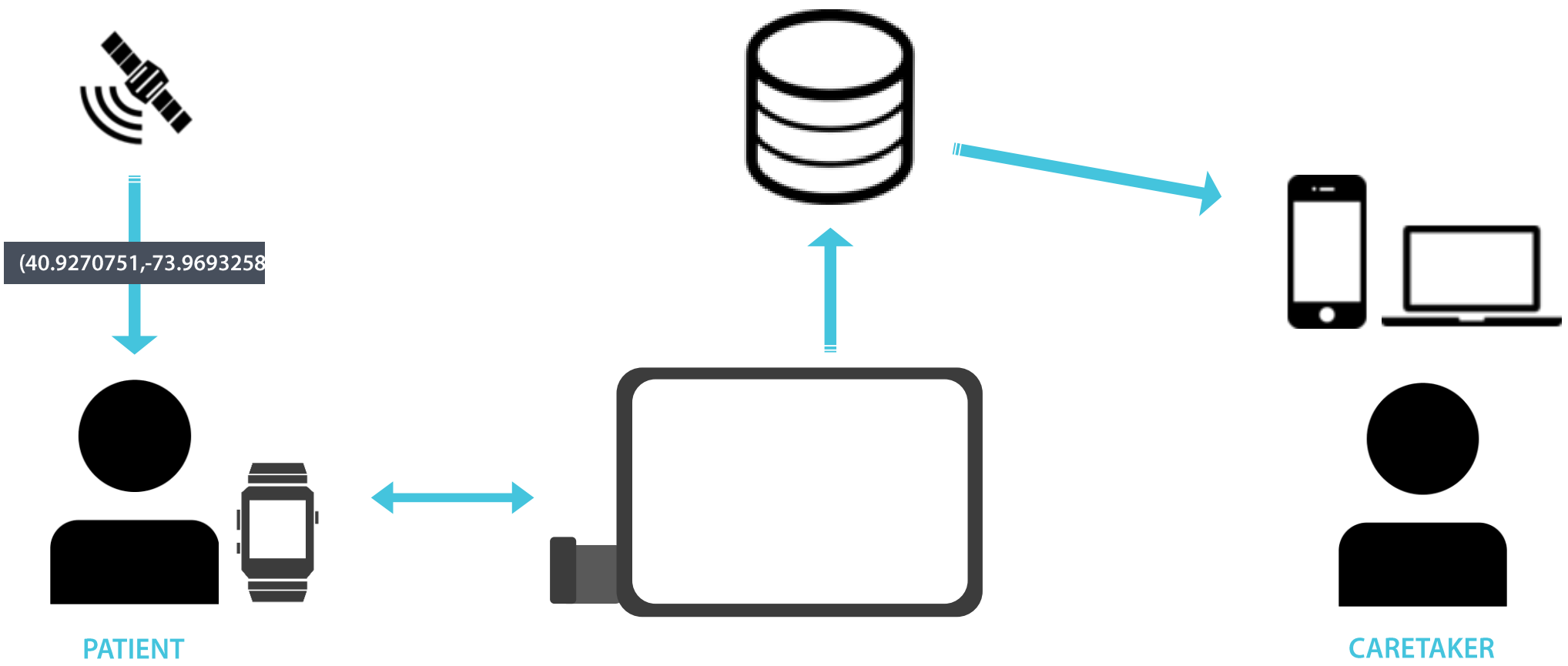


## DOCKING STATION - KEY FEATURES

- Charges Smartwatch Device
- Entry/Exit Detection Sensors
- Interactive Menu System
- Sounded Alert Functionalities
- Key Proxy for Transmitting and Receiving Data







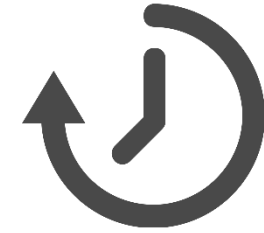
# WHAT'S DIFFERENT?



