

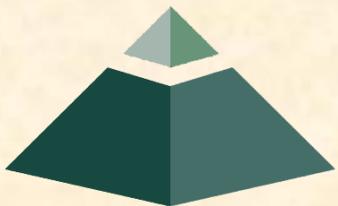
10/08: Schedule and Team Work

The Capstone Experience

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*From Students...
...to Professionals*

Schedule and Team Work

➤ Schedule

➤ Team Work



Where do you start?

- Project Plan
- Prioritized Risks
- Feature Set(s)
- Fixed Milestones
 - Course
 - Client

Tradeoffs...

Features

vs.

Time

Are there fixed milestones in the “real” world?



Major Milestones

- 09/12: Status Report Presentations
- 09/17: Project Plan Presentations
- 10/15: Alpha Presentations
- 11/05: Beta Presentations
- 12/03: Project Videos
- 12/05: All Deliverables
- 12/06: Design Day Setup
- 12/07: Design Day



Project Parts

- Break Down Project
 - Main Parts
 - Sub-Parts
 - Sub-Sub-Parts
 - Etc...
- Categorize
 - Risks
 - Dependencies (Particularly Risk Dependencies)
 - Priorities
- Worry About
 - Interfaces Between Parts
 - Integration of Parts



Building A Project Schedule

- Start With Fixed Course Milestones
- Estimate Times for Tasks for Parts
 - Building
 - Integrating
 - Testing
- Assign Tasks to Team Members
- Must Keep Everyone Busy All the Time
- Use “Short” Deadlines (E.g., 2-3 Days) Why?
- Document and Track
 - Microsoft Project?
 - Collaboration Tool?



Estimating Time for Tasks

- Rough Estimate
 - Intuition
 - Experience
- Refined Estimate
 - Prototype or Partial Build
 - Extrapolation
 - E.g., 2 Days to Build 1 → 6 Days to Build 3
- Keys
 - Be Realistic
 - Include Buffer Time if Unsure
- Adjust Schedule Accordingly



Typical Build Cycle

Until Project Done Do

1. Divide Next Big Task Into Little Tasks
2. Assign Little Tasks to Team Members
3. Complete Little Tasks
 - a. Implement
 - b. Test

4. Integrate Little Tasks Into Big Task

5. Test Big Task

} Very
Important

High Priority Risks Get High Priority Scheduling



Revision Control

- Versioning
 - Discrete “Internal” Versions (States)
 - May Correspond to Builds
- Revision Control Systems
 - Check Code In and Out
 - Mark Specific States as Versions
- Motivation
 - Build Breaks System
 - Revert to Earlier Build
 - Avoid Bridge Burning
- Examples
 - Visual SourceSafe
 - GNU RCS (Revision Control System)



Can Be
Serious
Problem



Living Schedule

- Schedule Is Dynamic
 - Unforeseen Problems
 - Added Features (Avoid Feature Creep)
 - Etc..
- Track Your Progress
 - Microsoft Project?
 - Collaboration Tool?
- Revisit Schedule Often
 - Weekly Team Meetings
 - Weekly Triage Meetings with TA
 - Identify Slippage
 - Hold Each Other Accountable (or Contact TA or Me)
 - Set Corrective Action
 - Adjust Schedule



Schedule and Team Work

✓ Schedule

➤ Team Work



Team Organization

- Up to Each Team
- Organize into Roles
 - Client Contact
 - Program Manager
 - Developer
 - Tester
 - Systems Administrator
 - Web Master
 - Etc...
- Everyone Must Make Technical Contributions



Team Dynamics

- Key to Success
- Significant Component of Course Grade
- Address Problems Immediately
 - Within Team
 - With Dr. D. and/or TA
- Be Ready to Discuss During Interviews



Grading

(1 of 2)

• Team (70%)	
▪ Project Plan Document & Presentation	10
▪ Alpha Presentation	10
▪ Beta Presentation	10
▪ Project Video	10
▪ Project Software & Documentation	25
▪ Design Day	<u>5</u>
▪ Total	70
• Individual (30%)	
▪ Technical Contribution	10
▪ Team Contribution	10
▪ Team Evaluation	5
▪ Meeting Attendance	<u>5</u>
▪ Total	30



Grading

(2 of 2)

- Final Grade Sum Of...
 - Individual Total
 - % of Team Total Based on Team Contribution
- Grand Total =
$$\begin{aligned} & \text{(Individual Total)} \\ & + \\ & \text{(Team Total) * (Team Contribution) / 10.0} \end{aligned}$$
- *Nota Bene*: Your Team Contribution will have a very significant effect on your final grade.



Team of Peers

Effective Team Members

- Relate as Equals
- Have Specific Roles and Responsibilities
- Respect Specific Roles and Responsibilities
- Empowers Individuals in Their Roles
- Have Specific Skills
- Hold Each Other Accountable
- Drive Consensus-Based Decision-Making
- Give All Members a Stake in the Project



Potential Problems

Over and/or Under

- Bearing
- Qualified
- Achiever
- Etc...



Mutual Responsibility

- You are your “brother’s/sister’s keeper”.
- Responsible For
 - Your Contribution
and
 - Your Teammates’ Contributions
- What Won’t Work
 - “They never asked me to do anything.”
 - “They never let me do anything.”
 - “He/she never asked to do anything.”
 - “He/she never wanted to do anything.”
 - Etc...



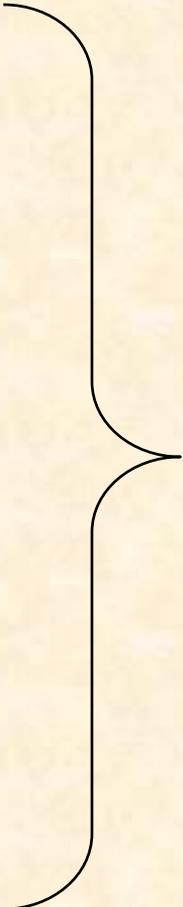
Team Evaluation Form

- 5% of Final Grade
- Rate Each Team Member
 - Technical Contributions
 - Overall
 - Effort
 - Performance
- Other Questions
 - 8. Describe the contributions of each team member, starting with you. Be specific. Include comments about your/their individual technical contributions as well as your/their contributions to the team as a whole.
 - 9. Whom do you feel did the best (either in effort or overall contribution to the team)? Why? Be specific.
 - 10. Whom do you feel did the worst (either in effort or overall contribution to the team)? Why? Be specific.



Team Problems

- Can Be
 - Really Hard
 - Awkward
 - Frustrating
 - Etc...
- Addressing Problems
 - ASAP
 - Directly
 - Respectfully
 - Maturely
- Resolving Problems
 - Internally First
 - See Dr. D. and/or TA Next but ASAP (Don't Wait)
- "Bad" Team Not an Acceptable Excuse



Potential For
Bad Effect
on 70% of
Your Grade



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