



1. Course Overview

CSE 498, Collaborative Design

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S CSE 498

- Collaborative Design
“Senior Capstone”
- Wayne Dyksen
Brian Loomis
Jonathan Eaton
- Lecture
MW, 3:00-3:50pm, UPLA 8
- Labs, 3358 EB
TT, 3:00-4:50pm
WF, 8:00-9:50am
WF, 12:40-2:30pm

S Web Site

- Details
 - URL: www.cse.msu.edu/~cse498
 - User name: cse498
 - Password: TBD
- Check it Often for
 - What’s new?
 - Meeting Notes
 - Team Projects
 - Useful Links

S Course Objectives

- Learn to build a software system (from scratch)
- Learn (modern) tools and environments
- Learn to build and administer systems
- Integrate your computer science knowledge
- Learn to work in a team environment
- Develop your communication skills
- Develop some interview talking points
- Etc...

S Team / Project Generalities (1 of 3)

- Clients
 - Vary in Size and Type
 - Client contacts/mentor(S) are “volunteers”.
- Team Contact Person
 - Picked By Team
 - Main Point of Contact for Client

S Team / Project Generalities (2 of 3)

- Project Level of Difficulty
 - Hard Enough
 - But Not too Hard
- Deliverable
 - To the Client
 - By the Due Date
- Documentation
 - System Administration Manual
 - Users Manual

S Team / Project Generalities (3 of 3)

- Challenges
 - Very Short, Unforgiving Time Line
 - Client Contact
 - Team Dynamics
 - Architecture / Specifications (in Three Weeks)
 - Entirely New...
 - Languages
 - Environments
 - APIs
 - Processes
 - Protocols
 - Project Management
 - Etc...

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S Project Specifics (1 of 3)

1. Auto-Owners Insurance
Java-Based System for Settlement Options for Annuities
2. Channel Vantage
Web-Based Data Entry Tool for General Motors
3. Ford
Vehicle-Based Social Network
4. Identity Alliance
Web Applications for ID4Sure Web Based Smart Card Framework
5. Image Space
External Real and/or Post Time Telemetry for rFactor

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S Project Specifics (2 of 3)

6. Microsoft
Peer to Peer Application Templates and Controls
7. Motorola
Eclipse Plug-In for Advanced UML Code Generation
8. TechSmith
Web Based Video Editing
9. Two Men and a Truck
Consultation Visit Reporting System
10. Union Pacific Railroad
On-Board Locomotive Wireless Network
11. Continental Automotive Systems
Automotive Crash Adaptor
(ECE Capstone Project with CSE)

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S Project Specifics (3 of 3)

- Vary
 - Type
 - Current State of Specificity
- Challenge
 - Connect with Client
 - “Nail Down” the Project
 - Hard Enough
 - Not too Hard
 - Course Feature, Not Bug

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S Course Environment

- Business-Like
- Team = Startup Company
- Dyksen & Loomis
 - Your
 - Venture Capitalists
 - Board of Directors
 - Expect
 - ROI
 - Results

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S Team Dynamics

- Organize as See Fit
 - Really Hard Stuff
 - Really Important Stuff
- Board of Directors...
 - Hires
&
– Fires
- (Be Ready to Discuss During Interviews)

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S Project Deliverables

- Technical Specification Document
- Prototype Demonstration
- Progress Reports & Demonstrations
- Final Demonstration & Project Video
- Administrator & User Manuals
- Project Management
- Project Web Site

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S Class Meetings

- Format
 - Lectures
 - Team Reports & Demonstrations
 - Formal Team Presentations
 - Professional
- Attendance
 - Required
 - No Excuses
 - “On-Time” Not Good Enough (Be Early)
 - Factor (5%) in Grade