SIMPLE



INTERACTIVE



IMMEDIATE

**FOCUS:**  
**USER EXPERIENCE**



# 感性工学

*(kan-sei kou-gaku)*

## **Sensory Engineering:**

**A multi-disciplinary method of developing products by translation of the user's psychological feelings and needs into the domain of the product.**

# Walkthrough Demonstration

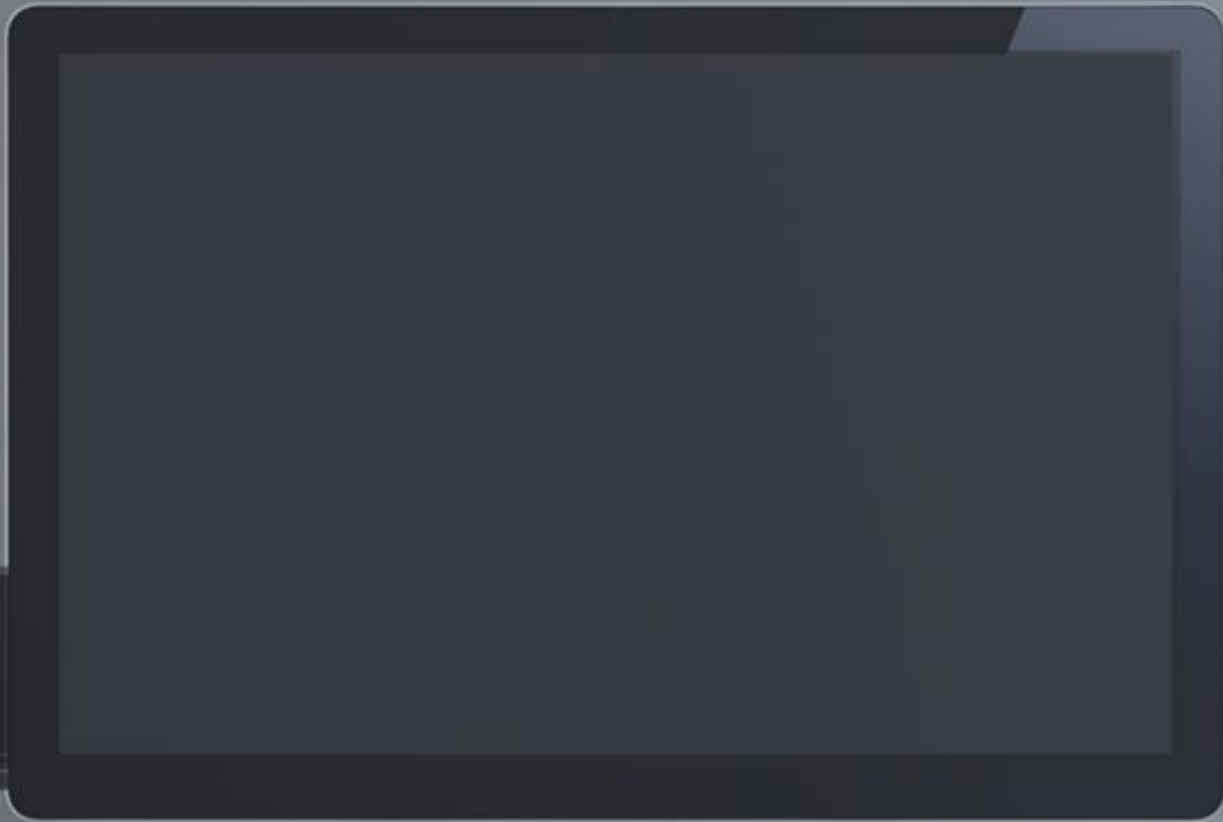
A Simulated Day in a Life of an Alzheimer's Patient with our Smartwatch

Please scan the following QR or enter the following URL.



[beta.thslmit.com](https://beta.thslmit.com)





10:30 AM

Good Morning  
Where are you headed today?

[Approaching Entry Way]



10:30 AM

Good Morning  
Where are you headed today?

