

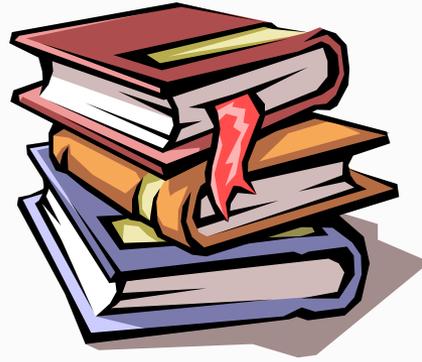
Project Management

"Float the Boat"



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March 5, 2001



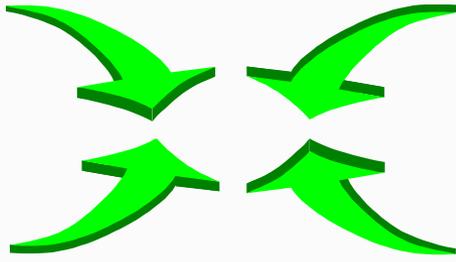
A Comment

A three hour workshop on project management is akin to trying to discuss the evolution of society from the Pleistocene Era to the present, covering all critical matters of civilization while omitting nothing of importance and keeping the audience's attention throughout.

Note – interchanging “program” for “project” does not change anything in this workshop.

The Promises of this Workshop

- ✓ Inform the basics of Project Management
- ✓ Identify what's important about the Project Management Process
- ✓ Identify the Crucial Elements of Project Management, especially why projects fail!
- ✓ Suggest some useful resources
- ✓ *But -- the workshop will NOT make you into a Project Manager or impart the skills/ techniques to be one.*



Some Definitions

Project: A task or group of tasks that have a well-defined beginning, consist of well-defined events and activities, and have a well-defined ending.

Program: A continuing set of actions or projects.

Task: an activity for a particular purpose over a finite span of time.

Event: A starting or ending point.

Activity: Action(s) that culminate(s) with a well-defined event.

The Parameters: Time, Cost, Performance, Satisfaction.



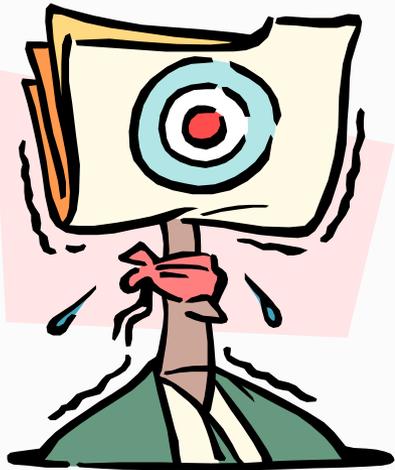
What Distinguishes a Project?

- ✓ **Start** - Begins with the determination that something specific is to be accomplished, either as a one of a kind or as a series of recurring specific items
- ✓ **Change** - A phased process/sequence of activities and events, typically consisting of Planning, Implementation (Execution), and Control functions
- ✓ **Stop** - The formal termination/completion and celebration of accomplishment; disbursement of assets and resources

Neither the magnitude of the undertaking nor the number of people involved matter in determining what constitutes a project.

"Golden Rules" of Project Management

- ✓ Recognize the need for change
- ✓ Get consensus on outcomes
- ✓ Get stakeholder support
- ✓ Get the best team possible
- ✓ Determine everything that is required
- ✓ Set a realistic schedule
- ✓ Don't attempt the impossible
- ✓ Project management is people management
- ✓ Keep everyone informed
- ✓ Leadership counts
- ✓ Accept the need to innovate



Why Projects Fail - I

(There are many and varied causes/contributors)

- ✓ Inadequate allocation of resources to the plan
- ✓ Insufficient allotment of time for planning
- ✓ Ill-defined expectations or outcomes
- ✓ Unfulfilled stakeholder expectations
- ✓ Withheld communications by management
- ✓ Lack of commitment by top management
- ✓ Planning process is not understood or integrated into the management process
- ✓ Managers/workers at all levels are not consulted or did not contribute to the planning process
- ✓ Wrong or inadequate assumptions and inputs



Why Projects Fail - II

(Inadequate and untimely allocation of resources)

- ✓ **Responsibility for planning is solely (and wrongly) invested in the planning group**
- ✓ **Management expectations are unrealistic (e.g., no funds will be required either for the process or for implementing the plan)**
- ✓ **Too much is attempted**
- ✓ **Required resources are allocated in inadequate amounts or at the wrong times**
- ✓ **Management ignores the plan**
- ✓ **Financial projections are confused with planning**
- ✓ **Budget(s) do not match the plan(s)**



