

Grupo 1 - Trilha Android Embarcado



Gabriel Alisson

 gbralisson

 gbralisson



Gabriel Maia

 gabriel-maia7

 gabimaia



Henry Miller

 henry-bilby

 HenryBilby



Jonas Moreira

 jonasandrade7

 jonasandrade7



José Ricardo

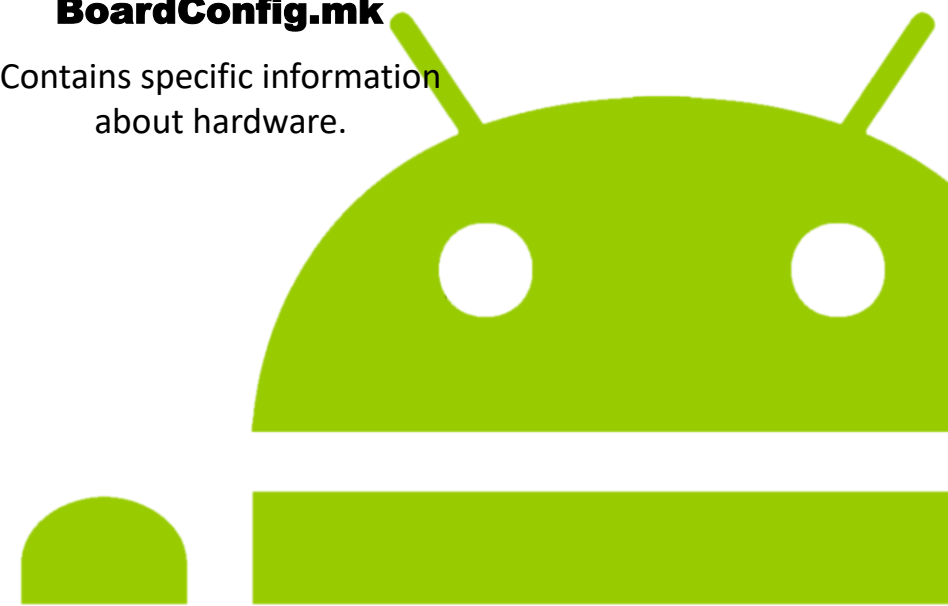
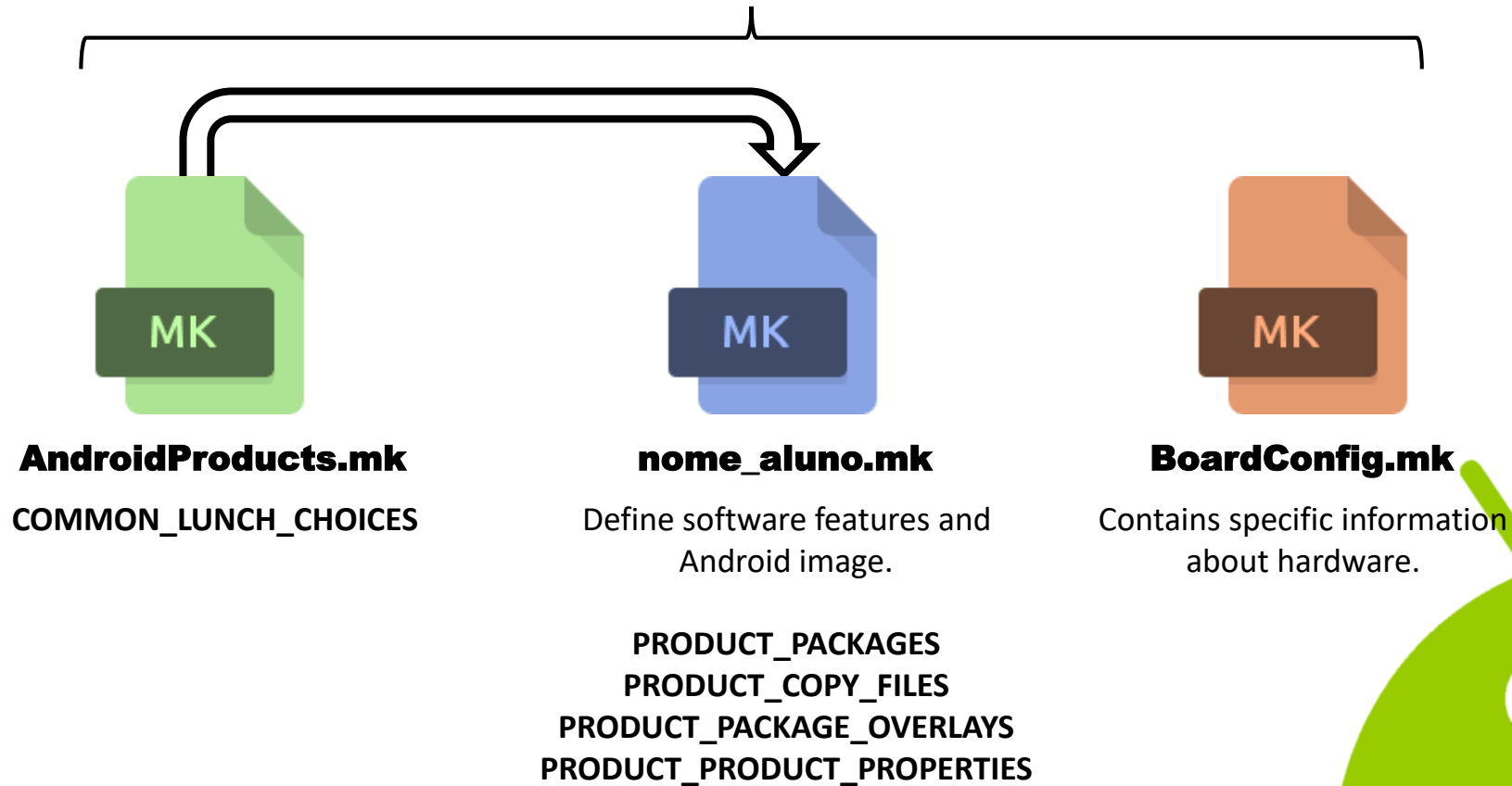
 jigos

