

Android Development

ICT

Embedded

Linux

Android

USN

Network

Cloud

M2M

Application

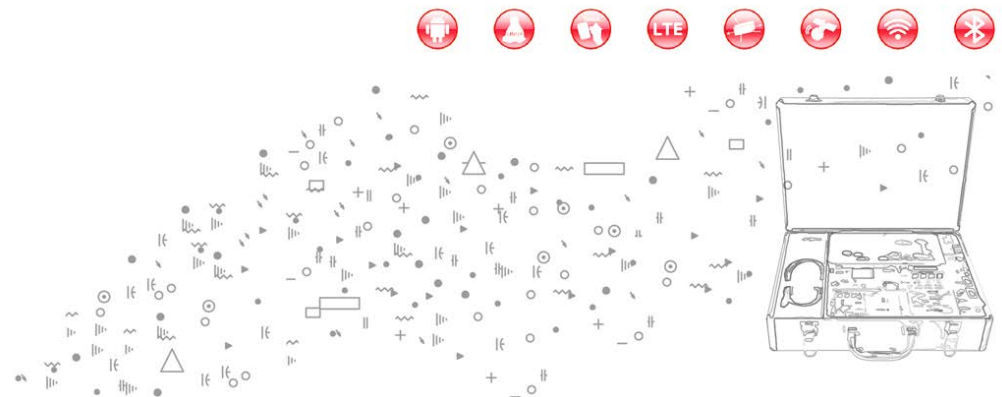
Social

BEMS

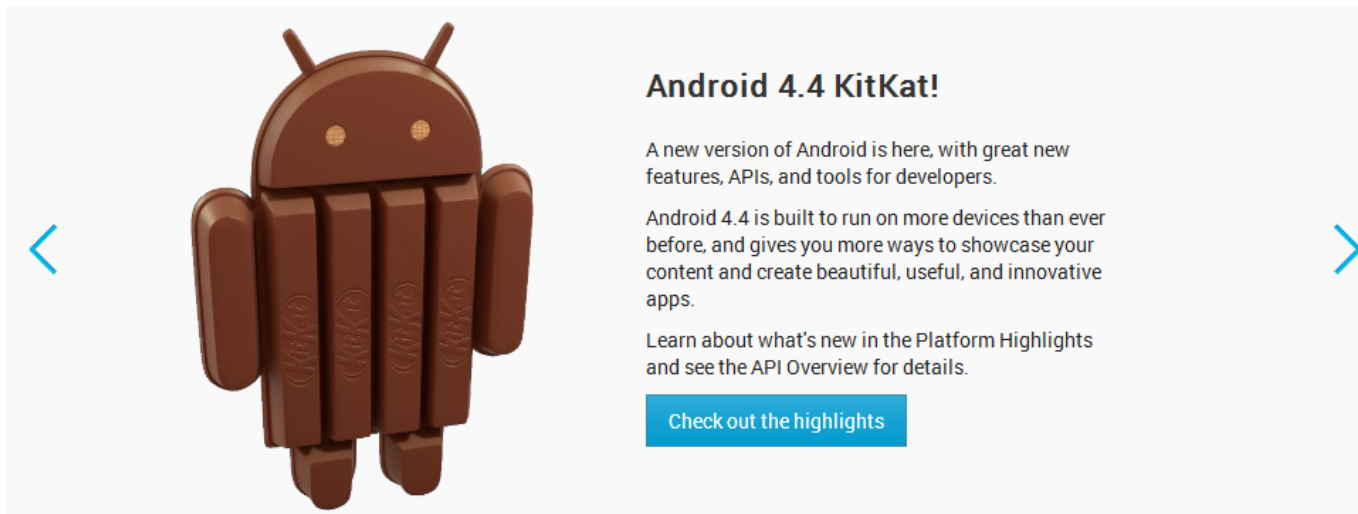
ITS

Hello@hybus.net

by Kimyuhyun



- 스마트폰, 휴대기기, 스마트TV, 태블릿PC 등 다양한 장치를 위한 **운영체제와 미들웨어 그리고 핵심 애플리케이션**을 포함하고 있는 소프트웨어 스택
- 안드로이드 플랫폼을 보면 응용프로그램은 **JAVA프로그래밍 언어**, 미들웨어에서는 **C/C++**, 리눅스커널에서는 **C로 작성된 코드**를 사용하여 각각 서로 분리된 구조



