Test Plan

Research question:

What elements are better between MapQuest and Google Maps for pedestrians to search for locations and obtain directions?

Hypothesis:

1. Pedestrians are more likely to be successful saving an entered address on MapQuest than on Google Maps.
2. Participants using MapQuest are more likely to succeed in locating a saved address than Google maps.
3. Pedestrians who use MapQuest are more likely to use the explore bar to find nearby spots than on Google Maps.
4. Pedestrians will take more steps to reach a saved a destination on MapQuest than on Google Maps.
5. Pedestrians will take more steps to save a specific destination on MapQuest than on Google Maps.
6. MapQuest ETA is more likely to be less accurate than Google Maps ETA.
7. Google Maps is more likely to be easier to use than MapQuest for pedestrians (According to wrap-up questions)

Objective (just one): Why would someone pay for this study?

Our objectives are to identify the best practices for designing a new mapping application with features that benefits pedestrians the most. We will consider what makes a mapping tool better when accessing directions in a new part of town or city, in terms of ease of use, accuracy, and time. We would like to answer the following related questions:

1. How many steps are required for a pedestrian to save a destination on a mapping application? *(number of steps)*
2. Which application more successfully allows participants to save and locate a destination for future use? *(success/fail)*
3. Which application has the most successes with locating a saved destination? *(success/fail)*
4. How do pedestrians prefer to locate nearby spots on a mapping application- Search bar or Nearby feature? *(observed selection)*
5. Which mapping application's ETA is more accurate? *(delta between ETA and actual time)*
6. Which mapping application offers an easier overall experience? *(*likert scale-*ease of use)*

Stimuli Google Maps vs. MapQuest mobile applications

Tasks (short but at least 3)

- Save current location and go back to the home screen. (objective 1 and 2)
- Imagine that you have to go to _____ (we will specify address). How would you do that using MapQuest? (objective 5)
- Now that you reached your destination, you are hungry! Can you find the closest bar or restaurant near you? (objective 4)
- Locate the saved address (objective 3)
- Answer Wrap-up questions (objective 6)

Measure(s): quantitative + qualitative (to explain the quantitative)

Time

- Time to navigate from point A to point B and from Point B to C using the application interchangeably

Ease-of-use

- Number of errors in completing tasks like saving or searching for a destination (e.g. incorrect taps or selections)
- Number of challenges (e.g. times participant feels lost and is actually lost) encountered while navigating to the destination.
- Overall satisfaction ratings (difficulty level, quality, experience)
- Qualitative feedback obtained from comments made by user during tasks and the post test interview

Accuracy

- Prediction accuracy (Expected time of arrival vs actual time of arrival)
- Number of times it recalculates

Study Design

All participants will be provided with both applications and will be asked to locate two destinations in a neighborhood of Chicago that they are not familiar with. Locations are chosen based on the following criteria: the user must walk 5 blocks (0.5 miles), turn 2 times, and pass 2 stop lights**.**

One moderator with an audio recorder will walk with each participant to take notes and and ensure that nothing gets missed.

We have defined our core measures as:

- Time- takes the minimum or equal amount of time to arrive to destination when the ETA is compared with other mapping systems. Navigation time is calculated from the moment the user presses “start” or “go” on the applications to the moment the user cancels the navigation directions.
- Ease of use- 0-1 challenges present and low learning curve
- Accuracy- estimated time is the the same as the actual arrival time and 0 recalculation

Participants

We will have a total of 16 participants who will perform a series of tasks on Google Maps on their way to point B and then perform the same 8 tasks on MapQuest on their way to point C. . Characteristics:

- Female or males of ages 18+
- Daily commutes around city by foot and could benefit from either devices
- Proficient with technology and devices
- Is unfamiliar with most of the city of Chicago and its geography
- Does not possess great sense of direction
- Is at least familiar with one of the two map applications