Practical Project Management

By
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Training Objectives

- Increase understanding of essential project management.

- Understand how to use basic tools for project management.

- Understand that teamwork is essential for project management success.

- Understand how to apply easy PM techniques that will increase the success of your projects.

- Understand that what was presented is the tip of the iceberg with respect to Professional Project Management Methodologies/Practices/etc.

TEAMWORK

Murphy's Law

Anything that can go wrong,

WILL GO WRONG!

So, Have a Contingency Plan!

(Manage Risk)

Leadership

Leading ordinary people to accomplish extraordinary things!
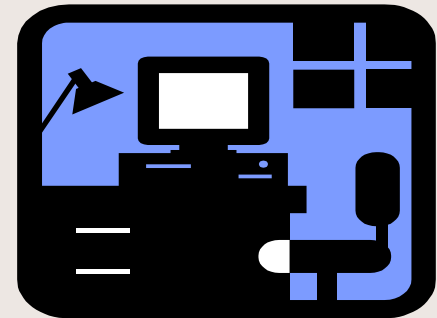
PLANNING

Being prepared

is

50% of the Victory

What is a Project?

- A temporary (start, execute, end) endeavor undertaken to create a unique product or result.
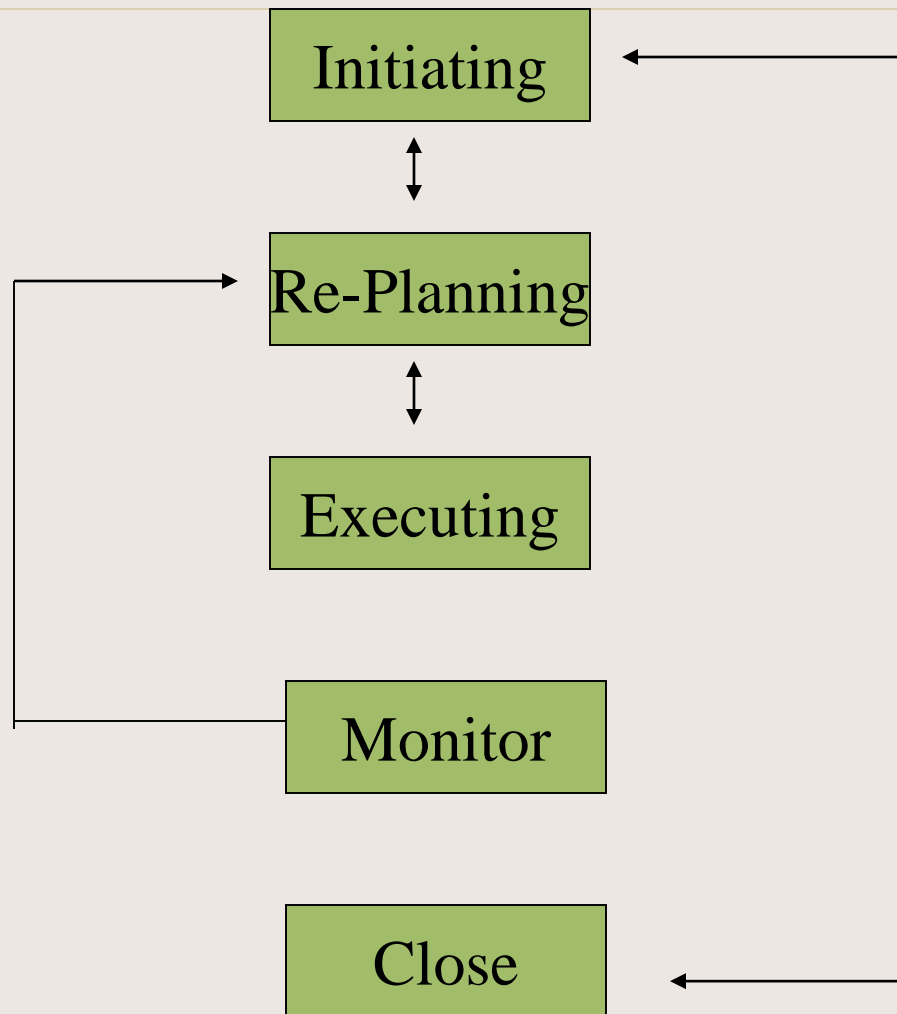
What is Project Management?

- The Application of knowledge, skills, tools, and techniques to project activities to meet the project requirements.

Five Managerial Activities

Project Types

- Source
  - Personal

  - For organization

  - For customer
  - Subcontracted
  - Internal departmental

- Example
  - Replacing kitchen cabinets

  - Install Computer Server

  - Create a website
  - Re-model office building
  - Process Improvement initiative

4 Project Characteristics

- Projects have Objectives

- Projects are Unique

- Projects require Resources

- Projects are executed within Organizations

Objective

- WHY – are you doing the project, how does it align to the business strategy?
- WHO – is going to execute the project, who is going to be involved/affected by the project (Customers, users, stakeholders).
- WHERE – is the project going to be executed and where the results/solution is going to be used.
- WHAT – are the objectives of the project, what are we trying to accomplish.
- WHEN – the activities of the project will take place (times & scheduling).

Objective

- Triple Constraint (TC)
  - Performance Specification (Scope)
  - Time Schedule
  - Cost Budget

- Prerequisites for Success must be S.M.A.R.T
  - Specific   - Measurable
  - Attainable   - Relevant
  - Time-bound

Achieving TC is Difficult

- Change is always happening
- Specification Changes
- Market Changes
- Sponsor Changes
- Technology Changes
- Laws & Regulations Changes
- Priority Changes

Projects Are Unique

- Done one time
- Temporary
  - Start, Execute, End
- People are different each time (roles, interactions)
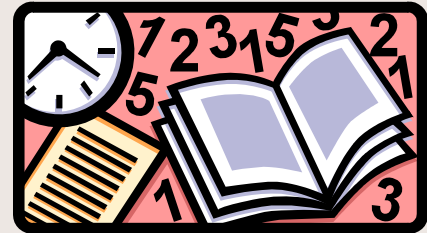
Resources Are Required

People

Things

Money

Organization Reality

- Is Composed of different individuals
  - Skills
  - Interests
  - Personalities
  - Unpredictability

- So the project manager must deal with
  Interpersonal conflict

Organization Reality

- The Organization wants the individuals to line up with its values:

    - Mission

    - Vision

Project Management

The Triple Constraint

Performance

Specification (Scope)