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S Meeting Agendas

- | | |
|---|--|
| 1. 01-09: Course Overview / Skills Inventory | 16. 03-13: Developing for the Tablet PC |
| 2. 01-11: Technical Specifications / Team Assignments | 17. 03-15: Ethics |
| 01-16: (MLK Day, No Meeting) | 18. 03-20: Teams: Progress Reports & Demos |
| 3. 01-18: Project Schedule & Risk | 19. 03-22: Teams: Progress Reports & Demos |
| 4. 01-23: Teams: Progress Reports | 20. 03-27: Teams: Progress Reports & Demos |
| 5. 01-25: Service-Oriented Architecture / .NET | 21. 03-29: Teams: Progress Reports & Demos |
| 6. 01-30: Teams: Technical Specifications / Schedule | 22. 04-03: Teams: Progress Reports & Demos |
| 7. 02-01: Teams: Technical Specifications / Schedule | 23. 04-05: Teams: Progress Reports & Demos |
| 8. 02-06: Software Tools | 24. 04-10: Camtasia Demo |
| 9. 02-08: Resume Writing & Interviewing | 25. 04-12: Teams: Progress Reports & Demos |
| 10. 02-13: Prototyping | 26. 04-17: Teams: Progress Reports & Demos |
| 11. 02-15: Teams: Progress Reports | 27. 04-19: Teams: Progress Reports & Demos |
| 12. 02-20: Teams: Prototypes | 28. 04-24: Teams: Final Presentations |
| 13. 02-22: Teams: Prototypes | 29. 04-26: Teams: Final Presentations |
| 14. 02-27: Teams: Prototypes | 30. 05-01: Teams: Final Presentations |
| 15. 03-01: Teams: Prototypes | |
| 03-06: (Spring Break, No Meeting) | |
| 03-08: (Spring Break, No Meeting) | |

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S CSE498 Lab

- 3358 EB
- Door Lock
 - “Pump” Handle (to Generate Electricity)
 - Code = ?
- Systems
 - Two PC's per Team
 - Server
 - Development Machine
 - Team 100% Responsible
 - Building
 - Maintaining
 - Securing
 - Backing Up
- Books

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S Schedule Lab Times

- No Formal Lab Sessions
- Placeholders for Team Meetings
- Teams may meet at any time.
- Students must be available during their scheduled lab time.

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S Expectations & Workload

- Extremely High For Both
- Your MSU Career Capstone
- Addition to Your Personal Portfolio
- View Like an Internship
- Interview Talking Points
- Leverage Into a Job Offer

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S IP & NDA's

- IP: Intellectual Property
 - By Default, Owned by You
 - Client May Request
 - Right to Use
 - Assignment of Ownership
 - Etc.
- NDA: Non-Disclosure Agreement
 - May Be Required by Client
 - You will...
 - ...respect/protect intellectual property.
 - ...respect/protect source code.
 - ...etc.
- Normally Not an Issue

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S NDA: Motorola Example

- To not use, retain or disclose Motorola Software or other Motorola confidential information, except in the course of participating in this class and for other University educational purposes approved in writing by Motorola. You may identify and describe your participation in your curriculum vitae or to prospective employers.
- To consult with Motorola, through the undersigned Motorola representative, before using any confidential information of Motorola outside of your coursework, so we can take steps to protect any Motorola confidential and other proprietary rights.
- That the Motorola Software is being provided on a temporary basis for Motorola's benefit and your educational use for this class only, and may not be used in any other context. This software must not be installed on a shared drive accessible by individuals not involved in the class. You must delete this software when your participation in the class has ended unless you obtain further written permission from Motorola. All derivative works to Motorola Software are created on a work-for-hire basis, and will be retained by Motorola.
- That by this Agreement you grant Motorola a perpetual and irrevocable right, on a nonexclusive basis, to use and otherwise commercially exploit independent code and related documentation that you develop in the course of this program.

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S Grading (1 of 2)

- Team (70%)

– Technical Specification Document	10
– Prototype Demonstration	10
– Progress Reports & Demonstrations	15
– Final Demonstration & Project Video	15
– Administrator & User Manuals	10
– Project Management	5
– Project Web Site	<u>5</u>
	70
- Individual (30%)

– Technical Contribution	10
– Team Contribution	10
– Team Evaluation	5
– Class Meeting Attendance	<u>5</u>
	30

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S Grading (2 of 2)

- We reserve the right to make changes with sufficient notice.
- No special consideration will be given for final grades including but not limited to
 - status in any academic program including CSE,
 - financial aid,
 - rank in the armed forces,
 - job,
 - graduation,
 - mortgage,
 - marriage, or
 - visa status.

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S Integrity of Scholarship

- MSU's policies will be enforced.
- Individual and team work must be original.
- Violators...
 - Will be referred to the appropriate deans.
 - May receive a grade of F in the course.

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S VISA

- Verified Individualized Services and Accommodations
- Let us know **immediately**.
- We will work with you.

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S Office Hours

Your Choice

- Either
 - Any Time...
 - Visit
 - Call
 - Send Email
 - Make Appointment If Necessary
- Or
 - Two Hours Per Week, Period
 - Make Appointment If Necessary

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S First Assignments

- Check out the Lab
 - See if you can find it.
 - See if you can get in.
- Check out the Web Site
 - See if you can log in.
 - Check out the "Other Links" links.
- Research Clients

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