Introduction

• **Schedule**
  – 18:00 ~ 21:45 (Tue.)
  – Lecture room: #400212, Semiconductor Bldg.

• **Course homepage**
  – [http://csl.skku.edu/SSE3052F19/](http://csl.skku.edu/SSE3052F19/)
  – Lecture slides, announcements, exam scores, projects, etc.
  – Don’t waste your time in i-Campus

• **TAs**
  – 안민우
    • [minwoo.ahn@csl.skku.edu](mailto:minwoo.ahn@csl.skku.edu), #400509 in Semiconductor Bldg.
  – 김성환
    • [sunghwan.kim@csi.skku.edu](mailto:sunghwan.kim@csi.skku.edu), #400509 in Semiconductor Bldg.
Mobile Smart Device

• General-purposed system
  – Plenty of apps in market
  – Foreground/background apps

• Networked system
  – Internet connectivity via wireless network
  – Fetch data from the Internet
  – Sync user data with cloud

• Battery-backed system
  – Limited operating time
  – Energy efficiency

• Resource-constrained system
  – Limited resources (e.g., memory, CPU, storage)
  – Efficient use of them is important
Android

- The most popular mobile operating system
Android Software Stack
Course Plan

• Experiment
  – Linux kernel programming
    • Device driver programming
  – Android programming
    • Android app programming

• 2 projects
  – Building a soft device
  – Developing an Android app
# Course Schedule

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Prerequisites

• Courses
  – Operating Systems: SSE3044
  – Embedded System Design: ICE3028
  – System Software Experiment 2: SSE2033

• Required skills
  – Fluent C programming skills
  – Object-oriented programming skills
    • C++ mandatory, Java optional
  – Basic knowledge of Unix/Linux systems
  – Computer architecture
    • x86 mandatory, ARM optional
References

• Linux Kernel Development
  – 3rd edition
  – Rovert Love
  – Pearson Education, Inc.

• Linux Device Drivers
  – 3rd edition
  – J. Corbet, A. Rubini, and G. Hartman
  – O'Reilly
  – 2005
References

• 인사이드 안드로이드
  – 송형주, 김태연, 박지훈, 이백, 임기영
  – 위키북스
  – 2010

• 안드로이드의 모든 것 분석과 포팅
  – 고현철, 유형목
  – 한빛미디어
  – 2011
References

• Linux
  – Linux Cross Reference: http://lxr.free-electrons.com

• Android
  – Android open-source project: https://source.android.com

• Java
  – Java API: https://docs.oracle.com/javase/7/docs/api/
Class Policies

• Grading policy (subject to change)
  – Lab + Report: 30%
  – Project1: 20%
  – Project2: 20%
  – Final exam: 30%
  – Subject to change

• Lab attendance policy
  – You have to complete your lab assignment in each day
  – Up to four absences will be tolerated
    • You still need to complete your lab on time
    • 10% delay penalty per day
Questions?