The Project Manager

✓ **Anyone can be a project manager, but not everyone wants to be one, or will be good one.**

✓ **Necessary traits:**

✧ Consensus Builder

✧ Decisive

✧ Patience

✧ Unafraid of Risks

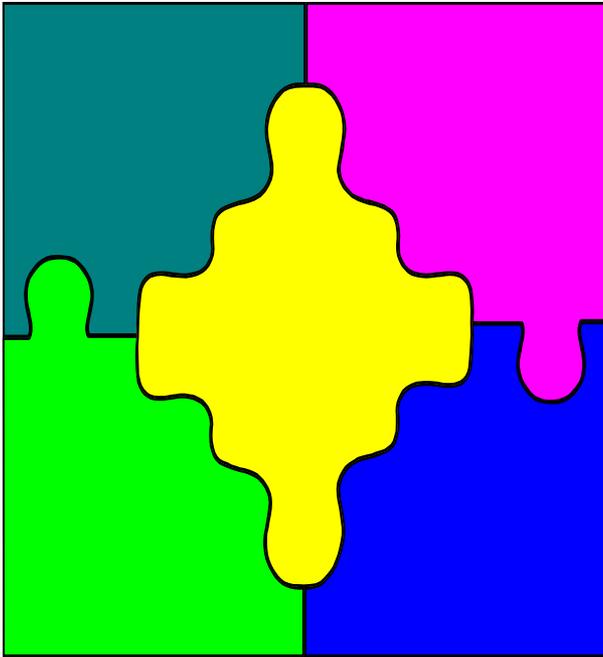
✧ Commitment

✧ Willing to delegate

✧ Realist

✧ Optimist

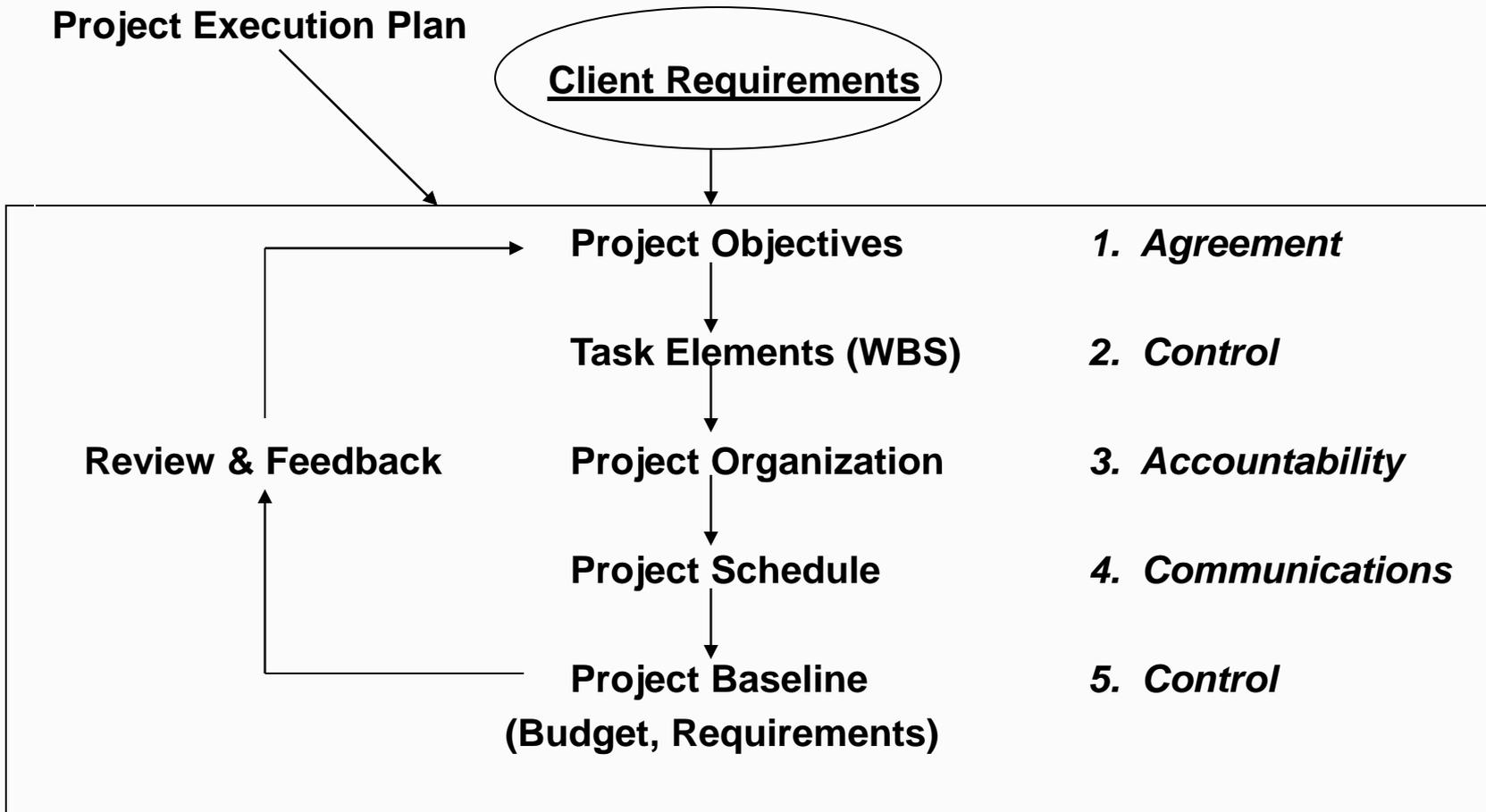
The Five Phases of Project Management



- ✓ **Initiation**
- ✓ **Planning**
- ✓ **Execution** (or Implementation)
- ✓ **Control**
- ✓ **Completion**/Termination

An Alternative View

Elements and Behaviors



But, First!

Is a feasibility study/exercise required?

✓ If the impetus for change is internally generated, the feasibility study

Defines Alternatives and Requirements

Defines Constraints/Boundaries

Identifies Risks

Facilitates Consensus Building

✓ If the impetus for change is externally generated, it is still a good idea to do one, even though the options may be limited or the approach dictated.



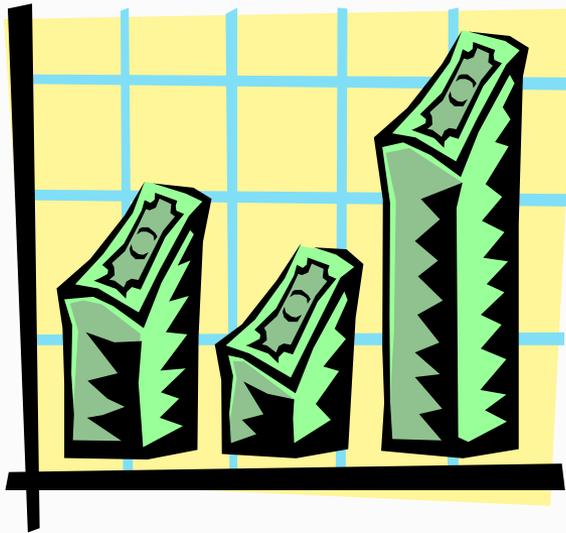
Initiation -- Part I

Clearing out the brambles

