

Proseminar Real Time Systems

Introductory Meeting

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Theory of Hybrid Systems
Informatik 2

SS 2011

Contents (rough)

- Formal modeling of real world scenarios
- Properties for such systems
- Automatic error analysis of systems

Goals of this proseminar

- Independent elaboration of a topic
- Structured scientific working
- Development of a short paper
- A good talk addressing the other students
- Literature research
- \LaTeX skills

Paper and Talk

Paper

- 6 pages
- Font size 12pt
- Text begins on titlepage
- No index of contents
- Spell checker
- Paper has to be written in \LaTeX

Talk

- 20 minutes
- Talk is for other students
- \LaTeX -Beamer

TODO

- Fix dates for
 - Introduction to \LaTeX
 - Introduction to "How to give a talk"
- SVN-account for \LaTeX -templates and personal files

Important Dates

- 20.04.2011 Contact supervisor
- 11.05.2011 Structure of paper
- 01.06.2011 Paper ready
- 15.06.2011 Final paper
- 29.06.2011 Slides ready
- 08.07.2011 Final slides
- ??07.2011** Presentation

Topics

- 1 Syntax and Semantics of Hybrid Automata
- 2 Introduction to Timed Automata and Their Properties
- 3 Bounded Model Checking
- 4 SMT-Solving
- 5 Bisimulation
- 6 Introduction to Probabilistic Systems
- 7 Probabilistic Systems with Costs
- 8 Probabilistic Bisimulation
- 9 Rectangular Hybrid Automata and their Reachability Computation
- 10 Geometric Representations of State Sets