How to increase the likelihood of bringing in Projects successfully

Failure Sucks – So Don't Fail!

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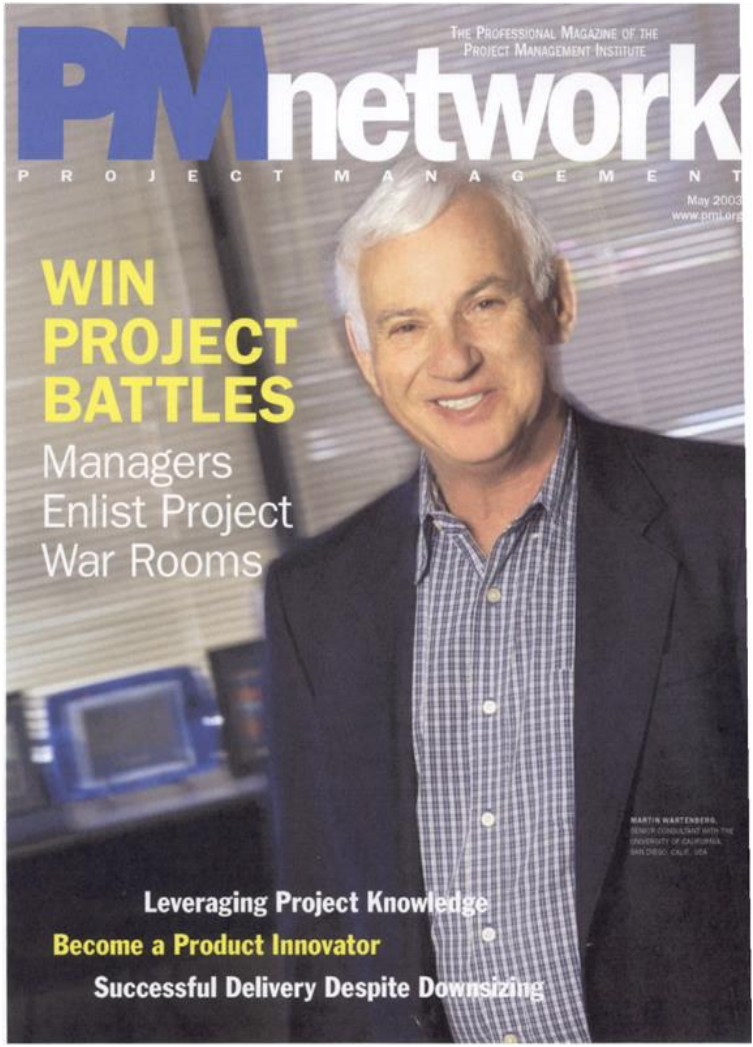

Marty Wartenberg,
September, 2019
For the PMI Orange County Chapter
Professional Development Workshop

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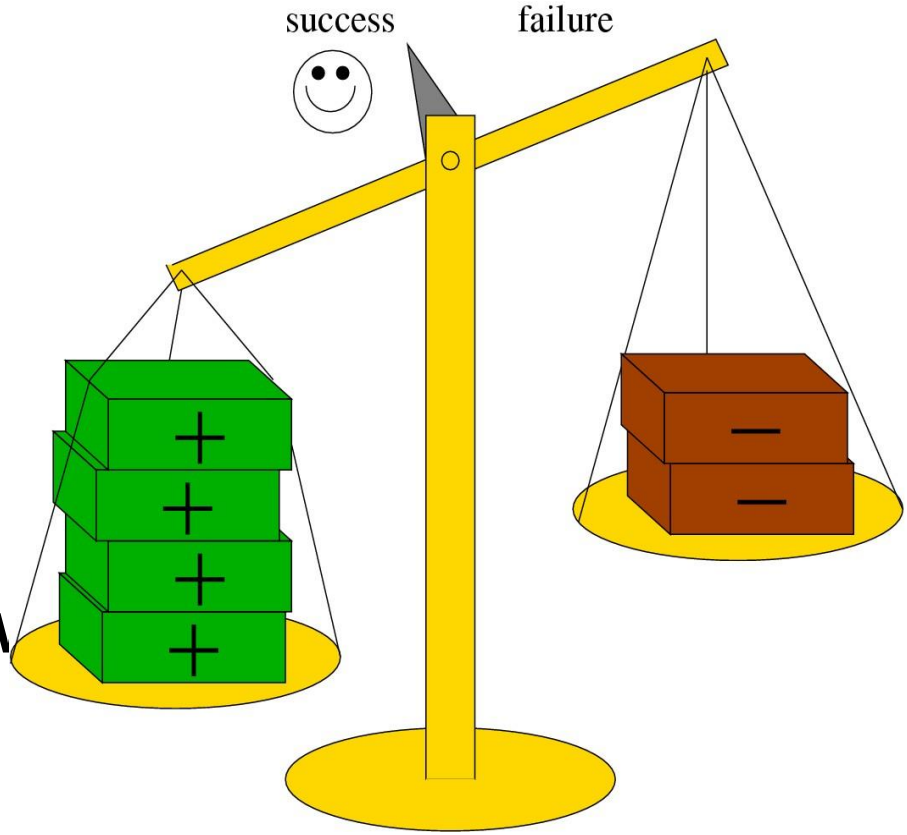
Terry Schmidt NASA 100 rules

