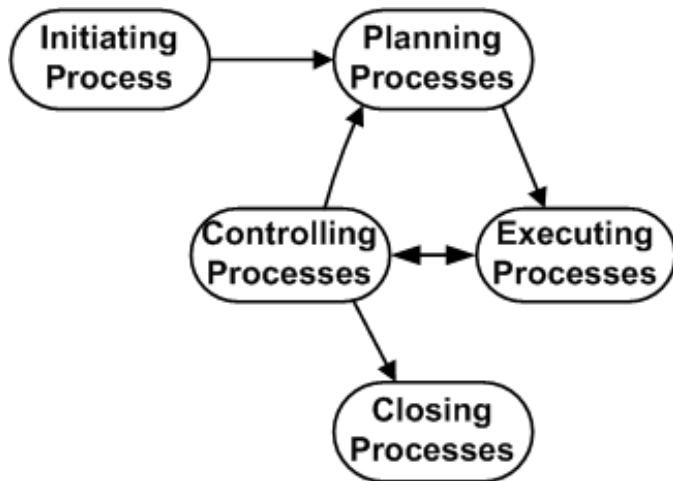


Traditional Project Management Skills



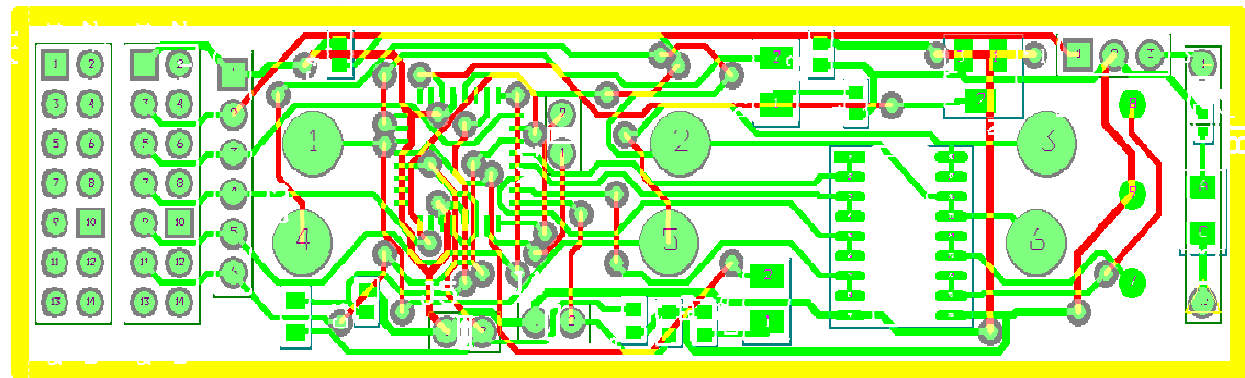
James M. Conrad

UNC Charlotte

SPIN/IEEE Meeting – January 26, 2006

Outline

- Introduction – Motivation
- The Importance of Project Management
- Basic Skills of Project Management
- Exercise
- Recap and Discussion



The Importance of Project Management

- Many engineers are now either faced with management responsibilities at their current positions, or promoted to higher positions
 - They need to have PM skills to manage various aspects of a project-driven technological organization combining engineering problems, human factors, and financial issues and to work in a cross-functional team
 - Consequently, to be successful in this work environment, it is crucial for engineers to have some level of PM knowledge and experience **BEFORE** they join the workforce
-

Senior Design Students' Knowledge of PM

- The overall performance of the students in meeting expectations is rated between “moderate” and “good,” but closer to “moderate”
 - Their project planning abilities (setting clear goals, tasks, schedules, budget, and resources) are also rated in this category
 - Socio-cultural skills such as leadership and problem solving are additional candidates for improvement
 - Students are not able to foresee risks and prepare contingency plans accordingly since these skills are rated between “poor” and “moderate”
-

