



# Welcome Aboard!

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<http://csl.skku.edu>

# Course Information

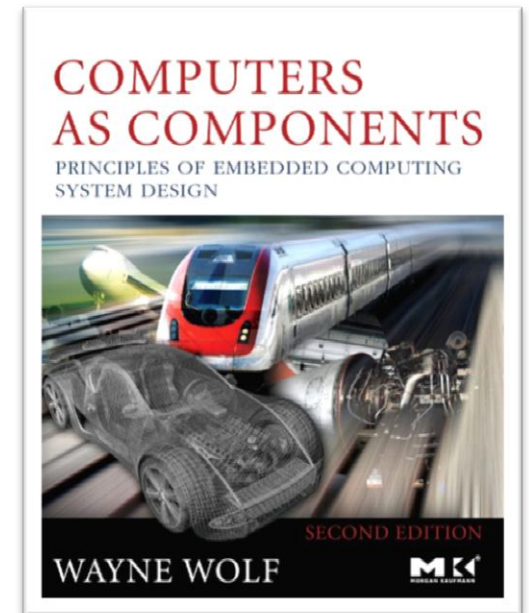
- ICE3028: Embedded Systems Design (3 credits)
- 15:00 – 16:15 (M), 12:00 – 13:15 (Th)
- Room #400102, Semiconductor Bldg.
  
- Course homepage:  
<http://csl.skku.edu/ICE3028S12/>

# About Me

- Jin-Soo Kim ([jinsookim@skku.edu](mailto:jinsookim@skku.edu))
- Associate Professor @ SW & SSE Dept.
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- Tel: 031-299-4593
- The best way to contact me is by email.

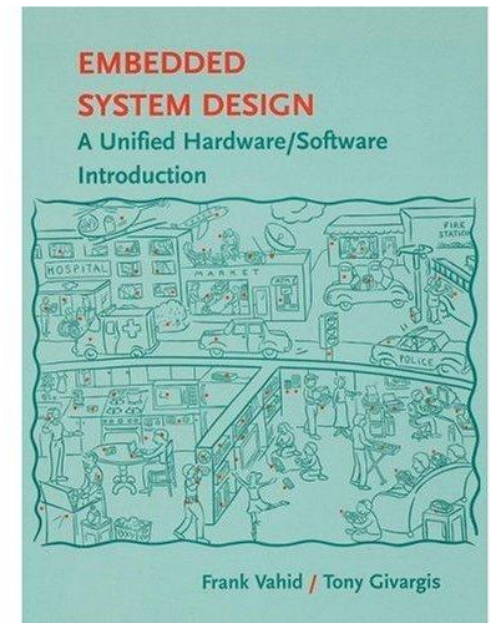
# Textbook

- **Computers as Components:  
Principles of Embedded  
Computing System Design**
  - By Wayne Wolf
  - Second Edition
  - Morgan Kaufmann Publishers,  
2008.



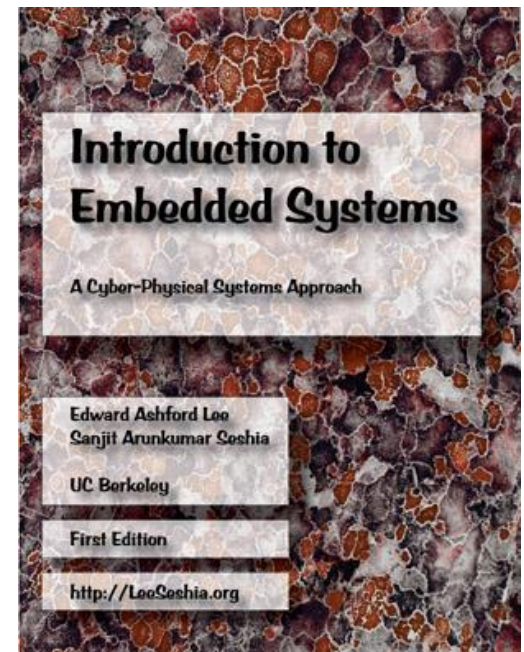
# References (1)

- Embedded System Design:  
A Unified Hardware/Software  
Introduction
  - By Frank Vahid and  
Tony Givargis
  - John Wiley & Sons, 2002.

