Getting a Mosaic module running

# Preconditions

* Python 3.7 or 3.8
* Seek Mosaic SDK installed
  + Make sure you also copy the libseekware.so file when you copy libseekware.so.3.0.6 to /usr/lib (the Seek instructions are incomplete on this one item).
* OpenCV installed (use pip3)
* Numpy installed (use pip3)
* Cmake (command line version is sufficient)

# Source code location

The folder at:

https://drive.google.com/drive/folders/10qqrOT8Pn6PE\_h6Jvd1FalRHTZT7u\_G0?usp=sharing

Contains the needed source code and build rules. Please copy the contents of this folder your local Pi. As shown below, I put this into ~/projects/derisking/

Step 1: build the C program which uses the Seek-Mosaic SDK to work with the Mosaic hardware

pi@raspberrypi:~/projects/derisking/seekware-server $ **mkdir build**

pi@raspberrypi:~/projects/derisking/seekware-server $ **cd build**

pi@raspberrypi:~/projects/derisking/seekware-server/build $ **cmake ../**

-- The C compiler identification is GNU 8.3.0

-- The CXX compiler identification is GNU 8.3.0

-- Check for working C compiler: /usr/bin/cc

-- Check for working C compiler: /usr/bin/cc -- works

-- Detecting C compiler ABI info

-- Detecting C compiler ABI info - done

-- Detecting C compile features

-- Detecting C compile features - done

-- Check for working CXX compiler: /usr/bin/c++

-- Check for working CXX compiler: /usr/bin/c++ -- works

-- Detecting CXX compiler ABI info

-- Detecting CXX compiler ABI info - done

-- Detecting CXX compile features

-- Detecting CXX compile features - done

CMake Warning (dev) in CMakeLists.txt:

No cmake\_minimum\_required command is present. A line of code such as

cmake\_minimum\_required(VERSION 3.13)

should be added at the top of the file. The version specified may be lower

if you wish to support older CMake versions for this project. For more

information run "cmake --help-policy CMP0000".

This warning is for project developers. Use -Wno-dev to suppress it.

-- Configuring done

-- Generating done

-- Build files have been written to: /home/pi/projects/derisking/seekware-server/build

pi@raspberrypi:~/projects/derisking/seekware-server/build $ **make**

Scanning dependencies of target seekware-server

[ 50%] Building C object CMakeFiles/seekware-server.dir/src/seekware-server.o

[100%] Linking C executable seekware-server

[100%] Built target seekware-server

pi@raspberrypi:~/projects/derisking/seekware-server/build $

Step 2: start a command shell and run the server

pi@raspberrypi:~/projects/derisking/seekware-server/build $ **./seekware-server**

seekware-server - A simple data capture/server utility for Seek Thermal cameras

Socket successfully created..

Socket successfully bound to port 54339..

Server listening..

***<THIS OUTPUT SHOWS WHEN THE PYTHON CLIENT CONNECTS>***

server accepting the client connection...

SDK Version: 3.6

::Camera Firmware Info::

Model Number:2774

SerialNumber: 0D23Z0NJG3C6

Manufacture Date: 4/14/2020 7:05:23 AM

Firmware Version: 8.8.1.29

Themography Version: 5

Image Processing Version: 2.6.5.0

***</THIS OUTPUT SHOWS WHEN THE PYTHON CLIENT CONNECTS>***

Step 3: start another command shell so you can run the Python app which shows a VL camera image (if installed) and an IR image from the Mosaic module:

pi@raspberrypi:~/projects/derisking/ir $ ls -alh

total 24K

drwxr-xr-x 3 pi pi 4.0K Nov 1 15:44 .

drwxr-xr-x 4 pi pi 4.0K Nov 1 15:46 ..

-rw-r--r-- 1 pi pi 5.9K Nov 1 14:13 irCamera\_SeekMosaic.py

drwxr-xr-x 2 pi pi 4.0K Nov 1 14:13 \_\_pycache\_\_

-rw-r--r-- 1 pi pi 1.6K Nov 1 14:17 simpleVideoCamera.py

pi@raspberrypi:~/projects/derisking/ir $ **python3 simpleVideoCamera.py**

Enjoy!