ID2216 Developing Mobile Applications

Course Introduction

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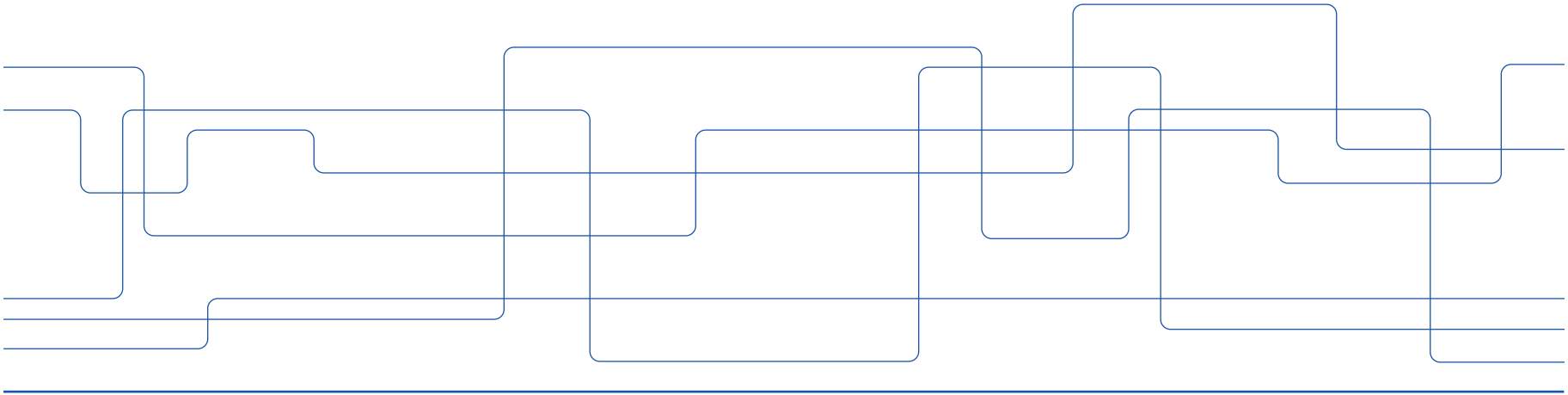

Teachers in the course

Teacher and examiner

Anders Västberg
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Teachers

Pietro Lungaro <pietro@kth.se>

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Course Contents

- the mobile ecosystem
- mobile Context and User-experience
- mobile Information Architectures
- native Android Apps
- mobile Web Apps
- mobile Mashups
- mobile and Ubicomp Research Areas
- business models and Apps stores.

Learning activities

- Module Introduction (this lecture)
- Module Project Proposal
  - Lecture, Lab
- Module Mobile Application Development
  - Four lectures and four labs
- Mobile Ecosystem and IoT
  - Two lectures and a lab

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- ANN1 - Assignment, 3.0 credits,
  Grading scale: A, B, C, D, E, FX, F
  - Mobile application group project
  - Five assignments
  - Two compulsory seminars
  - One opposition report
- TEN1 - Examination, 4.5 credits,
  Grading scale: A, B, C, D, E, FX, F
  - Home Exam

Required reading:

- Meier, R. and I. Lake, Professional Andriod, Wrox, 2018
- Fling B., Mobile Design and Development, O'Reilly, 2009
- Selected books, articles and webpages for each lecture

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- Learning outcomes

The goal of the course is to teach the basics in technologies to create mobile applications and mobile services. The course gives theoretical knowledge and practical skills in the technology area for service development for mobile and handheld units. After completing the course, the student should be able to:

- understand how to analysis basic user requirement in developing mobile applications and mobile services
- develop simple mobile web-apps based on Javascript, HTML5 and CSS
- develop mobile native apps using the Android programming framework
- develop and deploy basic mobile web-services for information retrieval and interaction
- understand how to mashup-up web-content for mobile applications and mobile services
- understand the mobile ecosystems of service providers, terminal manufactures, and mobile network operator.

Course Project

- Project Work
- Propose, build, and document a mobile app.
- Develop an functional application (Web or Native) that:
  - addresses an interesting and relevant area
- The course project teaches step-by-step
  - how to design mobile applications and services.
  - Each step is shown with a lab assignment
- Examination by
  - oral presentation
  - a written report

Alternative Course Project

- Participate in Research Projects
  - ”Sömn in vardagen” (Sleep in weekdays) with KTH and Stockholm University
  - “Smart City” with KTH, Chalmers, and City of Curitiba in Brazil (and many more)
- Contribute to app development used in the projects
- Dr. Pietro Lungaro will act as project owner/customer

Compulsory Examination Activities

- Module Mobile Application Design
  - Assignment A1: Project Proposal, Seminar 1: Project proposal
- Module Mobile Application Development
  - Assignment A2: Mobile Web App
  - Assignment A3: Native Mobile App
  - Assignment A4: Integrated Mobile App
- Mobile Ecosystem and IoT
  - Two lectures and a lab
- Assignment A5: Project report
- Opposition report
- Seminar 2: Final presentation
- Final report
- Home Exam

Grading Criteria for the Course Components

Learning Outcomes	Course Component	Grading	Assignment
Develop simple mobile web-apps based on Javascript, HTML5, and CSS	ANN1 TEN1	Pass/Pass with distinction	A2/A5
develop mobile native apps using the Android programming framework	ANN1 TEN1	Pass/Pass with distinction	A3/A5
develop and deploy basic mobile web-services for information retrieval and interaction	ANN1 TEN1	Pass/Pass with distinction	A4/A5
understand how to analyze basic user requirement in developing mobile applications and mobile services	ANN1 TEN1	Pass/Pass with distinction	A1/A5
understand how to mashup-up web-content for mobile applications and mobile services	TEN1	Pass/Pass with distinction	
understand the mobile ecosystems of service providers, terminal manufactures, and mobile network operator.	TEN1	Pass/Pass with distinction	

Grading Criteria for the Course

Course Component	E	D	C	B	A
ANN1	All Pass	At least one Pass with distinction	At least two with Pass with distinction	All but one with Pass with distinction	All with Pass with distinction
TEN1	All Pass	At least one Pass with distinction	At least three with Pass with distinction	All but one with Pass with distinction	All with Pass with distinction

Discussion

- Join Break-out room (3 persons)
- What are your expectations for the course?
- List three things you would like to learn

Assignments Due Dates

- A1 Course project proposals, 2021-01-29
- A2 Web app prototype, 2021-02-05
- Seminar 1: 2021-01-29, 13-15
- A3 Android protype, 2021-02-12
- A4 Integrated prototype, 2021-02-26
- A5 Draft project report, 2021-02-26
- A5 Opposition report, 2021-03-02
- Seminar 2: 2021-03-03, 8-12
- Final project report, 2021-03-12
- Home Exam, 2021-03-11, 14:00 to 2021-03-12, 14:00