 jigos



1 AOSP Product

/device/EldoradoTech/nome_aluno



2 Native application with ADB commands

BP Build Type

/device/generic/goldfish/questao2/Android.bp

cc_binary → compiles and generates an executable in ELF format.

name → “questao2”

vendor → **true**

Force module installation on /vendor.
/out/target/product/generic_x86_64/vendor/bin

srcs → [“questao2.cpp”]

shared_libs → [“liblogs, libziparchive”]

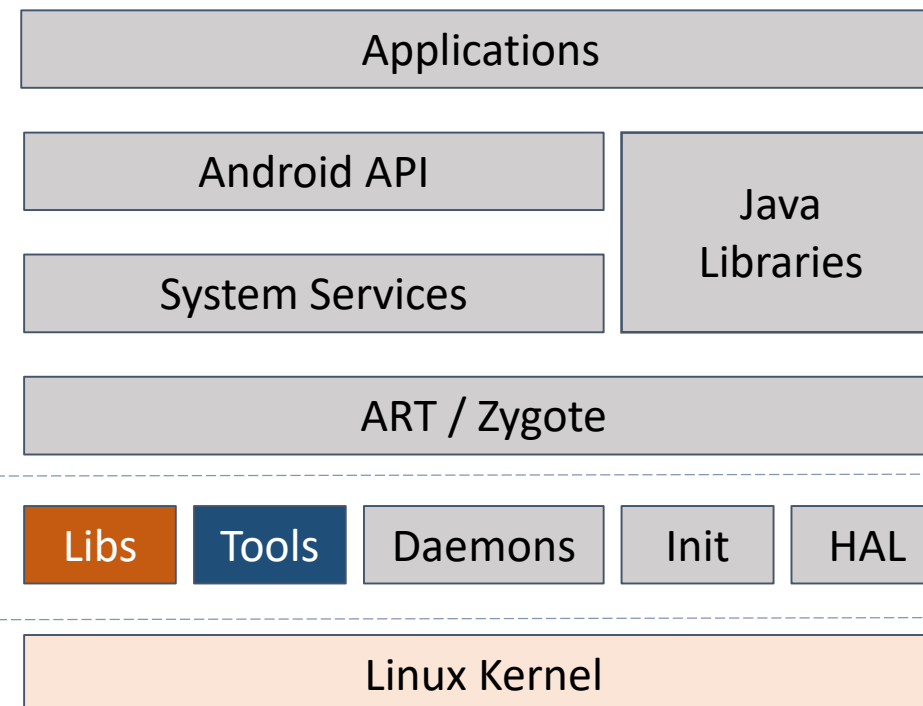
Libraries (Libs)

/system/core/

- **liblog** → Represents an interface to the volatile Android Logging system for NDK (Native) applications and libraries.
- **libziparchive** → Provides APIs for creating and manipulating ZIP archives.

Tools

- **logcat** → A command-line tool that dumps a log of system messages, including messages that you have written from your app.



ADB Commands

- **push** → copy file or directory to Android device.
- **shell** → Unix shell that you can use to run a variety of commands on a device.