- ✓ If there are competing projects, prioritization is a must.
 - ✧ (This is a management responsibility). ✧
- ✓ Project feasibility is not justification for doing it.
 - (A project not worth doing is not worth doing well -- Pournelle's Fifth Law)
- ✓ Is it worth it? Five Criteria and Eight Steps

Initiation -- Part I Cont'd

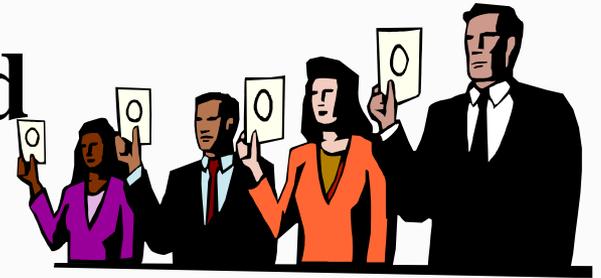
Five Criteria for Determining the Worth of a Project



- ◆Lack of needed resources
- ◆Conflicting goals
- ◆Outcomes violate policies, laws, or image
- ◆Inability to act quickly enough
(Who wants to be second?)
- ◆Conflicting projects competing for same resources

Initiation -- Part I Cont'd

Eight Steps to Prioritizing



- Simple list of all current and planned projects
- Review need/opportunity for each project
- Establish ROMs (Rough Order of Magnitude) for need dates and budgets for each project
- Evaluate overall feasibility of each project
- Evaluate risk incurred by each project
- Seek consensus on the projects
- Eliminate Inappropriate Projects
- Order by importance (prioritize)