- **"A review of most failed projects indicates that the disasters were well planned to happen from the start. The seeds of problems are laid down early. Initial planning is the most vital part of a project".**

  I'm sure that any experienced PM would agree. Like raising a baby or housebreaking a puppy, if you are systematic about doing it right at the beginning, the rest of the job is easier. --

Agenda for Our Session

- Why Projects Fail?
- Air Force High Risk Project Story for Success
- Commercial Product Development Story for Success
- What you need to know to be successful?
- Your plan to become a success



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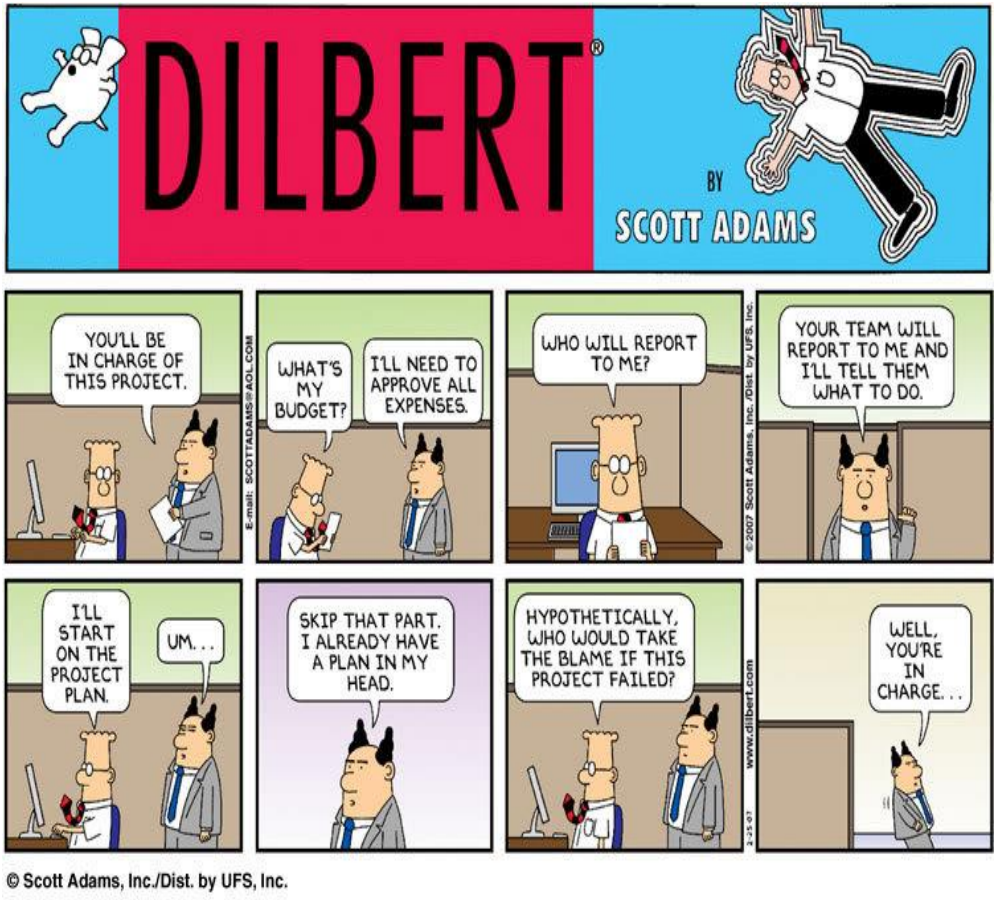
Before We Start!