Time

Schedule

Budget
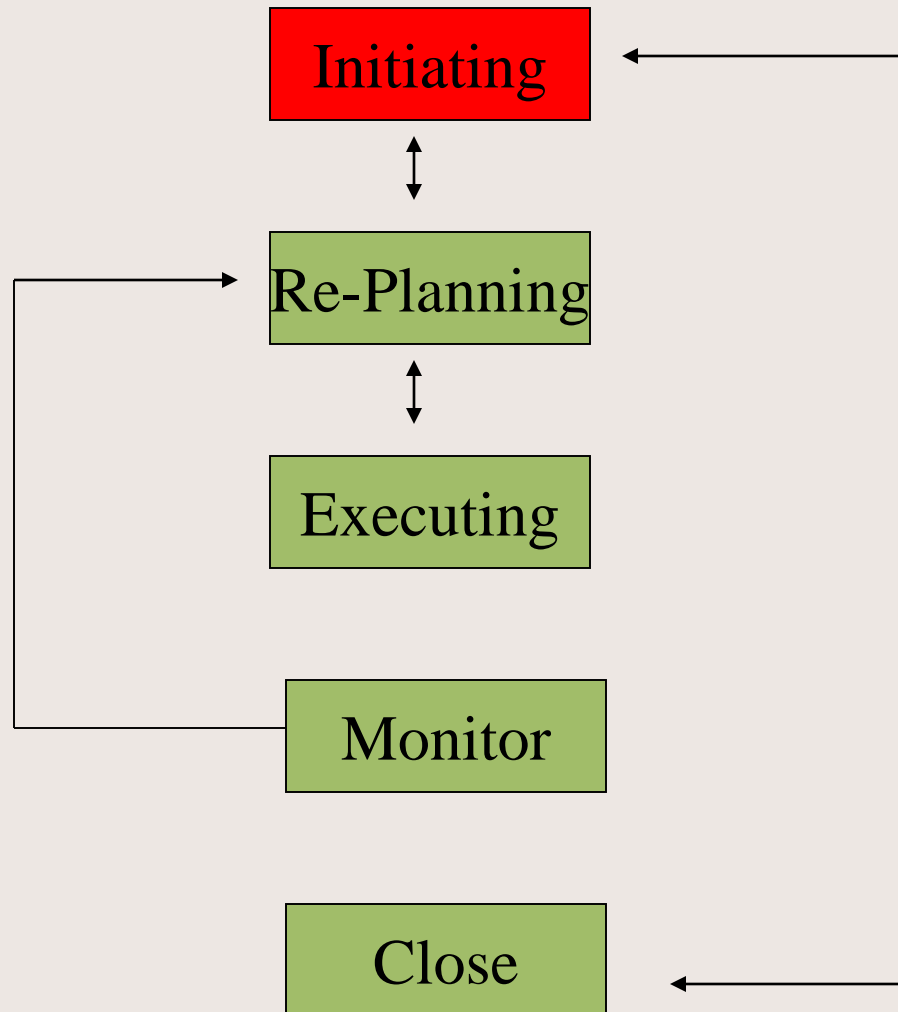
Cost
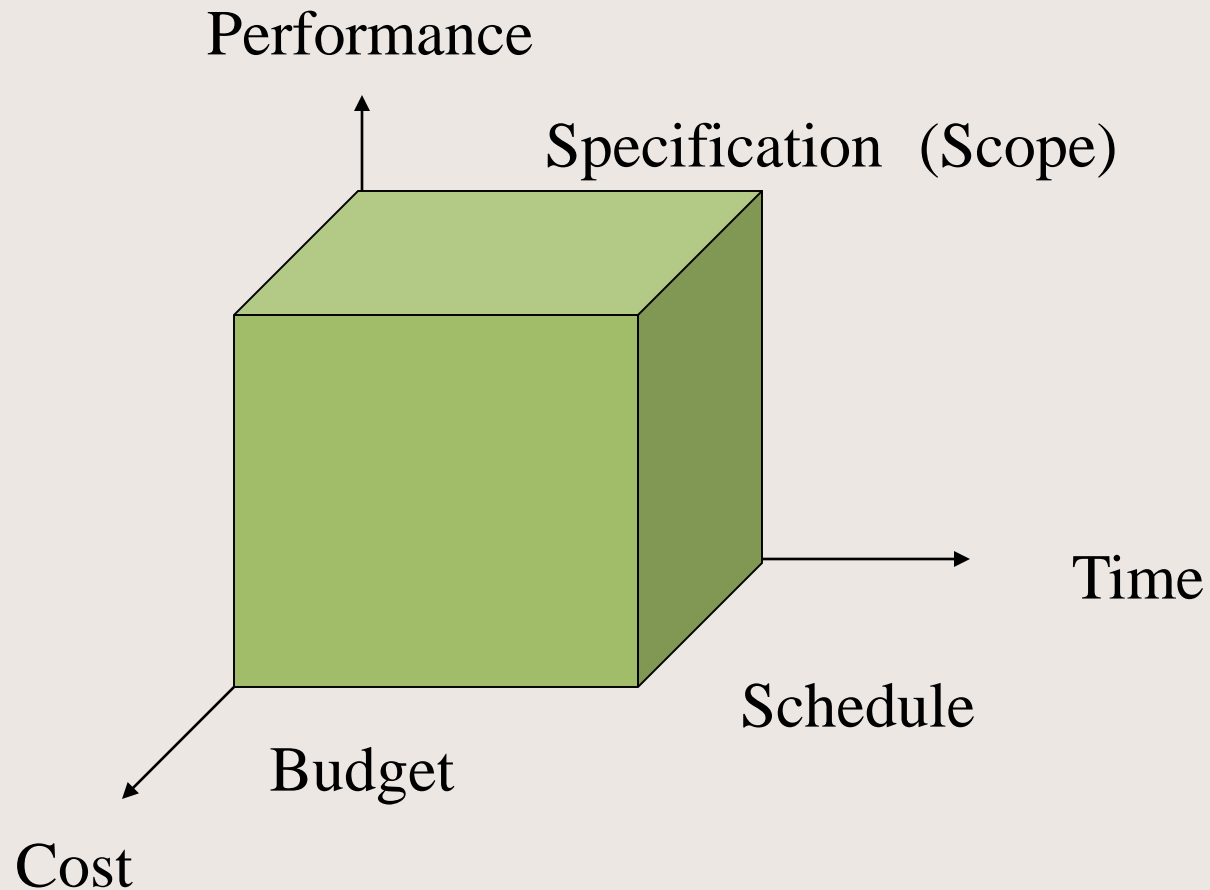
How Do You Start a Project?

