Argyll/ColorMunki quickstart guide
8/4/22 jaf

1) Download the Argyll software

a. Go to http://www.argyllcms.com

b. Scroll to the "Downloads" section and download the latest version of the "executables" for your Apple OSX or Windows computer. For OS X this will be under the link "Intel OS X 10.6 64 bit or later". For Windows this will be under the link "X86 64 Bit" **The software version is listed as VX.X.X where X.X.X are numbers. Substitute the numbers of your downloaded version for the X's in all the following instructions.**

c. Double-click on the downloaded file that contains the Argyll software to unpack it. This will create a folder called Argyll_VX.X.X

2) Follow the instructions below for installing Argyll on your machine (OSX, Windows10)

a. **OSX** (assumes you are using the standard "zsh" shell)

i. Drag the Argyll_VX.X.X folder into the Applications folder
ii. Open a terminal window (Applications/Utilities/Terminal.app)
iii. Enter the following commands

```
cd $HOME
touch .zprofile
open .zprofile
```

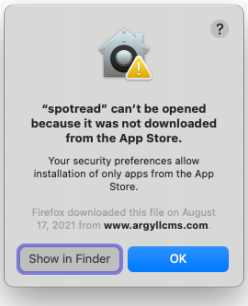
iv. In the TextEdit window that opens, add the following line to the end of the file (where X.X.X is the version number of the software). Save and close the file.

```
export PATH=$PATH:/Applications/Argyll_VX.X.X/bin
```

v. In the terminal window, enter the following commands and confirm that /Applications/Argyll_VX.X.X/bin appears at the end of the PATH variable

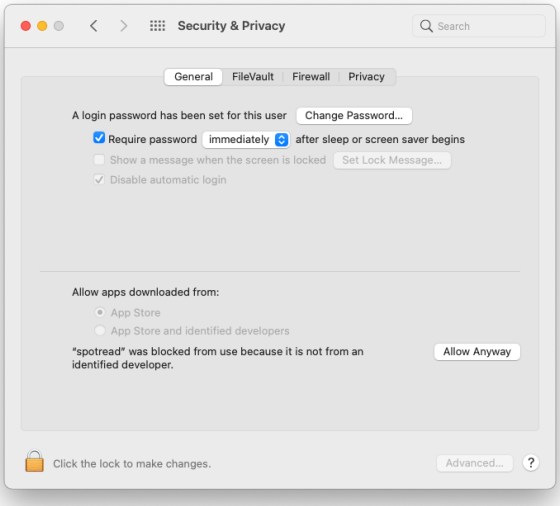
```
source .zprofile
echo $PATH
```

vi. Since OSX now requires non-Apple-approved apps to have explicit permission to run, the first time you run an Argyll command (e.g. spotread) you will get the following dialog.



To resolve this problem

a. Click “ok” in the dialog.
b. Open System Preferences and navigate to Security & Privacy and click on “allow anyway”



b. **Windows10**

i. Open File Explorer and navigate to the Windows (C:) folder
ii. If there is a “bin” folder open it, if not, create it and then open it.
iii. Drag the Argyll_VX.X.X folder into the “bin” folder

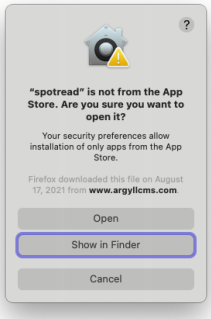
iv. Make the Argyll software accessible from the command window
    a. Navigate to Start -> Settings
    b. Do a search on “environment variables”
    c. Click on “Edit the system environment variables”
    d. In the “System Properties” dialog select the “Advanced” tab and then click on “Environment Variables”.
    e. Highlight “Path” in the System variables list and then click “Edit”
    f. Click “New”, add the text **C:\bin\Argyll_VX.X.X\bin** as the last entry in the table, and click “Ok” several times to exit the dialogs

