

Tic-Tac-Toe

- Work in pairs
- Play tic-tac-toe for 3 minutes, scoring each game as follows:
 - win : 5 points
 - tie : 0 points
 - lose : -1 point
- Your goal is to win 30 points

Today's Lecture

1. Intro to Software Engineering
2. Inexact quantities
3. Error propagation
4. Floating-point numbers
5. Design process
6. **Teamwork** - no web review
7. Project planning - no web review
8. "To Engineer is Human"
9. Professional Engineering
10. Software quality - no web review
11. Software safety
12. Intellectual property

Agenda

- Teamwork
- Building a team
- Group decision making and conflict management

Teams

A **team** is a group of people who are working towards a *common goal* and whose production is *greater than the sum of its parts*.

Effective Teams

Have you ever been a member of a really **effective** team?

- School project
- Athletic team
- Work project
- Community volunteer project

What was it about the team that made it so effective?

Ineffective Teams

Have you ever been a member of an **ineffective** team?

- A team that completed its mission, but whose members hated each other at the end
- A team whose members had a great time working together, but that did not finish the project

What was it about the team and its members that made it so ineffective?

Characteristics of Teams (vs. Groups)

	Group	Team
Leadership	Strong, focussed leader	Shared leadership roles
Accountability	Individual accountability	Mutual accountability
Motivation	External pressure, organizational mission	Team purpose
Work Styles	Discusses, decides, delegates	Discusses, decides, does real work together
Deliverables	Individual work products	Collective work products

Characteristics of Teams (vs. Groups)

	Group	Team
Leadership	Strong, focussed leader	Shared leadership roles
Accountability	Individual accountability	Mutual accountability
Motivation	External pressure, organizational mission	Team purpose
Work Styles	Discusses, decides, delegates	Discusses, decides, does real work together
Deliverables	Individual work products	Collective work products

Characteristics of Teams (vs. Groups)

	Group	Team
Leadership	Strong, focussed leader	Shared leadership roles
Accountability	Individual accountability	Mutual accountability
Motivation	External pressure, organizational mission	Team purpose
Work Styles	Discusses, decides, delegates	Discusses, decides, does real work together
Deliverables	Individual work products	Collective work products

IN SEARCH OF...

Gabe Kempe



Guidelines for team behaviour

Mutual respect, mutual responsibility

- Let everyone participate, no one dominate
- Listen to other team members; don't be disruptive
- Ask questions when you do not understand
- Constructively criticize ideas, not people

Individual responsibility

- Complete assignments on schedule
- Attend all team meetings; be on time
- Keep promises (remember your contract?)

