Mobile Application Development

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Course Introduction

Goals

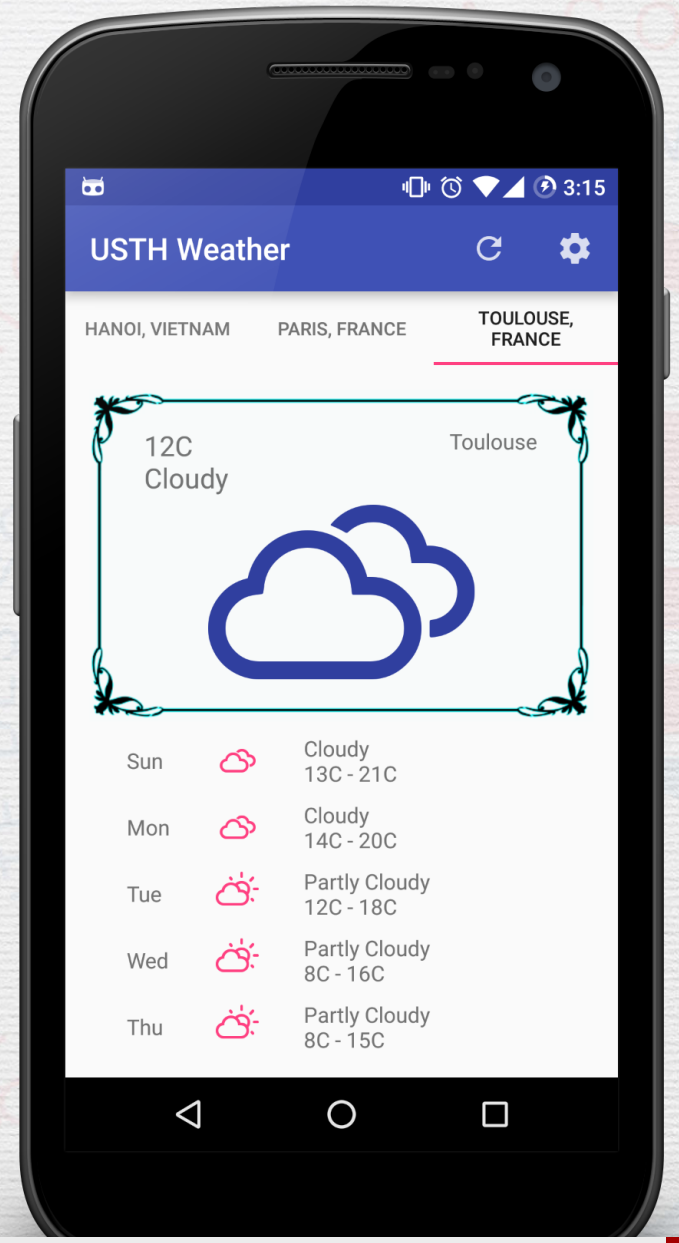
- Understand key features of mobile app development
- Develop app for the Android platform
- Analyze and improve the performance of app
- Improve team work and communication skill
- Do the project
  - and (hopefully!), pass it

Format

- 4 ECTS = 40 hours
- Lecture / Practical work / Project: 24h / 10h / 6h
- Prerequisites: OOP
- Assessment:
  - Attendance / Midterm project / Final project / Oral Exam
  - 10% / 20% / 50% / 20%

Content

- Introduction
- Fundamentals (activity, fragment, view, context...)
- Resources (layout, values, 9-patch...)
- Handling input
- Storage
- Networking
- Background tasks and services
- Optimization
- **Game (?)**



Projects

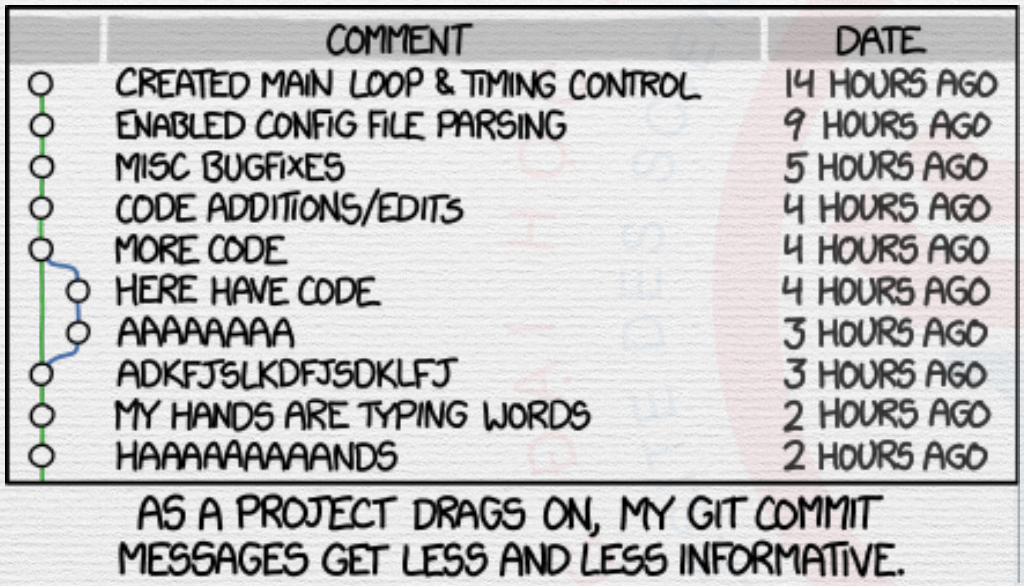
- 3 students per group. Do it **now**.
- 2 passes
  - Midterm
  - Final

Projects

- 1- Twitter client
- 2- Wordpress client
- 3- Music player from public sites
- 4- Wikipedia client
- 5- Dropbox/Box client
- 6- Moodle client
- 7- Facebook client
- 8- Email client
- 9- IRC client
- 10- Github Browser
- 11- Flickr Image Browser

Projects

- Github
  - Initial repository and instruction
  - https://github.com/SonTG/androiddev2019



Don't be lazy with your commit messages

Course Assessment

Projects

- Project presentation
  - 15 mins oral
  - 3 mins Q / A
  - Follow the template!

Presentation

- Introduction
- Architecture
- Activities
- Networking
- Optimization
- Demo (with emulator)
- Conclusion

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- Introduction
  - What does your app do?
  - Why do we need it?

Presentation

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- Architecture
  - What are the main components of your app?
  - Figure

Presentation

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- Activities
  - What are your activities?
  - What does each of them do?

Presentation

- Introduction
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- Networking
  - Does your app connect to somewhere?
  - How does it do?
  - Blocking or Async access?
  - Which kind of API do you use?

Presentation

- Introduction
- Architecture
- Activities
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- Optimization
- Demo (with emulator)
- Conclusion

- Optimization
  - Show your UI overdraw status?

Presentation

- Introduction
- Architecture
- Activities
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- Optimization
- Demo (with emulator)
- Conclusion

- Demo
  - Short: functionality
  - **Prepare your own internet connection!**

Presentation

- Introduction
- Architecture
- Activities
- Networking
- Optimization
- Demo (with emulator)
- Conclusion
- Conclusion
  - What was done
  - What was NOT done
  - Possible future development

References

- Books
  - Head First Android Development, by Dawn Griffiths and David Griffiths, Oreilly, 2015.
  - Android Programming: The Big Nerd Ranch Guide, 2nd edition, by Bill Phillips and Brian Hardy, 2015
- Websites
  - stackoverflow.com
  - developer.android.com
  - github.com