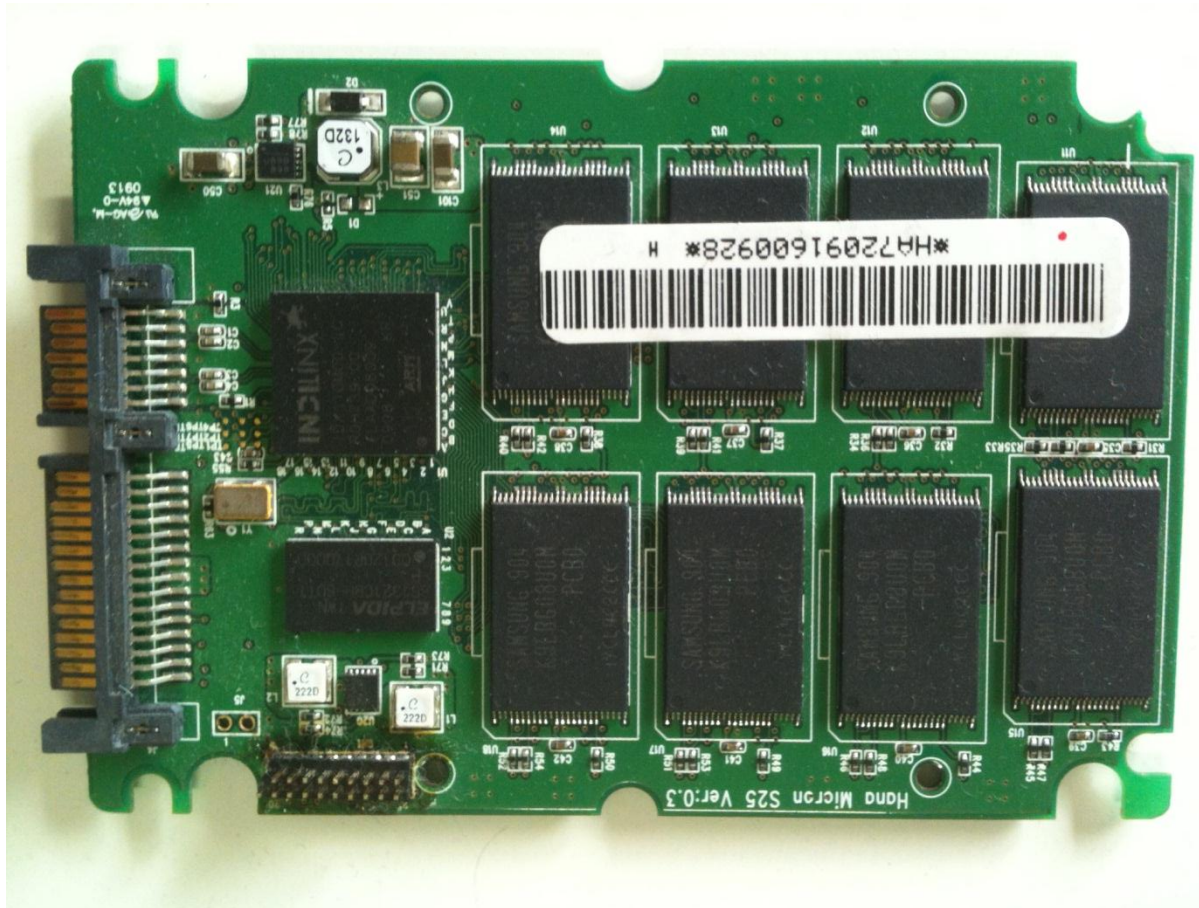


# References (2)

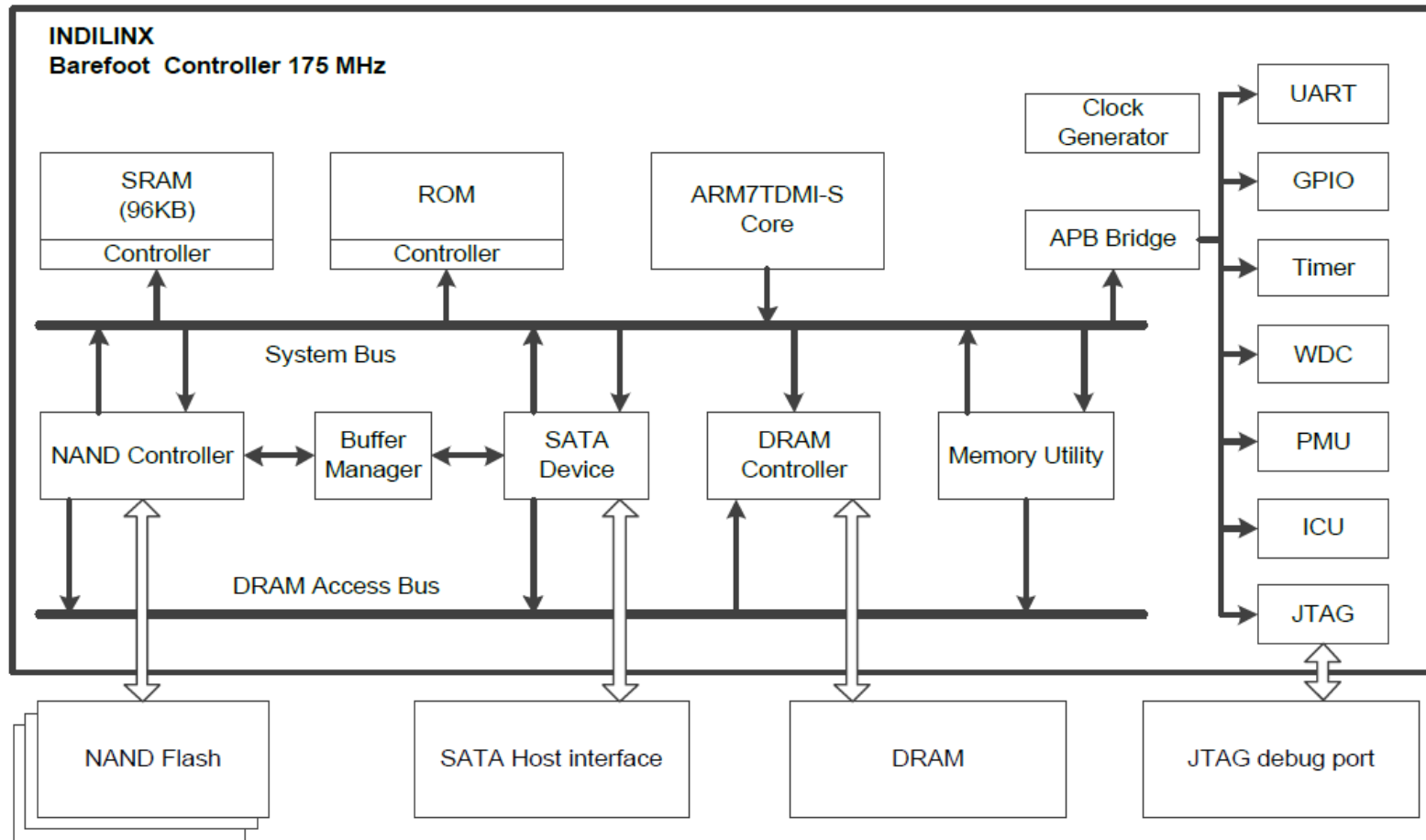
- Introduction to Embedded Systems: A Cyber-Physical Systems
  - By Edward A. Lee and Sanjit A. Seshia
  - Lulu.com, 2011.
  - PDF version available at <http://LeeSeshia.org>



# Solid State Drive (SSD)



# SSD Internals





# www.openssd-project.org

The screenshot shows the OpenSSD Project website. The main content area is titled "The OpenSSD Project" and contains a paragraph describing the project's mission. Below this is a "Contents" table of contents with links to "OpenSSD Platforms", "Events", "Forum", "References", and "Sponsors". The "OpenSSD Platforms" section is expanded to show the "Indilinx Jasmine Platform" section, which includes a paragraph of text and a list of links: "Jasmine Platform Overview", "Jasmine Platform FAQs", "Jasmine Platform Technical Resources", and "Download Jasmine Firmware".

The "Events" section is titled "Past Events" and lists two events: "Understanding SSDs (Solid State Drives) with the OpenSSD Platform, KCC 2011 Tutorial T2.3" and "The First OpenSSD Workshop, Sungkyunkwan University, Suwon, Korea, May 11, 2011".

The "Forum" section is titled "News and Updates" and contains a table with the following data:

Thread Title	Replies	Views	Last Action
Jasmine firmware v.1.1.0 has been released	0	186	Dec 16th 6:18 pm - Lsfeel0204
Jasmine firmware v.1.0.6 released	0	479	Jun 25th 1:03 pm - Lsfeel0204
