

U. Wisconsin CS/ECE 552
Introduction to Computer Architecture

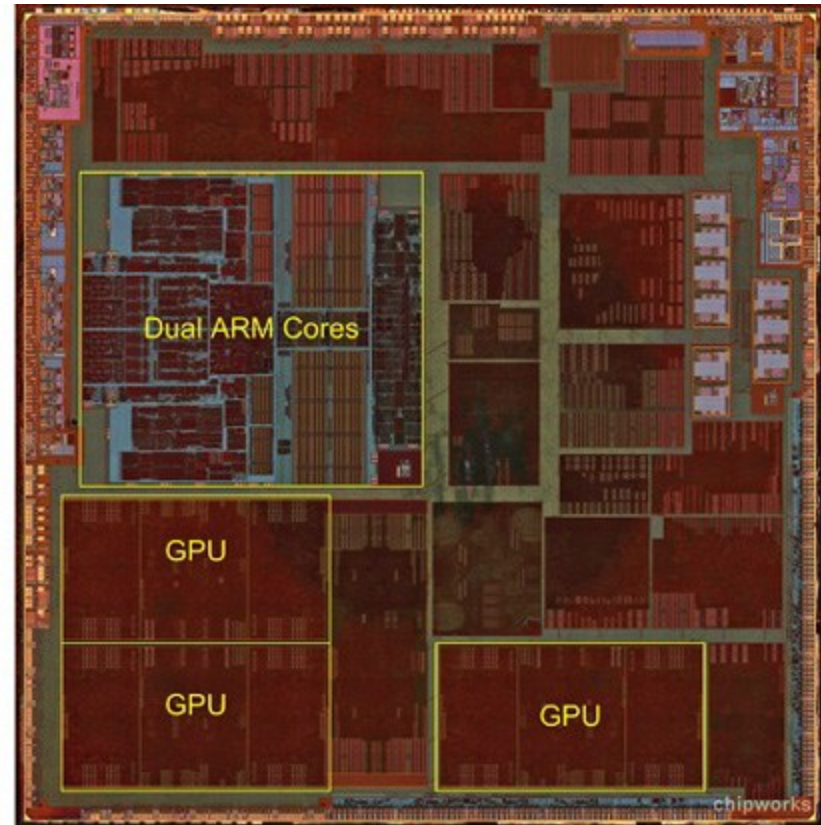
Prof. Karu Sankaralingam

Welcome to 552

Today

- Course overview and logistics
 - Syllabus
 - Course structure
- Introduction to Computer Architecture

In this course you will learn how exactly a computer works!



