1DL450
Advanced Functional Programming

More “Fun”ctional Programming with Erlang, Racket, and Haskell
Administration Matters

• Lecturers:
  - Kostis Sagonas (kostis@it.uu.se)

• Permanent link to course home page:
  http://www.it.uu.se/edu/course/homepage/avfunpro/

• Assistant:
  - Albert Mingkun Yang (albert.yang@it.uu.se)
  - responsible for the labs and the assignments
  - send to him questions about assignments
Course Structure

• We will examine three functional languages:
  • **Erlang**: concurrent, pragmatic, made-in-Sweden
  • **Racket**: a new offspring of the Lisp/Scheme family
  • **Haskell**: a nicely designed, lazy, pure FP language

• We will try to focus on the most interesting aspects of these languages:
  • **Erlang**: concurrency, scalability, reliability, testing technology and tools
  • **Racket**: macros, DSLs, continuations, contracts
  • **Haskell**: type system, monads, laziness, parallelism

• ~ 4 lectures and 1 lab for each language
Grading Scheme

• Three assignments (3*20 = 60% of the grade)
  - Done individually
  - Simple programming tasks & tasks from the material covered in the lectures
  - Electronic hand-in to the student portal before the corresponding deadline
  - 10 “free” late days!
• Final “larger” project (40% of the grade)
  • Done in pairs, if you wish
  • In your choice of two of the three languages
  • Deadline: early/mid January 2018 (TBA)
  • Brief oral presentation
**Grading Scheme**

- **In the assignments part (3*20 = 60pts max)**
  
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- **In the project part (40pts) which can be done in pairs**

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- **Final grade: based on the sum of the two parts**

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Academic Honesty

- For the assignments you will work alone
- For the project you are allowed to work in pairs (but no threesomes/foursomes/...)
- Don’t use work from uncited sources
  - Including old assignments or from the web
Why Study Advanced Functional Programming?

- Increase your knowledge of features and programming techniques that modern functional languages offer and the things they can do
- Learn three new languages and think about their similarities and differences
- Have fun!