



# Embedded Operating Systems

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# Lab 1:

## Run Android Applications on Qualcomm Evaluation Boards

# Install JDK (1 / 2)

- ▶ Java SE 9 does not support Windows XP 32-bit
- ▶ Using Java Se 8 might have some problems
- ▶ Let's use Java SE 7
- ▶ The Oracle Java Archive page is as follows
  - <http://www.oracle.com/technetwork/java/archive-139210.html>
- ▶ You might have to create an account for the download

# Install JDK (2/2)

J

D

K

Accept



**Java SE Development Kit 7u80**

You must accept the [Oracle Binary Code License Agreement](#) for Java SE to download this software.

Accept License Agreement  Decline License Agreement

Product / File Description	File Size	Download
Linux x86	130.44 MB	<a href="#">jdk-7u80-linux-i586.rpm</a>
Linux x86	147.68 MB	<a href="#">jdk-7u80-linux-i586.tar.gz</a>
Linux x64	131.69 MB	<a href="#">jdk-7u80-linux-x64.rpm</a>
Linux x64	146.42 MB	<a href="#">jdk-7u80-linux-x64.tar.gz</a>
Mac OS X x64	196.94 MB	<a href="#">jdk-7u80-macosx-x64.dmg</a>
Solaris x86 (SVR4 package)	140.77 MB	<a href="#">jdk-7u80-solaris-i586.tar.Z</a>
Solaris x86	96.41 MB	<a href="#">jdk-7u80-solaris-i586.tar.gz</a>
Solaris x64 (SVR4 package)	24.72 MB	<a href="#">jdk-7u80-solaris-x64.tar.Z</a>
Solaris x64	16.38 MB	<a href="#">jdk-7u80-solaris-x64.tar.gz</a>
Solaris SPARC (SVR4 package)	140.03 MB	<a href="#">jdk-7u80-solaris-sparc.tar.Z</a>
Solaris SPARC	99.47 MB	<a href="#">jdk-7u80-solaris-sparc.tar.gz</a>
Solaris SPARC 64-bit (SVR4 package)	24.05 MB	<a href="#">jdk-7u80-solaris-sparcv9.tar.Z</a>
Solaris SPARC 64-bit	18.41 MB	<a href="#">jdk-7u80-solaris-sparcv9.tar.gz</a>
Windows x86	138.35 MB	<a href="#">jdk-7u80-windows-i586.exe</a>
Windows x64	140.09 MB	<a href="#">jdk-7u80-windows-x64.exe</a>

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x86



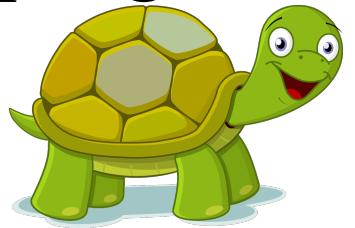
# Install Android Studio

- ▶ Again, Android Studio 3 does not support Windows XP 32-bit
- ▶ So, we have to use Android 2.3.3
  - <https://developer.android.com/studio/archive.html#android-studio-2-3-3>
- ▶ Unzip the file → bin → studio.exe → do not import any setting → enjoy Android Studio
- ▶ Initialize Android Studio
  - Check the virtual device, and then install all software packages
  - Wait for several minutes
  - You can test the hardware during the waiting