- Request –Spoken (Phone, personal, etc)
- Documentation – Written (RFP, letter, email, etc)

Project Supply Chain

Determine User's Needs → Determine Customer's Needs → Project

Satisfy Customer's Needs → Satisfy User's Needs
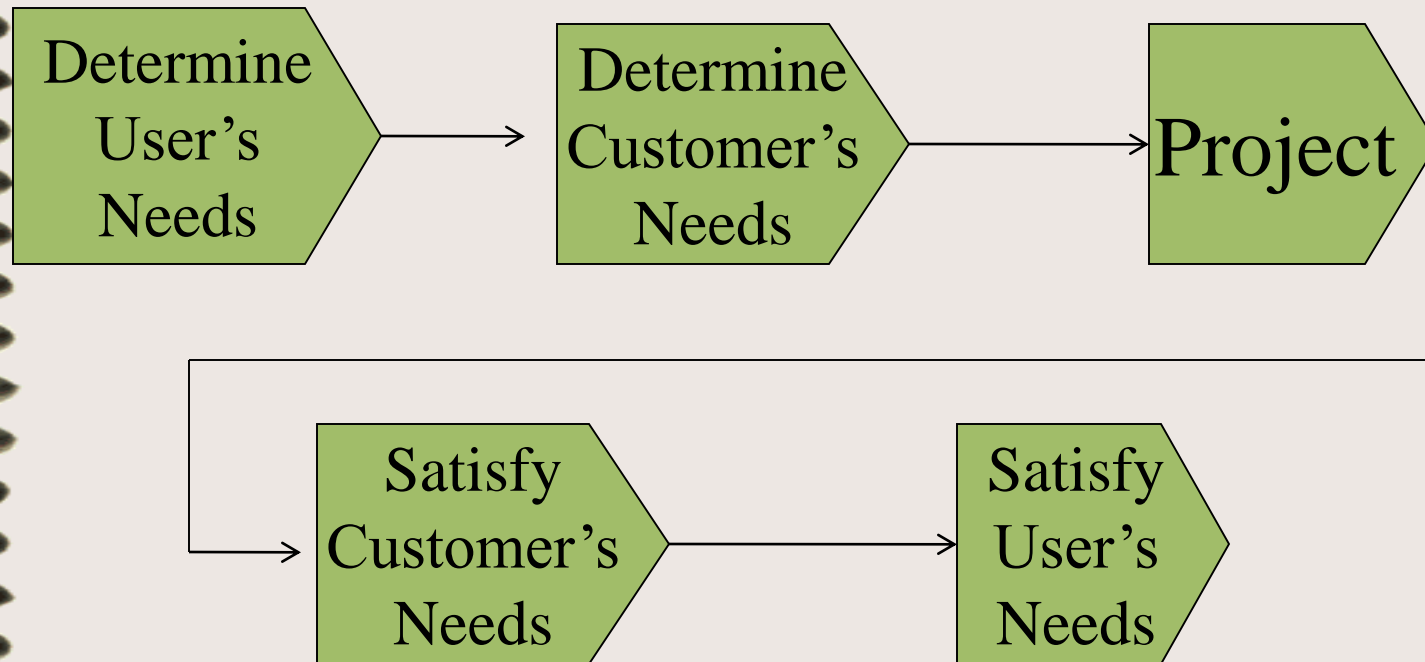
You should talk to both customers and users