Excuses or alibis for failure

- **You don't understand the issues that I face**
- **Our company is different**
- My boss won't listen to reason
- **Your approach won't work at our company**
- **Any others you care to raise?**



It is really easy to come up with excuses for consistent project failure.

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So why do projects fail?

Good question with many answers

- **Gartner Study**
- **Standish Study'**
- **PMI Studies**
- **Military Studies**

If you can recognize a failing project ***before*** it crashes and burns, you can usually save it.

Even better if you take actions in advance, you can actually prevent failures.

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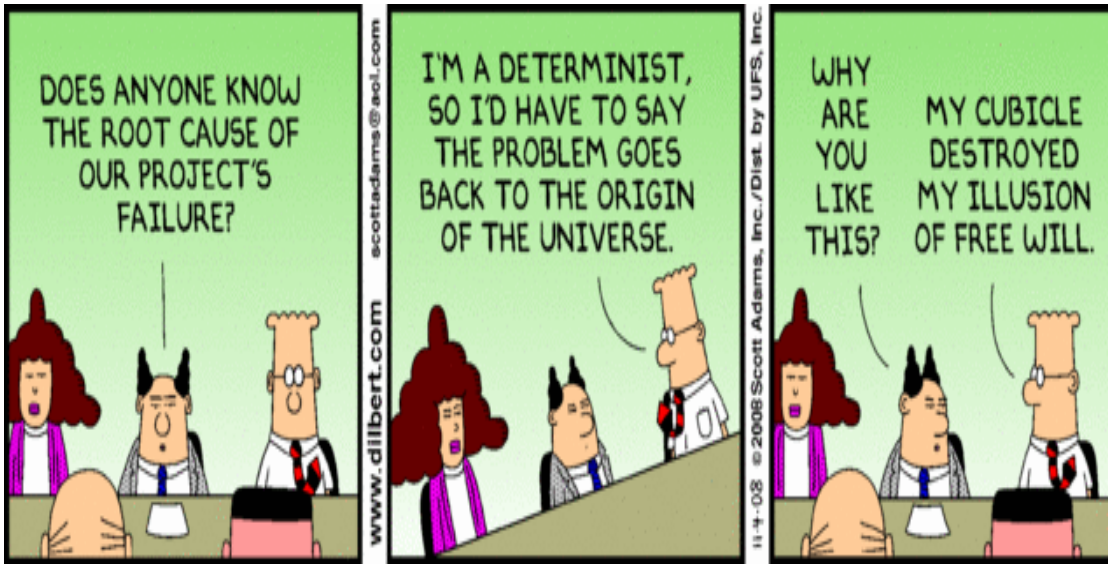
It’s a really good question?

- **There’s an old saying about how there are a million ways to fail, but only one way to be right. When it comes to projects, nothing’s further from the truth. Projects fail the same few ways over and over again and we repeat our mistakes over and over again**



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Ignoring History Condemns us to Repeating it!

- **Don’t go in the basement!**
  - **Projects are a lot like the corny horror movies. You know that the teen age girl should not go into the basement alone and you scream at the screen to not open the door , to no avail. Projects are the same way. People keep making the same mistakes over and over, and it keeps getting their projects killed. Where is there some one to warn us not to go into the basement**

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You know you're on a failed project when…

- A judge in 1964 said, "I don't know how to define pornography, but I know it when I see it." And the same goes for failing projects - we all know when we're on one that's sinking.

  - What does a failing project look like?
    - You know your project failed if it got cancelled and everyone was laid off. But there are other, less obvious kinds of failure:
      - The project costs a lot more than it should.
      - It takes a lot longer than anyone expected.
      - The product doesn't do what it was supposed to.
      - Nobody is happy about it including the project manager

People hate the word “failure”.