v. Set up the Argyll ColorMunki device driver
    a. Hold down the shift key while restarting your computer
    b. Connect the ColorMunki to a USB port
    c. Click on Troubleshoot -> Advanced options -> Startup Settings -> Restart
    d. Type “7” (Disable driver signature enforcement) and log in after the restart.
    e. Navigate to Settings, Enter “Device Manager” in the “Find a setting” box.
    f. In the device list, double click on “X-Rite devices” and then “colormunki”
    g. Select the “Driver” tab and click on “Update Driver…”
    h. Click on “Browse my computer for driver software”
    i. Click on “Let me pick from a list of device drivers on my computer”.
    j. Click on “Have disk…”
    k. Enter the text C:\bin\Argyll_VX.X.X\usb and click “Browse”.
    l. Select “ArgyllCMS.inf” and click “Open”, “Ok” and “Next” in the subsequent dialogs.
    m. Windows Security will show a message: “Windows can’t verify the publisher of this driver software”. Click “Install the driver software anyway”. Wait for the driver to install and then close out of all the dialogs

3) Test the installation

a. **OSX**

i. Go to the terminal window and enter the command **spotread.** The following dialog will appear



ii. Click on "open". If the installation is working properly you should see the message "*Spot read needs a calibration before continuing". Set instrument sensor to calibration position and then hit any key to continue, or hit Esc or Q to abort:"*

iii. Set the sensor to the "calibrate" position (white tabs on wheel pointing to the white diagonal line), hit any key to continue, and wait for the calibration to complete.

iv. Set the sensor to the "read" position (white tabs on wheel pointing down), place the ColorMunki on a surface, and then hit any key to make a reading. The result should be something like "Result is XYZ: 75.331780 78.345612 64.759302, D50 Lab: 90.647583 0.244145 -0.444560" (your numbers will be different depending on what you're measuring.

v. Success!

b. **Windows 10**

i. Open a terminal/command window.

ii. Enter the command **spotread**, if the installation is working properly you should see the message *"Spot read needs a calibration before continuing. Set instrument sensor to calibration position and then hit any key to continue, or hit Esc or Q to abort:"*

iii. Set the sensor to the "calibrate" position (white tabs on wheel pointing to the white diagonal line), hit any key to continue, and wait for the calibration to complete.

iv. Set the sensor to the "read" position (white tabs on wheel pointing down) and hit any key to make a reading. The result should be something like "Result is XYZ: 75.331780 78.345612 64.759302, D50 Lab: 90.647583 0.244145 -0.444560" (your numbers will be different depending on what you're measuring.

v. Success!

4) Using the Colomunki with Argyll

The main Argyll functions we will be using are **spotread**, **specplot,** and **dispread**. Full documentation can be found at

