Project Presentations

• Each team will have a total of 11 min (practice!)
• Status against plan
  – What was planned? What was actually produced?
  – Brief demo of any advanced features (preloaded)
  – Did you implement what the customer wanted?
• Lessons learned: what did you learn about SE?
  – How effective was project planning?
  – Root causes of schedule delays?
  – Effectiveness of risk mitigations?
  – What will you do differently for project 2?
• Fill out peer evals and return (download from Schedule page)

Teamwork & Group Dynamics
What makes a great project team?

- Together must cover all aspects of a project
- Diverse Skills
  - Intellectual: requirements, design, code, test
  - Managerial: estimation, planning, scheduling, reporting
  - People skills: communication (written, verbal), negotiation, collaboration
- Coherence
  - Shared expectations
  - Ability to construct and work toward a shared vision
- Mutual Respect and Responsibility
  - You don't have to like each other, but you need to trust and respect each other — and to earn your teammates trust and respect
  - This is an enduring part of real world professionalism

Roles and Responsibilities

- Roles should reflect ownership of responsibilities
- Each role is responsible for specific activities and artifacts
  - Manager: responsible for schedule
  - Tester: responsible for test plan, unit testing
- A person in the role owns the corresponding artifacts
  - Does not mean he/she does all the work
  - Does mean he/she is responsible for artifact's completeness and quality
- Project Risk: failure to be specific about individual responsibilities and holding people accountable
  - One of the most frequently cited project problems

What do software developers do?

- One way to measure: how do they spend their time?
- IBM study (McCue 78):
  - 50% team interactions
  - 30% working alone
  - 20% not directly productive

i.e., Technical excellence is not enough
"Egoless" Design

(Weinberg, Psychology of Computer Programming)

- Investing ego in group
- "Letting go" of ego investment in code, design, ideas
  - No winning or losing design debates
    (focus on improving the product)
  - Once contributed, ideas and artifacts belong to the group
  - Criticism is aimed at artifacts, not people
- The best designers criticize their own designs!
  - Our own assumptions are the hardest to critique
    - Corollary: A good critic is your best ally
      - The hardest lesson to learn but one of the most valuable
      - Applies to all aspects of profession and life
- . . . but we are not egoless people

- Ego investment is normal
  - be aware of it, be in control of it
- Consider the egos of others
  - Examine your own motivations: What are you attacking? Why?
  - What is motivation of the other person?
    - Are they feeling ignored? Not valued?
- Pride in accomplishment is ok, unless it interferes with accomplishment

Consensus Decision Making

- Consensus is not counting votes
  - Democracy is 51% agreement
  - Unanimity is 100% agreement
- Consensus is neither
  - Everyone has their say
  - Everyone accepts the decision, even if they do not prefer it
  - It is "buying in" by group as a whole, including those who disagree
- Usually best approach for peer groups
  - "Buy-in" is critical for coordinated effort
  - Avoids winners and losers

Consensus takes time and work, but is worthwhile
Conflict

- Can be healthy and productive
- Can destroy a team if not carefully managed
- Manage conflict constructively
  - Soothe and protect egos
  - Everyone’s job, but especially the manager's job
  - Keep conflict on a technical level (not personal)
  - Reward conflict resolution
- If team really cannot reach resolution, talk to instructor

Being a Good Team Member

- Attributes most valued by other team members
  - Dependability
    - When you say you’ll do something, you do it
    - Correctly
    - On time
  - Carrying your own weight (doing a fair share of the work)
  - People will overlook almost everything else if you do these
- Also part of your grade
  - Collect from peer evaluations, blogs, etc.
  - Can significantly raise or lower project grade

Where’s Wally?

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<th>Evaluation/Competence Area</th>
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<th>2</th>
<th>3</th>
<th>4</th>
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<td>Effective and timely communication</td>
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<td>4</td>
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<tr>
<td>Completes work effectively on time</td>
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<td>5</td>
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<tr>
<td>Expects aspect to meet plan</td>
<td>6</td>
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<tr>
<td>Encourages team meeting and makes a positive contribution</td>
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<td>5</td>
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<tr>
<td>Proactive, takes on areas of work</td>
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<td>Sociability, does what needs to be done in-time</td>
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<tr>
<td>Overall contribution, in team</td>
<td>6</td>
<td>5</td>
<td>4</td>
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A Word on Managing

- A good manager supplies what is needed for the team to succeed. This includes (but is not limited to)
  - Resources
  - Planning and coordination
  - Pitching in when needed
  - Protection (especially from upper management)
  - Emotional support, etc.
- Good managers are leaders not dictators (especially true for peer teams)
- Good managers are rare

Introverts & Extroverts

- Where does your energy come from
  - Extroverts energized by social interactions
  - Introverts energized by internal reflection
- Both have value
  - Extroverts work well in group settings especially with new people
    - May tend to “shoot from the hip”
  - Introverts tend to think more deeply about issues
    - May be reticent to share thoughts
- Important to ensure that introverts are heard
  - i.e., explicitly take turns asking for inputs
  - Provide smaller venues for discussion

Effective Meetings

Notes on effective meetings

• Only hold meetings if necessary
  – “Necessary” means that the most cost effective way to accomplish a goal is by meeting
• Have a goal, and a plan (agenda)
  – Clear meeting objectives
  – Known to all in advance (i.e. distribute via email)
• Plan to goal:
  – Participants - Invite only the necessary people
  – Schedule
  – Intended outcome
• Prepare
  – Cost of wasted time = Time x people x hourly cost
  – Cost of individual prep time is much less

Notes on effective meetings (2)

• Start on time, end on time
• Write down and disseminate the results
  – Leaves an audit trail of decisions
  – Makes people feel included
  – Limits the number of (informational) invitees
• End with concrete, specific action items
  – What must be done
  – Who should do it
  – What the follow-up is
• Reflect items in the schedule and developer logs

Questions?