

PROJECT MANAGEMENT FOR SCIENTISTS

PROJECT TEAMS

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OUTLINE

- Project Teams
- Dynamics and Challenges
- Excellent Project Teams
- Team Environments
- Resource Needs and Skill Granularity
- Job Announcements
- CV
- Short Listing, Interviews and Hiring Decision

INTRODUCTION

- Theory: people are perfect
- Reality: multiple personnel / personal issues:
 - Not working well together
 - Constant complaining
 - Unproductive meetings
 - Temporary project teams
- Need committed, cooperative work of cohesive team
- Team formation and building as important as project definition and planning

TEAM

- Team = Group of people working independently to produce an outcome for which they hold themselves mutually accountable
- Temporary project teams formed specifically to achieve goal, disbanded afterwards
- Team requirements:
 - Individuals must cooperate to complete tasks
 - Team produces whole product, service rather than individual components

TEAM DYNAMICS

- Weak, uncooperative team is
 - Unproductive
 - Makes project manager's job frustrating
- Negative interpersonal dynamics lead to
 - Burn out
 - Blow up
 - Quitting
- Strength of a good team
 - Crucial for surviving project when all things go wrong

CHALLENGES IN TEAM BUILDING

- Team must solve complex problems, together
- Project is series of problems to solve
- Much of scientific project is series of decisions
- Different team members use different approaches to problem solving and coming to decision
- Project leader must harness power of team members

CHALLENGES IN TEAM BUILDING

- Project teams are temporary, must learn to work together
- People may not have worked together before
- Project leader must
 - develop trust and respect
 - develop effective ways to communicate between team members
 - maintain all of this despite disagreements

EXCELLENT PROJECT TEAMS 1

- Positive team environment:
 - Ground rules: work patterns, team values
 - Team identity: commitment to shared goal
 - Listening skills: problem solving demands listening
 - Meeting management: meeting goals, plan, steering

EXCELLENT PROJECT TEAMS 2

- Collaborative problem solving:
 - Problem analysis: agree on ways to work through problems
 - Decision modes: chose different ways to come to decision
 - Conflict management: achieve best results while maintaining strong relationships
 - Continuous learning: from success and failure to improve team performance

TEAM LEADERSHIP

- Take care of health of team
- Steady focus on final project result and path to it
- Treat team members as human beings
- Exhibit and demand accountability

GROUND RULES

- Team members understand expectations
- Team forms and owns its own culture
- Ground rules meet team's need for structure
- Team values:
 - confidentiality
 - team learning
 - respect
 - accountability

TEAM ENVIRONMENT

- Context of project within organization
 - Demonstrate management support for project: actions, not just words!
- Team relationships based on understanding strength and diversity
 - Know and use strengths
 - Understand diversity of styles
 - Trust other team members
 - See each other as human being

RESOURCE NEEDS

- Schedule contains resource assignments
- Produce list of required resources vs. time

			Details	Nov '07	Dec '07	Jan '08	Feb '08	Mar '08	Apr '08	May '08	Jun '08	Jul '08
	Resource Name	Work	Work									
	⊕ Unassigned	0 hrs	Work									
1	⊕ Christoph Keller	24 hrs	Work			12.8h	11.2h					
4	Hector Canovas	0 hrs	Work									
5	Jos van Gemert	0 hrs	Work									
3	⊕ Michiel Rodenhuis	73.6 hrs	Work			9.6h	25.6h	6.4h			32h	
2	Sandra Jeffers	0 hrs	Work									
8	⊕ SI Electronic Design	40 hrs	Work				40h					
9	⊕ SI Electronic Manufac	80 hrs	Work				56h	24h				
6	⊕ SI Mechanical Desig	240 hrs	Work						240h			
7	⊕ SI Mechanical Manu	320 hrs	Work						112h	208h		
10	SI Software Design	0 hrs	Work									
11	SI Software Program	0 hrs	Work									
			Work									
			Work									
			Work									
			Nov '07	Dec '07	Jan '08	Feb '08	Mar '08	Apr '08	May '08	Jun '08	Jul '08	
13	rotation mechanism manufact	0 €										
19	mechanical fabrication	0 €										
26	mechanical fabrication	0 €										
31	fabrication	0 €										

SKILL GRANULARITY

- Initial plan will not use everybody at 100%
- Anything between 10% and 300%
- Resource leveling / balancing to get to $\leq 100\%$
 - Reduce concurrent tasks
 - Use several people
 - Extend task duration due to resource constraints
- Skill granularity: cannot hire somebody for 10%
 - Combine with other projects
 - Reduce task duration to increase usage
 - Outsource

JOB ANNOUNCEMENT

- Form depends on organization and publisher
- Content must be attractive to ideal candidate
 - Attractive position
 - Attractive project
 - Attractive environment
 - Attractive future possibilities
- Publication must be read by ideal candidates

CURRICULUM VITAE

- Personal information (Name, address, etc.)
- Research interest
- Education
- Employment
- Awards
- Professional memberships
- Research, teaching, management experience
- List of publications
- List of talks

SHORT LISTING

- Use several people (selection committee)
- Compare candidates against job specifications
- Evaluate
 - Recommendations
 - CV (check for gaps)
 - Check publications and citations to them
 - Web pages (search internet)
- Check how team is strengthened
- Provide equal opportunity

INTERVIEW

- Not all questions are legal
- Make person feel at ease
- Check consistency of CV
- Check whether knowledge is really there
- Check breadth of knowledge
- Check whether applicant is prepared
- Figure out motivation for application
- Inform about hiring procedure

MISTAKES IN INTERVIEWS

- "I hated my last boss."
- "I don't know anything about the company."
- "No, I don't have any questions for you."
- "I'm going to need to take these days off."
- "How long until I get a promotion?"
- "Are you an active member in your church?"
- "As Lady Macbeth so eloquently put it..."
- "And another thing I hate..."

From CNN.com: 8 worst things to say in an interview

HIRING DECISION

- Have everybody prepare a ranked list
- Combine ranks
- Compare with intuition, understand discrepancies
- May
 - Ask for research plan
 - Ask for comparative reviews
 - Do second, in-depth interview
- Check that top candidate is good enough
- Make offer