CSE 435
Software Engineering
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About me

- BS Computer Science, University of Iowa
- MS Computer Science, Tulane University
- PhD Computer Science, Michigan State University
  - Pattern Recognition, Artificial Intelligence, Genetic Algorithms
What I’ve done in industry

Hewlett Packard

Branch Flow Analyzer
What I’ve done in industry

Litton Data Systems

Onboard communications system for the USS Essex, a Wasp class amphibious assault ship
What I’ve done in industry

Naval Biodynamics Laboratory

Horizontal accelerator data acquisition and analysis
What I’ve done in industry

collect weather data from Automated Weather Observation Systems (AWOS) and send to FAA
What I’ve done in industry

Mackinac Software

Android Tablet app to identify and analyze paint and finish defects for GM vehicles
Goals of the course

- Introduce Industrial Strength Software Development
  - formal processes / artifacts for planning, specifying, designing, implementing, and verifying
  - individual and team based development
  - life cycle issues and umbrella activities
- Introduce Key Foundations Underlying these Activities
  - requirements engineering
  - software modeling
  - quality assurance
Overview of Course

- emphasis on analysis and design
- learn / apply new techniques for software development
- learn to work with a group
- improve technical writing skills
- improve oral presentation skills
- become up to date on current trends in SE
Structure of the course

- short homework assignments
- in class activities and/or “lab” assignments
- group project
- two exams - midterm and final
- oral presentations and prototype demos
How is this course “different”?

- NOT a programming course
- Exercises aim to facilitate understanding, solutions, tradeoffs, sensitivity to challenges that affect industrial software development
- Communication, communication, communication
- Written and oral communication skills will be exercised, improved, and assessed
- Teamwork is critical and will be assessed
Relationship to other courses

Not a design / programming course (contrast with CSE 335)
- higher level coverage of notation
- emphasis is on process rather than design methods
- about much more than producing code

Not a capstone design experience (contrast with CSE 498)
- smaller more constrained project (I think!)
- smaller teams (?)
- end result not necessarily a working product
A few words about flexibility

Now stand up and stretch
int op_time = (day == WE) ? 12 : 9;

int op_time;
if (day == WE)
    op_time = 12;
else
    op_time = 9;
In Industry,

You are writing code FOR OTHER PEOPLE TO READ
For next Wednesday

- answers to Background Survey (typed)
- be prepared to share and discuss some of your answers in class
- read Chapter 1 in Pfleeger