Lab session
Android

Navid Nikaein
The Android operating system is a multi-user Linux system

- a unique Linux user ID (the ID is used only by the system and is unknown to the application) and a set of permissions
- Each process has its own virtual machine (VM) → isolate app
- By default, every application runs in its own Linux process

Common Errors

- Your quota exceeded
- Your AVD
  - Internal storage < 12 Mib
  - RAM < 512
  - SD card size < 9 Mob
- Uppercase vs lowercase
- Check if cleaning the project solves the errors
- Check the console and logs for hints on the source of error
Using eclipse

- Increase Eclipse's Memory Settings
- **Eclipse formatting**
- **Shortcuts**

Android Component

- Activities – visual user interface focused on a single thing a user can do
- Services – no visual interface – they run in the background
- Broadcast Receivers – receive and react to broadcast announcements
- Content Providers – allow data exchange between applications
Manifest file

- Declare the information about application to the Android system
  - Name of java package, components (the activities, services, broadcast receivers, and content providers), processes, permissions, API level, and HW/SW features
Android Project


- `src/` : `src/your/package/namespace/ActivityName.java`
- `bin/` : `.apk`
- `jni/` : contains native code sources developed using the Android NDK
- `gen/` : Java files generated by ADT, such as your `R.java`
- `assets/` : store raw asset files,
  - Files that you save here are compiled into an `.apk` file as-is
- `res/` : Contains application resources
  - `anim/`: xml files,
  - `color`: xml files,
  - `drawable`: bitmap files
  - `layout`: xml files
  - `menu`: xml files
  - `raw`: other assets files
  - `Values`: xml files
  - `xml`: other xml configuration files
- `Libs/` : private libraries
- `AndroidManifest.xml`, `project properties`, `local.properties`, `ant.properties`, `build.xml`
Valuable References and sample codes

- **Training for Android developers**

- **Vogella**

- **Apps for Android**

- **Commonware**
  - [https://github.com/commonsnguy](https://github.com/commonsnguy)
Lab sessions:

- Implicit Intents < 60 min
- Menu, preference, and Intent < 90 min
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