Initiation -- Part II

Scoping the Goals

- Goals must be specific and limited in number -- What is wanted?
- Goals must be realistic -- attempting the impossible will not work
- Goals are defined in terms of the key parameters -- time, cost, performance, satisfaction
- Goals must have a completion point --If we don't know when we get there, we are lost.
- Goals must be measurable -- See the preceding statement
- Goals must be agreed upon -- or we will work at cross-purposes
- Responsibility for achieving the goals must be identified (and assigning responsibility to a committee will not work)

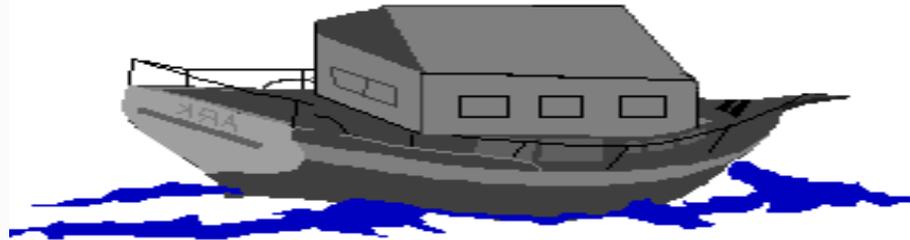
An Example "Float the Boat"



The Noah's Ark Project

What is the project?

What is/are the goal(s) of the Noah's Ark Project?



- To build a boat?
- To get the animals (and folks) on board?
- To survive 40 days of flood?
- To land on Mt. Ararat?
- To save humanity?
- To obtain a genus census?
- To clear land?
- To provide employment for Noah's sons?

What is the project?

- If the goal is to build an ark, there are a finite number of tasks that must be started and completed before Noah has a functional boat.
 - If the goal is to get two each of every creature on board, there are even more tasks that must be accomplished.
 - If the goal is to survive the flood, there are still more tasks that must be accomplished.
- ① Note that each of the above goals may be accomplished as a project, with each preceding task being required in order to meet the goal of the succeeding tasks.
- ② Note also that it is helpful, even necessary, to break a large undertaking into a number of smaller, more manageable projects.

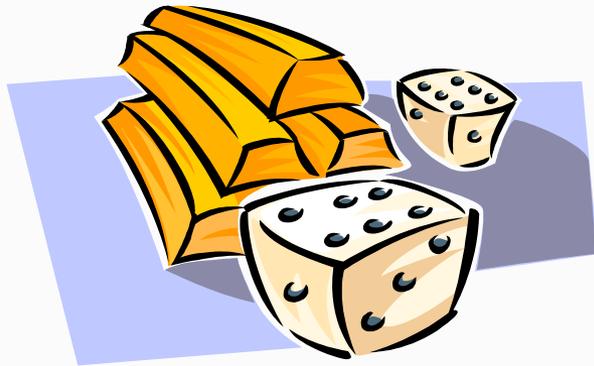
Who are the stakeholders?



- ✓ Noah (project manager)
- ✓ Noah's Family (staff)
- ✓ The "Critturs" (affected bystanders)
- ✓ Future Generations (successors)
- ✓ The Diety (the boss)
- ✓ The Angelic Host (the Boss's inner circle)

While each stakeholder body has an interest in the success of the project, they have differing reasons for their interest and differing expectations for satisfaction.

The project manager has to satisfy each of these sometimes conflicting groups.



Initiation -- Part III

Risk

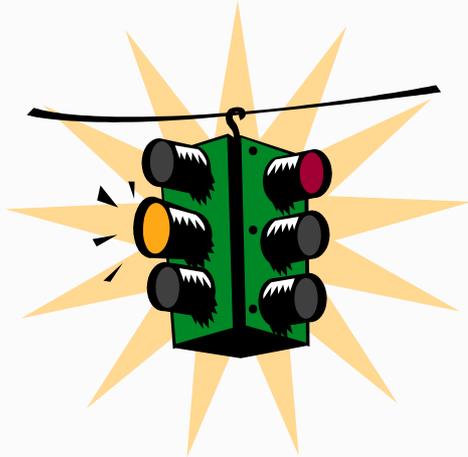
▼ **Risk** -- likelihood of something going wrong. Therefore, break the project down into doable components. And remember, Murphy is always right.

