Design-by-Contract and Behavioural Types

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Goals

- The verification of correct implementation of protocols of interactions
    - Behavioural types (session types)
    - Design-by-Contract approach
- Integration of static and dynamic analysis

Roadmap

- Binary Session types
  - Session Process calculus
  - Concurrent functional language with session types
  - An Ocaml implementation of session types (hybrid approach)
- Design-by-Contract
  - Higher order contracts in the lambda calculus
- Contracts for sessions
- Dependent session types
- Multiparty session types
- Design-by-Contract for choreographies

Goals

- Verification of the correct implementation of protocols of interactions
- Integration of static and dynamic analysis
- Behavioural types (session types)
- Design-by-Contract approach

Timetable

- Dates
  - Week 1: February 10, 11, 13, 14,
  - Week 2: February 18, 20,
  - Week 3: February 24, 25, 27, 28
- Time
  - 14:00 to 16:00

Exam

- Take home
- It consists of questions about 1 or 2 papers on the subject
- To be completed in 3 weeks