

Extreme Multiprogramming 2013

Course Introduction and Overview

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Course goals and structure

- ▶ “Theory and practice of Communicating Sequential Processes”
- ▶ A radical approach to multiprogramming.
 - ▶ Design and implement massively multithreaded applications using CSP model.
 - ▶ Reason formally about correctness and equivalence of concurrent systems expressed in CSP.
 - ▶ In both cases, exploit *compositionality* principle: building a correct and efficient system from correct and efficient components.
- ▶ Course structured as interleaved “programming” and “theory” tracks.
 - ▶ Will need to master both!
 - ▶ Designed for systems people with PL interests and vice versa.
 - ▶ Cf. HIPERFIT Research Centre (*Functional High-Performance Computing for Financial Information Technology*, hiperfit.dk).

Course logistics

- ▶ Two weekly lectures (Tue. 13–15, Fri. 10–12).
- ▶ Two mandatory, individual homeworks (10–14 days):
 1. Early December – mid-December
 2. Late December – early January

Passing both is a prerequisite for participating in final exam.

- ▶ Resubmissions possible, but require serious 1st attempt at *both* theory and programming parts.
- ▶ Final exam/assignment: 12 days at end of the block.
 - ▶ Designed to only require half-time effort over exam period.
- ▶ Course page on Absalon.
 - ▶ Preliminary lecture schedule.
 - ▶ Required, recommended, and optional readings.
 - ▶ (Links to) relevant software to install for programming part.
 - ▶ **Discussion forum**
 - ▶ Normal communication channel for course-related questions.
 - ▶ Reserve direct contact to lecturers for personal matters only.