CUPCAKE



DONUT



ECLAIR



FROYO



GINGERBREAD



HONEYCOMB

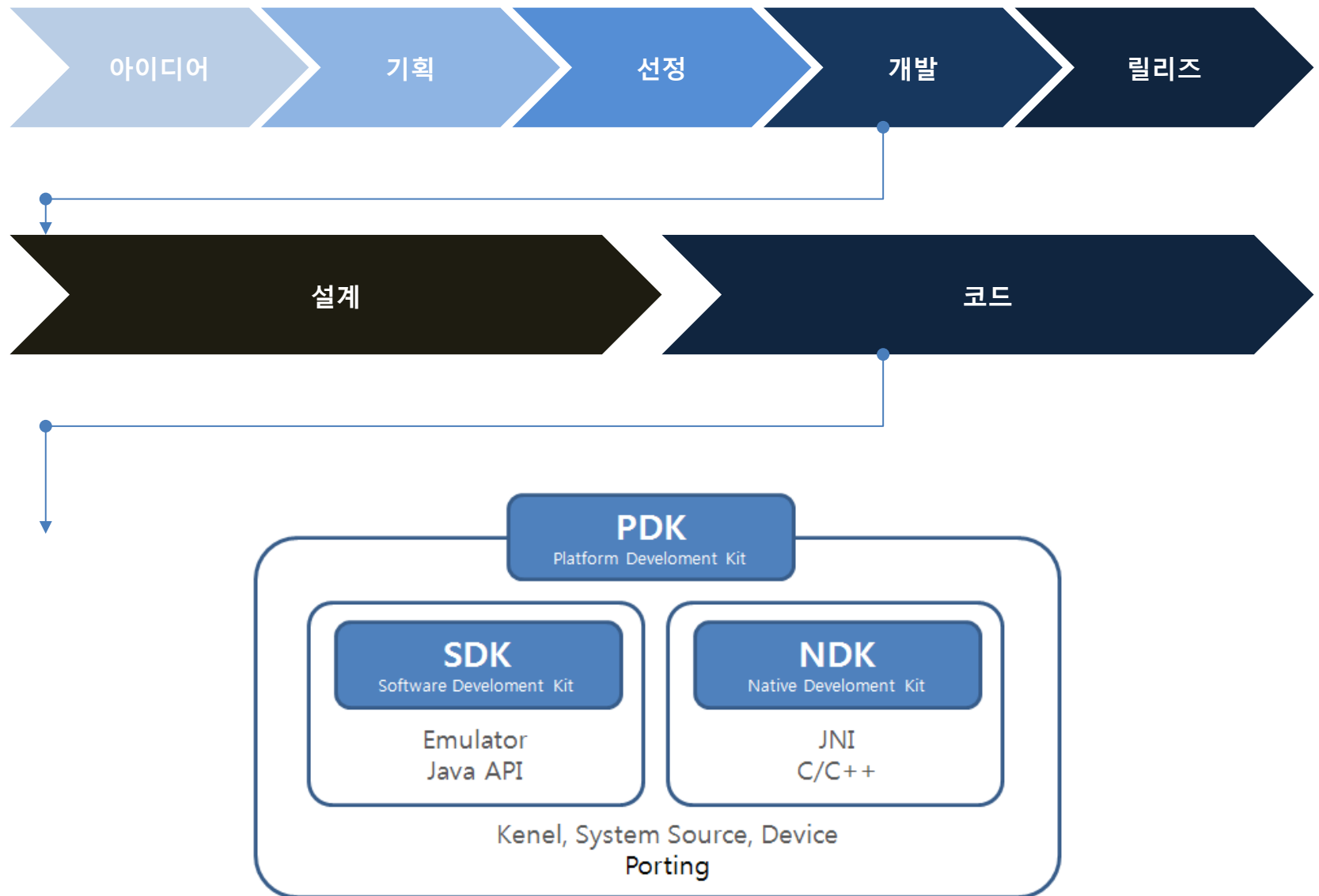


ICE CREAM SANDWICH

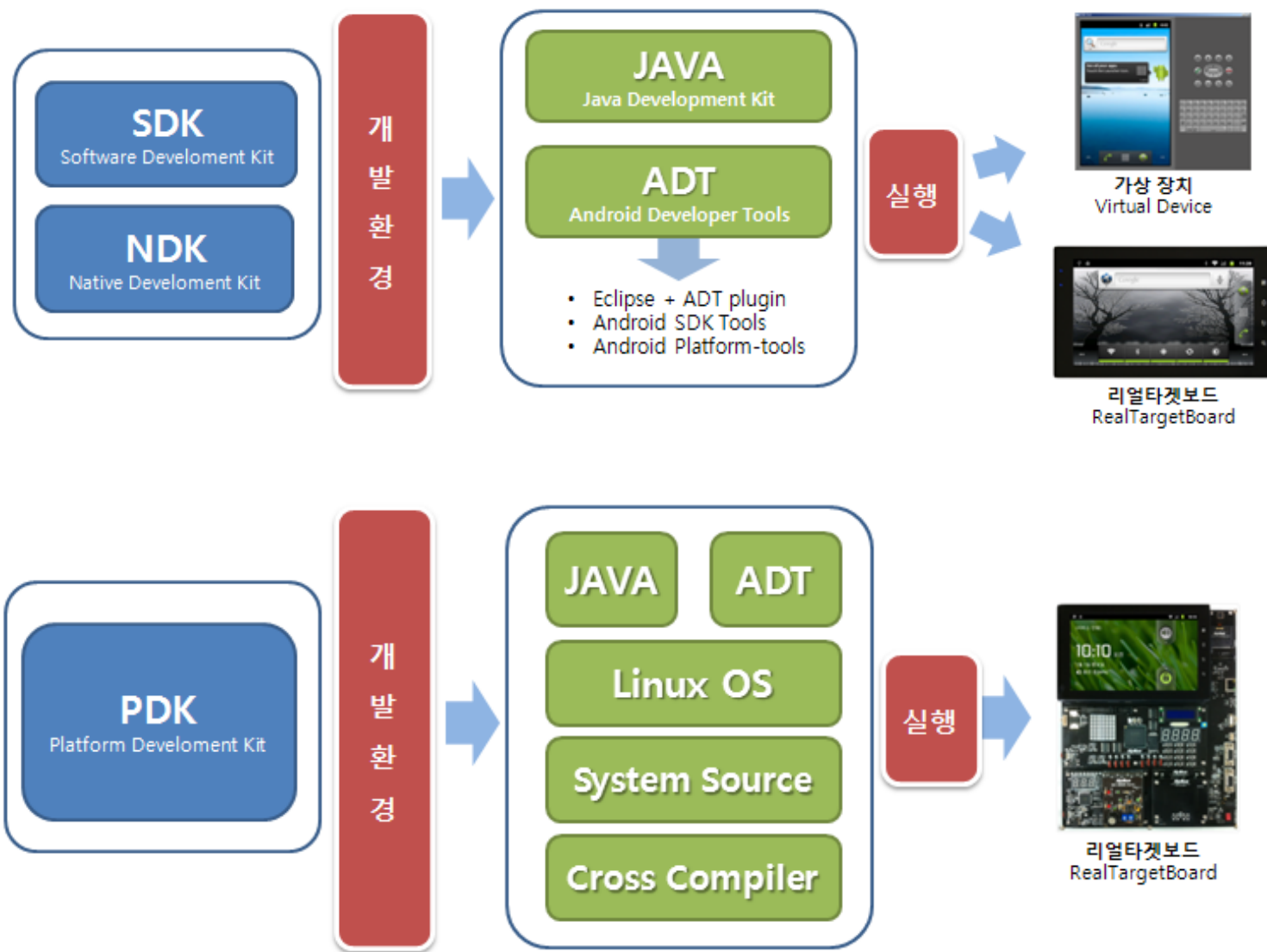


