Introduction

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Purpose of Design Capstone

To give you your first real-world software engineering experience. (For a grade, at least – some of you have done coops and internships.)

- Semester-long self-directed team project
- Real customers with real needs
- Integrate much of what you’ve learned here at Tech

I am more of an advisor than a teacher.
Projects

- May choose a project from list on T-Square
  - Need full team to lock-in a project
  - Submit your top five preferences, with short bid statement for your top choice (why should you get that project?)
  - Professors will meet Friday morning to assign projects to teams

- May come up with your own projects

- NEW! Projects managed on http://design.gatech.edu/

Start thinking about your project today!

- Look at projects on T-Square to get a feel for scope
- CS 4911 workload is 50-60 hours per credit hour per person
- For team of 5, that’s $\geq 750$ person-hours (3 credit hours $\times$ 50 work hours $\times$ 5 persons)
Grading

- Product vision
- Iteration Documentation
  - Requirements/User Stories and test docs in Pivotal Tracker
  - Sprint planning and sprint review reports
- Presentation(s)
- Final deliverables
  - Software
  - Documentation
- Peer evaluations
- Advisor evaluation
Schedule

- Lectures: first two weeks
- Four 3-week iterations
  - Each team will meet with me individually in the middle of the semester to get feedback and advice
- Final presentations
Teams

WHAT GROUP PROJECTS ARE SUPPOSED TO TEACH YOU

WHAT GROUP PROJECTS TAUGHT ME

- Communication
- Responsibility
- Collaboration
- Teamwork
- Trust no one
Team Roles: Humphreys

Traditional software team roles:

- Team Leader/Project Manager (pointy-haired boss)
- Development Manager (lead software engineer)
- Planning Manager (maintains and tracks schedule)
- Quality Assurance Manager (maintains test plans, runs functional tests)
- Support Manager (maintains bureaucratic documents)

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1Watts Humphrey, *Team Software Process*
Roles on agile teams:

- Programmer - we’re all programmers
- Tester - regularly runs functional tests and reports results to team
- Tracker - keeps track of schedule (estimated vs. actual), stories (backlog)
- Coach - lead programmer; responsible for process as a whole, design, code standards, process adherence (usually an experienced engineer)
- Consultant - technology expert (like a database expert, HTML/CSS expert, etc.)

Big Boss

Most team members play many roles, some roles are shared.

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2 Kent Beck, *EXtreme Programming Explained*, Addison-Wesley, 1999
Additional Team Considerations

- Project preferences
- Technology preferences (OS, language, etc.)
- Expertise (build management, VCS, UI design)
- Personal factors (schedule compatibility, personalities)

The rest of this class period is for team formation, which must be done this week!