Requirements & Specifications

```
┌──────────────────┐    ┌──────────────────┐
│      Laws &       │    │     Company      │
│   Regulations     │    │    Standards     │
└──────────────────┘    └──────────────────┘
          │                       │
          ▼                       ▼
┌──────────────┐    ┌──────────────────┐    ┌──────────────────┐
│  Customers   │    │                  │    │                  │
│      +       │───▶│   Requirements   │───▶│  Specifications  │
│   Users      │    │                  │    │                  │
│      +       │    └──────────────────┘    └──────────────────┘
│  Channels    │        ▲           ▲
└──────────────┘        │           │
              ┌──────────────┐  ┌──────────────┐
              │  Suppliers   │  │  Technology  │
              └──────────────┘  └──────────────┘
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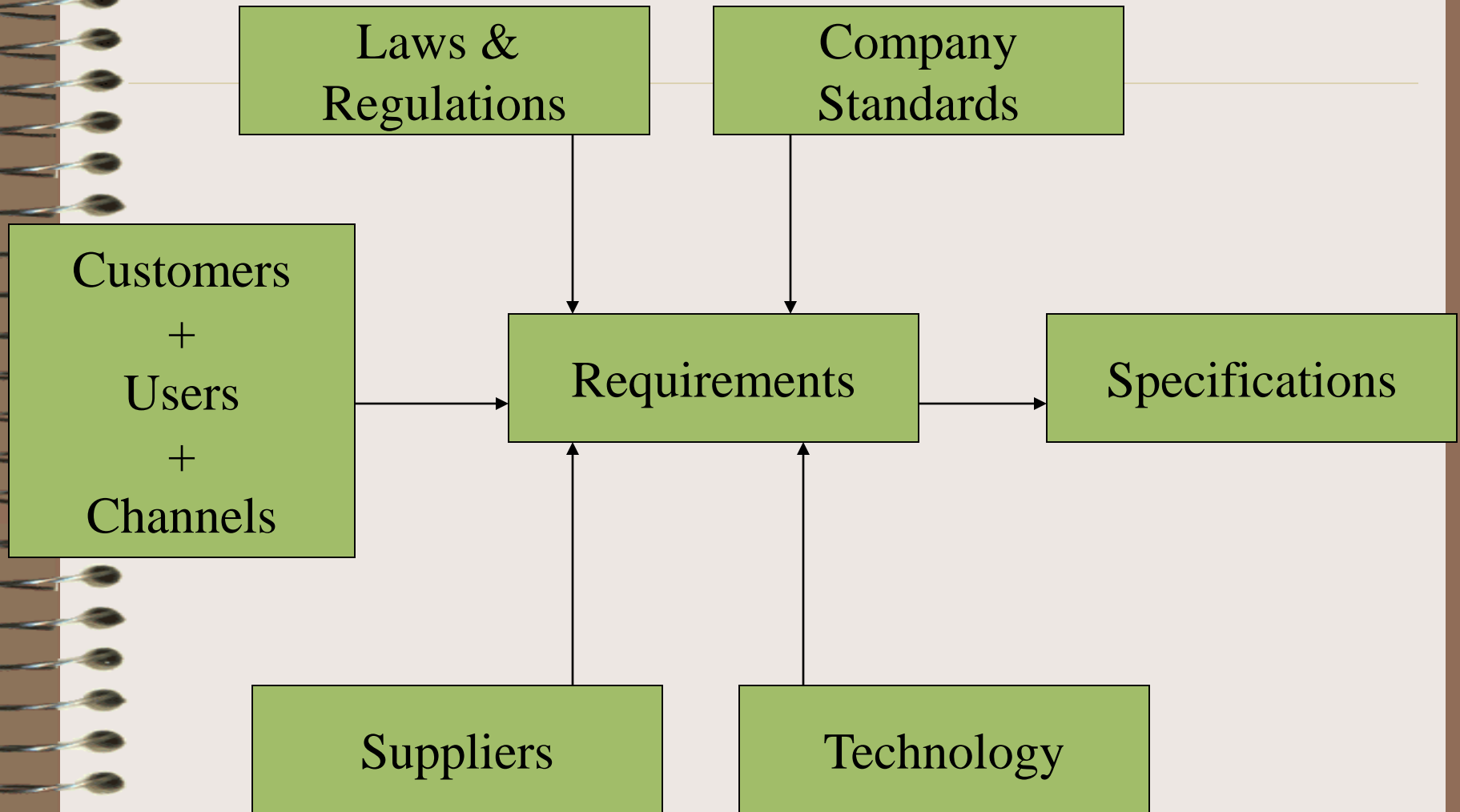
Avoid Ambiguous Specifications

- How many points are in Fig 1.0?

- How many points are in the star?

- How many points does the star have?
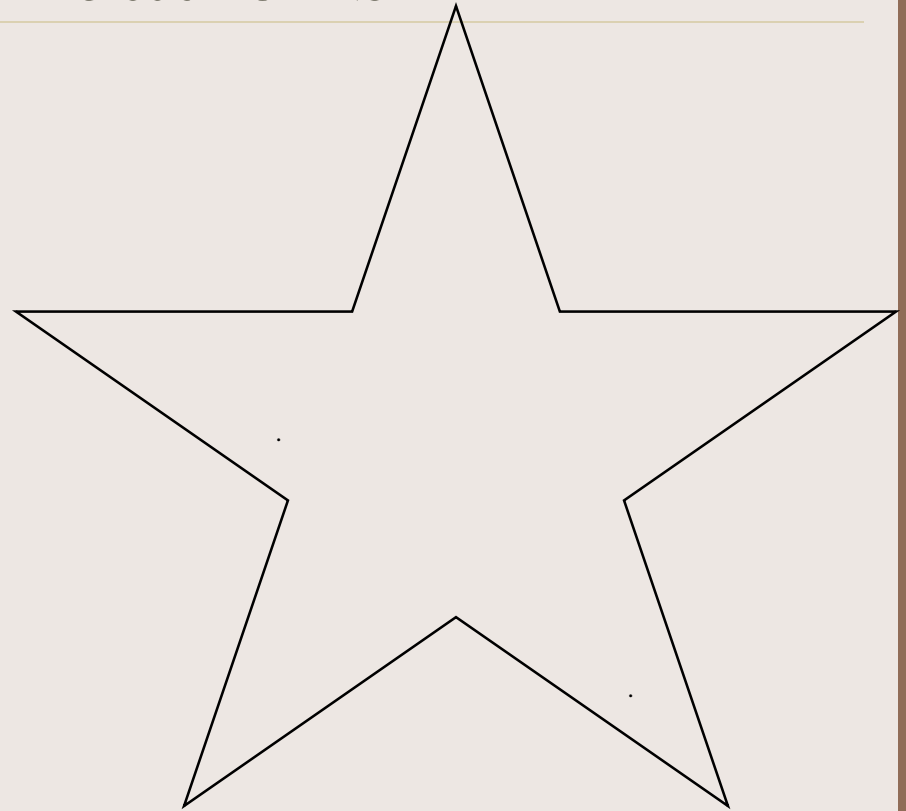
Fig. 1.0

Scope Control

- What is written on the contract is what the scope of the project is unless you do formal change request if you want to prevent SCOPE CREEP.

- When you don't know where you're going, any road will take you there

- Negotiation prescription –
  – Be certain that you, the sponsor, the project and support teams, and anyone else who is involved knows the goals

Documentation created on this Managerial Activity

- Project Charter (A.k.a. Project Definition Doc -PDD)
  - High level plan, detail the aims, scope, project deliverables, risks and project approach
- Statement of Requirements (SORs)
- Risk Register
- Budget

Documentation created on the Initiating Managerial Activity

PROJECT CHARTER

Project Name:
Library Wireless System Installation

Location:
205 Main street, New Iberia, La

Project Sponsor:
John Doe

Project Manager:
John Smith

Project Description:
The National Library in New Iberia wants to offer WIFI access to all customer at a low cost. The first 30 minutes free, then $1 dollar for each 30 minutes. Also, customers should be able to buy a day WIFI pass for $5 dollars. The customers should be able to purchase the air time online or at the library desk. Since there is no IT personnel on staff at the library, the WIFI service should be managed by a third party service.

Deliverables:
WIFI system

Self-serve Online Portal
A Fully Functional WIFI service
Managed Service

Goals/Metric:
 Capable to handle 100 connections at the time

Online portal capable of handling self-serve requests and library desk requests

With 99.9% up time SLA

Documentation created on the Initiating Managerial Activity

Project Scope Is:

WIFI system to cover the entire building including 20 feet around the perimeter of the building.   Online portal with self-serve / Library Desk orders capability. Library desk employees training.

