



Seminar Kick-off

24.10.2012

Welcome!

- Real-time Systems & Synthesis
- Seminar: 7 CP
- 10 students, 5 advisors
- Introduce you to research papers and methods from our field



Grading

- Talk (40 minutes, in February)
- Discussion (20 minutes, after talk)
- Participation in other discussions
- Summary of your own paper (4 pages, March)
- Related paper summaries (1/2 page, December)
- Handing in on-time (slides 2 weeks before talk, summaries)

Generic Background

- To be read by everyone, hand in 1/2 page summary by December
- For „discrete“ papers:
 - Wolfgang Thomas. Solution of Church's Problem: A Tutorial
- For „timed“ papers:
 - Rajeev Alur and David Dill. A theory of timed automata

Specific Background

- Specific to your topic
- Important to understand before you read your paper
- Will be sent to you by your advisor
- Usually from the references
- Hand in 1/2 page summary by December

Seminar topics

- Discrete Systems
 - Applications in Hardware
 - Efficient Algorithms
 - Distributed Strategies
 - Partial Information
 - Specification
- Real-time Systems
 - Timed Games
 - Partial Information
 - Optimization
 - Template-based approaches

Topics: Discrete Systems

- DS1: Automatic Hardware Synthesis from Specifications: A Case Study
(Winfried Schuffert / Advisor: Bernd Finkbeiner)
- DS2: Synthesis of Reactive(I) Designs
(Somnath Meignana Murthy / Advisor: Hazem Torfah)
- DS3: Coordination Logic
(Heinrich Ody / Advisor: Peter Faymonville)

Topics: Discrete Systems

- DS4: Bounded Synthesis (Daniel Muth / Advisor: Markus Rabe)
- DS5: Mining Assumptions for Synthesis (Philipp Schneider / Advisor: Hazem Torfah)
- DS6: Minimum Attention Controller Synthesis for Omega-Regular Objectives (Leander Tentrup / Advisor: Markus Rabe)

Topics: Real-time Systems

- RT1: Efficient On-the-fly Algorithms for the Analysis of Timed Games
(Felix Schmidt / Advisor: Michael Gerke)
- RT2: Timed Control with Partial Observability
(Nicolas Grafe / Advisor: Bernd Finkbeiner)
- RT3: Controllers with Minimal Observation Power (Application to Timed Systems)
(Mark Simkin / Advisor: Peter Faymonville)
- RT4: Template-based Controller Synthesis for Timed Systems
(Max-Ferdinand Suffel / Advisor: Michael Gerke)

Organization

- Date for talks will be scheduled by doodle-poll in 2 weeks
- Individual meetings with advisors
(mandatory: slide discussion 2 weeks before talk date)
- Questions?