- **Nobody sets out to fail. Most projects start with a good idea and talented people. (Not all, but most.) But talking about failure makes people uncomfortable, because nobody wants to give or take that kind of criticism.**

  - **A show of hands, please…**
    - **We’ve never met a single professional project manager with more than a few years of experience who hasn’t been on at least one failed project.**
    - **Are there any here?**

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Projects don't Fail

- **Project Managers Fail**

1. Too soft- Neal Whitten article in PMNet

2. Untrained unmotivated or unsuitable

3. Need to be liked

4. Lack courage

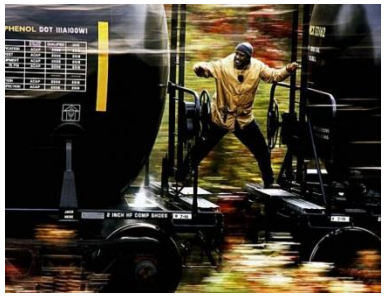
- **Organizations Fail**

1. **Don't value the role of project management**
2. **Don't allow time in front end**
3. **Don't believe that PM is a real job**

Ranks of Project Failure

1. **Challenged (Standish Group Chaos report) – Fail to deliver complete functionality, sufficiently over run and late to make stakeholder unhappy, but not enough to fire the project manager or cancel the project.**
2. **Death March or Zombie Project (Ed Yourdon) - It just keeps going and project staff and managers either die or burn out and appear to be alive, but the project will never end despite all the prayers**
3. **Runaway Projects – (R. Glass) Almost but not quite a complete disaster. The team is destroyed and the organization is severely damaged and at some point, we just say we are done and claim victory.**
4. **A Galloping Gertie Project (Jeffrey Pinto) – A complete and unmitigated failure that is so public that you can not hide. Careers, lives and organizations are destroyed.**

THIS and NOT THIS



Marty's Rules for Project Success

Initiation and Planning Phase (score 10% for each Yes)

1. **Is the PM involved in the initial project selection and sizing?**
2. **Is at least 50% of the team selected by the PM based on competencies and personal traits?**
3. **Are the project requirements developed by the team and SME's?**
4. **Is at least 75% of the team co-located?**
5. **Does the project manager have sufficient training and support?**

Execution including PM&C (score 10% for each Yes)

6. **Do you have a reasonable change control process with the ability to re-plan and re-baseline based on approved scope changes**
7. **Do you have a monitoring and control system similar to EVPM in place?**
8. **Does the project manager have the authority to take corrective actions to keep the project on track?**
9. **Does the project have sufficient priority to maintain the staffing level?**
10. **Have you defined the metrics that would allow for project completion with agreement from stakeholders?**

A score of less than 70% is a pretty good indication that your project will fail.

What is Project Minimal Success?

For a Time Boxed Project

1. Meet or beat the schedule
2. Do not exceed 150% of initial budget
3. Deliver all Category 1 Rqmts and at least a few Category 2 (based on customer priority)

For a Fixed Cost Project

1. Meet or beat the cost target
2. Hit the schedule within 25% (for a 1 year project, maybe 3 months late)
3. Deliver the minimum functionality acceptable to the client for actual usage of the product

For a Performance Based Project

1. Deliver all Category 1 and 2 Requirements – no shortcuts on safety or performance
2. Do not exceed 150% of initial budget
3. Hit the schedule within 25% or for a 12 month project, come in within 15 months

If you don't like my definitions, come up with your own. It would be great if we could meet all three of the project variables.

We will now look at two sample projects

- **Air Force JDAM Operational Concept Demonstration (Military)**
- **WindRiver/Redlake HG 100K High Speed Camera System (Commercial)**

After reviewing these two projects, we will come back and talk about how to achieve success on a regular basis,

Before We Start!

Why do Many Technology Based Projects Fail?

- ***Management establishes schedules and cost without consulting the project team or functional experts.***
- ***The matrix both balanced and weak structure is used and resources are shared across multiple projects on a part time basis.***
- ***Priorities are either not established or change on a regular basis.***
- ***Team members are assigned based on availability rather than skill sets.***
- ***Management does not support the project needs, but rather interferes with the successful completion of activities.***
- ***The project manager is not selected based on specific skills and traits but on other irrelevant factors (availability, skill in a technical competency, not too busy, etc.)***
- ***Good system practices are not understood or used***
- ***Risk Management is considered something only "wimps" use***
- ***The Project Manager is not given sufficient authority?***

Tactical Direction from the USAF

In the early 1990s, General McPeak, then USAF Chief of Staff, wrote down on a piece of paper something that he wanted industry to produce for him. He wanted an all weather precision guided bomb - something that didn't depend on good visibility like laser guided bombs. He even wrote down "radar guided?" He didn't know tech things, he was a pilot by trade, and all he knew is that "I want the following problem solved: to be able to hit targets in any weather with minimum exposure to hostile actions to my aircraft and pilots."(*This was before Drones)*

That was pretty much the scope statement of need that kicked of this project!

