IOWA STATE UNIVERSITY

CENTER FOR STATISTICS AND APPLICATIONS IN FORENSIC EVIDENCE

CSAFE

2D Shoe Scanner: Procedure

Author: James E. KRUSE Supervisor: Dr. Guillermo BASULTO-ELIAS



April 19, 2019

1 Introduction

The following is the recommended procedure for operating the 2D forensic shoe sole scanner (Figure 1).



Figure 1: Everspry Shoe Scanner

1.1 Procedure

1. Plug the USB cable, from the 2D scanner, into the computer and its opposite end into the scanner itself.

2. Position the scanner so that a technician could easily step straight up onto the platform and then step straight off. A nearby wall or person standing next to the scanner can be used for balance.

3. Turn on the scanner by pressing the circular button on the right side of the machine. On the desktop, under all programs, search and open EverspryOS.

4. Before the technician steps up onto the platform, make sure that the acquisition screen is blank and free of previous prints (Figure 2).

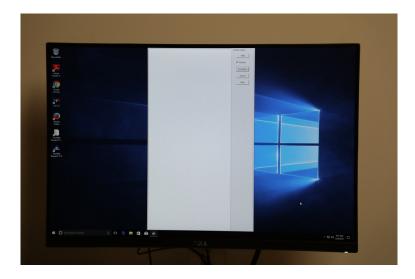


Figure 2: Everspry acquisition screen before a scan is taken

5. The technician will then put on a pair of disposable socks and the shoe to be scanned.

6. When stepping up onto the scanner, the they should place their heel on the scanner with their toe pointing towards the ceiling (Figure 3). They will then roll their foot into a flat standing position and step up so that all of their weight is on the scanner (Figure 4).



Figure 3: Technician Stepping up onto the scanner



Figure 4: Technician placing their foot flat on the scanner

7. Shift weight in the shoe in order to capture all detail possible. Make sure that the shoe is not double printed.

8. Carefully, have the technician step off of the scanner. Peel the foot forward until only the tip of the toe is making contact with the platform. At this point, lift the foot straight up, off of the scanner (Figure 5).



Figure 5: Technician stepping off of the scanner

9. Review the print on the acquisition screen and if it is clear, complete, and free of smudges/overlap, press acquisition. If the image is not suitable, press clear and repeat the scanning procedure (Figure 6).



Figure 6: Close up view of the acquisition screen

10. Save the image (Figure 7) as a tiff file. Use the tool created by IT to generate a name for the image using the key on the backside of the cover of this manual. Repeat this procedure for the "detailed image" twice for each shoe.

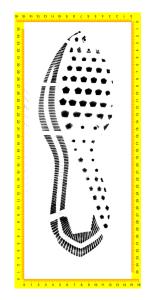


Figure 7: Sample of the first step 2D scan

11. For the second image type, have the technician walk across the scanner as if walking down the street. They will step up onto the scanner and then right back off. No attempt should be made to create a perfect print, as this image is meant to capture a realistic step (Figure 8).



Figure 8: Sample of second step 2D scan

12. Save the image as a tiff file. Use the tool created by IT to generate a name for the image using the key on the backside of the cover of this manual. Repeat this procedure for the "walking image" twice for each shoe.

10. When one pair of shoe is finished, there will be 8 Tiff images.

Note: Please do not use any type of liquid on the scanner Pad to clean it. Please contact James Kruse from CSAFE or Larry from CSSM. No water, sprays, wipes, etc. can be used.