Sally's House

42 Bay Bridge Road  
Tenafly, NJ

Public Park

136 Rosewood Street  
Tenafly, NJ

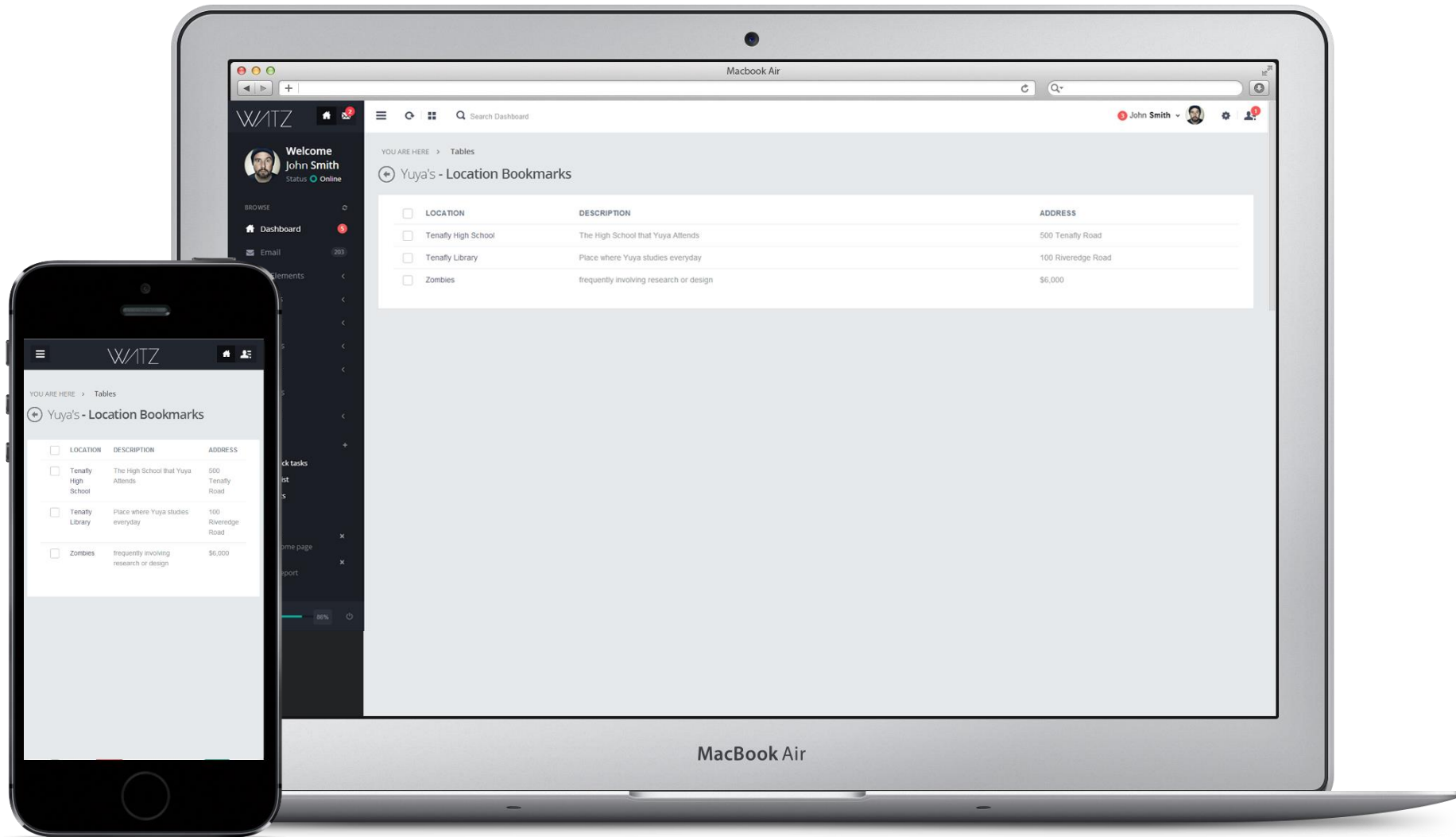
Library

214 Appleton Avenue  
Tenafly, NJ



136 Rosewood Street  
Tenafly, NJ





WITZ

Welcome  
John Smith  
Status Online

YOU ARE HERE > Tables

### Yuya's - Location Bookmarks

<input type="checkbox"/>	LOCATION	DESCRIPTION	ADDRESS
<input type="checkbox"/>	Tenafly High School	The High School that Yuya Attends	500 Tenafly Road
<input type="checkbox"/>	Tenafly Library	Place where Yuya studies everyday	100 Riveredge Road
<input type="checkbox"/>	Zombies	frequently involving research or design	\$6,000

WITZ

YOU ARE HERE > Tables

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MacBook Air



# KEY FEATURES



SETTINGS



TRACK



ANALYZE



ALERT

10:30 AM

Don't forget to wear  
your watch!