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Doing the Right Things at the Beginning

- Personnel Selection best people
- Full time dedicated (No matrix)
- No multi-tasking on the critical path activities
- Chartering and Initiation process with clients – What is in scope and what is not defined early
- Agreements reached on a reduction in routine BS
- Project planning included the Systems Engineering inputs regarding modularization & functional allocations
- Planned for risk and funded mitigation efforts

Project Initiation Worksheet

1.1 **Problem Statement**

Describe the business reason(s) for initiating the project, specifically stating the business problem.

1.2 **Project Description**

Describe the approach the project will use to address the business problem.

1.3 **Project Goals and Objectives**

Describe the business goals and objectives of the project. Refine the goals and objectives stated in the Business Case.

	A	B	F	G	H	J	K	O	P	U
1	Risk No.	Related Risk	RISK	Timeframe Start	Timeframe End	I	Po (%)	Borda Rank	R	Manage/Mitigate
2	1	4	IF contract is not awarded before 30 Sep, THEN program loses $8M in expiring funds.	30 Jan 1999	30 Sep 1999	C	60%	0	H	Use existing Task Order contract to assure award before 30 Sep.
3	2	N/A	IF unmodified commercial laptops are used, THEN operational availability cannot be met in intended environment.	28 Feb 1999	28 Feb 2000	S	100%	0	H	Limit buy for first release and plan technology insertion for improved environmental performance for second release.
4	3	4	IF DII COE V1.5 is more than 1 mo. late, THEN first release will slip day for day.	30 Jan 1999	30 Oct 1999	S	90%	3	M	Use DII COE V1.4 for first release and modify requirements.
5	4	1,3	IF first release is not demonstrated in EFX, THEN program will be assigned to Navy.	15 Feb 1999	15 Apr 2000	C	60%	0	H	Integrate only those capabilities available at contract award for first release.
6	5	1	IF all KPPs must be satisfied by second release, THEN program funding is insufficient.	30 Jan 1999	30 Jul 2001	S	40%	4	M	Use CAIV to prioritize release content subject to budget and plan for third and fourth release.

