Standard Image Processing

This option requires a dark background with adequate lighting conditions as shown in Figure 1. There should be no objects in the background besides the (left-most) reference object if it is used and the potatoes. Figure 2 shows a situation where the processing would have difficulty due to the lighting conditions and surface reflections.

Figure 1: Optimal Standard Processing Conditions

Figure 2: Inadequate Standard Processing Conditions

Machine Learning Processing

This option is designed to work on a variety of **basic** varying backgrounds such as soil, grass, concrete, as well as varying lighting conditions. Some other objects in the image should be ok. Figure 3 shows an example of when this option would be used.

Figure 3: Machine Learning Processing Use-Case Scenario

Reference Object

Note that regardless of what processing method is used, if a reference object is selected the image must be set against a dark background with no other objects in the background besides potatoes. The reference object used must be a coin, preferably a quarter or dime, set at the left-most object in the image. If no reference object is used, the data will be returned in units of pixels, the L/W ratio will still be accurate.

Extracting Data

After processing, a .txt file will be added to the android documents folder with the processed data, as shown in Figure 4.

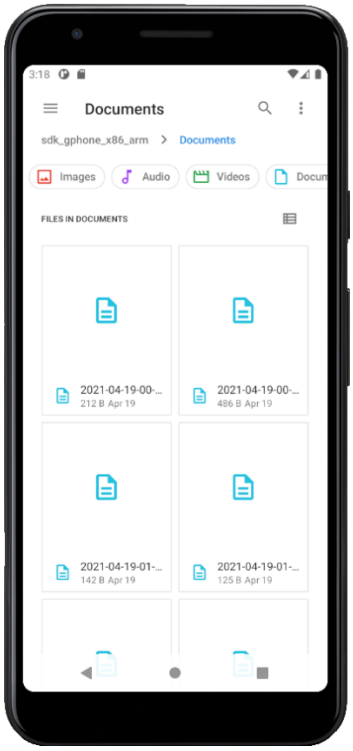

Figure 4: Processed data location

The processed data in each .txt file follows this format:

1. Number of potatoes
2. Minimum L/W
3. Maximum L/W
4. Average L/W
5. Reference object used
6. Potato #1 length
7. Potato #1 width
8. Potato #1 L/W
9. Potato #2 length
10. Potato #2 width
11. Potato #2 L/W
12. ….