

WORKING TOGETHER AS A TEAM

- Why Should I Care?
- Crucial Activities for Team
- Undercurrents
- Stages of Team Growth
- Recipe for a Successful Team
- Working Through Group Problems
 - Constructive Feedback
 - General Guidelines
 - Ten Common Problems and Solutions
- Team Decision Making

Why Should I Care?

- The Nature of Contemporary Design
- Individual and Team Accomplishment
- Evaluation in 554

Nature of Contemporary Design

- Shorter and Shorter Design Times
 - Parallel Performance of Tasks More Essential
- Large Projects
 - Division of Design Effort among Many
- Small Projects
 - Team Size Increasing
 - Individuals and Teams of Two Disappearing

Individual Accomplishment - Desirable Traits

- Knowledgeable
- Creative
- Proactive
- ?



Team Accomplishment ***- Added Trait***

- Interactive - Subtraits?
- Positive Interaction - Whole More than Sum of Parts

Accomplishment →



- Negative Interaction - Whole Less than Sum of Parts

Accomplishment →



Evaluation in 554

● Individual

- Effort Report in Final Report
 - Not just something you submit, but consensus of team members
- Project Log (optional)
 - A detailed record of activities and accomplishments
 - On-line and up-to-date

● Team

- Project Demonstration
 - Technical and Presentation
- Project Final Report
 - Technical and Presentation

Undercurrents

- **Personal Identity in the Team**
 - Membership, inclusion
 - Influence, control, mutual trust
- **Relationships between Team Members**
 - What kind of relationships?
 - Interaction of members of different ranks
 - Friendly and informal or strictly business?
 - Open or guarded?
 - Work well together or argue and disagree?
 - Like me? Like them?
- **Loyalty to Team**
 - Loyal to team or self
 - Team responsibility versus other obligations
 - Influencing outsiders

Recipe for Successful Team

- Beneficial Team Behaviors
- Clarity in Team Goals
- An Overall Project Framework
- Clearly Defined Roles
- Clear Communication
- Well-Defined Decision Procedures
- Established Ground Rules
- Awareness of the Group Process

Harmful Behaviors

- **Exclusion** – blocking one or more team member or members from participation
- **Harassment** – any actions whether verbal, written or physical that makes a team member feel uncomfortable
 - Targets the person rather than the problem
 - Possibly based on race, gender, ethnicity, religion, or country of origin
- **Academic misconduct**
 - Inappropriate design reuse
 - Interference with another teams efforts

Beneficial Behaviors

- Seek diversity in team constituency, both technical and otherwise
- Foster involvement and participation of all team members
- Understand to a degree, variations in contribution by team members
- Transfer team resources to solve the problems that appear most difficult

Constructive Feedback

- Acknowledge need for feedback
- Give both positive and negative feedback
- Understand the context
- Know when to give feedback
- Know how to give feedback
- Know how to receive feedback

Problem-Handling Guidelines

- Anticipate and prevent group problems whenever possible.
- Think of each problem as a group problem.
- Neither over-react nor under-react - Leader options:
 - Do nothing
 - Off-line conversation (minimal intervention)
 - Impersonal Group Time (low intervention)
 - Off-line Confrontation (medium intervention)
 - In-group Confrontation (high intervention)
 - Expulsion from team (do not use; instead:)
 - Contact course team

Ten Common Problems

- Floundering
- Overbearing participants
- Dominating participants
- Reluctant participants
- Unquestioned acceptance of opinions as facts
- Rush to accomplishments
- Attrition
- Discounts and “Flops”
- Wanderlust: Digression and Tangents
- Feuding Team Members

Crucial Activities for Team

- Get Organized
- Maintain Communications
- Fix Obvious Problems
- Document Progress, Problems, and Rationale
- Have a process in place for major team decisions

Team Decision Making

- Goal: To reach consensus
 - Consensus is: Finding a proposal acceptable enough so that all members can support it; no member opposes it.
 - Consensus is NOT: A unanimous vote; a majority vote; everyone totally satisfied.
- Requires: Time, active participation, communication skills, creative thinking, and open-mindedness
- Techniques
 - Brainstorming
 - Multivoting
 - Nominal Group Technique

Brainstorming

- Goal - to examine as broad a range of options as possible
- Rules - Encourage free-wheeling - No discussion - No judgment - Allow hitch-hiking - Write visibly all ideas
- Sequence
 - Review the topic (as a question)
 - Minute or two of silence to think
 - Call out and write down ideas

Multivoting

- Goal - Select most important or popular ideas from a list with limited discussion and difficulty.
- Generate list and number.
- Combine similar items if agreed.
- If necessary, renumber.
- Have all members vote for several items to discuss by writing down numbers; about 1/3 of items per member.
- Tally votes using secret ballot if necessary.
- Eliminate items with fewest votes (less than about 25%).
- Repeat until only a few items - if no clear favorite discuss or vote again.

Nominal Group Technique - Part 1

- Goal: Generate and narrow a list of options with “nominal” level of interaction
- Define task in form of a question.
- Describe purpose of discussion and rules.
- Introduce and clarify question.
- Generate ideas in silence.
- List ideas using “round robin” priority.
- Clarify and discuss ideas.

Nominal Group Technique - Part 2

- Reduce list to no more than 50 items.
- Give each participant number of cards equal to about 20% of size of list; typically even number.
- Members make selections, one per card.
- Members assign points to each selection based on the number of cards. Maximum number of points equal number of cards. May reuse point values.
- Collect cards and tally votes.
- Select item with highest point total.
- Review results and display - Surprises? Objections? Lobbying? Another Vote?

Application to ECE 554 Project Teams

- Have a team leader - will reduce your grades if you don't!
- Make sure goals are clear
- Use a deployment chart for planning
- Use decision techniques in architectural step and for other major or controversial decisions
- Watch for team problems and pitfalls
- Deal with interpersonal problems