

CS445 / ECE451 / CS645 / SE463

Software Requirements Specification & Analysis

# Software Development Teams

# Why do we need Teams?

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- Many software projects are too large to be tackled by one person or even a small team
- Software Engineering is all about multi-person, multi-version software development

# Groups vs. Teams

## Every Group Project Ever



# Groups vs. Teams

There is no “I” in “teamwork.”

Talent wins games, but teamwork and intelligence win championships

Michael Jordan

The era of the rugged individual is giving way to the era of the team player.

Bruce Coslet

# Recruiting a Team

## Qualities to look for in potential teammates

- Similar goals with respect to the course
- Similar work habits
- Similar time zone
- Similar workload and resources
- Similar interests for course project topic
- Diverse skill sets
  - Scott Page, *Why the Best People Don't Make the Best Teams*, YouTube, 2016.  
(<https://www.youtube.com/watch?v=wULRXoYThDc>)

# Establishing a Healthy Team

Typically teams go through 4 stages:

## 1. Forming

- Exploration period, cautious and guarded, exploring boundaries

## 2. Storming

- Deal with issues of power, control, leadership

## 3. Norming

- Establish cohesiveness among team members
- Appreciate differences, trust begins to evolve

## 4. Performing

- Full functioning of team
- Leadership is participative and shared
- Sense of identity and high level of work accomplishment

# Speeding up the Process

Speeding up progression through the stages:

## 1. Forming

- Clarify the team's goals and expectations
- Clarify expectations of each team member
- Decide on team communications and decision making
- Decide how work will be allocated, reviewed, submitted

## 2. Storming

- Establish norms of discussions
- Model openness in resolving conflict
- Ensure everyone participates on all key issues

## 3. Norming

- Chart progress! Reward successes!

# Healthy Teams

## A healthy and successful team has:

- A shared elevating vision or goal
  - A sense of team identity
  - A results-driven structure
  - Competent team members
  - A commitment to the team
  - Mutual trust
  - Interdependence among members
  - Effective communication
  - A sense of autonomy
  - A sense of empowerment
  - A high level of enjoyment
- all “buy in”
  - keeps team focused
  - streamlines decision making
- willing to make personal sacrifices
- What happens if trust is broken?
- keep teammates on the same page
  - the bad as well as the good

Steve McConel, *Rapid Development*, Microsoft Press, 1996.

# Team Structure

## Try to work in pairs

- Avoids “modeler’s” block
- Constant review
- Overall improved quality
- Help other team members as well!

## Team Roles

- Leader
- Arbitrator / moderator
- Notetaker / timekeeper
- Devil’s advocate

# Giving Good Feedback

## **Say what you like, and *why***

- don't just say you like it, specify what's good and *why*
- (don't just praise; analyze)

## **Consider what could be better, and *how***

- don't simply say it's bad, specify what could be better and *how*
- (don't just diagnose; suggest)

## **Ask questions to make a difference**

- questions for *clarification*, and to *foster exploration*
- (what if...? why was...? who might...? could it...?)

# Receiving Feedback Well

## **It's not who I am, it's what I *did***

- emotionally step away from your work: find the distance between *you* and *yours*
- be ready to objectively find the *good* and the *could-be-better* in your own work

## **It's in the past**

- recognize that the work is the best you could do with your time, knowledge, ability
- understand that you're a different person now for having done the work

## **It's for the future**

- extract the useful information from the feedback
- focus on suggestions for how you can do better in the future

# Being a Team Player

## **As a team member I will**

- Be accountable for my fair share of the team's work.
- Collaborate effectively with other team members.
- Be willing to devote the necessary effort to achieve team success.
- Be willing to share information, perceptions, and feedback appropriately.
- Provide help to other team members when needed and appropriate.
- Demonstrate high standards of excellence.
- Stand behind and support team decisions.
- Demonstrate courage of conviction by directly confronting important issues.
- Respond constructively to feedback from others.

Steve McConnell, *Rapid Development*, Microsoft Press, 1996.

# Positivity

Attitudes are contagious. Are yours worth catching?



VS.



No one can whistle a symphony

# References

Steve McConnell. *Rapid Development*, Microsoft Press, 1996.

- Chapter 12: “Teamwork”
- Chapter 13: “Team Structure”



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