Managing Your ME4054 Project

Sit with your team
Access your Google site

References: Text, Chapt. 16 (and 1 thru 3)
Most introductory management books
4  Weeks to first site visit

6  Weeks to Mid-project Review

14 Weeks to Design Show
Laptop Etiquette

Steampunk laptop, www.wired.com
“PROJECT”

Set of activities which ends with specific accomplishment

- Non-routine tasks
- Distinct start/finish dates
- Resource (time/money/people/equipment) constraints
Identify your team manager

Hint: Not your advisor
Questions for Managers

• What is scope of project?
• What gets delivered for time/people/$?
• What resources do I need?
• How do I tell where the project is at?
• How do I communicate to team/outside?
Activity

• On your Google site, write what you will deliver in May. Describe in terms of what it will do rather than what will be.

• 5 min
Statement of Work
Project Management

“The discipline of planning, organizing and managing resources to bring about the successful completion of specific project goals and objectives.”

Wikipedia
The Management Steps

1. Plan
2. Organize
3. Manage time and resources
Project Plan

• What
  – Tasks, activities

• When
  – Schedule

• How
  – People, equipment, $’s

Goal of a good plan: Eliminate surprises, minimize stress
Tasks

• Short relative to project. Significant. Appropriate level of detail
• Defined start/end points
• Has (1) duration, (2) resources
• “verb-noun” name
  – "create drawings"
  – "build prototype"
  – “develop transmission”
Properties of a “Task”

1. Defined deliverable
   a. Document
   b. Demo
   c. Thing

2. Responsible person (one)

3. Due date
Activity

• On your site, create one (real) task for every member of the team
• 6 min

1. Deliverable is document, demo or thing
2. One person responsible
3. Due date
Work Breakdown Structure (WBS)

- A “to-do” list, sorted by category
- Task description (what)
- Estimated time (length)
- Person responsible for task (who)
- Resources required
- Cost ($)

15
## Sample WBS

<table>
<thead>
<tr>
<th>Task #</th>
<th>What</th>
<th>Pers-hrs</th>
<th>Who</th>
<th>Resources</th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Profile motor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.1</td>
<td>Design test stand</td>
<td>20</td>
<td>SE,JM</td>
<td>Pro/E</td>
<td></td>
</tr>
<tr>
<td>5.2</td>
<td>Build test stand</td>
<td>15</td>
<td>SE,JM</td>
<td>parts, machine shop</td>
<td>$35</td>
</tr>
<tr>
<td>5.3</td>
<td>Test 3 motors</td>
<td>3</td>
<td>SE,JM</td>
<td>Stroboscope</td>
<td></td>
</tr>
<tr>
<td>5.4</td>
<td>Plot torque vs speed</td>
<td>2</td>
<td>JM</td>
<td>Excel</td>
<td></td>
</tr>
</tbody>
</table>
Activity

• Create a draft WBS on the Google site
• 10 minutes
Milestones

• Tasks with 0 duration
• Mark significant project checkpoints
• Use to motivate
• Use to check progress
• Name by “noun-verb”
  – “report due”
  – “parts ordered”
  – “concept selected”
Gantt Chart

• Bar chart with
  – Tasks
  – Durations
  – Dependencies

• Most basic (and most common) planning tool
<table>
<thead>
<tr>
<th>WBS</th>
<th>Task Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Define specifications</strong></td>
</tr>
<tr>
<td>1.1</td>
<td>Identify customers</td>
</tr>
<tr>
<td>1.2</td>
<td>Interview 10 customers</td>
</tr>
<tr>
<td>1.3</td>
<td>Interpret requirements</td>
</tr>
<tr>
<td>1.4</td>
<td>Benchmark products</td>
</tr>
<tr>
<td>1.5</td>
<td>Define target PDS</td>
</tr>
<tr>
<td>1.6</td>
<td>Target PDS Released</td>
</tr>
<tr>
<td>2</td>
<td><strong>Generate concepts</strong></td>
</tr>
<tr>
<td>2.1</td>
<td>Review comp products</td>
</tr>
<tr>
<td>2.2</td>
<td>Search patents</td>
</tr>
<tr>
<td>2.3</td>
<td>Brainstorm concepts</td>
</tr>
<tr>
<td>3</td>
<td>Select top 2 concepts</td>
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<tr>
<td>4</td>
<td>MQ Presented</td>
</tr>
<tr>
<td>5</td>
<td><strong>Profile motor power</strong></td>
</tr>
<tr>
<td>5.1</td>
<td>Design test stand</td>
</tr>
<tr>
<td>5.2</td>
<td>Build test stand</td>
</tr>
</tbody>
</table>

![Gantt Chart]

January

- 1/7
- 1/8
- 1/11
- 1/12
- 1/13
- 1/14
- 1/18
- 1/19
- 1/21
- 1/22
- 1/23
- 1/26
- 1/28
- 1/29

February

- 2/2
- 2/8
- 2/5
Software Tools

• MS Project
  – Most popular PM software
  – Easy to use
  – Available in IT Labs
  – Web tutorials, hunt

• GanttProject
  – Open source
  – Free download to your computer
Effective Management

• Keep plan up to date
• Get buy-in from stakeholders
  – Team and advisor
Managing the Team
Effective Meetings

• Have an agenda
  – At start, ask for additional items
• Stick to the agenda
• Participation by all
• Record decisions and tasks
• Have a stop time
# Agenda

<table>
<thead>
<tr>
<th>Team:</th>
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<tbody>
<tr>
<td>Date:</td>
<td></td>
</tr>
<tr>
<td>Start time:</td>
<td>Length (min):</td>
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<tr>
<td>Facilitator:</td>
<td></td>
</tr>
<tr>
<td>Minutes:</td>
<td></td>
</tr>
</tbody>
</table>

| Purpose:       |                  |

| Agenda items:  |                  |

## Action Items

<table>
<thead>
<tr>
<th>What</th>
<th>Who</th>
<th>Deliverable(s)</th>
<th>By When</th>
</tr>
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<tbody>
<tr>
<td></td>
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</table>
Team Meltdowns
Activity

• Create the agenda for the meeting that you will start in 20 minutes
• 10 minutes