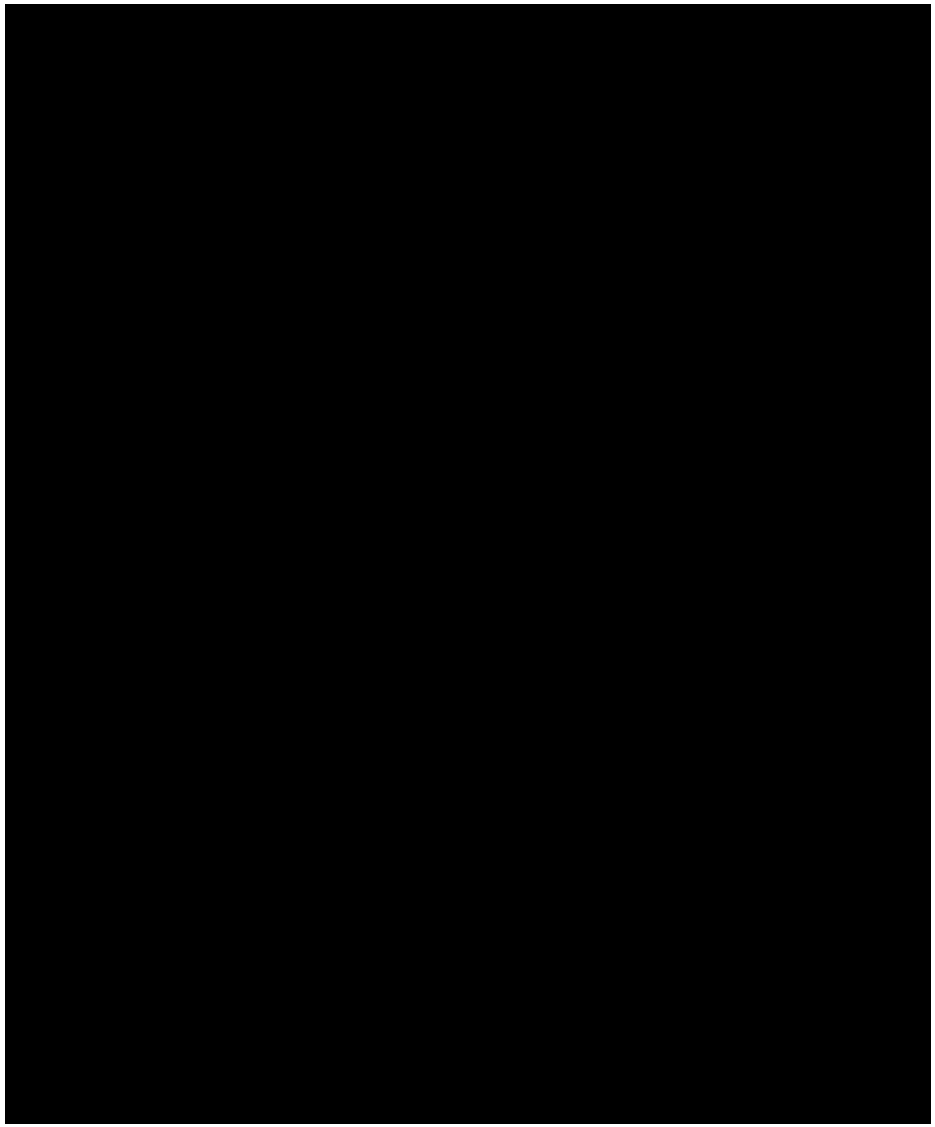
RiskEntries / ChartI / ChartPo /

Things Done Right During Execution

- Physical co-location including Govt. Representatives
- Project moved from vendors to Eglin at first opportunity
- Scope managed by PM/SE
- Mini-integrations at every possible interface point
- Management pay's special attention to needs of team members and made accommodations when necessary – our team doesn't leave their personal lives at the door when coming to work

The Outcome

- Under budget (by a skosh)
- Beat schedule
- Maximized the performance/schedule/budget incentive
- Met program objectives and achieved notable success
- A picture is worth a lot of words and a video is worth even more



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Lessons Learned

- Use proven project managers
- Select team based on skill set and traits
- Obtain SME inputs for cost and schedule inputs
- Do “real” risk management and fund contingencies
- Full-time for duration of project assignments (Pull out of the matrix)
- No multi-tasking for critical path activities
- System Engineering team assigned to the Project Manager (First among equals)
- Obtain continual support from senior management of all elements (Vendors and Government) – A very senior USAF Colonel assigned
- Co-location and maintain high levels of closeness of all staff assigned
- Don’t dwell on why things can’t get done, look for the one way it can be accomplished
- Put the mission objectives first ahead of other considerations

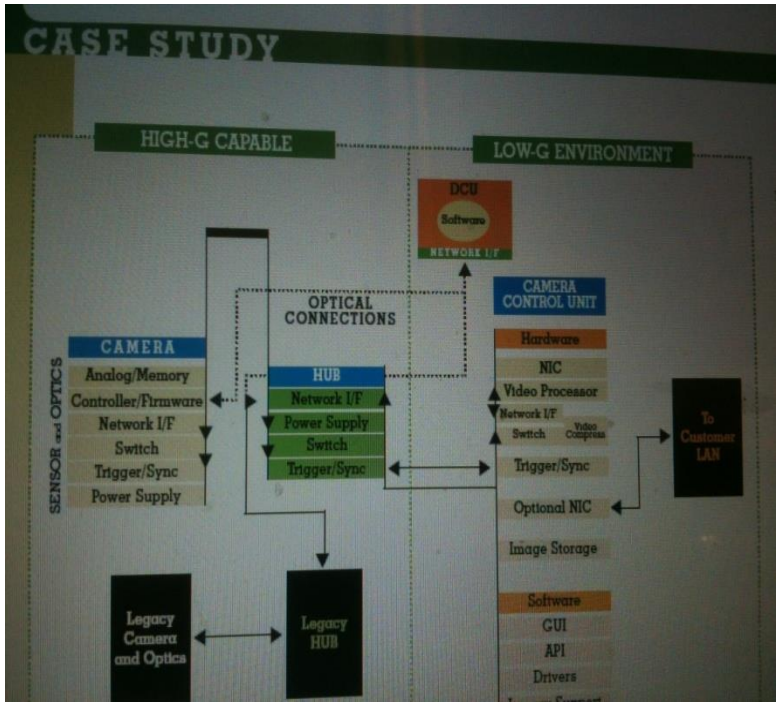
The Initial Scenario

- Wind River Services- San Diego
- Redlake MASD – Subsidiary of Roper Industries
- Former Kodak Division
- Kodak discontinued Optics necessary to produce product
- Redlake could not produce its product and a whole lot of people would be laid-off
- Redlake would be driven out of this entire business sector

