EECS 221: System-on-Chip Software Synthesis Lecture 9

Rainer Dömer

doemer@uci.edu

The Henry Samueli School of Engineering
Electrical Engineering and Computer Science
University of California, Irvine

Lecture 9: Overview

- Course Administration
  - Final course evaluation
- Code Generation
  - Embedded Software Generation from SLDL
- Technical Report
  - SoC Software Synthesis of Monte-Carlo Example
- Outlook
  - Next course on SoC Design

Course Administration

- Final Course Evaluation
  - 8th through 10th week
  - Nov. 13, 2006, 8am through Dec. 3, 2006, 11:45pm
  - Closes end of this week!
  - Online via EEE Evaluation application
- Evaluation of Course and Instructor
  - Voluntary
  - Anonymous
  - Very valuable
- Help to improve this class!
  - Please spend 5 minutes!

SoC Software Synthesis

- Code Generation
  - Embedded Software Generation from SLDL
    - automatically generate ANSI-C code from SpecC SLDL
  - Paper presented at ASPDAC 2004
    - Haobo Yu, Rainer Doemer, Daniel Gajski
    - *"Embedded Software Generation from System Level Design Languages"*

SoC Software Synthesis

- Technical Report
  - Final deliverable for this course
    - Email electronic PDF file to **doemer@uci.edu**
    - Due: December 8, 2006, 2pm
  - Title
    - SoC Software Synthesis of Monte-Carlo Example
  - Contents
    - Describe the software synthesis approach
    - Use the Monte Carlo example as case study
    - Outline the major steps in the synthesis flow
    - Conclude with a summary of the lessons learned
  - Length
    - no more than 10 pages (plus appendix)

SoC Software Synthesis

- Technical Report: Suggested Outline
  - Title page
    - Project title, author, abstract
  - Introduction
    - Growing importance of embedded SW in SoC design
    - Top-down embedded SW design flow using SCE
  - SW Synthesis of a Monte Carlo Example
    - Specification model
    - Example validation through simulation
    - Architecture mapping, architecture model
    - Scheduling refinement, scheduled model
    - Network and link refinement, communication model
    - C code generation, C model
    - Cross compilation, ISS model
  - Conclusion
    - Results, summary
    - Lessons learned
  - References
  - Appendix
    - SpecC source code of the example

Outlook

- Next course on System-on-Chip Design
  - Spring Quarter ’07: EECS 221
  - *“System-on-Chip Design and Exploration”*
  - Instructor: Daniel D. Gajski