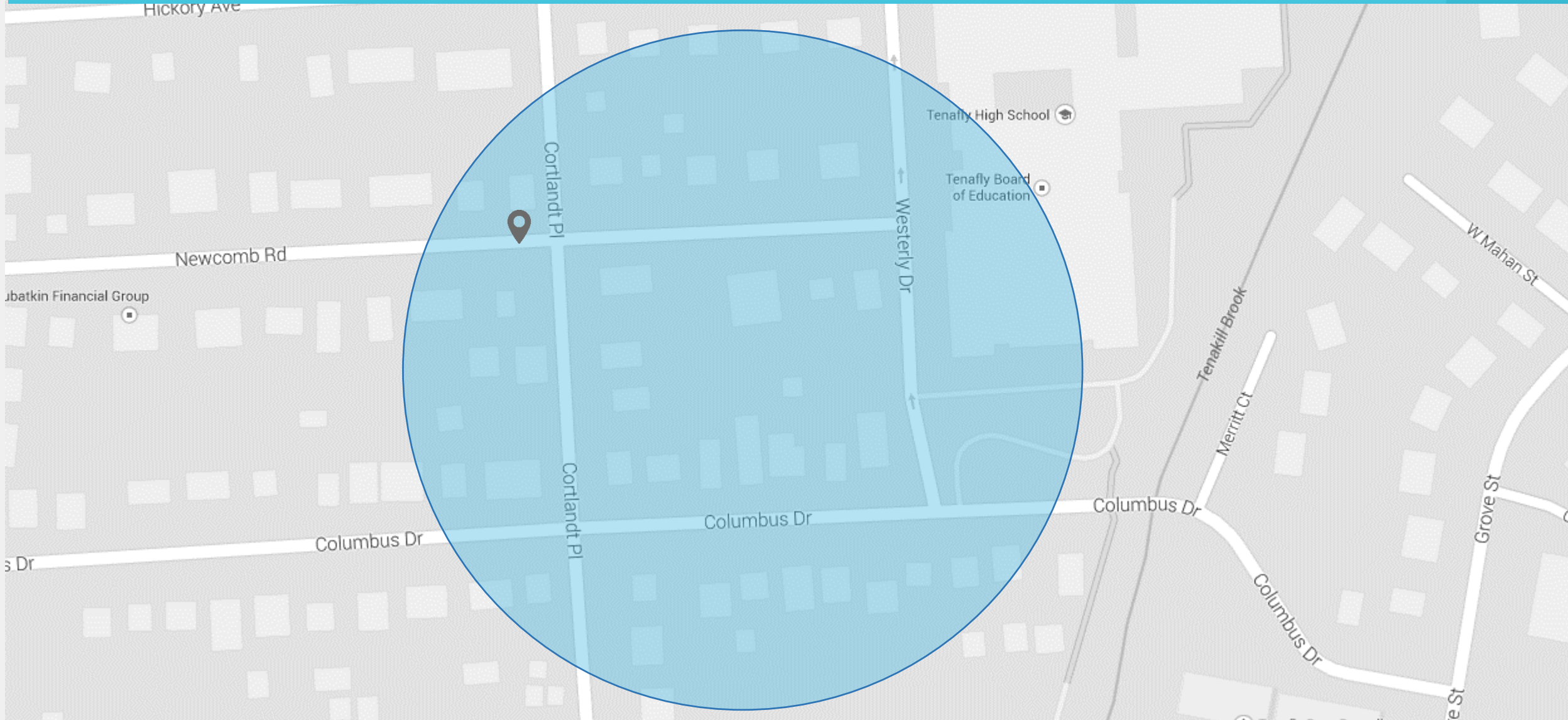
A close-up photograph of a person's wrist wearing a black smartwatch with a dark grey mesh band. The watch's screen is illuminated and displays a confirmation message in a light blue, sans-serif font. The background is a blurred outdoor scene with green foliage.