Barefoot SSD controller technical reference manual (in English) released	1	692	Jun 19th 1:03 am - Jinsoo

# Course Plan

- Lectures
- Team projects
- Exam

# Lectures

- **Embedded Systems**
  - Processors and memory, compilers,
  - Program design and analysis, OS, ...
- **Issues surrounding SSDs**
  - NAND flash memory, SSDs, FTLs
- **Lab sessions**
  - Jasmine OpenSSD platform
- **Invited talks**

# Team Projects

- There will be two or more projects using the Jasmine OpenSSD platform
- You will work in teams of 2 students.
- You can choose your teammate freely.
- Most of Thursday classes will be devoted to Lab sessions led by the TA.

# Exam

- No midterm exam
- We will have only the final exam at the end of this semester.

# Prerequisites

- **ICE3003: Computer Architecture (Must!)**
- **SSE2030: Introduction to Computer Systems**
- **SSE3044: Operating Systems**
- **You should be fluent in C programming!**

# Grading Policy

- Class attendance 10%
  - Team projects 70%
  - Final exam 20%
  - Grading policy is subject to change.
- 
- If you miss the final exam, you will fail this course.

# Attendance Policy

- Do not be late! You should be present when I take class attendance.
- You can miss the class up to “four” times without any penalty.
  - Applies to excused absences as well.
- There will be a bonus for students who attend all the classes.



# Questions?