Project Scope Is Not:

End user training

Milestones:	Completion Dates:
Project Start:	
Kickoff Meeting	Oct-1-2013
Pre-Instalation survey	Oct-5-2013
Access Points installation	Oct-10-2013
Controller installation	Oct-10-2013
Online Portal Configuration	Oct-11-2013
System testing	Oct-13-2013
Training Support	Oct-14-2013
Go live	Oct-15-2013
Handover to Managed service	Oct-15-2013
Post Mortem Review-Lessons learned	Oct-20-2013
Project Completion:	Oct-20-2013

Documentation created on the Initiating Managerial Activity

Team Members:

John Smith, Hardware installers, Portal Configuration lead, Training lead, Library contact point, etc

Dependencies (Internal/External):

Field Testers, Managed service contact, Library contact

Risk Assessment:

Availability of library personnel to provide access for the installation of the equipment.

Prepared By:	Date (Last Revision):
John Doe	9/15/2013

Documentation created on the Initiating Managerial Activity

Statement of Requirements (SOR)

ID	Requirement Description	Met (Y/N)
1	Capable of 100 connections at the same time	Y
2	Easy to use online self-serve portal	Y
3	Library Desk online portal	Y
4	Deadline for functional system 20 days after contract signing	Y

Documentation created on the Initiating Managerial Activity

Issues/Risk Register

RISKS

STATUS Open/Closed/ Overdue	Severity HIGH/MED/LOW	Ref	Owner	Description of Risk	Mitigating actions	Originator	Raised	Due Date	Closed	Comments
	H	1	John Smith	Library contact point not available to schedule instalation	Contact Customer Project sponsor to assign an alternate Library contact point	John Smith	Oct-5-2013	Oct-7-2013		Unable to execute pre-instalation survey, therefore the project may be delayed

Documentation created on the Initiating Managerial Activity

CAPEX BUDGET

Library Wireless System

One Time Cost					
Item	Quantity	Unit Cost	Budgeted Cost	Quotations	Differences
Cabling Installation	20	$675.00	$13,500.00	$11,723.69	$1,776.31
Network Room Setup	1	$2,000.00	$2,000.00	$0.00	$2,000.00
Cisco APs licenses	25	$75.00	$1,875.00	$1,375.00	$500.00
Print Server WIFI Net Card	1	$500.00	$0.00	$500.00	($500.00)
Cisco Wireless System Controller	1	$10,000.00	$10,000.00	$9,999.00	$1.00
		Total CAPEX	$27,375.00	$23,597.69	$3,777.31
				Budget vs Actual	
NOTE:					
Yearly OPEX Cost			$1,750.00		
Software Assurance	25	$30.00	$750.00		
Onsite 24x7 support	1	$1,000.00	$1,000.00		

Project Management

Initiating

Re-Planning

Executing

Monitor

Close
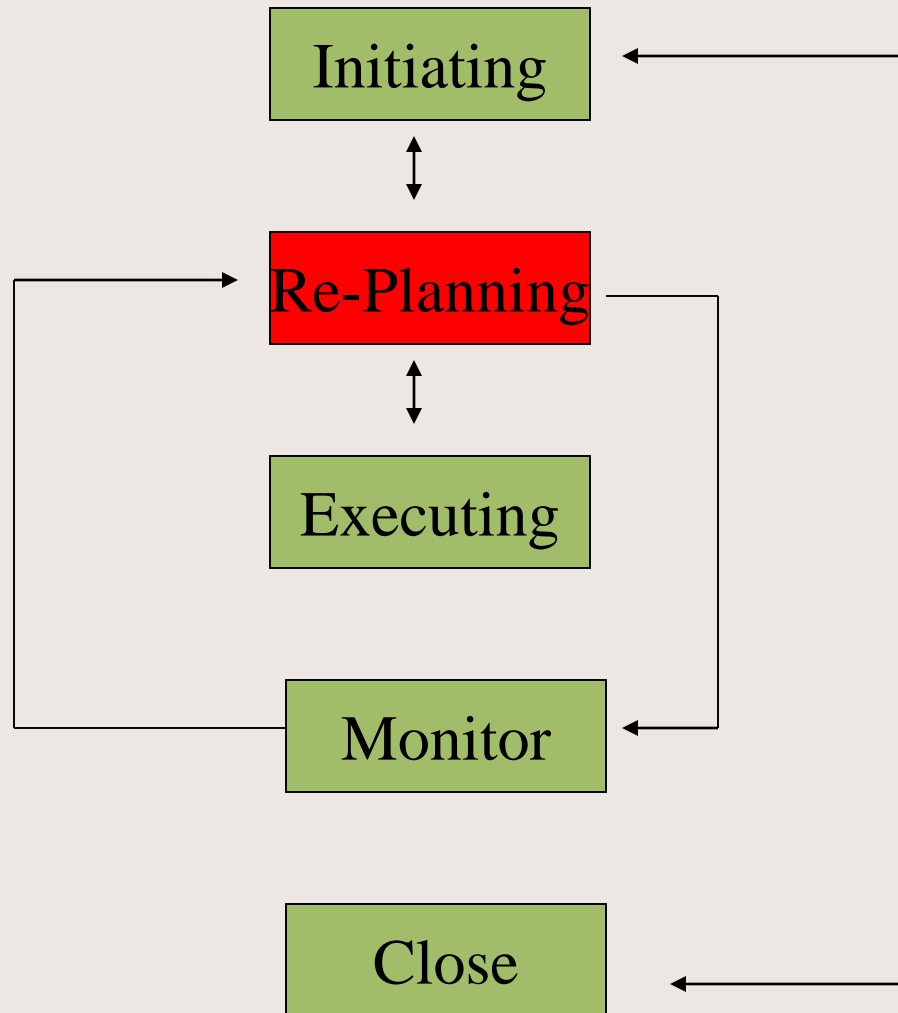
Project Planning Challenges

- Sometimes Planning is seen as a requirement, not a benefit
- Difficult to predict what work will be required
- Takes time –and we'd rather be doing the work
- We often omit input from intended participants
- Frequently based on optimistic schedules
- Rarely include realistic contingency
- Complex for very large projects

Planning

Which route

do we take?

Where you
want go (Projects
Goals)

Plan

Where you