JELLYBEAN

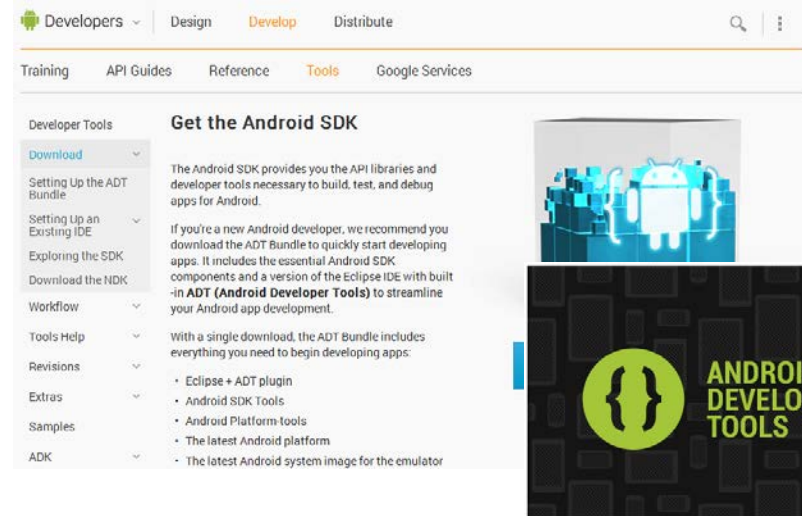
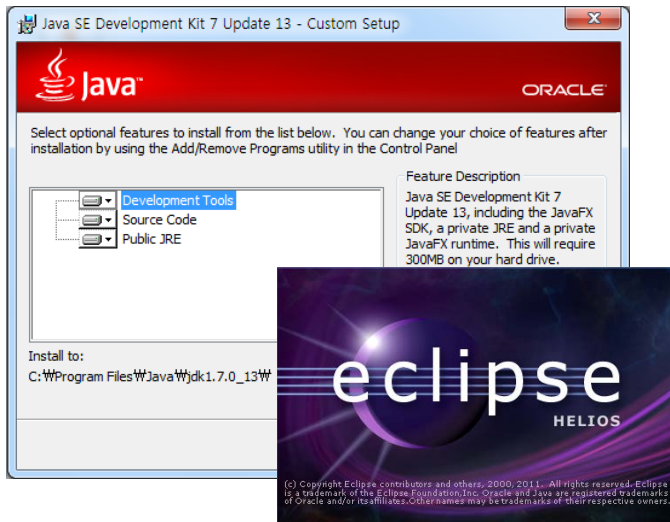
❖ Development



❖ Development



Software Development Kit



- java
- jre
- apt
- appletviewer
- java lib

- Eclipse + ADT plug-in
- Android SDK Tools
- Android Platform-tools
- The latest Android platform
- The latest Android system image for the emulator

