

## CSE403

### Section 1:

The Fate of Software Projects  
 Learning = Practice + Feedback  
 Desirable Qualities in Teammates  
 Team-Building Conversations

Valentin Razmov, CSE403, Sp'05

## First, Let's Try the Technology

- In the space below, please write the first name of the person you're sharing a machine with:
- Now, let them do the same:
- When done, submit using 'Select All' and then 'Send Selection'.

## The Fate of Software Projects in Industry: Question

- Under some reasonable definition of a "project" (you make it up), what would you guess is the percentage of software projects that fail (i.e., that don't accomplish their goals)?

Choose the nearest approximation:

- 0-20%
- 20-40%
- 40-60%
- 60-80%
- 80-100%

## The Fate of Software Projects in Industry: Answers

- Here is how undergraduate students in software engineering (CSE403) voted (left) vs. how graduate students (in CSE590ET) voted (right):

Failure Rate Range	% of Students
0-20%	~2
20-40%	~30
40-60%	~45
60-80%	~28
80-100%	~1

Failure Rate Range	% of Students
0-20%	~2
20-40%	~15
40-60%	~45
60-80%	~15
80-100%	~30

- Historically, **85%** of software projects fail.

## Chief Reasons for Software Project Failures: Question

- What might be the main reasons behind such a large percentage of software project failures?

State one reason that you and the person next to you think is prevalent.

## Chief Reasons for Software Project Failures: Student Answers

- Other CSE403 students said:
  - Doing something without a clear customer base
  - Competition
  - Changes in the context (funding, priorities)
  - Lack of planning: poor module decomposition, poor risk analysis, lack of knowledge, lack of motivation
  - Entrepreneurial nature of software (unlike other engineering disciplines)
  - Too "rosy" assumptions (about future technology, etc.)
  - Poor communication

## Chief Reasons for Software Project Failures: Student Answers

- n Graduate students (in CSE590ET) stated:
  - n Changing of requirements
  - n Misunderstanding of requirements
  - n Lack of clear specification
  - n Over-ambitious goals
  - n Original goals were unrealistic
  - n Poor understanding of goals
  - n Lack of a reasonable & structured software/feature plan
  - n Lack of planning
  - n Poor planning/research
  - n Cost overruns
  - n No commercial market for end product
  - n Complexity of software

## Chief Reasons for Software Project Failures: What Professionals Say

- n According to most professionals, the majority of software projects fail...
  - n **not** because of technical deficiencies or problems
  - n but because of underestimating or sometimes even completely ignoring the human aspect, including:
    - n the relationship with the customers
    - n regular and explicit communication between all stakeholders – managers, developers, testers, marketing, sales, customers
  - n Examples:
    - n Building a product that no one wants to buy
    - n Sabotaging a product (for political reasons) that otherwise may have succeeded

## Learning = Practice + Feedback

- n **Practice:**
- n **Feedback:**

## Learning = Practice + Feedback

- n **Practice:**
  - n Project work
    - n Planning, communication
    - n Design, testing, documentation, coding
  - n Reflective writings
  - n Providing constructive comments to others
- n **Feedback:**
  - n From us
    - n On project milestones
    - n On reflective writings
    - n During in-class discussions
  - n From student peers continually + as part of peer reviews
  - n From programming tools
  - n From guest lecturers (if you choose to ask them)

## Desirable Qualities in Teammates

- n What would you like your teammates to be?

## Desirable Qualities in Teammates

- n Students in previous CSE403 classes said they prefer teammates who were:
  - n Motivated
  - n Reliable
  - n Putting team agenda before personal goals
  - n Open-minded
  - n Explicit and concise communication
  - n Active, showing initiative
  - n Flexible (not stuck into original expectations)
  - n Organized (good time management)
  - n Not necessarily "stars"



## Personal Qualities that Managers Look for in Employees

---

- n Dependable
- n Trainable
- n Proactive

“Star players” are a **red flag!**



## Team Conversations

---

- n Necessary to establish shared understanding among teammates.
  - n See handout
- n What are your team’s success criteria?



## One-minute Feedback

---

- n What one or two ideas discussed today captured your attention and thinking the most?



## Questions?

---

- n On homework
- n On project
- n On course
- n ...