Are now
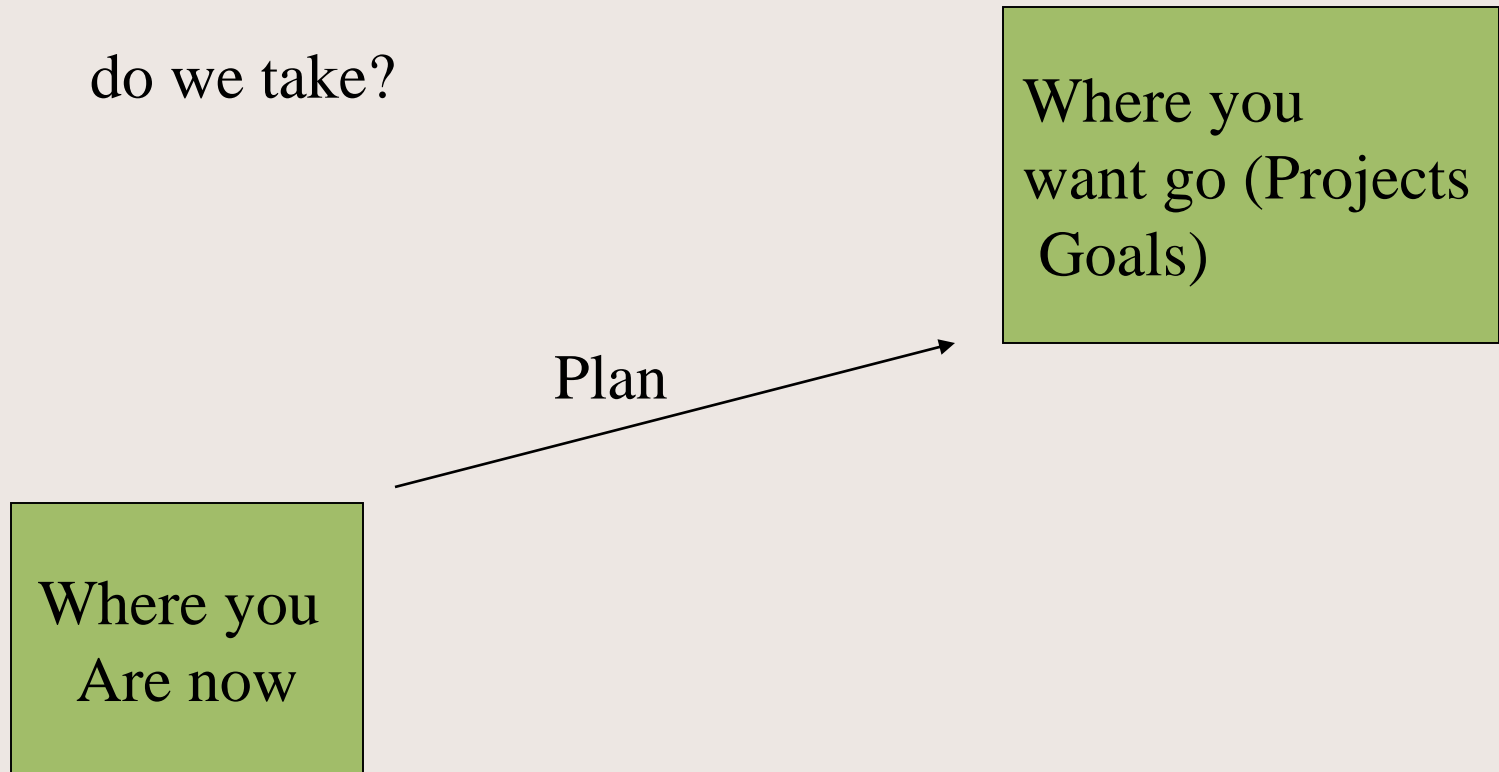
Each Task Should be SMART

- Specific

- Measurable

- Achievable

- Results-oriented

- Time-bound

Documentation created on the Planning Managerial Activity

- Timeline (Excel)

- Communication Plan (Word)

- Project Plan (Schedule - Excel)
  - Activity duration (time)
  - Sequence of Activities (Order of execution)

  - Priority of Activities (What is done first)

  - Constraints (Activities that limit other activities)

The Plan is a Target

Project Plan

Project Plan

Project Name:				Status:	On Track	Report Date:	10/5/2013	
Library Wireless System Installation								
Project Manager:				Project Sponsor:				
John Smith				John Doe				

Mile-stone	Task	Description	How / Deliverables	Who	Planned Completion Date	Revised Completion Date	Actual Completion Date	Status
Mile-stone	**Kickoff Meeting**							Completed
1	1	Create all project documents	Update documentation	John Smith	10/1/2013		10/1/2013	Completed
Mile-stone	**Pre-Installation Survey**							On Track
2	1	Make appointment with library contact and schedule resources to conduct survey	Pre-Installation Survey document	John Smith/Survey Team	10/5/2013	10/7/2013		Late
Mile-stone	**Access Point Installation**							On Track
3	1	Order required equipment from Warehouse	Pick up required equipment from Warehouse	John Smith	10/8/2013			On Track
3	2	Make appointment with library contact and schedule resources to install Aps	Update plan and schedule resources	John Smith	10/10/2013			On Track
3	3	Install all Aps	Verify that Aps are installed	John Smith	10/10/2013			On Track
Mile-stone	**Controller Installation**							On Track

Timeline

Item	Library Wireless System Installation	October			
		WK 1	WK 2	WK 3	WK 4
1	Kickoff Meeting	■			
2	Pre-Instalation survey	■			
3	Access Points installation		■		
4	Access Points installation		■		
5	Controller installation		■		
6	Online Portal Configuration		■		
7	System testing		■	■	
8	Training Support		■	■	
9	Go live			■	
10	Handover to Managed service			■	
11	Post Mortem Review-Lessons learned			■	
12	Project Completion:			■	

Communication Plan

Project Communication Plan

Project Name:			Location:			
Library Wireless System Installation			205 Main street, New Iberia, La			
Project Manager:			Project Sponsor:			
John Smith			John Doe			

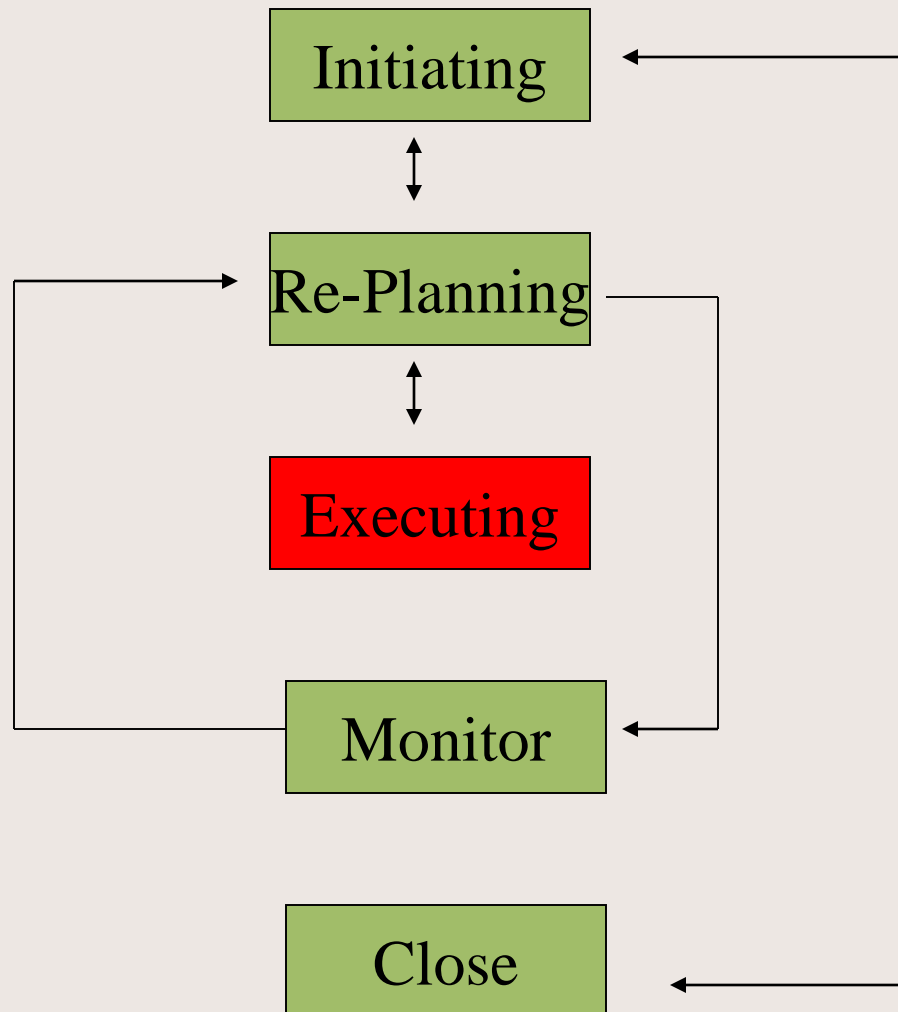| Communication	By	Purpose	Audience	Frequency	Method
General Communication regarding equipment deliveries and implemenation	Project Manager	Brief the onsite contacts of activities and schedule dates/time	Business site contacts	As required, according to plan	Email/Conference Call
Implementation Meeting to include status,	Project Manager	Review plans and next actions	Project Team	Weekly (Monday 2PM)	Onsite/Conference Call
Status Reporting	Project Manager	Formal Report on project, including risk and issues	Project Sponsor	Weekly (Monday 2PM)	Phone, onsite

Estimation

- Expert Judgment (beware of WAG)