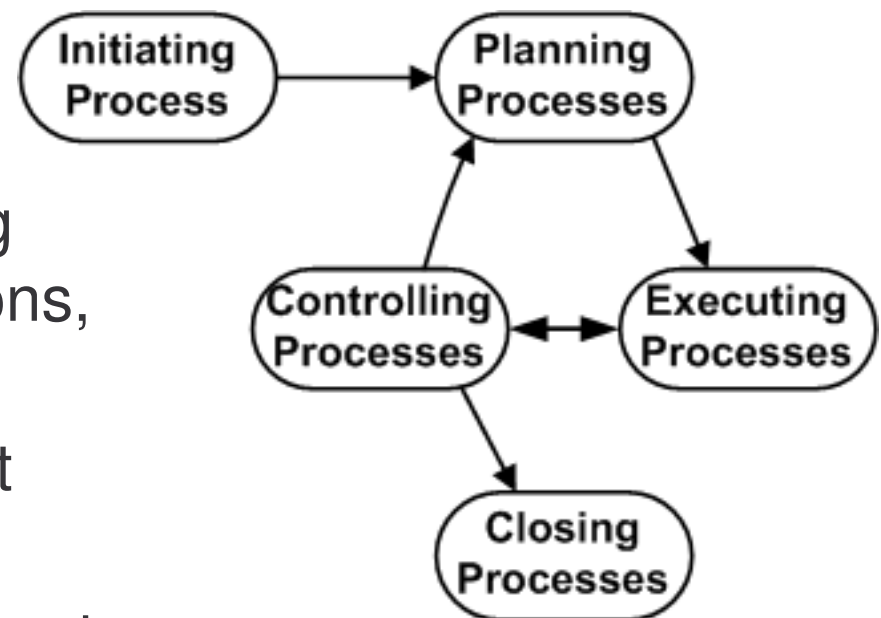
Project Management Body of Knowledge

- The Project Management Institute, the professional organization for project managers, has identified a "Body of Knowledge" useful for managing small and large projects
 - Although this body of knowledge and certification is valuable in industry, it is too extensive to cover completely in a university curriculum centered on technical skills
-

Process Groups & Links Between Groups

PMI has identified five groups of processes that incorporate one or more similar processes:

- Initiating - authorizing/starting the project.
- Planning - defining and refining objectives and courses of actions, and creating a project plan.
- Executing - carrying out project plan.
- Controlling - monitoring progress to ensure project objectives are met.
- Closing - bringing the project to an orderly end.



Basics of Project Management

Students should understand:

- Work Breakdown Structure Identification based on the requirements of the project
 - What are all of the tasks that you think need to happen
 - Project Planning
 - Identify who does these tasks and how long they will take
 - Project Execution
 - Then make sure you follow the plan!
 - Watch out for changing requirements!
 - How do you handle these?
-

Traditional PM - Waterfall



The important thing to remember about traditional Project Management is that plans are made, then the project conforms to the plan.

Humdinger Exercise - Handouts

- You will be developing a product design and prototype for the Humdinger product.
 - Pay close attention to the requirements, like any project.
 - You will get prototype parts after you turn in the project plan.
 - Each team will have a “sponsor”, who will be the overseer of the work. The only work they do is review the design and accept the deliverables. They will also ensure you follow the rules of the exercise. They **cannot** answer any questions.
 - Tools available are:
 - Scissors
-

Recap and Discussion

Did you include everything in the WBS?

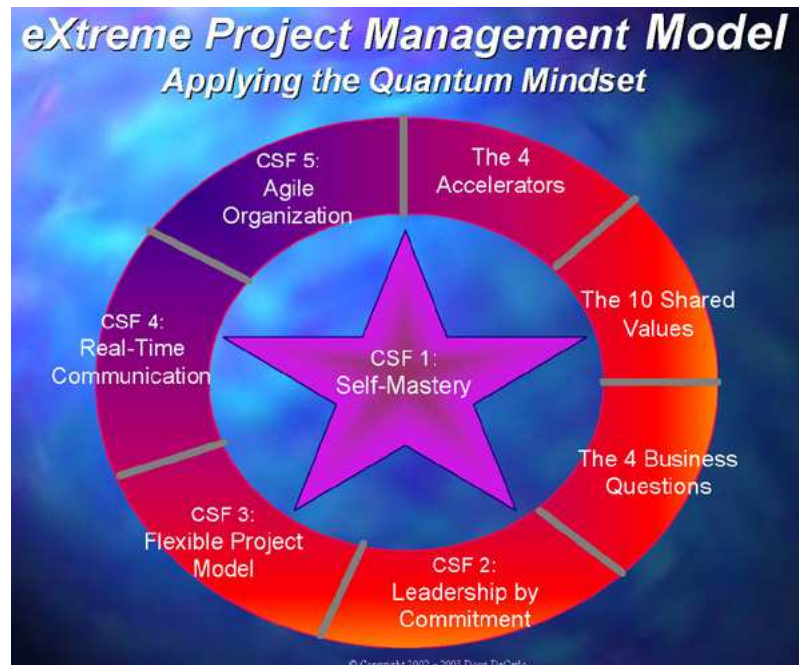
Did planning help?