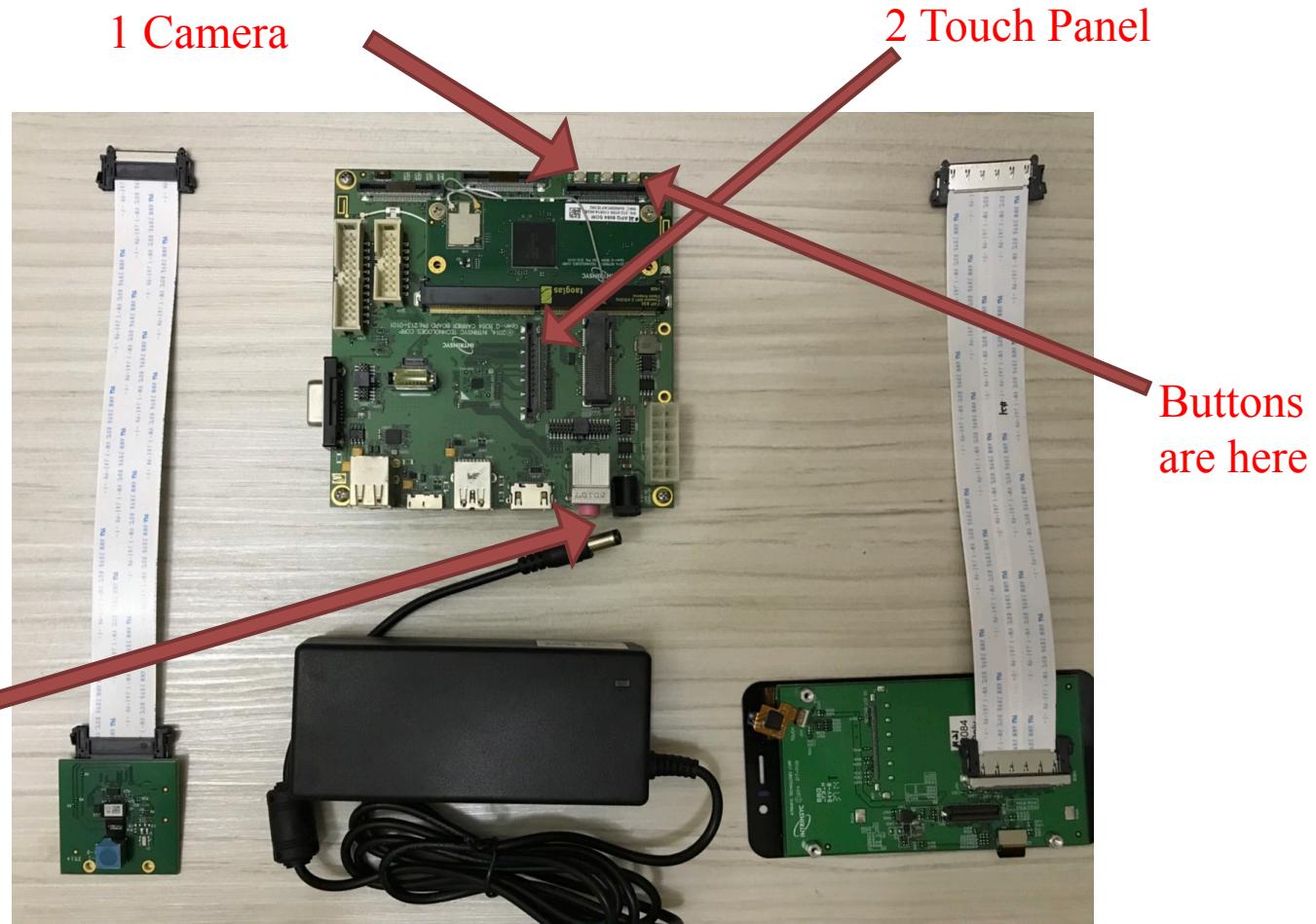
# Create an Android Project

- ▶ Create a project and use API level 19 (for kitkat)
  - Another version should be OK, but you need to test and download the API libraries
  - You might need to install some missing packages (check the error messages)
- ▶ Write a program to show “Hello World” and your “Student ID”
- ▶ Run the program on an Android emulator
- ▶ Export the apk file and upload it to somewhere
  - On Android Studio 3: Build → Build APK(s) → locate
- ▶ Download it to the evaluation board and run it
  - If you don’t have a repository for uploading your apk, test my apk on your Qualcomm evaluation board
  - <http://www.csie.cgu.edu.tw/~chewei/eos.apk>

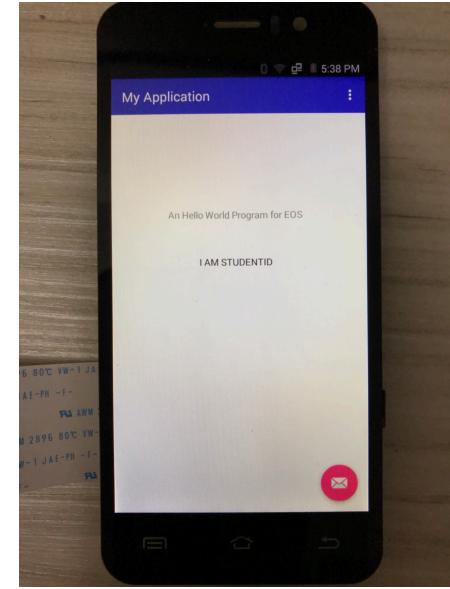
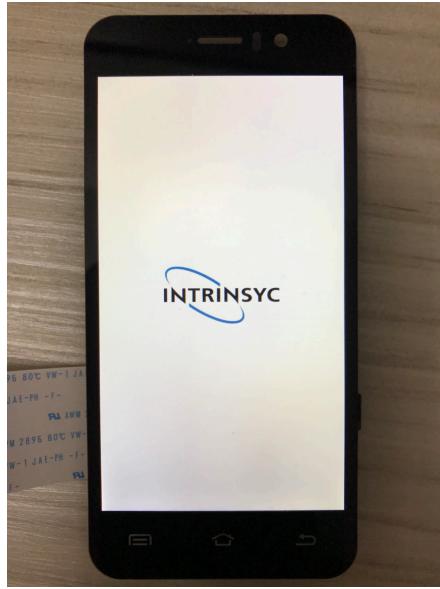
You can use your laptop or desktop to write the android program because the PCs in the lab are very .



# Open-Q 8084 Development Kit with Qualcomm Snapdragon 805 processor



# Power on It and Run APK



# Grading this Exercise

- ▶ Building the environment for Android programing: 20%
- ▶ Run a program on your evaluation board: 30%
- ▶ Report after the exercise: 50%
  - Only one page, A4, 12 pt font
  - Deadline is 20:59 2017/12/26
  - File name: EOS-Lab1-Report-Student\_ID
  - File type: PDF or Word
  - Send it to my email: [chewei@mail.cgu.edu.tw](mailto:chewei@mail.cgu.edu.tw)
  - Email title: EOS Lab1 Report Student\_ID