

## Evaluation Metric

### Goal 1: the app should be integrated with an easy-to-use Camera

1. How do you rate the difficulty level for you to take a picture of a specific object with your cell-phone on a scale of 1 to 10, with 1 being extremely easy and 10 being extremely difficult?

5 if the object is close up and doesn't require great focus (background objects, no text); 9 if it's at a distance and/or requires focus (text, people in motion)

2. How long does it usually take you to take a picture with your cell-phone?

About 15 seconds from the time I take the phone out of my pocket; includes turning on screen, unlocking phone, finding camera app, opening app, pointing camera, finding shutter button, and tapping shutter button. Save about 1 or 2 seconds if I use voice commands.

### Goal 2: allow the end users do Color Recognition accurately

3. Out of the most recent ten items of clothes you purchased, how many were purchased in store?

All 10. I rarely buy clothes online.

4. When you are purchasing an item of clothes in a specific color in store, how many times are you able to find the clothes in the specific color? (For example, 5 out of 10 times)

I always shop with sighted assistance. Without their help, I think I'd get it right about 5 or 6 out of 10 times as long as the colors were bright with good contrast. I would have difficulty between green and blue, especially in muted tones.

5. How long does usually it take you before you find the item or before you give up?

Without sighted assistance it could take me 15 minutes or more to find something specific if I know I'm already in the right general location. I typically just go straight for sighted assistance.

### Goal 3: allow the end users do Text Recognition accurately

6. Out of the last ten times when you were reading a paper handout, how many times were you able to find out the correct orientation of the paper handout? (For example, 5 out of 10 times)

About 4 out of 10. This depends largely on whether or not the paper has some kind of header graphic or logo that clearly indicates it's the top left corner of a page, such as memos on company letterhead. Without some larger object to orient me, the number would basically just be a 50/50 chance for any given page.

7. How long did it take you to find out the correct orientation of the handout?

About 3 to 5 seconds without larger text or graphics which help orient me.

8. Out of the last ten times when you are eating at a restaurant, how many times were you able to find out the price of an item on the menu? (For example, 5 out of 10 times)

I usually get sighted assistance for this right now. Occasionally I try to look at a menu myself and I find a menu item and price about 1 out of 10 times.

9. How long did it take you find out the price of an item on a menu?

About as long to find one item and price as it took anyone else to browse most of the menu. Sometimes I never manage to find it on my own. Other times it may take 1 to 2 minutes. If the font is very large then it may be less.

10. Out of the last ten times when you were using a stove, how many times were you able to tell what temperature the dial on the stove is set to?

0 I always give a rough estimate based on the dial's orientation.

11. How long did it take you find out what temperature the dial on the stove is set to?

N/A

#### **Goal 4: allow the end users do Object Recognition accurately**

12. Out of the last ten time when you were purchasing an item from a vending machine, how many times were you able to get the item you want?

It took me two tries and two guesses to get one item when I didn't already know the item's number. For example: I noticed Doritos on the top row and counted that it was about three items in from the left. I selected A3 but got a different item instead. Apparently it was A5. I only knew it was a bag of Doritos thanks to the bright orange coloring I'm familiar with.

Other times I memorize the number of the item someone else helped me with in the past. For example, Snickers is E4. If I want a Snickers, I just remember to use E4. Otherwise I just experiment with the numbers and cross my fingers I get something I like.

So unless I memorize the item's number, I'd say I get something I want about 1 out of 10 times, or 5 out of 10 if I can tell what the object is and can figure out the numbering scheme of the vending machine.

13. How long did it take you to select items from a vending machine?

It took about a minute to spot the bag of Doritos, figure out its number, and find the appropriate numbers on the machine's keypad to order the item. When I know which numbers I'm looking for, it may take about 10 seconds to find the row letter and column number on the keypad.

14. Out of the last ten times when you were going across a street, how many times were you able to find out accurately where the cross walk is?

About 9 out of 10. Most crosswalks line up with the wheelchair ramps. Occasionally they don't fully line up though.

If I need to use a PED button (the button that tells the traffic lights a pedestrian needs more time) it may take longer to find the button but the crosswalk itself is usually not as big of a challenge.

Sometimes crosswalks are diagonal and don't go straight across a street. For those I basically just hope traffic has its eyes out for me and I keep a keen ear out for the direction cars are headed.

15. How long did it take you to find where the crosswalk is when you are crossing the street?

For just the crosswalk, usually not long—maybe 5 seconds. Assuming the crosswalk is lined up with a wheelchair ramp.

For PED buttons, it may take an additional 5 seconds to find the appropriate pole and another 5 to find the correct button to press.

Total time: about 15 seconds.

**Goal 5: Output should layover nicely with Talkback:**

16. On a scale of 1 to 10, how well does the current App/device you are using layover with Talkback? (With 1 being the device is extremely not compatible with Talkback, and 10 being the device layover with Talkback extremely well)

Overall, about 7 out of 10 for key device functions. This varies based on the individual app I may be using, with some apps being a 1 and others being a 7 or 8.