Did you follow the plan?

What about the requirement changes – did you anticipate this? Did it affect you?

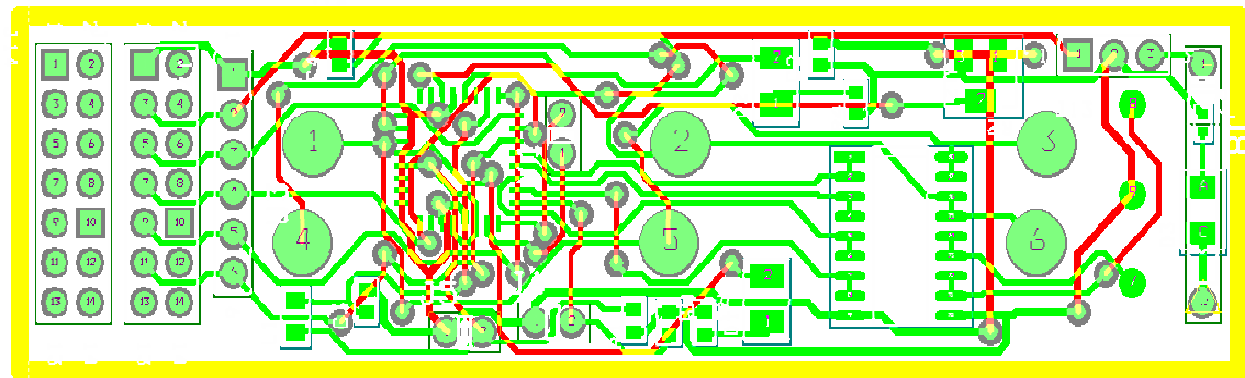
Is there a better way to conduct a project?

Extreme Project Management Skills



Outline

- Introduction – Motivation – Why Projects Fail
- What is Extreme Project Management
- Basic Skills of Extreme Project Management
- Exercise
- Recap and Discussion



Managing Project Definition: Why are you Failing?

