

Mobile Programming



Course overview



Intro

■ Tutor

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■ Class homepage

- E-class (<http://eclass.seoultech.ac.kr>)

■ Prerequisites

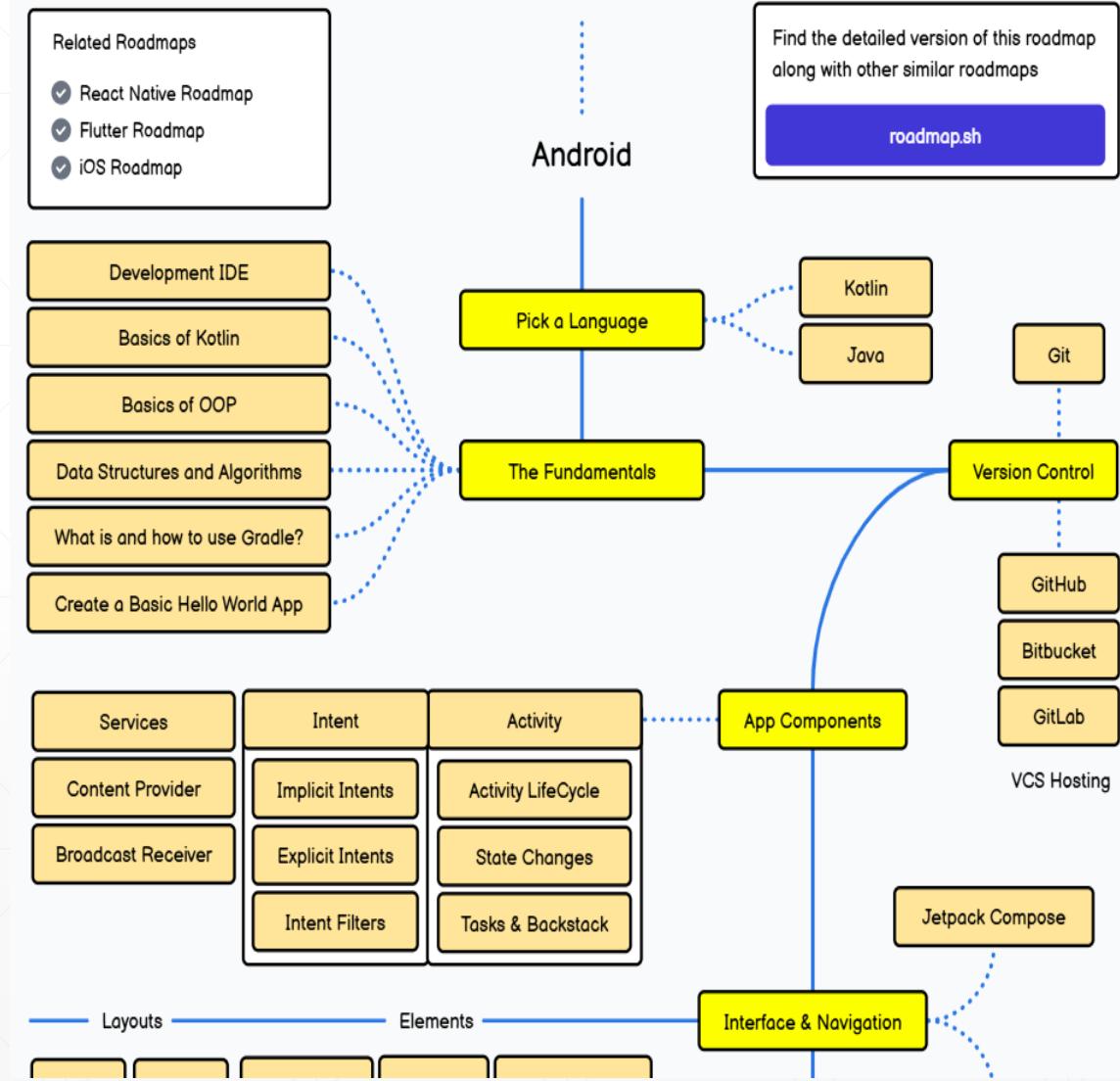
- Java → Kotlin
- Web/Cloud, Database skills

Mobile?

- Mobile 0(1997)
- Mobile 0+ (1999)
- Mobile 1(2000)
- Mobile 2 (2003)
- Mobile 3 (2005)
- Mobile 4 (2009)
- Mobile 5(2011)
- Mobile 6 (2015)
- Mobile 7 (2022)
- Mobile 8 (2024)

Android Developer Roadmap

■ <https://roadmap.sh/android>



Goal

■ Kotlin Basics

- Understand Kotlin basics
- Understand Kotlin's flow control, collections, etc.
- Understand Kotlin OOP concepts

■ Mobile App programming with Android

- Understand Android OS
- Utilize Android programming environment
- Develop mobile applications using Android APIs

Curriculum

| | Week | Contents | Lecture Methods, Assignments, Contents of Evaluation |
|---------------------|------|---|--|
| Assignment #1 | 1 | Course Introduction, IDE setup Kotlin Basics | Online (2h) + Offline (1h) |
| | 2 | Kotlin Basics | ITM workshop Online (3h) |
| Assignment #2 | 3 | Kotlin Basics | Quiz Review of Assignments/Quiz |
| | 4 | Android App Basics | Project Overview Team Formation |
| Assignment #3 | 5 | Layout & Navigation | Conference Trip Online (3h) |
| | 6 | Activity & Fragment | Conference Trip Online (3h) |
| Assignment #4 | 7 | Midterm exam | |
| | 8 | Project proposal presentation | |
| (subject to change) | | | |

Curriculum

Assignment #5

Assignment #6

| | | |
|----|-----------------------------------|--|
| 9 | UI (Part I) | |
| 10 | UI (Part II) | |
| 11 | Data & Permissions | |
| 12 | Interaction with Web | |
| 13 | Interaction with Device (Part I) | |
| 14 | Interaction with Device (Part II) | |
| 15 | Project final presentation | |

(subject to change)

Curriculum (cont'd)

■ Lecture + Lab

- Win11, Kotlin, Android 13+ (AVD can be used)

■ Assignment

- Programming practices
- Submission: e-class + github (optional)

■ Grading

- Assignment 25%
- Project 50%
- Midterm exam (written+lab) 25%

Project (50%)

- Develop a mobile application based on your own

- Scenario
- Design
- Implementation
- Report/Presentation

- Team-based project

- Github project management (optional, but recommended)
 - or any other project management solutions should be used
- Random team assignment

Note

■ No cheating, please!

- All assignments scores throughout the semester will be considered 0 (zero)
- This also applies to the original source owner

■ Reference

- <https://developer.android.com/docs>
- Online lectures/guides/tutorials

More Important Note

■ Focus on Core

- Too many components there!
- Impossible to cover all the things about Android

■ Then, a **self-motivated study for project development!**

- More widgets?
- More layouts?
- More device features?
- More 3rd party libraries?
- More platform?
- ...

Q&A

■ This week (+eClass video)

- IDE Setup
- Introduction to Android
- Assignment #1

■ Next week

- Kotlin Basics Part I (eClass video)
- Kotlin Basics Part II (eClass video)