Crash Test Camera System – High Speed and High Impact

The Project

- Four week T and M contract to define specifications and initial design
- Fixed Price Design and build contract
- Initial contract in 20 Million Range (final 23.5M with add-ons))
- Initial requirements included building up to 6 deliverable prototypes
- One big surprise in 3rd month



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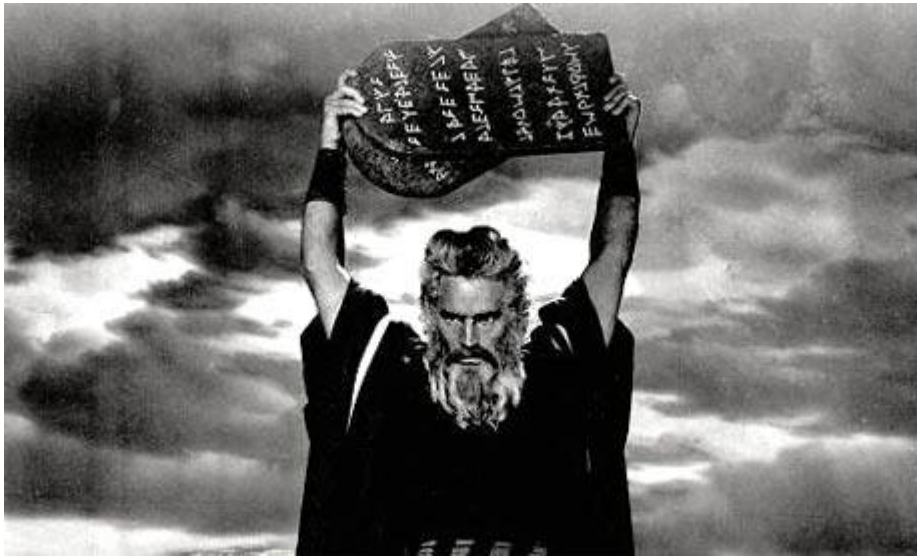
Approach to Project Management

- Full time dedicated teams (25 core members and up to an additional 20)
- Extensive planning
- Bring in experts for specialized activities
- Scope changes under the control of the Project Manager
- Use CCPM and Lean (Agile)
- Escalation Rule



The Eleventh Commandment

(an addendum to the original ten)

Thou shalt escalate!

Methodologies for this Project

- Rapid Development Methodology
- Time Boxed Project
- Fast Tracked (Massive Parallelism)
- Multi-stage integration (minimum surprises at the end)
- Frequent stand-up meetings regarding progress against plans
- Highly interactive and connected sub-project dependencies
- Practice “true” team work…
- Early indication of problems (No secrets) “confess early, confess often”
- The key job description for members of this project team is ”..do whatever you can to help move this project to a successful completion”

Project Leadership and Management Issues

- Project Manager has responsibility for delivering project on-time and in conformance with customer requirements
- Due to the nature of a rapid development project – individual sub-system leads will deal with the great majority of personnel and design issues at the subsystem and team levels.
- The Project Manager will primarily spend most of his time on making sure that individual teams are meeting goals and that inter subsystem dependencies are being met (with help from the SE)
- This project will largely be managed by exception. As long as goals and target are being met there will be periodic drilling-down to verify performance.
- Additional help will be provided by the PM in any area that is having trouble meeting the key goals and schedules.
- PMO will customize processes to meet the needs of the project and run interference with Corporate Management

Final Results

- Really nice bonus to Wind River and members of the team
- Additional work from Roper Industries
- Redlake achieved dominance in this business sector
- Wind River Entry into a new business area (Camera Systems)
- Project methodologies led to great success on NASA Mars Rover Programs
- Learned some really great PM skills
- Project picked by PMI OC and SD as a project of the year and published in PM Net as a case study for doing projects “right”