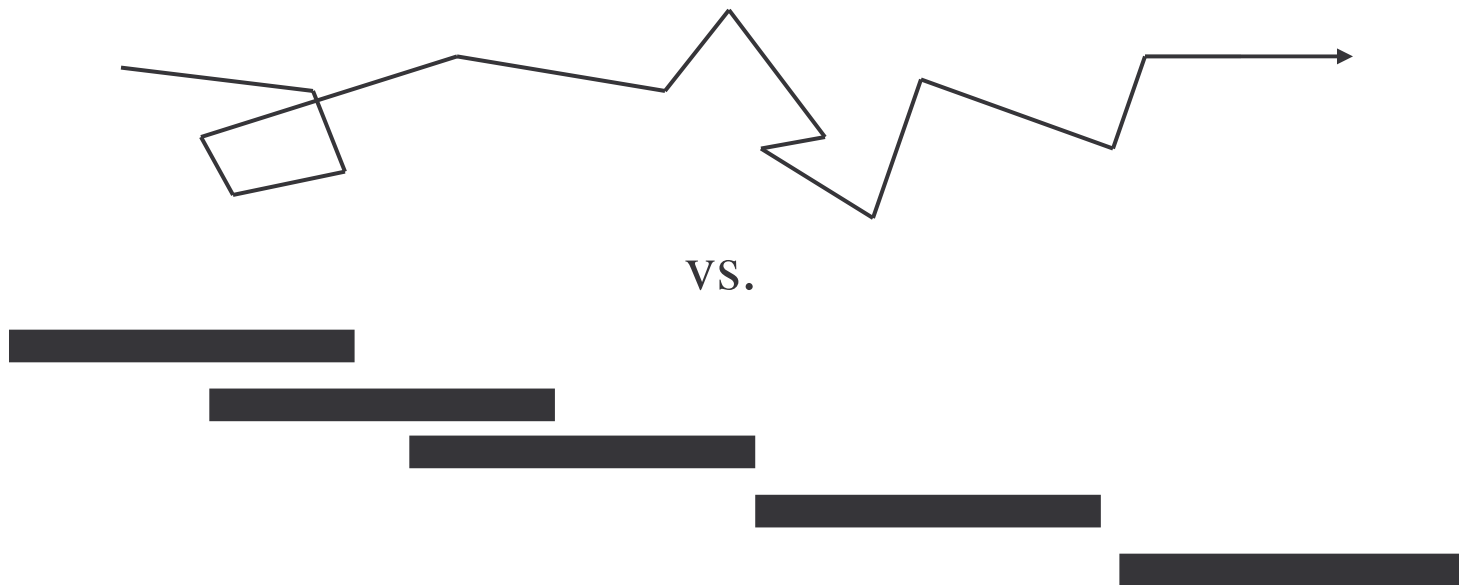
- Many projects succeed or fail at the very beginning, before any technical work is done.
 - “IT projects fail because of lack of stakeholder involvement, incomplete requirements, lack of sponsor support or unrealistic expectations.” In a phrase:
Lack of commitment from your business customers
 - Fundamental requirement: identifying who has the right to declare “success” — owner, shareholder, etc, etc.
-

Managing Project Definition: What is “success”?

- Fundamental elements of “success”
 - finishing on time
 - staying within budget
 - delivering the required functionality
 - providing “good enough” level of quality
 - getting the next round of VC funding, or launching the IPO
- The combination of these constraints may prove impossible to achieve — so the *pragmatic* aspect of success often depends on agreement as to which areas can be compromised or satisfied.
- Biggest risk: lack of realistic triage at *beginning* of project

What is Extreme Project Management?

- “New” approach of PM
- “An **Extreme** project is a complex, high-speed, self-correcting venture in search of a desirable result under conditions of high uncertainty, high change and high stress.”