http://www.argyllcms.com/doc/ArgyllDoc.html

The annotated session below shows typical usage. You have to type the bold text.

```
/* open a terminal window */
/* on OSX, depending on your account, Argyll functions may need run as "superuser" */
/* if this is necessary prepend "sudo" to your commands and enter your password when requested */
/* measurements will be saved to "my_measurements.txt" */
```

```
dharma.local% spotread my_measurements.txt

/* first time through Argyll need to calibrate the ColorMunki */
/* turn function wheel on ColorMunki to the “calibrate” position */
/* white bar toward bottom corner */
Spot read needs a calibration before continuing {first time through Argyll need to calibrate the
ColorMunki
Set instrument sensor to calibration position,
 and then hit any key to continue,
 or hit Esc or Q to abort:
Calibration complete

Place instrument on spot to be measured,
and hit [A-Z] to read white and setup FWA compensation (keyed to letter)
[a-z] to read and make FWA compensated reading from keyed reference
'r' to set reference, 's' to save spectrum,
'f' to report cal. refresh rate, 'F' to measure refresh rate
'h' to toggle high res., 'k' to do a calibration
Hit ESC or Q to exit, instrument switch or any other key to take a reading:
/* hit any key but those above to make a reading */

Spot read failed due to the sensor being in the wrong position
(Sensor should be in surface position)
/* common problem */
/* ColorMunki sensor needs to be in the “open” position */
/* turn function wheel on ColorMunki until the white bar is pointing down */

Place instrument on spot to be measured,
and hit [A-Z] to read white and setup FWA compensation (keyed to letter)
[a-z] to read and make FWA compensated reading from keyed reference
'r' to set reference, 's' to save spectrum,
'f' to report cal. refresh rate, 'F' to measure refresh rate
'h' to toggle high res., 'k' to do a calibration
Hit ESC or Q to exit, instrument switch or any other key to take a reading:
/* hit any key but those above to make a reading */

 Result is XYZ: 78.139529 83.366405 32.395977, D50 Lab: 93.174618 -4.417150 41.769550
/* this is the data spotread returns, CIE XYZ and D50 referenced CIELab values */

Place instrument on spot to be measured,
and hit [A-Z] to read white and setup FWA compensation (keyed to letter)
[a-z] to read and make FWA compensated reading from keyed reference
'r' to set reference, 's' to save spectrum,
'f' to report cal. refresh rate, 'F' to measure refresh rate
'h' to toggle high res., 'k' to do a calibration
Hit ESC or Q to exit, instrument switch or any other key to take a reading: s
/* type s to save spectral data for the first measurement */


Enter filename (ie. xxxx.sp): spec1.sp

Writing file 'spec1.sp' succeeded

Place instrument on spot to be measured,
and hit [A-Z] to read white and setup FWA compensation (keyed to letter)
[a-z] to read and make FWA compensated reading from keyed reference
'r' to set reference, 's' to save spectrum,
'f' to report cal. refresh rate, 'F' to measure refresh rate
'h' to toggle high res., 'k' to do a calibration
Hit ESC or Q to exit, instrument switch or any other key to take a reading:
/* hit any key but those above to make a reading */

 Result is XYZ: 79.905310 85.228374 33.221689, D50 Lab: 93.981437 -4.409525 41.926692

Place instrument on spot to be measured,
and hit [A-Z] to read white and setup FWA compensation (keyed to letter)
[a-z] to read and make FWA compensated reading from keyed reference
'r' to set reference, 's' to save spectrum,
'f' to report cal. refresh rate, 'F' to measure refresh rate
'h' to toggle high res., 'k' to do a calibration
Hit ESC or Q to exit, instrument switch or any other key to take a reading: s
/* save spectral data for the second measurement */
/* WARNING: just repeatedly hitting s will save the same data over and over again */
/* proper sequence is 1) measure (spacebar or other key); 2) s to save spectral data */

Enter filename (ie. xxxx.sp): spec2.sp

Writing file 'spec2.sp' succeeded

/* and so on for measures/spectral data 3,4,5 */
/* . . . */
```

```
Spot read stopped at user request!
Hit Esc or Q to give up, any other key to retry:
/* kill spotread */

dharma.local% ls
my_measurements.txt spec1.sp  spec2.sp   spec3.sp   spec4.sp   spec5.sp
/* make sure all your files are there */
/* these are just text files so you can extract the data if you need to */

dharma.local% cat my_measurements.txt

Reading X   Y   Z   L*  a*  b*
1   69.761118   71.229956   34.424910   87.596611   2.33101    29.156388
2   54.743536   55.252031   16.985067   79.186218   3.738317   46.013603
3   37.167606   37.308501   16.571993   67.507841   3.941601   26.843732
4   26.543811   26.688095   13.749433   58.684506   3.347571   18.699213
5   37.287244   35.980520   8.985850    66.505038   8.654050   46.732639
/* colorimetric measurement data */

dharma.local% specplot -c spec1.sp spec2.sp spec3.sp spec4.sp spec5.sp
/* plot the spectral data for the five different measurements on the same axes */
/* see plot below */
```