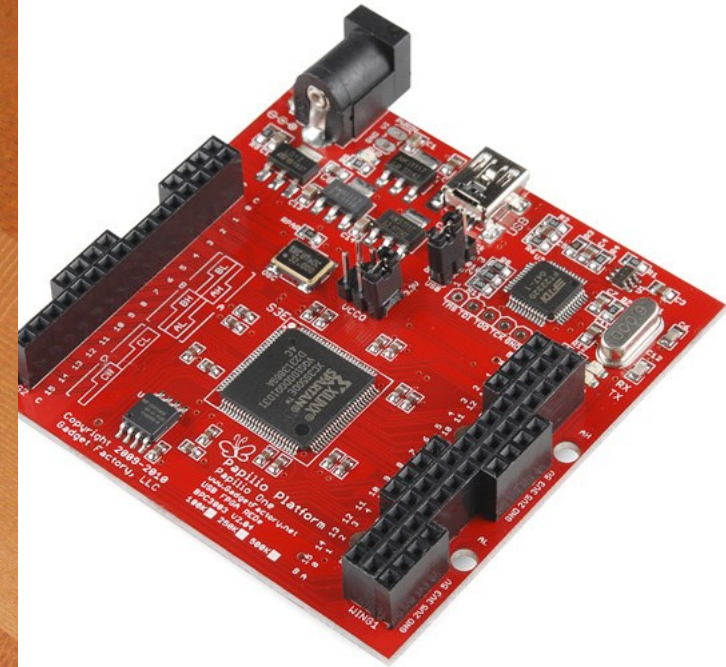
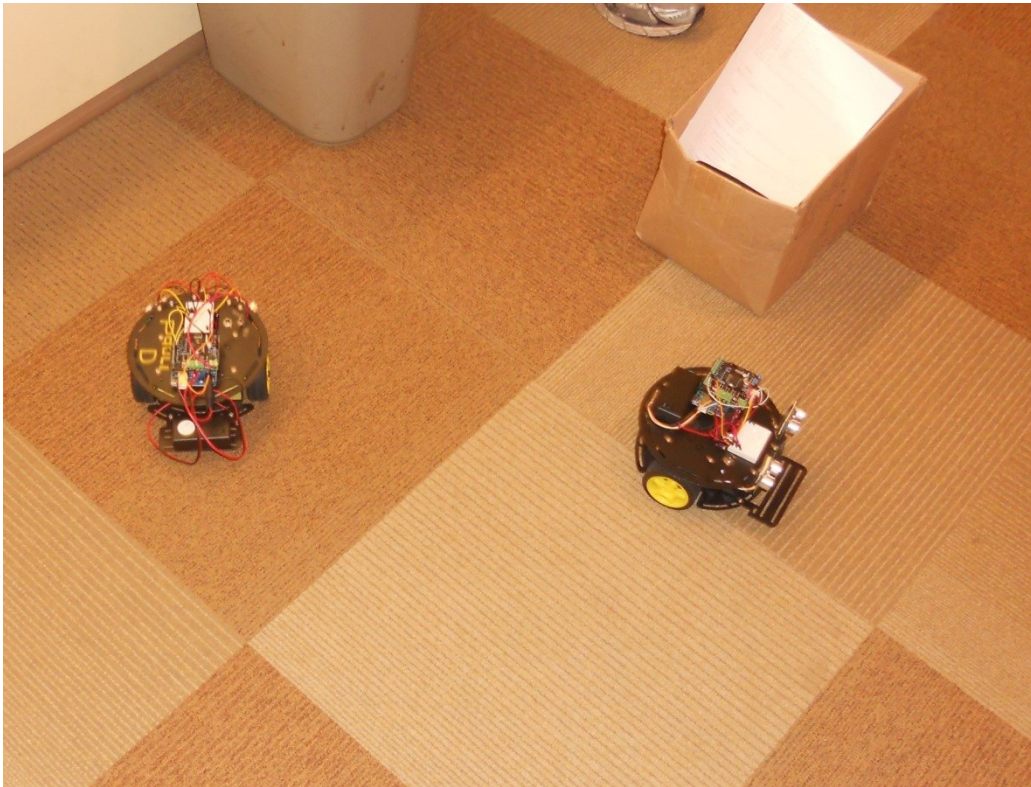
Syllabus

- Language of the computer: ISA
- Arithmetic
- Processor Design
- Performance
- Memory
- IO
- Multiprocessors

Course Structure

- Lecture notes
 - Blackboard and slides
 - Readings from text BEFORE class
- Project
 - Describe a full processor, verify, and simulate it
 - Using a hardware description language called Verilog
 - *Optionally map to real hardware*
- Homework
- Two exams

The optional highly speculative part!



Course Structure

- Lectures
 - Principles and Mechanisms
- Project:
 - Extensive use of design tools
 - Apply the principles and mechanisms to build a processor

Homework

- Homework 0: Introduce yourself
 - Homework 1: Logic Design review
 - Homework 2: Advanced Logic Design
 - Homework 3: Intro to Verilog
 - Homework 4: Advanced Verilog
 - Homework 5: Intro to project
 - Homework 6: Miscellaneous
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- **One every two weeks**

Grading

- 20% Homework
- 25% Project
- 25% Midterm
- 25% Final
- 5% Class participation

- Grades on Learn@UW

Online

- Web
 - <http://www.cs.wisc.edu/~karu/courses/cs552>
 - Course login and password
 - Course calendar, homework, lecture notes, and reference texts online
- Piazza for discussion:
 - TAs and I will look at it
- Email
 - Include 552 in subject of emails to me
 - Use Piazza if you think its of wide interest

Other

- Come to class on time
- Submit homework on time
- Extensive office hours and feel free to drop in any time my office door is open
- Introduce our TA

This is NOT an easy class

What your Forebears said...

- I am impressed with amount of material covered, learn useful stuff
- Assignments very long and hard, but very useful
- Text was very thorough and helpful
- He got the students involved in everything
- Karu is an awesome professor, material is very interesting, just too much damn work

Instructor was a good teacher

We have more classes than this one.

This is NOT an easy class
You will learn a lot – and will
take a lot of time.