Have fun

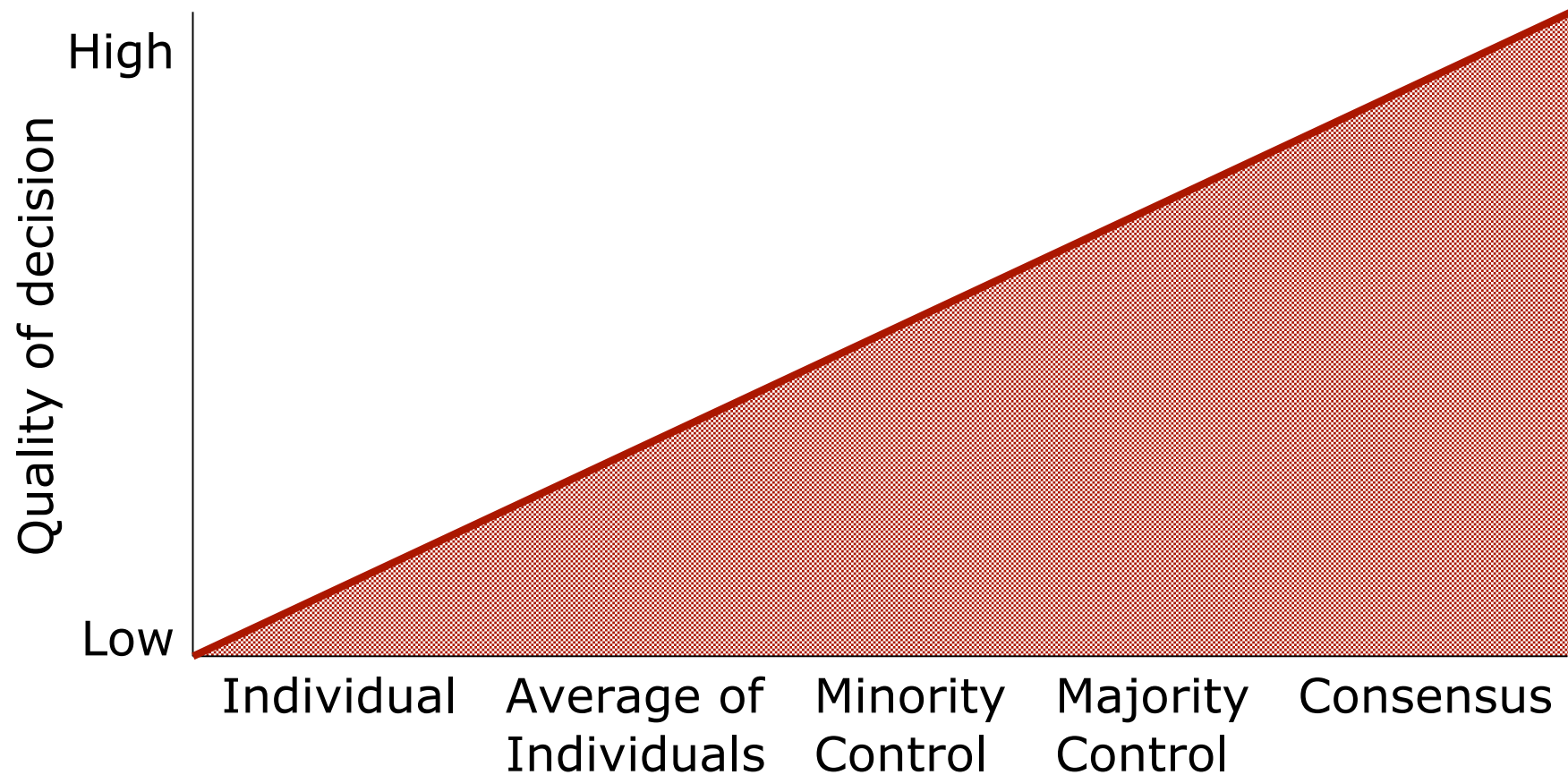
Building an Effective Team

How would you choose team members to work on a project with you?