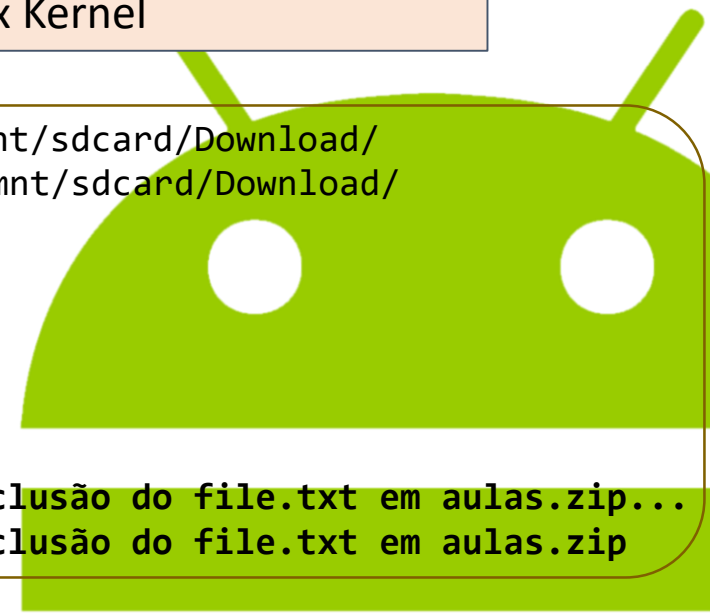
```
$ adb push device/generic/goldfish/questao2/file.txt /mnt/sdcard/Download/  
$ adb push device/generic/goldfish/questao2/aulas.zip /mnt/sdcard/Download/
```

```
$ adb shell
```

```
# questao2
```

```
# logcat -s Questao2
```

```
mm-dd hh:mm:ss.sss 1836 1836 I Questao2: Iniciando a inclusão do file.txt em aulas.zip...  
mm-dd hh:mm:ss.sss 1836 1836 I Questao2: Concluído a inclusão do file.txt em aulas.zip
```



3 Android application with system permissions

BP Build Type

/device/generic/goldfish/HelloAosp/Android.bp

android_app → compiles and generates an Android application.

name → "Questao3"

vendor → **true**

Force module installation on /vendor.
/out/target/product/generic_x86_64/vendor/bin

srcs → ["src/**/*.java"]

All .java files.

sdk_version → "current"

optimize → { enabled: false }

certification → "platform"

privileged → **true**

Provide system permissions.

Activities

- Provides the window in which the app draws its UI.

Intent → An abstract description of an action to be performed. Can launch an *Activity* to send it to any interested *BroadcastReceiver*.

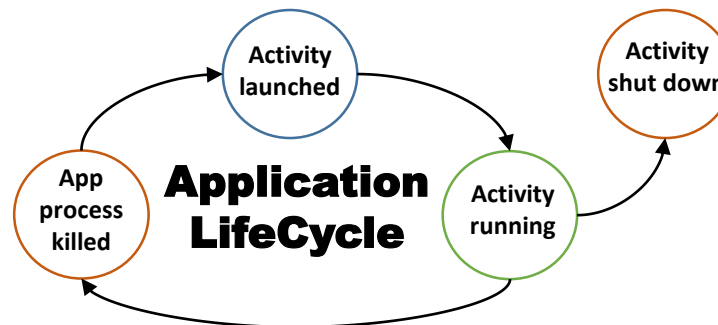
Broadcast Receivers

- Make it possible to receive events from the system or an application.
- BatteryLevelReceiver**.

Manifest File

Declares information about the application:

- Activities**.
- Intent-filter**.
- Receiver** → BatteryLevelReceiver.



Applications

Application Layer

Android API

Java Libraries

System Services

ART / Zygote

Libs

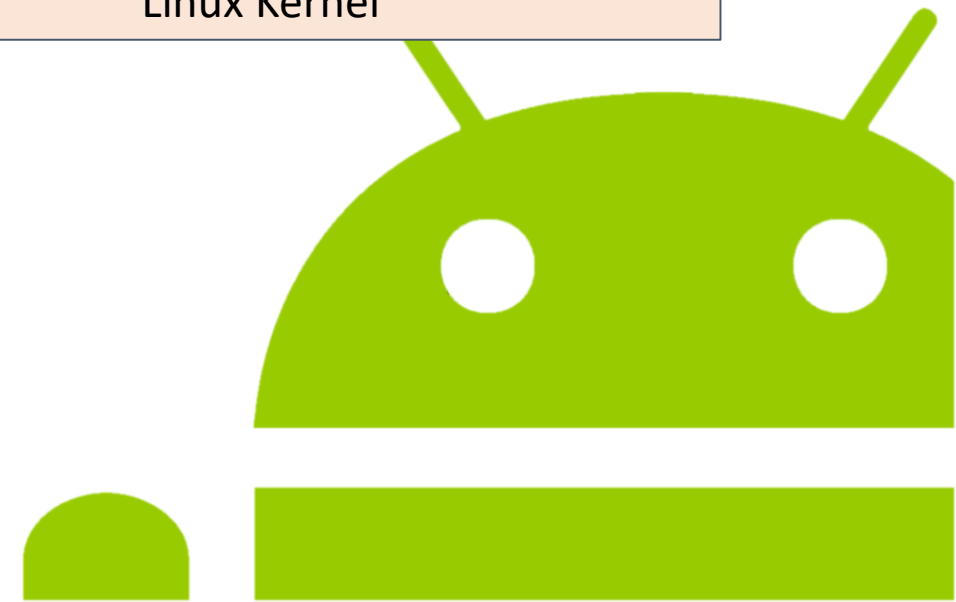
Tools

Daemons

Init

HAL

Linux Kernel



4 Extended framework layer

Tree

