Installation Guide

1) Introduction

This document contains instructions for manually installing and configuring See For Me on Android devices.

The following topics are covered:

1. System prerequisites – Explains how to prepare an environment for installation, including planning the installation and verifying that requirements are met.
2. Installation and Configuration – Explains how to download, install and configure See For Me.
3. Maintenance and Error – Explain how to address failure and describes help facilities.

2) System Requirements

a) Android device with a camera, running 5.0 or later
b) Android TalkBack to get proper accessibility functionality
c) Internet access for Text and Object recognition types
d) Developer mode enabled on Android device

3) Overview of System or Product Features

a) This system allows three different modes of photo recognition
  1. Object recognition
      a. Limited accuracy, but can return up to 10 objects found
      b. Has difficulty with ambiguous objects, should not be used in high risk situations (such as crossing a street by reading traffic light)
  2. Text recognition (with logo recognition)
      a. Automatically adjusts orientation of a photo taken
      b. Is able to recognize small and large sections of text (a business card and a page from a book)
      c. Has difficulty with text laid out in nonlinear layouts, so rows of text are easier than multiple blocks, such as in some infographics
  3. Color recognition
      a. Capture image and identify up to 9 unique colors from random sampling, other sampling technique need to be researched
      b. In dark lighting, camera may flash to allow true color to be identified
b) If there are any questions, contact seeformeuw@gmail.com

4) Minimal Quick Start Configuration

a) As noted in System Requirements, we assume TalkBack is already enabled

b) Download and install the apk onto android device

    i) Make sure your Android device will install from unknown sources

- On your Android device open "Settings"
- Navigate to "Security"
- Ensure the "Unknown sources" option is enabled to allow installation of apps from sources other than the Play Store

    ii) Make sure the developer mode is enabled on your device

- Navigate your phone to the "Build number" portion of the settings
  - (a) Stock Android: Settings > About phone > Build number
  - (b) Samsung Galaxy S5: Settings > About device > Build number
  - (c) LG G3: Settings > About phone > Software information > Build number
  - (d) HTC One (M8): Settings > About > Software information > More > Build number
- Once you've found the Build number section of the settings, tap on the section 7 times. After two taps, a small pop up notification should appear saying "you are now X steps away from being a developer" with a number that counts down with every additional tap. After the 7th tap, the Developer options will be unlocked and available.

    iii) Make sure Talkback is enabled on your device

- In Settings > Accessibility, select Accessibility shortcut.
- Set the switch to the on position.
- If you are new to Android Talkback, here is the instruction for it.

    iv) Download the .apk file to your Android device from https://github.com/uwcse481h2016/SeeForMe2

- From this repository select and save the file called app-debug.apk
- If you do not have access to this repository or are having issues, contact seeformeuw@gmail.com and we can email you the .apk file directly

    v) Open the .apk file on your Android device, it may prompt if you would like to install this application, so select yes and the SeeForMe app will install

c) Use TalkBack interface to launch SeeForMe application

d) Navigate through the three buttons that correspond to Object, Text, and Color recognition as desired

e) Tap the picture button to take a picture
f) Wait as the picture is processed
g) Results found will appear in the form of a toast which is read back to the user through TalkBack
h) To navigate to a different recognition type requires hitting the back button on the top left of the screen in the Action Bar, which returns you to the initial screen from which you can choose your recognition type (changing this interface to a more user-friendly version is in progress)

5) Maintenance and Error Messages and Troubleshooting

a) If there are any unexpected errors please contact seeformeuw@gmail.com
b) Photo processing time depends on factors outside our control as well as the user's internet speed. However photos are typically processed within 15 seconds.
c) Color recognition accuracy can also be dependent on lighting conditions, for best results take photo in a well-lit area