



Guidelines for Team-Mixer

CS 577a

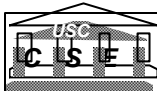
Software Engineering I

Barry Boehm, USC

Dan Port, USC

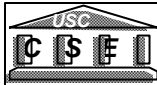
David Klappholz, Stevens

Fall 2002



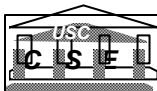
Outline

- **Roles and Responsibilities**
 - **MMM Surgical Team**
 - **MBASE 577 Roles**
 - **Comparison of MMM Surgical Team & MBASE Roles**
 - **MBASE Model Integration**
- **The Team-Mixer**
 - **Logistics**
 - **Guidelines**



Top 10 Risk Items: 1989 and 1995

1989	1995
1. Personnel shortfalls	1. Personnel shortfalls
2. Schedules and budgets	2. Schedules, budgets, process
3. Wrong software functions	3. COTS, external components
4. Wrong user interface	4. Requirements mismatch
5. Gold plating	5. User interface mismatch
6. Requirements changes	6. Architecture, performance, quality
7. Externally-furnished components	7. Requirements changes
8. Externally-performed tasks	8. Legacy software
9. Real-time performance	9. Externally-performed tasks
10. Straining computer science	10. Straining computer science



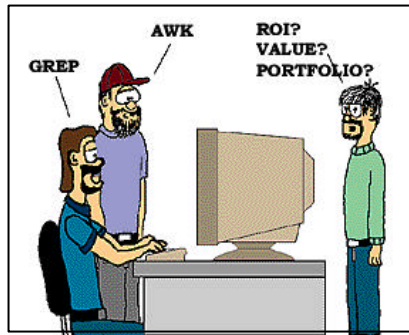
Context

- **Why so much importance to team formation?**
 - **Personnel Shortfall: Top Risk Item**

What if 2/3 people in your team are graduating next semester? Do you have their commitment? Can you still afford having 3-4 person team?



Context



You need a mix of skills!



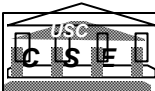
The Surgical Team (MMM)

- **Surgeon & Co-Pilot**
 - Leader & Architect
- **Administrator**
 - Project Mechanics (People, Money etc..)
- **Editor**
 - Documentation
- **Secretary and Clerk**
 - Book-keeping



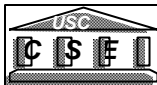
The Surgical Team (MMM)

- **Toolsmith**
 - Technical Support
- **Tester**
 - Surgeon's Adversary
- **Language Lawyer**
 - Domain Expert (Technical)



577 Roles

- **Manager**
 - Scheduling & Rationale
- **Operational Concept**
 - Idea, Motivation and Client Satisfaction
- **Requirements**
 - Functional Specification
- **Prototype**
 - Production
- **Techie**
 - System Architecture & Design



Comparison

Surgical Team

Surgeon, Co-Pilot
Administrator
Editor
Secretary & Clerk
Toolsmith
Tester
Language Lawyer

577 Roles

Manager
Operational Concept
Requirements
Prototype
Techie

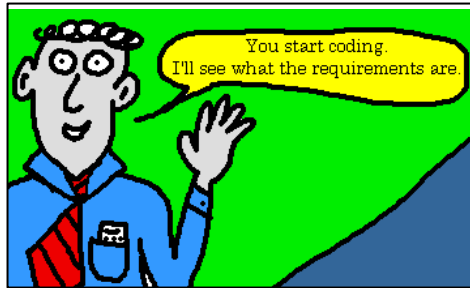


Comparison (Discussion)

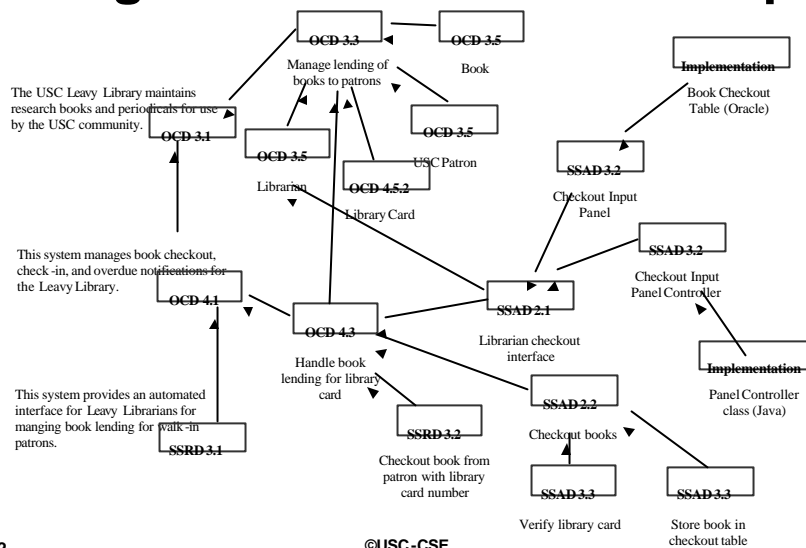
- **Communication overhead?**
 - Reduced
- **Skills of group members?**
 - Important
- **Emphasis on coding, design, maintenance?**
 - No, on many things!

Integrated Models

- Can the five of us just manage one artifact each? I can do the LCP, he'll do the OCD and he can do the FRD.



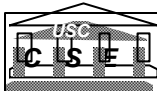
Integrated Models – Trace Map





Integrated Models

- **Operational Concept – OCD**
 - >> Capabilities >> Prototype, SSRD
 - >> Entity Model >> SSAD
 - >> Stakeholder/Project Context >> LCP
 - >> Business Context >> FRD
- **Requirements – SSRD**
 - >> System Definition >> OCD, SSAD
 - >> Requirements Feasibility Context >> FRD, LCP



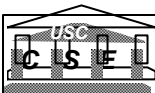
Integrated Models

- **System Architecture – SSAD**
 - >> Schedule Context >> LCP
 - >> Design Feasibility Criteria >> FRD, OCD
 - >> Requirements / Design Mismatch >> SSRD
- **Life Cycle Plan – LCP**
 - >> Schedule Mismatch >> OCD, FRD, SSRD
- **Feasibility Rationale – FRD**
 - >> Feasibility Context >> OCD, SSRD, SSAD, LCP

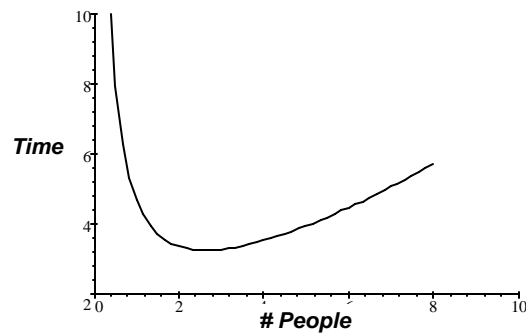


Logistics & Guidelines

- **5 person teams**
 - Having 5 person teams is good Risk Management
- **Everyone to join a group of their choice (Manager, Op'l Concept, Requirements, Prototype, Techie)**
- **Managers to shop for team members from the remaining 4 groups**



Logistics & Guidelines



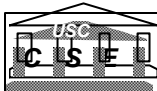
Source: Brooks

- **Does not include the Risk Model**
- **Can you afford less/more than 5?**



Undecided?

- What if you are still unclear on which group to join?
- Join the “Undecided” group
- Talk to professors and discuss your best fits.



Team formed?

- I have already identified my team or I just found the best fits for my team, what next?
- Register your group with me and you are done!