Introduction

Christopher Simpkins
chris.simpkins@gatech.edu
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/](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)
Schedule

- First two weeks: lectures
- Four 3-week iterations
  - Each team will meet with me individually in the middle of the semester to get feedback and advice
- Last week of regular semester: final presentations
Deliverables and Grading

Deliverables:
- Beginning of project: product vision
- Iteration Documentation:
  - User Stories and functional tests in Pivotal Tracker/YouTrack
  - Sprint planning and sprint review reports
- End of project:
  - Presentation(s)
  - Final deliverables:
    - Software
    - Documentation
  - Peer evaluations
  - Customer evaluation

Grading (stuff you’ll actually see in T-Square):
- Midterm feedback at end of Sprint 2 (every gets a 100 - usually)
- End of project feedback (lose points for failing to respond to feedback)
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)

---

1 Watts 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.

---

*2Kent 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!