▼ **Question everything** -- assumptions, estimates, availability of resources, the present reality.

▼ **Include contingencies** -- remember, the key parameters are only estimates until the bills are finally paid, and estimates are almost always low.

Initiation -- Part III Cont'd

(Constraints - planned, unplanned, and overlooked)



- The Budget
- Time (schedule)
- People
- Reality (aka the infrastructure)
- Availability of facilities & equipment
- Acts of Nature



Initiation -- Part IV

Building the Project Team

- ✧ Identify needed skills
- ✧ Identify key project personnel
- ✧ Obtain management commitment
- ✧ Obtain team member commitment – build ownership
- ✧ Recognize political reality -- two or more people become a political entity
- ✧ Get the best possible people up front
- ✧ Provide the means to nurture the team



Project Planning

- If there is a continuing cycle of on-going projects, a planning group may be worth having.
- There is much to be said for having the planners becoming the doers.
- A good planner is not necessarily a good executive; a good executive is not necessarily a good planner.



Task Definition

(Work Breakdown Structure)

- ★ **Unambiguous** -- Saw 1,200 6" x 1" x 12' Planks, beginning on Day 16 and ending on Day 23, sawn by Shem and Enoch
- ★ **Related Work Elements** -- Collect all millwork and related equipment and personnel
- ★ **Appropriate Level of Detail**-- If the type of equipment is important, then indicate it (how many items, what sizes, where needed, etc.)
- ★ **Related/Complementary Skills** -- Sawyers, hewers, planers, drillers, finishers, painters
- ★ **Logical and Ordered** -- Locate the needed number and kinds of trees, fell and trim the trees, move them to sawmill
- ★ **Verifiable Results** --Count and measure the planks

Task Definition, Cont'd

(Work Breakdown Structure)

- Function/discipline oriented -- sawyers, framers, planers, cabinet makers, finishers, painters
- Reporting Structure -- matrix, traditional, cross-discipline or departmental
- Physical Location -- Below deck, on deck, above deck, stores
- Systems & Subsystems -- Hull & Structure, mechanical, sails, navigation & steering, mess & quarters, provisioning, utilities



Displaying the Project

- ✎ Narrative Descriptions -- Lowest utility, highest level of abstraction
- ✎ Lists -- OK for (very) simple projects
- ✎ Schematics -- Techies love them; others don't
- ✎ Gantt Charts -- Accommodate fairly complex projects; difficult to show precedences, detail
- ✎ Network(s) -- Provide a comprehensive status; shows precedences and criticalities -- If a project has more than four tasks and more than two parallel tasks, a network diagram is in order.

Narrative Description

And God said to Noah, "...Make yourself an ark of gopher-wood, make rooms in the ark, and cover it inside and outside with pitch. And this is how you shall make it. The length of the ark shall be three hundred cubits, its width fifty cubits, and its height thirty cubits. You shall make a window for the ark, and you shall finish it to a cubit from above, and set the door of the ark on its side. You shall make it with lower, second, and third decks." Genesis 6:13-16, NKJV

