Android Opencv installation Nov2014

Demo <http://youtu.be/bG51ajpXMUw>

**Part I: Creating the Software Development Environment**

**Downloading and Installing Java JDK**

**The Java JDK from SUN/Oracle is required for development.**

1. Download the latest version of the JDK from this website:

http://www.oracle.com/technetwork/java/javase/downloads/index.html

2. Execute the downloaded installer.

**Downloading and Installing the Android SDK Bundle**

1. Download “ADT Bundle for Windows” from this website:

http://developer.android.com/sdk/index.html

2. Unzip the downloaded file to a convenient location on your hard disk, for example:

C:\\adt-bundle-windows-x86\_64-20130729

3. Open the Eclipse program included in the bundle, for example

C:\\adt-bundle-windows-x86\_64-20130729\\eclipse\\eclipse.exe

4. When asked to choose a default workspace, pick a folder that is easy to remember

and access, for example: C:\\Users\\Your\_Name\\workspace

**Updating the Android SDK**

1. Add the location of the “tools” and “platform-tools” subfolders for the Android

SDK to your system PATH

2. In Eclipse, select Window > Android SDK Manager.

3. In the Android SDK Manager that pops up, check at least the following boxes under

“Packages”:

Tools, Android 4.4.2, Android 4.0, Android 3.0, Android 2.3, Android 2.2, Android 2.1,

Android 1.6.

4. Click “Install <number> packages”, choose “Accept License” for all items listed, and

click “Install”. The selected packages will now be downloaded and copied to your

Android SDK installation folder.

5. If encountered problems in this section, please refer the tips on these sites:

http://developer.android.com/sdk/index.html

http://developer.android.com/sdk/installing/bundle.html

**Part II: Installing OpenCV for Android**

**Downloading and Installing Android NDK**

The Android NDK enables us to compile and run native C/C++ code on Android.

1. Download the latest version of the NDK from this website:

http://developer.android.com/tools/sdk/ndk/index.html

2. Unzip the downloaded file to a location without spaces in the path, for example:

C:\\android-ndk-r9

3. Define NDKROOT as a new environment variable pointing to the unzipped location

from the last step.

**Updating Tools in Android SDK**

Enabling some additional tools in the Android SDK will enable easier development of

native applications later on.

1. In Eclipse, click Help > Install New Software. Then, click Add.

2. In the Add Repository dialog, enter “ADT Plugin” for the Name and the following

URL for the Location, and click OK:

https://dl-ssl.google.com/android/eclipse/

3. In the Available Software dialog, select all listed components. Click Next. Accept

all license agreements. Click Finish.

4. Restart Eclipse after all the tools have been downloaded and installed.

**Downloading and Installing OpenCV SDK**

1. Download version 2.4.4 (or higher) of the SDK from this website:

http://sourceforge.net/projects/opencvlibrary/files/opencv-android/

2. Unzip the downloaded file to a location without spaces in the path, for example:

C:\\OpenCV4Android\\OpenCV-2.4.4-android-sdk

3. In Eclipse, select File > Switch Workspace > Other. Specify a location associated

with OpenCV projects, for example: C:\\OpenCV4Android

**Install OpenCV Manager app in Smart Phone and Setup enable USB debugging**

1. Install the OpenCV Manager app from the Google Play Market onto your device:

https://play.google.com/store/apps/details?id=org.opencv.engine

2. Connect your device to your computer via USB.

3. Go to the home screen.

4. Select Settings > Applications > Development and then enable USB debugging.

5. After you have downloaded updates for the Android SDK in Eclipse above, the

USB driver should have been included. Install the USB driver on your computer.

**Install JavaCV**

**JavaCV setup with Eclipse on Windows 7**

1. Install Microsoft Visual C++ redistributable package

For 32 bit: http://www.microsoft.com/download/en/details.aspx?id=5555

For 64 bit: http://www.microsoft.com/download/en/details.aspx?id=14632

2. Set OpenCV .dll in systems path so that JavaCV can access it.

Go to Control Panel > System Security > System > Advanced System Settings >

Environment Variables

In System variable select path and click on Edit. Now add following address in

Variable address.

For OpenCV 2.4.3 and later version

For 32 bit:

C:\opencv\build\x86\vc10\bin

For 64 bit:

C:\opencv\build\x64\vc10\bin

3. Download JavaCV- bin from link below and extract it.

http://code.google.com/p/javacv/downloads/list

**Running Face Recognition App**

1. Connect your device to your computer via USB.

2. Download and unzip facerecognition.7z

3. In Eclipse, click File -> Import -> Existing Projects into Workspace, then click

“Next” button

4. In select root directory, input the directory of unzipped facerecognition.7z

folder and select the checkbox of “face-recognition” which is under “Projects”

5. Click “Finish” button

6. Go to Project > Properties > Java Build Path > Libraries > Add External JARs .Go

to your JavaCV Extracted folder and add all jar files.

7. Go to Project > Android > Project Build Traget. According to your device Android

version, select project build target, such as Android 4.4.2. In Library, Add the

JavaCV library path, such as

C:\OpenCV4Android\OpenCV-2.4.8-android-sdk\sdk\java

8. Click “Run” button to download the codes to Android Phone and run the App in

the phone.