IS EVERYTHING  
OKAY?

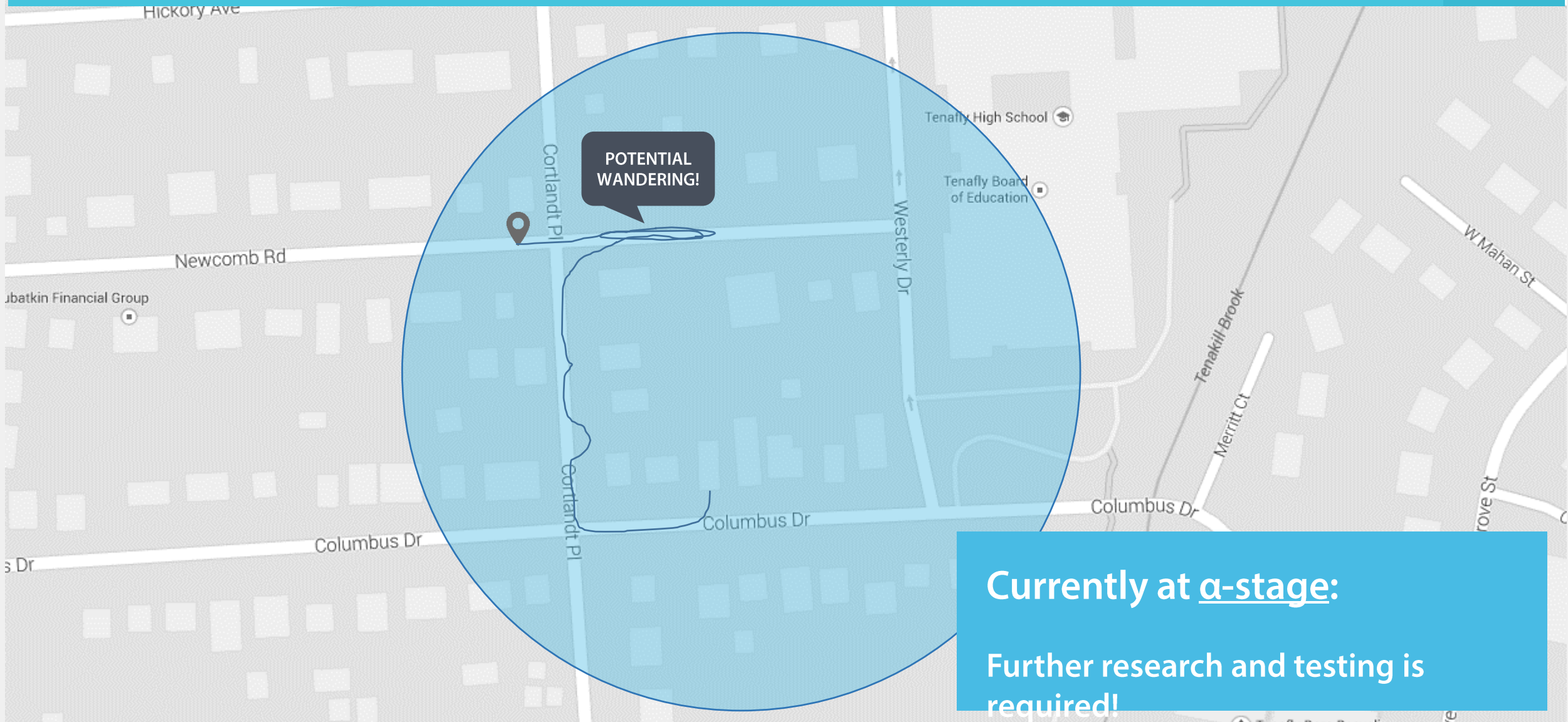
YES

NO

# Method 1: Safety Zone Detection



## Method 2: Behavior Analysis based on GPS Coordinates



Currently at  $\alpha$ -stage:

Further research and testing is required!

# Thank You Very Much!

For specific questions, please visit the booth and ask our team members!