- PERT (Program Evaluation and Review Technique)

  $$T_E = (O + 4M + P) \div 6$$

- *Optimistic time* (O): the minimum possible time required to accomplish a task, assuming everything proceeds better than is normally expected
- *Pessimistic time* (P): the maximum possible time required to accomplish a task, assuming everything goes wrong (but excluding major catastrophes).
- *Most likely time* (M): the best estimate of the time required to accomplish a task, assuming everything proceeds as normal.
- *Expected time* (T_E): the best estimate of the time required to accomplish a task, assuming everything proceeds as normal (the implication being that the expected time is the average time the task would require if the task were repeated on a number of occasions over an extended period of time).

Project Management

Initiating

Re-Planning

Executing

Monitor

Close

Project Management

Initiating

Re-Planning

Executing

Monitor

Close
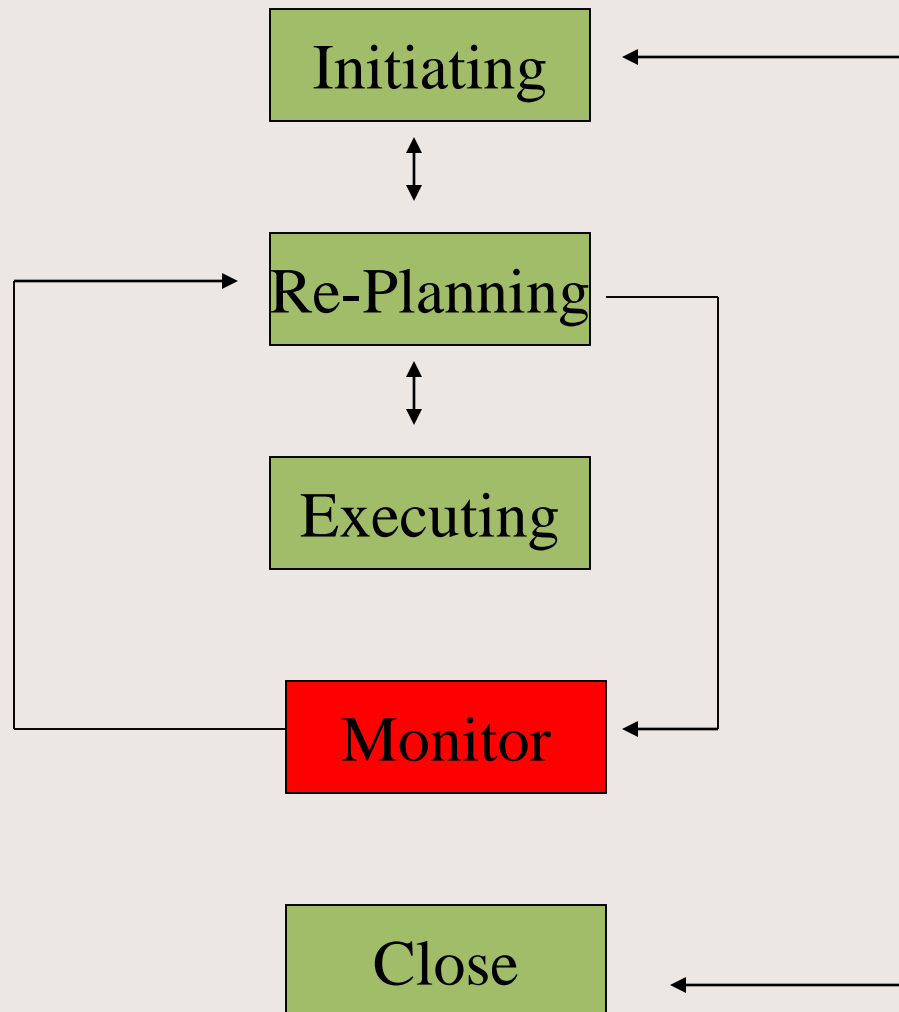
Monitoring & Controlling

- Monitor all project activities and compare with the project schedule to determine if things are according to plan.

- Initiate corrections when necessary

  Repeat this process until the end of the project.

Project Plan Progress Reviews

Project Plan

Project Name:			**Status:** `On Track`	**Report Date:** 10/5/2013	
Library Wireless System Installation					
Project Manager:			**Project Sponsor:**		
John Smith			John Doe		

Mile-stone	Task	Description	How / Deliverables	Who	Planned Completion Date	Revised Completion Date	Actual Completion Date	Status
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Mile-stone	**Pre-Installation Survey**							**On Track**
2	1	Make appointment with library contact and schedule resources to conduct survey	Pre-Installation Survey document	John Smith/Survey Team	10/5/2013	10/7/2013		**Late**
Mile-stone	**Access Point Installation**							**On Track**
3	1	Order required equipment from Warehouse	Pick up required equipment from Warehouse	John Smith	10/8/2013			**On Track**
3	2	Make appointment with library contact and schedule resources to install Aps	Update plan and schedule resources	John Smith	10/10/2013			**On Track**
3	3	Install all Aps	Verify that Aps are installed	John Smith	10/10/2013			**On Track**
Mile-stone	**Controller Installation**							**On Track**

Project Plan Progress Reviews

Project Name:				**Location:**			
Library Wireless System Installation				205 Main street, New Iberia, La			
Project Manager:				**Project Sponsor:**			
John Smith				John Doe			

Review Date		Overall Status	On Track	Reviewed By		Presented By		Period Covered	
Progress since last review meeting									
Planned tasks for next review meeting (what, who, when)									
Issues currently impeding progress									

Resolve Resources Issues

- Overtime
- Use temporary workers
- Sub-contract work
  - (or rent equipment)
- Hire
  - (or buy equipment)

Project Management
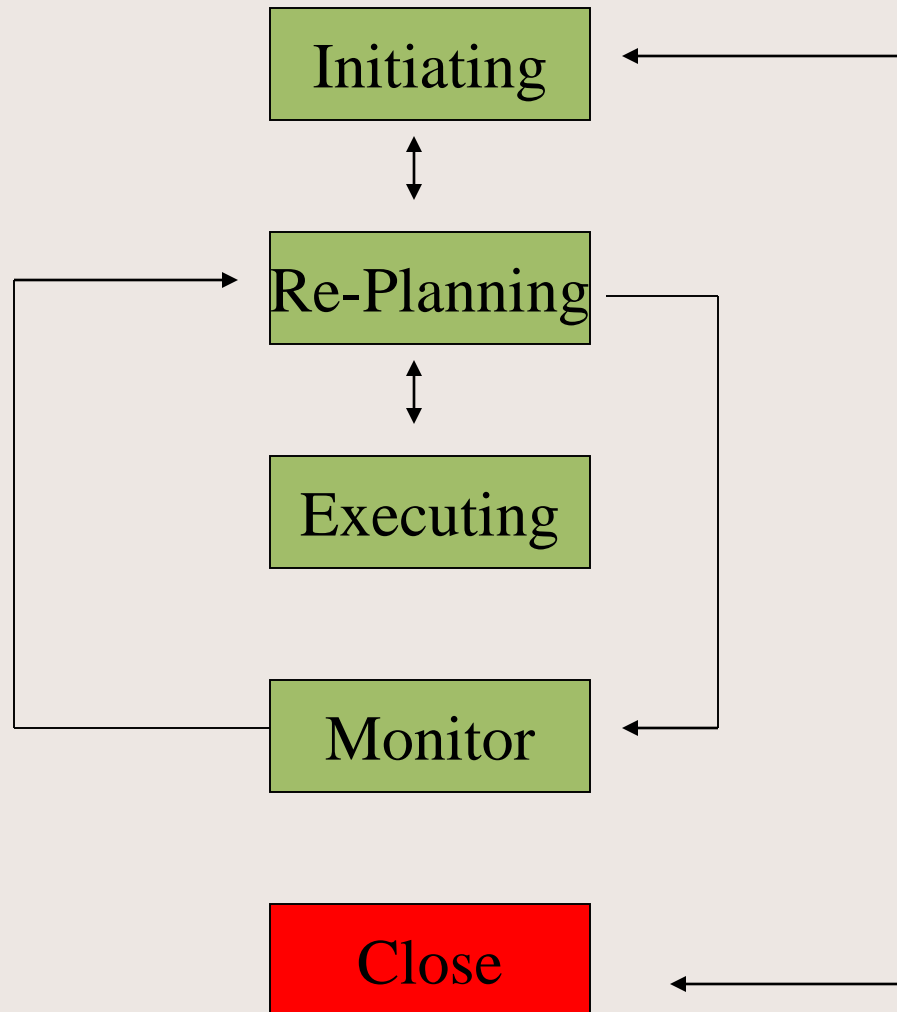
CLOSE