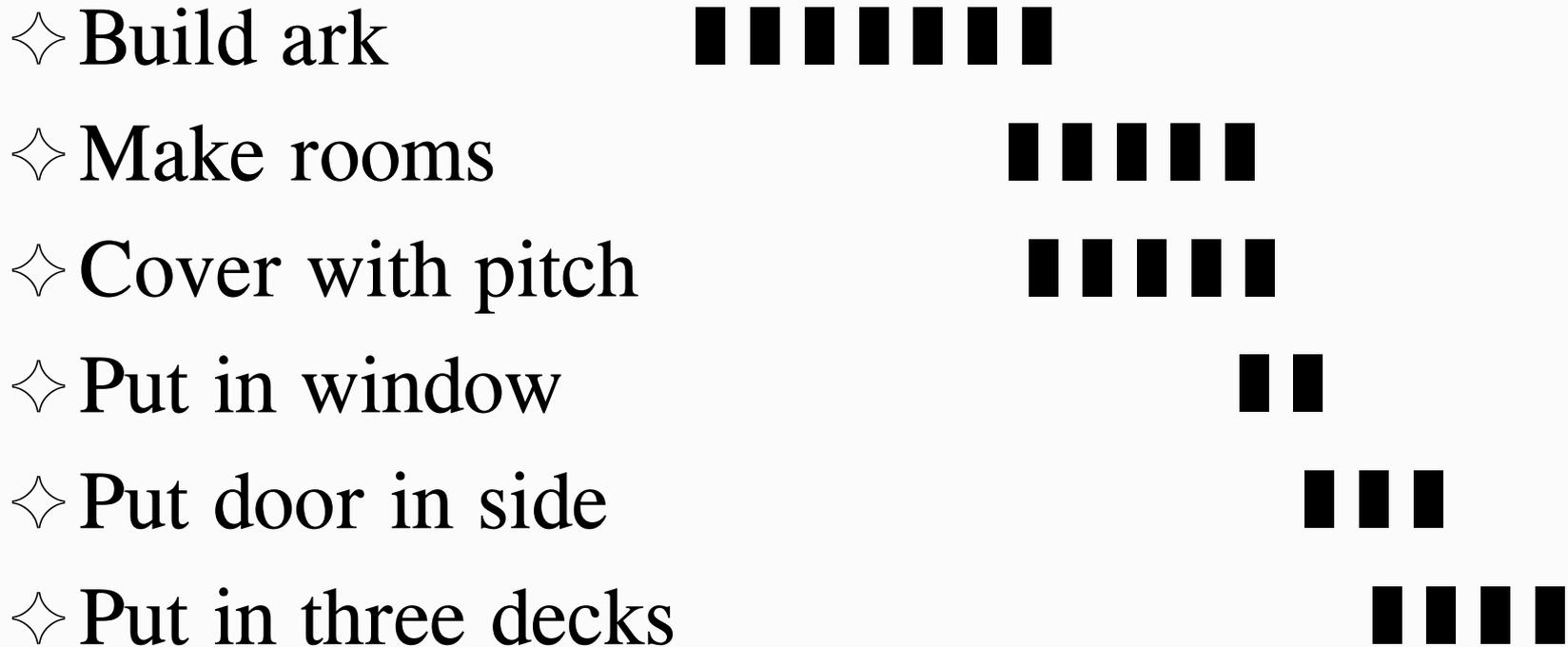
➡ Not only is this a narrative description, it is also a pretty good start on a set of specifications. Still, there is a great deal that is not stated.

List

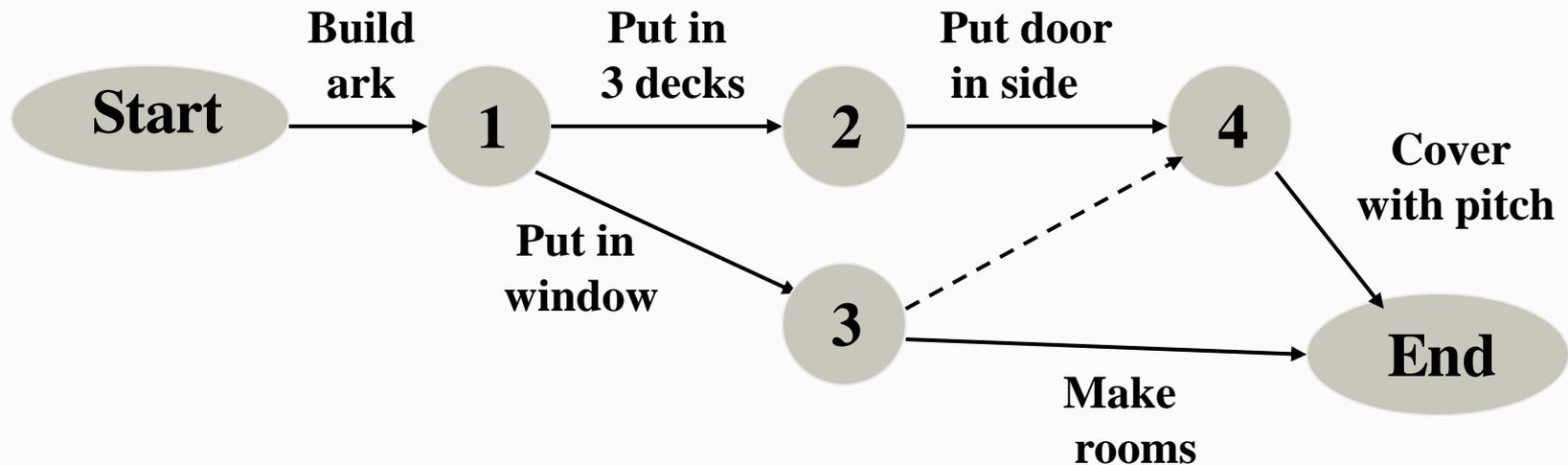
- ✓ Build ark
- ✓ Make rooms
- ✓ Cover with pitch
- ✓ Put in window
- ✓ Put door in side
- ✓ Put in three decks

This is a start, but there are still details to be provided: start & ending times, skills needed, required equipment & material, costs, etc.