Decision Making

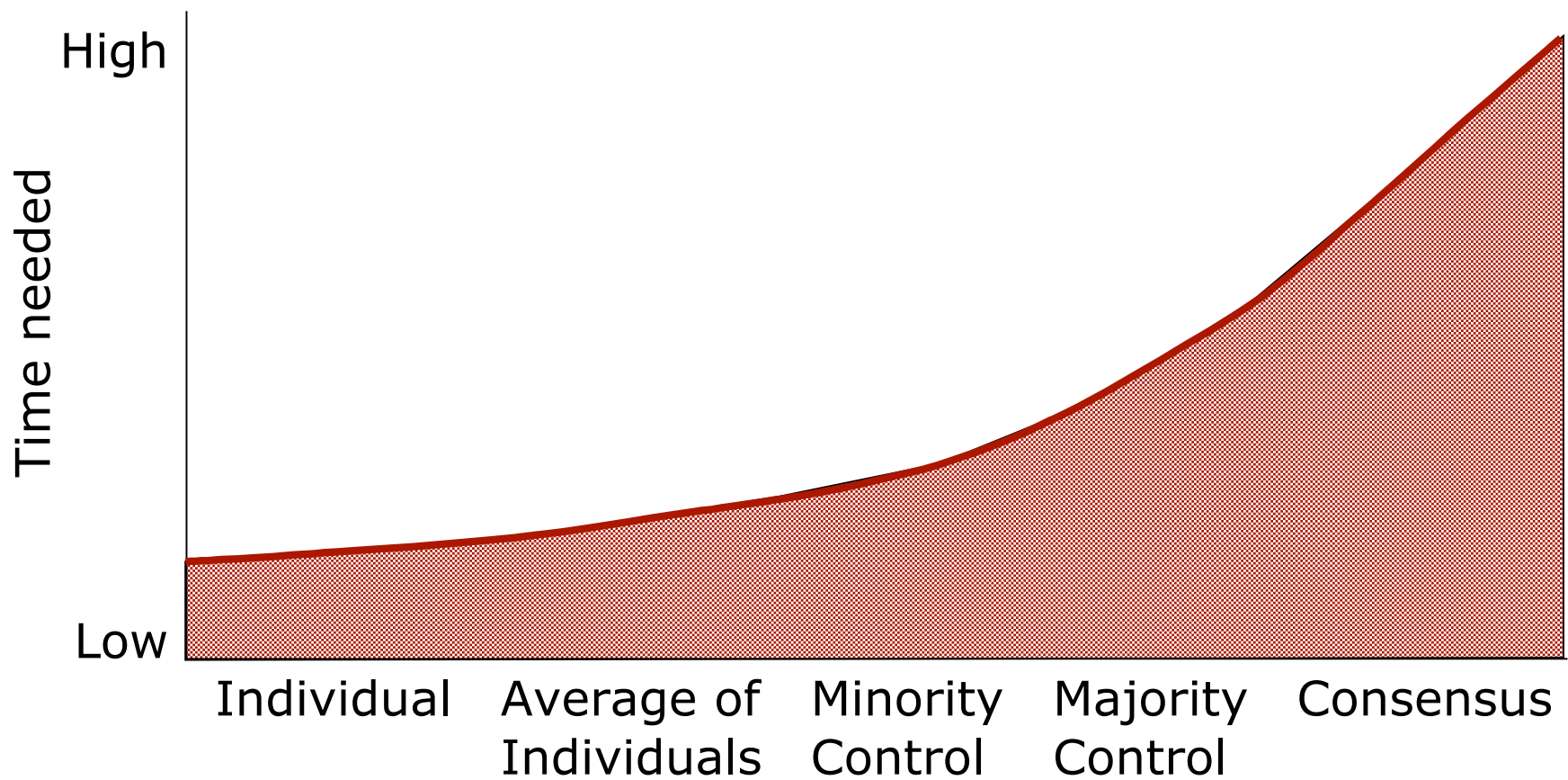
In your experience as a member of a group, how did the group make a **group decision**?

Decision type and quality



Smith, Karl, *Project Management and Teamwork*, McGraw Hill, 2000.

Decision type and time needed



Smith, Karl, *Project Management and Teamwork*, McGraw Hill, 2000.

Conflict

On complex projects, highly talented and motivated people routinely disagree on the best way to accomplish tasks and how to set priorities.

