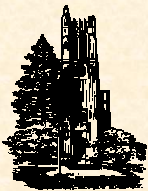


MICHIGAN STATE UNIVERSITY

3. Project Schedule and Risk



CSE 498, Collaborative Design

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Spring 2006

S Project Schedule and Risk

- Risk
- Project Schedule
- Teamwork

2.2

S Identifying Risks

- Identify What You Don't Know
 - Major Project Items
 - “Showstoppers”
 - Risk Varies From
 - Not Familiar With But (Probably) Can Learn to
 - Absolutely No Idea How to Implement
- Including but not limited to...
 - Programming Languages
 - Development /Programming Environments
 - Hardware /Software Systems
 - Key Application Features
 - Etc...

What are you worried about?
Or, what should you be worried about?

2.3

S Prioritizing Risks

- Classify Difficulty
 - High Showstopper, No Idea How to Do
 - Medium
 - Low Not Vital, Probably Doable
- Classify Importance
 - High Showstopper, Must Have
 - Medium
 - Low Not Vital, Nice to Have
- Prioritize
 - High Work On *Now*
 - Medium
 - Low Work on Later

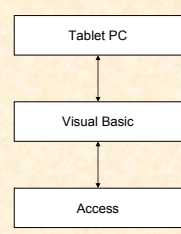
2.4

S Case Study: Basketball App

- For Each Player, Track
 - Minutes Played
 - Game Clock Time
 - Consecutive & Total
 - Minutes Rested
 - Wall Clock Time
 - Consecutive
- Must Be Usable
 - On the Bench
 - In Real Time

2.5

S Basketball App Architecture



```

graph TD
    A[Tablet PC] <--> B[Visual Basic]
    B <--> C[Access]
    
```

2.6

S Basketball App Risks?

- How do I program in VB?
- How do I make a GUI in VB?
- What SDK should I use?
- How do I interface VB with Access?
 - Write Records?
 - Read Records?
 - Traverse Records?
- How do I do clocks?
 - Game Clock?
 - Wall Clock?

2.7

S Mitigating Risks

- Use Existing Resources
 - Including But Not Limited To
 - Product Demos
 - Book Sample Code
 - Downloadable Examples
 - Etc...
 - Test Drive
 - Install
 - Compile
 - Extend
 - Etc...
- Build New Prototypes
 - Single Purpose
 - Quick-and-Dirty

2.8

S Basketball App Prototypes

- Game Clock
 - Start / Stop
 - Counts Down
 - By Minutes/Seconds
- Access Interface
 - Write Number
 - Read Number
 - Add Up Numbers

Start	19:55
Stop	

Write	7
Read	14
Add Up	55

2.9

S Basketball App Demo

State Basketball Timer

2.10

S CSE498 Examples

- Ford
 - Risk: Interacting with the Touch Screen
 - Suggestions?
- Identity Alliance
 - Risk: Talking to a Smartcard
 - Suggestions?
- Motorola
 - Risk: Making a Plug-In
 - Suggestions?
- UP
 - Risk: Interacting with the Rabbit
 - Suggestions?

2.11

S Project Schedule and Risk

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2.12

S Where do you start?

- Technical Specification
- Prioritized Risks
- Course Milestones
- Client Milestones

2-13

S Course Milestones

Week	Date	Deliverables
4	Jan 30	Technical Specifications
7	Feb 20	Prototype Demo
11-15		Progress Reports & Demos
16	Apr 24	Project Video, Documentation, etc...

2-14

S Building A Project Schedule

- Start With Fixed Course Milestones
- Identify
 - Tasks
 - Dependencies
 - Priorities
- Estimate Times for Tasks
- Assign Task to Team Members
- Use “Short” Deadlines (E.g., 2-3 Days) Why?
- Document and Track
 - E.g., Microsoft Project
 - Project Management = 5% of Team Grade

2-15

S 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

2-16

S 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

2-17

S 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

2-18

S Living Schedule

- Schedule Is Dynamic
 - Unforeseen Problems
 - Added Features
 - Etc..
- Track Your Progress
 - E.g., Microsoft Project
 - Project Management = 5% of Team Grade
- Revisit Schedule Often
 - Hold Weekly Triage Meetings
 - Identify Slippage
 - Hold Each Other Accountable
 - Set Corrective Action
 - Adjust Schedule

2.19

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2.20

S Grading Revisited

• Team (70%)	
– Technical Specification Document	10
– Prototype Demonstration	10
– Progress Reports & Demonstrations	15
– Final Demonstration & Project Video	15
– Administrator & User Manuals	10
– Project Management	5
– Project Web Site	<u>5</u>
	70
• Individual (30%)	
– Technical Contribution	10
– Team Contribution	10
– Team Evaluation	5
– Class Meeting Attendance	<u>5</u>
	30

2.21

S Team Dynamics

- Organize as See Fit
 - Really Hard Stuff
 - Really Important Stuff
- Board of Directors...
 - Hires
 - &
 - Fires
- (Be Ready to Discuss During Interviews)

2.22

S Team Member Roles

- Client Contact
- Program Manager
- Developer
- Tester
- Etc...

2.23

S Team of Peers

Effective Team Members

- Relate as Equals
- Have 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

2.24

S Potential Problems

Over and/or Under

- Bearing
- Qualified
- Achiever
- Etc...

2.25

S Team Problems

- Can Be
 - Really Hard
 - Awkward
 - Frustrating
 - Etc...
- Addressing Problems
 - ASAP
 - Directly
 - Respectfully
 - Maturely
- Resolving Problems
 - Internally First
 - See Me "Soon" (Don't Wait Too Long)


Potential For Bad Effect on 70% of Your Grade

2.26

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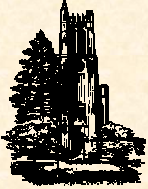
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