Gantt Chart



CPM/PERT Diagram



Assemble Needed Resources

- ✧ People
- ✧ Budget
- ✧ Equipment
- ✧ Facilities
- ✧ Materials & Supplies
- ✧ Data & Information
- ✧ Technology



*Cost, Availability,
Quantities, Resulting
Outputs from the
Resources, Disposition
of Scraps, Tooling*



Some (Needed) Reminders

- * Some things cannot be hurried by adding more people, but too few cannot solve problems on time
- * No two estimates of the same thing are alike
- * "No" is the Project Manager's best tool
- * Setting an unreasonable deadline is not a good way to force results
- * The more unreasonable a deadline is, the more it costs
- * Optimism may be a cover for desperation
- * Freezing the requirements won't alter the user's expectations
- * Frozen requirements and the abominable snowman are myths; both melt when heat is applied
- * Conditions of a promise are forgotten, but the promise isn't
- * What you don't know will hurt you



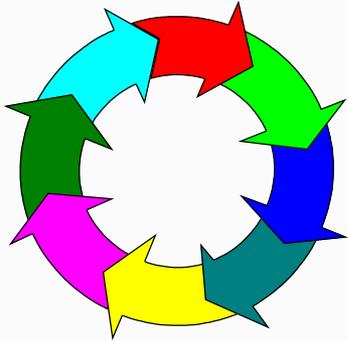
The Completed Plan

- ✓ Objectives, Assumptions, and Risks
- ✓ Critical Milestones
- ✓ Work Breakdown Structure
- ✓ Network Diagram
- ✓ Resources - Human, Equipment, Materials & Supplies
- ✓ Budget
- ✓ Organization
- ✓ Operating Procedures
- ✓ Assessments & Review Standards
- ✓ Approvals -- Go/No-Go Points



Gotchas!

- ✧ Is everything costed?
- ✧ Transportation Covered?
- ✧ Permissions and Approvals
- ✧ Licenses, permits & Clearances
- ✧ Insurance
- ✧ Weather and Acts of Nature
- ✧ Unavailable resources -- strikes, etc.



Iterate the Plan

Once the plan is put together, it takes considerable self- and organizational discipline to go back and re-do everything in the plan. The consequences of not doing this, however, far outweigh the costs of doing it.

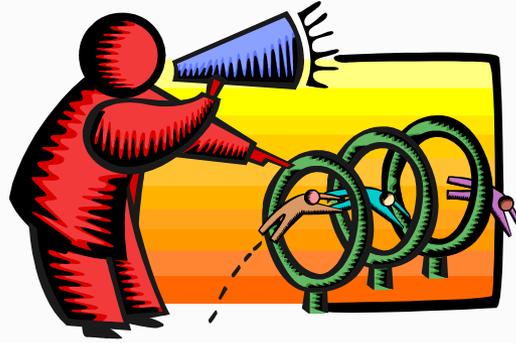


Execution

(Now the project can begin)

- ◆ **Formal Kick-Off**
- ◆ **Leadership, MBWA**
- ◆ **Operating Policies and Procedures** -- Who approves what, Who needs to know and by when, When and how are status reviews scheduled
- ◆ **Communication** -- Too much is much better than too little
- ◆ **Reporting**--Match to the significance of the effort

Control



A Baseline is essential!

- ✓ Monitoring: Status, Volume, Quality of Work; Costs & Spend Rates; Morale
- ✓ Review & Audit
- ✓ Intervention: Variance Limits; Re-allocation
- ✓ Conflict Resolution
- ✓ Change Control