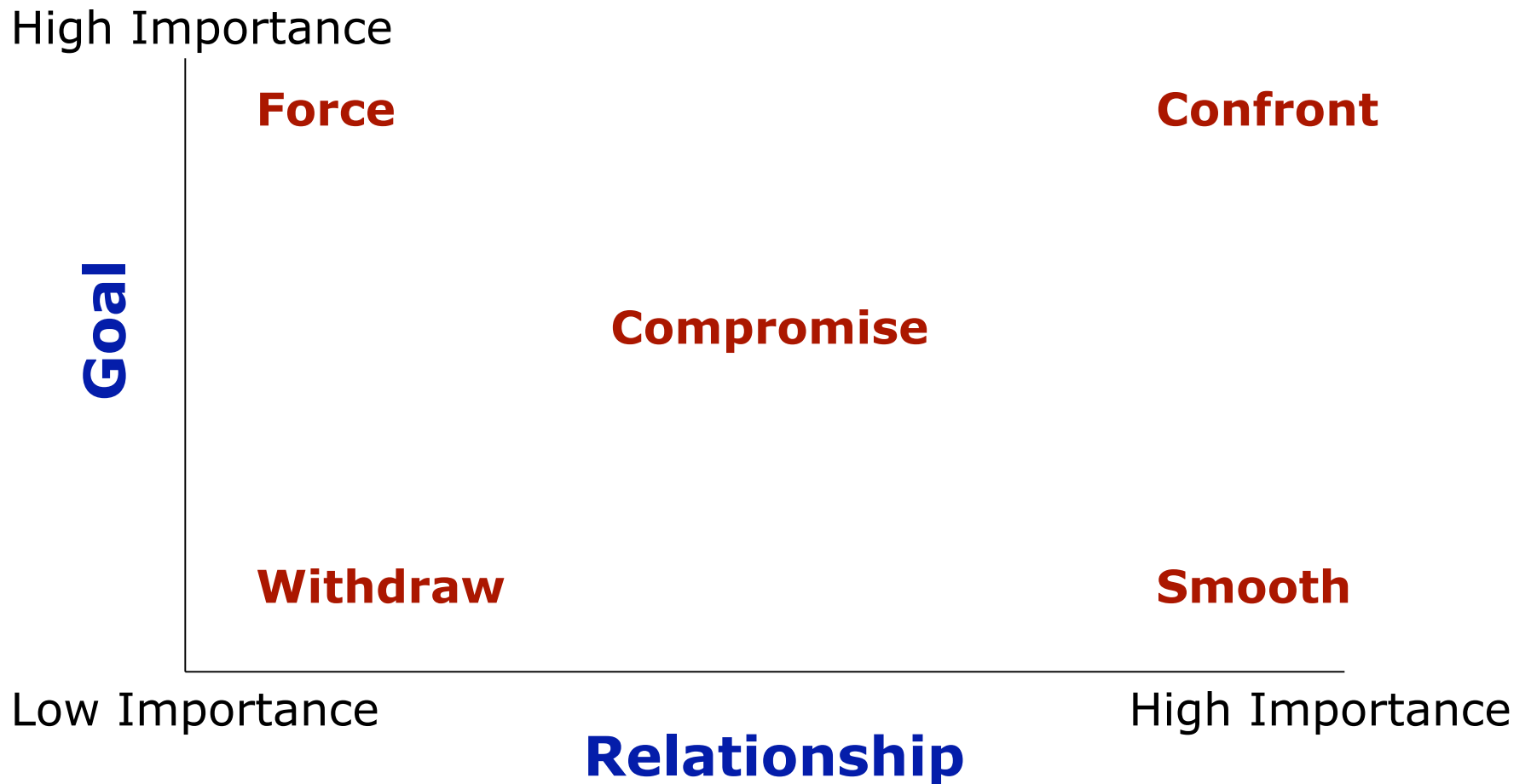
Its resolution can set the team on either a constructive or a destructive path.

Conflict Exercise

Suppose that one of your group members, Ralph, criticizes all of your ideas in team meetings. Now you've just learned that he is also saying nasty things about your competency behind your back. You are worried that some of your team members might be influenced by him. You are terribly upset and angry.

What would you do?

Conflict Management



Smith, Karl, *Project Management and Teamwork*, McGraw Hill, 2000.

Conflict Management

High Importance

Goal

Force
win-lose

Confront
win-win

Compromise
lose-lose

Withdraw
lose-win

Smooth
lose-win

Low Importance

High Importance

Relationship

Confrontation

Negotiation is a conflict resolution process by which people who want to come to an agreement try to work out a settlement.

- Confront only when you have the time to jointly define the conflict
- Seek to understand the other person's position and feelings about the conflict.
- Present your position calmly, rationally, factually.
- Have good insight into your own position (in terms of problems to be solved, not desired solutions)

Conflict Exercise II

Suppose that one of your group members, Stanley, is not contributing to the group project:

- Coming late to meetings
- Not coming to meetings
- Not doing work

Summary

An effective team is a small number of people who

- Have **complementary skills**
- Have a **common purpose**
- Have **common performance goals**
- Hold themselves **mutually accountable**