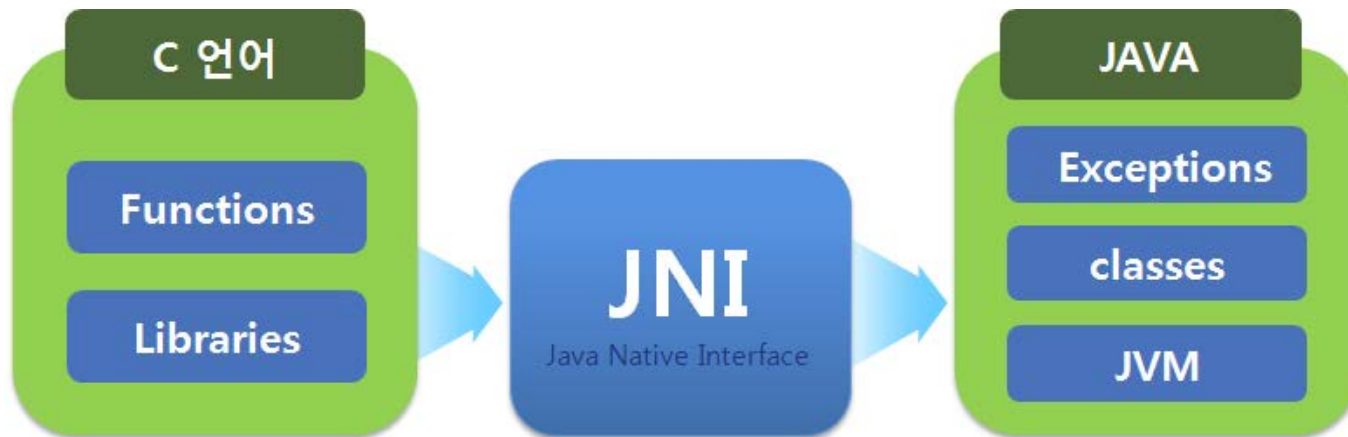
Native Development Kit

SDK



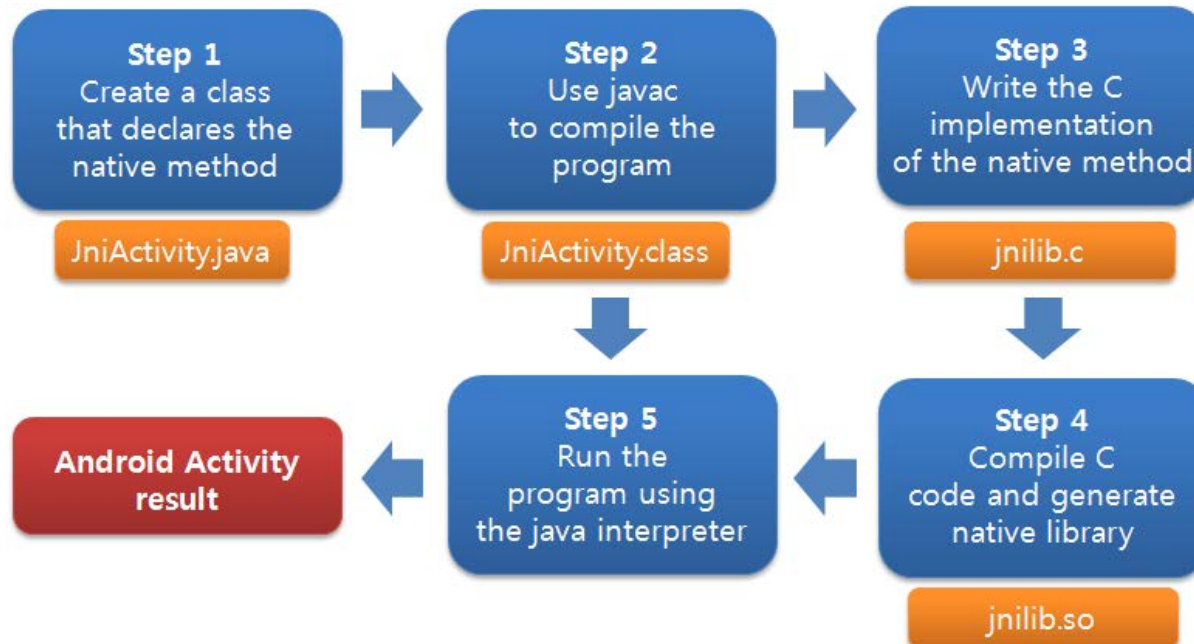
Android NDK

- libc, libm, libz, liblog, OpenGL header
- JNI Interface
- Native Application API