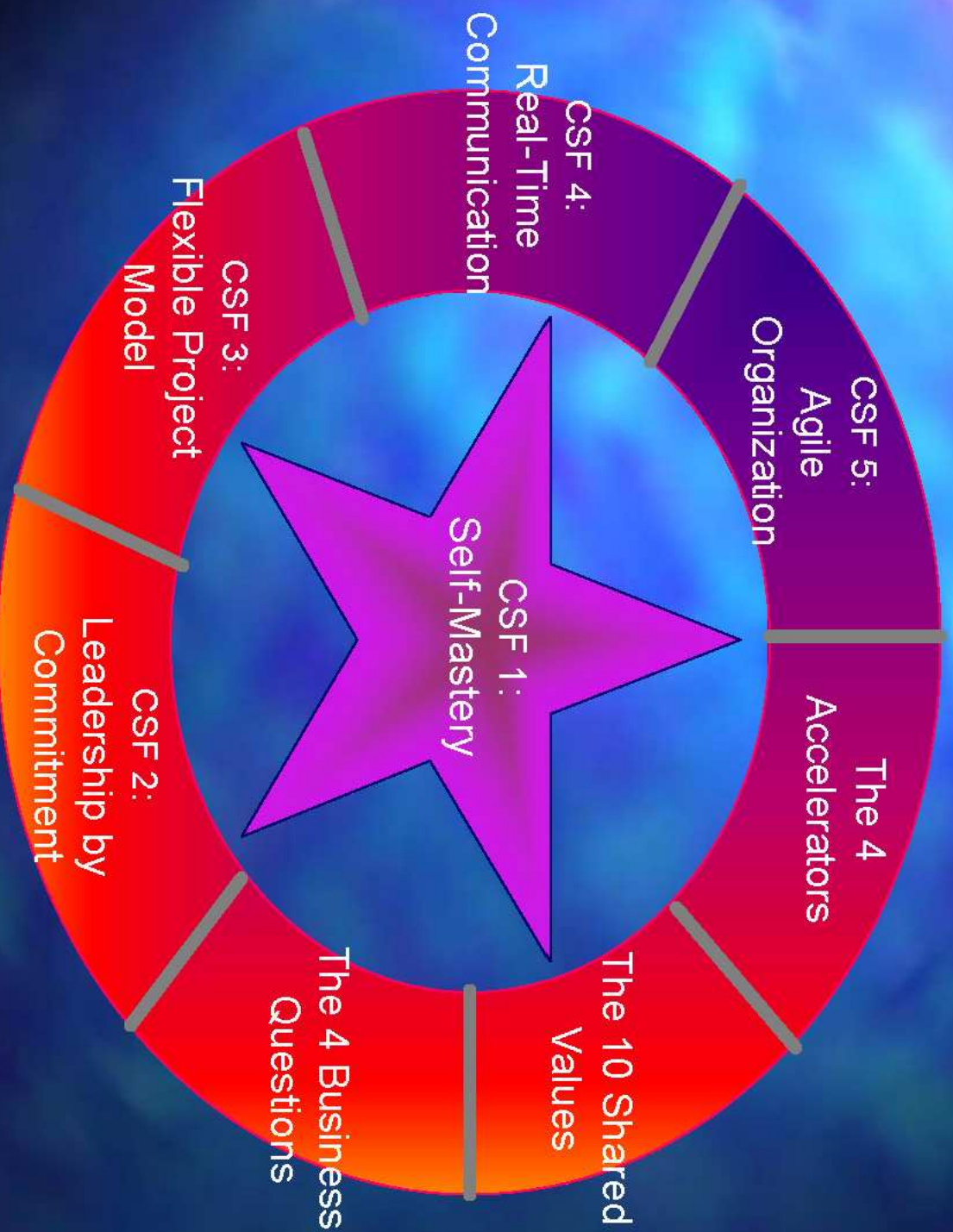
What is Extreme Project Management?

- Requires the PM to leave the technology to the tech team and concentrate his energies on managing critical stakeholders.
 - Suited to projects done in a chaotic environment under severe conditions.
 - “In traditional PM, if its not going to be done on time, someone has to break the news to executives. With extreme PM, there is no news to break – everyone is in it daily.”
 - Avoids the “ta-da!” pitfall
-



extreme Project Management Model

Applying the Quantum Mindset



Roles in the Project Team

- Project sponsor: the customer.
 - Project manager: The go-between of the technology team and the sponsor. Makes sure the work environment is fertile for success
 - Technical lead/manager: take control of design and implementation. Relies on PM and sponsor for assessment of technical solutions. Ensures good design is followed.
 - Project Team: does what technical lead/manager says.
-

Humdinger Exercise - Handouts

- You will be developing a product design and prototype for the Humdinger product.
 - Pay close attention to the requirements, like any project.
 - Elect a PM and a technical lead first!
 - You will get prototype parts after you turn in the project plan.
 - Each team will have a “sponsor”, who will be the overseer of the work. **They can answer any question you have, and should be used extensively.**
 - Tools available are black marker and scissors.
-

Recap and Discussion

Did you include everything in the WBS?

Did planning help?

Did you follow the plan?

What about the requirement changes – did you anticipate this? Did it affect you?

Did the constant availability of the sponsor make the design go smoothly? Or was it familiarity of the task? Or both?

Conclusion

- Some projects are well suited to traditional project management (those that do not change much)
 - Most projects are done in a chaotic environment
 - Extreme project management is more of a mindset than a new process
 - Extreme project management requires close communications with and involvement of the sponsor
-

References – I have read

- Doug Decarlo, *Extreme Project Management: Using Leadership, Principles, and Tools to Deliver Value in the Face of Volatility*, Wiley, 2004.
 - www.coe.uncc.edu/~jmconrad/xpm.html will have a copy of the first two chapters of the book – legal!
- Kathleen Melymuka, “Taking Projects to the Extreme,” *Computerworld*, Vol. 36, Issue 30, pp. 38-39.

There are many more I am just starting to look into.

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