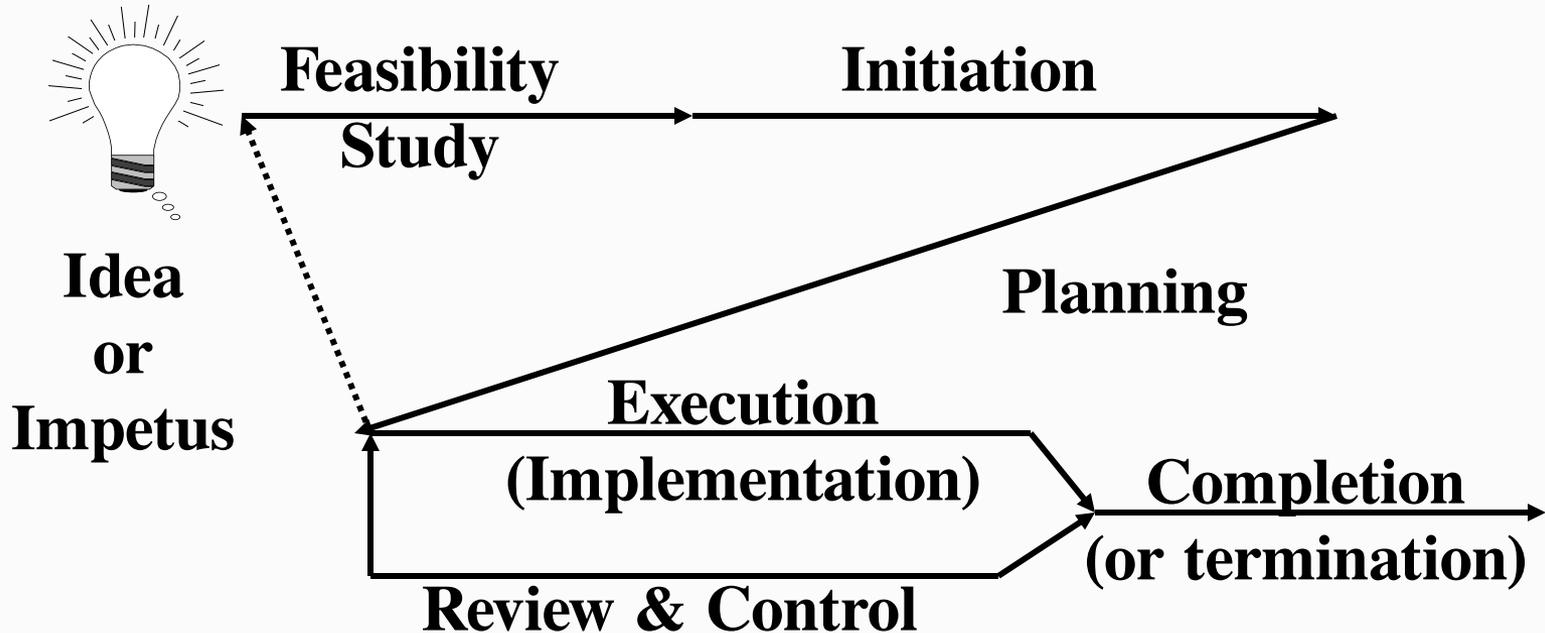


Stop

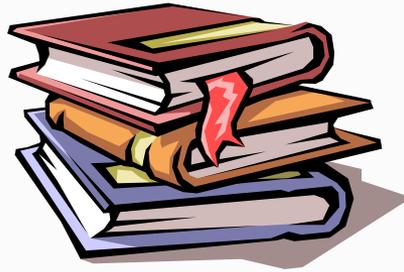
"Parting is such sweet sorrow."

- "The last nail"
- Celebrate completion -- Acknowledge the accomplishment and those who did it
- "Turn out the lights" -- disburse/distribute remaining assets
- "Lessons Learned"
- Place the team members: Inclusion, integration, extinction

Let's Put It All Together



The key to successful project management is a good plan that is kept current, with measurable performance and cost standards and staffed by a dedicated team.



Some Resources

Project Management Institute
130 South State Road
Upper Darby, PA 19082
www.pmi.org

Microsoft Project
One Microsoft Way
Redmond, WA 98052-8080
www.microsoft.com

**The Complete Idiot's Guide to
Project Management**, S. & K.
Baker, Alpha Books, **1633**
Broadway, New York, NY 10019

**The Project Manager's
Desk Reference**, James
P. Lewis, McGraw-Hill

(There are well over a hundred publications on the subject, but these are known to be reliable. The PMI Institute is especially useful for networking with practitioners).



Concluding Remarks

- ★ The plan needn't be the first casualty of the project.
- ★ Brilliant execution will not overcome a flawed plan.
- ★ The review and control process, however wonderful and detailed, will not compensate for a lack of leadership or a lack of good planning.
- ★ Failure to attend to the basics leads to disaster.
- ★ It is not the project manager's project -- it's the stakeholders' project.
- ★ **Project** management is **change** management.