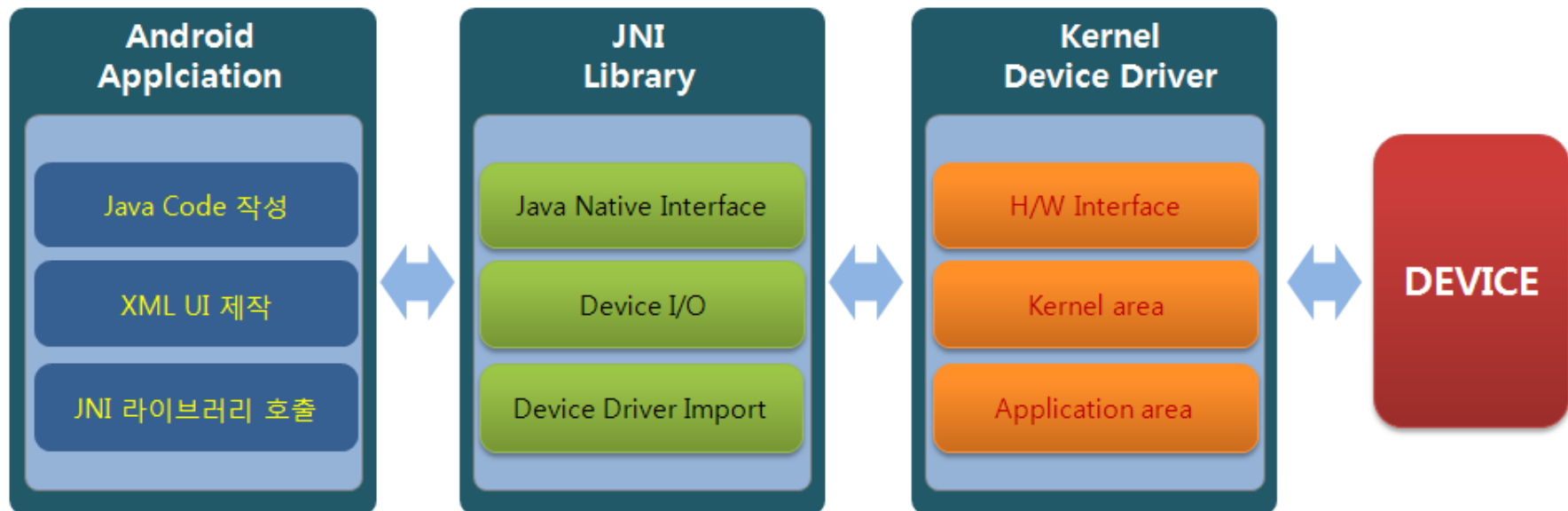


Native Development Kit

- 속도 문제가 있는 계산 루틴
- 자바에서 하드웨어 제어
- 자바에서 지원되지 않은 특정 운영체제 서비스
- 기존의 프로그램에서 자바가 제공하는 서비스를 이용



