AI Powered Mobile Assistive Technology Apps

# Mobile App: Seeing AI

This app uses your camera and AI to scan, read and describe items in your environment.

# Part 1: Introduction

## Setting up the app

1. Go to the App store and Install [Seeing AI](https://apps.apple.com/ca/app/seeing-ai/id999062298) on iOS device.
2. Complete tutorial provided in app.

## Try out the app

1. Complete three or more of the Seeing AI functions located at the bottom of your screen.
2. Short Text should be chosen by default.
3. You may try using this app at home or in the community.

## Think about the app

Complete the worksheet below as you complete the tasks.

## Support for the app

If you have any issues or questions regarding this activity, contact We Count research assistant, Ali Kazmi ([akazmi@faculty.ocadu.ca](mailto:akazmi@faculty.ocadu.ca))

## Worksheet

### App Tasks

The following table includes a checklist of 10 possible functions that can be completed with this app and suggested tasks

for each function. Choose three or more of the following app functions and check off the Task Completed column. As you

use the app, think about where AI is used and how data is handled and collected.

| **App Functions** | **Task Instructions and Suggestions** | **Task complete** |
| --- | --- | --- |
| **Short Text** | * Point phone camera on items around your home that have short amounts of text * Examples include text on canned foods, medication, ingredient labels, nutrition labels, receipts, paper mail, playing cards, cards in your wallet, appliances (microwave, stove, thermostat, etc.) * Try reading things that have different fonts, different colours, printed on flat vs curved surfaces, holding with other hand vs placed on table |  |
| **Document** | * Point the camera on a full page of text and follow the audio cues to complete a scan * Examples include a page in book, magazine, instruction manual, website on a computer screen, utility bill, menu * Try scanning text of different sizes, colours, contrast, mixture of text and graphics, in different lighting environments, indoors vs outdoors |  |
| **Product** | * Point the camera to common grocery or household items with working bar codes * Try scanning a variety of items with bar codes in different locations and surfaces types such as milk carton, bag of carrots, canned goods, over the counter meds, cosmetics, etc. |  |
| **Person** | * Point the camera at a person and take a picture of a person with the blue camera icon on the left side of the screen * Try taking pictures of different people from different angles, distances, facial expressions, wearing different facial accessories or hats * If you wish to personalize the feature, use the recognizable people button (person in frame) above the ‘Short Text’ function |  |
| **Currency** | * Point the camera at different bills * Try holding or placing the bill against different backgrounds (i.e. light, dark, other printed material) * Try the different currency option |  |
| **Scene** | * Point camera as if you were taking a scenic picture, then take a photo using the blue camera icon on the left of the screen * Take pictures in various locations indoors and outdoors and with different lighting conditions and varying levels of activity |  |
| **Colour** | * Point the camera at various items of clothing you are wearing and in your closet (i.e. socks) * Try scanning items with busy patterns |  |
| **Handwriting** | * On a piece of paper write your name, address, phone number, e-mail and three favorite movies. Point the camera and take a photo using the blue camera icon on the left of the screen * Try using different types of coloured pens/pencils, colours of paper, lined vs unlined paper, write with your non dominant hand |  |
| **Light** | * At night, turn on some lights in your home and leave some off. Walk around your home |  |

### App Questions

Think about how AI and data is used in this app. You may use the following table of 10 questions to guide and record your

reflections. Consider as many questions as you wish.

| **Impact of AI on persons with disabilities** |
| --- |
| What kind of needs are met with this app? |
| Did the app function as intended? |
| Does this app help someone with a disability? |
| Were there assumptions made about the users of this app? |
| What kind of data is collected from using this app? |
| Are users able to make changes to the app or provide feedback to the developers? |
| Are there risks to using this app? (i.e. privacy) |
| Do the benefits from using this app outweigh the risks? |
| Do you have any other concerns as to how AI or data was being used? |
| Additional comments |

# Part 2: Exploration of Artificial Intelligence through Assistive Technologies

## Short Answer Questions

Based on your experience with the app and activity, please answer the questions below.

### Impacts

1. How can these apps improve the quality of life for people with disabilities and support independent living?
2. How would this impact society in the way that we live, work, interact with people? How would it promote or detract from values inclusion and equality?
3. What are the risks and benefits that this type of technology would have on society and excluded groups? Are the apps “fair” in their collection of information and payment structures or are they exploitative? What are good approaches for AI and AT Apps?
4. Does the AI/AT meet diverse needs of the community it was designed for? Is it biased in its understanding of the target community and its needs?

### Addressing Impacts

From the CBC podcast: “*Science and technology has progressed faster than policy, and the ability for humans to keep up with ramifications. There are risks involved but we have to mitigate them as we develop this technology*.” says Roger Melko.

1. What role do governments, organizations, and citizens have in understanding these ramifications and contributing to risk mitigation policies?