

INTRODUCTION

Tim Dosen Mobpro 1

D3 Rekayasa Perangkat Lunak Aplikasi
Fakultas Ilmu Terapan

PEMROGRAMAN UNTUK PERANGKAT BERGERAK 1

Mata kuliah diadakan sebanyak 4 SKS:

1. Sesi teori 2 x 50 menit
2. Sesi praktikum 4 x 50 menit
 - 100 menit : pengerjaan modul
 - 20 menit : istirahat
 - 100 menit : pengerjaan project

Curang = E

SILABUS

- Introduction
 - Build Your First App
 - Layouts
 - Version Control
 - App Navigation
 - Activity & Fragment Lifecycle
 - Asesmen #1
- App Architecture (UI Layer)
 - App Architecture (Data Layer)
 - RecyclerView
 - Connect to the Internet
 - Repository Pattern
 - App UI Design
 - Asesmen #2

BAHAN BELAJAR

- Google Developers Android Development with Kotlin
- Google Codelabs Android Kotlin Fundamentals
- Udacity Developing Android Apps with Kotlin
- Android Developer Guides
- Material Design System
- Live session → Google Meet
- Ringkasan materi → PDF
- Modul praktikum → PDF
- Starter & Final Code → Github repo
- Forum diskusi → Github issue

Link lihat di LMS. PDF unduh di LMS.

KOMPONEN PENILAIAN

1. Praktikum 12 modul **30%**
 - Tugas pendahuluan 30%
 - Praktik modul 70%
2. Assessment 1 (minggu ke-7, project) **30%**
3. Assessment 2 (minggu ke-14, project) **40%**

PENILAIAN PRAKTIKUM

- Dengan peer review, yang lazim di online course.
- Gunakan feedback form yang disediakan.
- Mahasiswa dipilih secara acak dan rahasia.
- Jadwal pelaksanaan akan diinfokan kemudian.
- Tidak melakukan peer-review → ada konsekuensi.

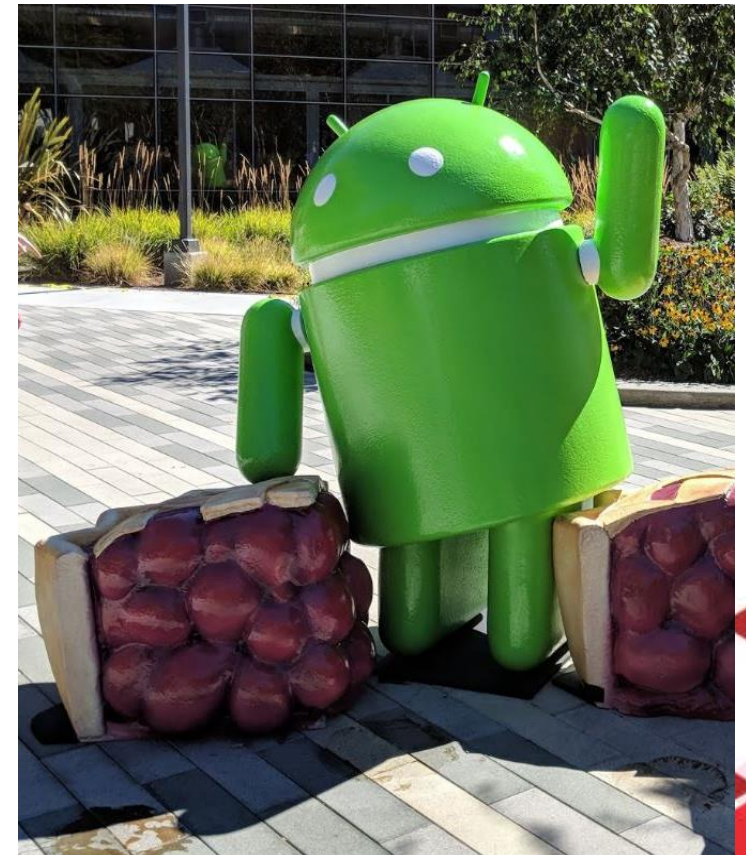
Be honest, give positive and critical feedback, and don't insult your classmates.

ANDROID OVERVIEW

Android is an open source operating system for mobile devices and a corresponding open source project led by Google.

Key facts:

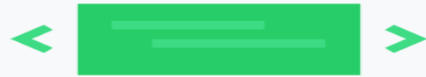
- 92,4% Indonesia market share (2021)
- 2.5 billion global active devices (2019)
- 116 billion downloads of apps and games
- \$38.6 billion consumer spending in Play Store



ANDROID DEVICES

PLATFORM

Phone & Tablet



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PLATFORM

TV



LEARN MORE

PLATFORM

Cars



LEARN MORE

PLATFORM

Chrome OS



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PLATFORM

Things



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PLATFORM

Wear OS



LEARN MORE

ANDROID + KOTLIN



- Kotlin is supported as a first-class language on Android (Google I/O 2017).
- Benefits of Kotlin: expressive and concise, safer code, interoperable, structured concurrency.
- Kotlin is 100% interoperable with the Java programming language.
- Nearly 60% of the top 1,000 Android apps contain Kotlin code.

ANDROID KOTLIN EXAMPLE

KOTLIN

```
class MainActivity : AppCompatActivity() {  
    override fun onCreate(savedInstanceState: Bundle?) {  
        ...  
        fab.setOnClickListener { view ->  
            Snackbar.make(view, "Hello $name", Snackbar.LENGTH_LONG).show()  
        }  
    }  
}
```

Nullable and NonNull
types help reduce
NullPointerExceptions

Use lambdas for concise
event handling code

Use template expressions
in strings to avoid concatenation

Semicolons are optional

AUTO A MOBPRO

- Jika berhasil lulus sertifikasi Google Associate Android Developer
<https://developers.google.com/certification/associate-android-developer>
- Atau jika berhasil lulus tiga kelas ini di Dicoding
 - ✓ Belajar Fundamental Aplikasi Android <https://www.dicoding.com/academies/14>
 - ✓ Belajar Android Jetpack Pro: <https://www.dicoding.com/academies/129>
 - ✓ Menjadi Android Developer Expert: <https://www.dicoding.com/academies/165>
- Atau jika memiliki aplikasi Android di Play Store dengan > 5000 download (WAJIB dibuat dengan Java, Kotlin atau Flutter)

REFERENCES

- Android Development with Kotlin
<https://developer.android.com/courses/android-development-with-kotlin/course>
- Android Kotlin Fundamentals
<https://codelabs.developers.google.com/android-kotlin-fundamentals/>
- Developing Android Apps with Kotlin
<https://www.udacity.com/course/developing-android-apps-with-kotlin--ud9012>