❖ Development - NDK



❖ Development - NDK

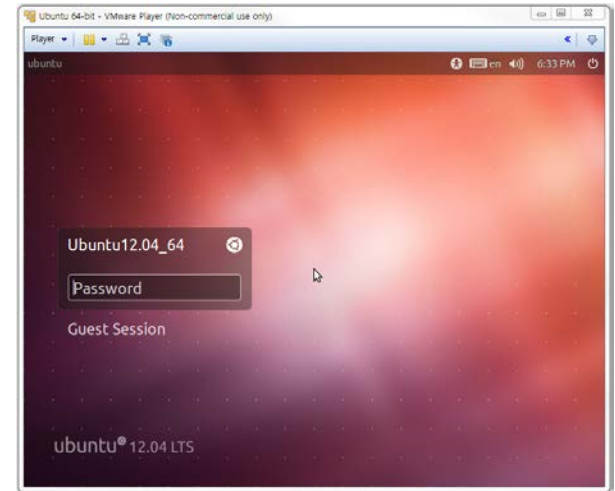
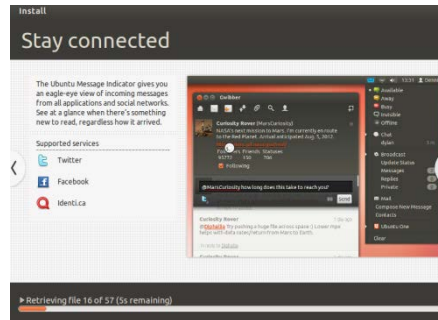
```
#include <jni.h>
```

```
#define LCDLED_DEV        "/dev/ledmodule"
```

```
jint Java_package_AppClass_Method(JNIEnv* env, jobject thiz, jint led){  
    open(LCDLED_DEV, O_RDWR);  
    write(LCDLED_DEV, led, 1);  
    close(LCDLED_DEV);  
    return 0;  
}
```

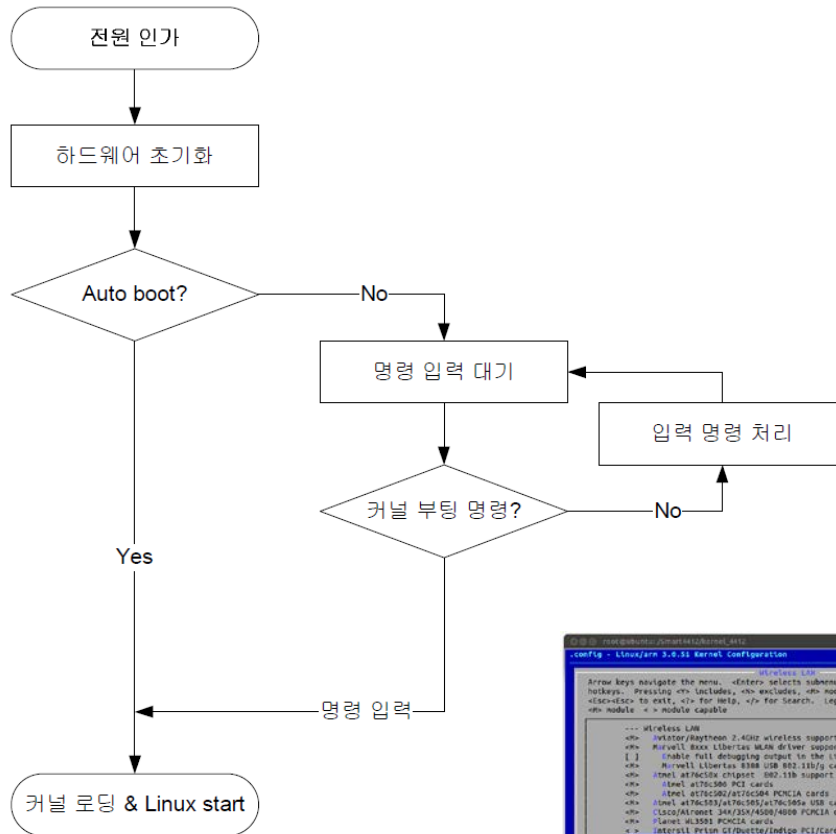
Platform Development Kit

SDK
NDK

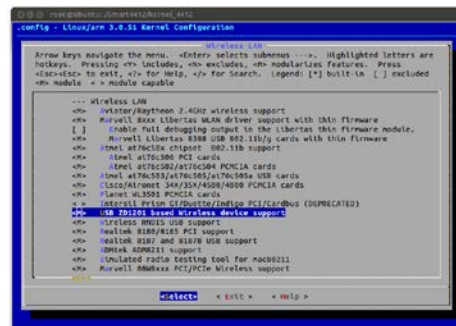


- linux (Ubuntu)
- Toolchain
- Platform System
- Bootloader
- Kernel
- Android Package

Bootloader



Kernel





Thank you

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