- Verify activities execution
- Verify all deliverables are done
- Verify customer acceptance
- Close all documentation (Reports, etc)
- Lessons learned meeting

Project Closing Reviews

Project Plan

Status:	On Track		Report Date:	10/5/2013

Project Name:
Library Wireless System Installation

Project Manager:
John Smith

Project Sponsor:
John Doe

Mile-stone	Task	Description	How / Deliverables	Who	Planned Completion Date	Revised Completion Date	Actual Completion Date	Status
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Mile-stone	**Access Point Installation**							On Track
3	1	Order required equipment from Warehouse	Pick up required equipment from Warehouse	John Smith	10/8/2013			On Track
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3	3	Install all Aps	Verify that Aps are installed	John Smith	10/10/2013			On Track
Mile-stone	**Controller Installation**							On Track

Deliverables:

WIFI system

Self-serve Online Portal

A Fully Functional WIFI service

Managed Service

Goals/Metric:

Capable to handle 100 connections at the time

Online portal capable of handling self-serve requests and library desk requests

With 99.9% up time SLA

Project Closing Reviews

Review CAPEX to ensure the job was done within Budget

CAPEX BUDGET

Library Wireless System

One Time Cost							
Item	Quantity	Unit Cost	Budgeted Cost	Quotations	Differences	Actual	Comments
Cabling Installation	20	$675.00	$13,500.00	$11,723.69	$1,776.31	$11,723.69	Data lines, Network Rack, UPS Battery Backup, network patch panels . Quote AQ-140220131
Network Room Setup	1	$2,000.00	$2,000.00	$0.00	$2,000.00	$0.00	Network Rack, UPS Battery Backup, network patch panels (This was negotiated within the cost above)
Cisco APs licenses	25	$75.00	$1,875.00	$1,375.00	$500.00	$1,375.00	Include 1 year onsite support
Print Server WIFI Net Card	1	$500.00	$0.00	$500.00	($500.00)	$500.00	WIFI card not budgeted originally
Cisco Wireless System Controller	1	$10,000.00	$10,000.00	$9,999.00	$1.00	$9,999.00	Wireless system Controler.
		Total CAPEX	$27,375.00	$23,597.69	$3,777.31	$23,597.69	
				Budget vs Actual		$3,777.31	Savings
NOTE:							
Yearly OPEX Cost			$1,750.00				
Software Assurance	25	$30.00	$750.00				
Onsite 24x7 support	1	$1,000.00	$1,000.00				

Project Closing Reviews

Post-Mortem-Closing Review

Project Name:		Location:	
Library Wireless System Installation		205 Main street, New Iberia, La	
Project Manager:		Project Sponsor:	
John Smith		John Doe	

Review Date	Oct-22-2013	Project Completion Status	On Track	Reviewed By	John Doe	Presented By	John Smith	Completion Date	Oct-24-2013
Were all activities completed? (If not, which ones were not completed?) Were all deliverables accomplished? Were all requirements met?		- All activities were completed - All deliverables met - All requirements were met except completion time of the project. Customer accepted the project since the delay of the project was caused by the customer.							
Was the projected completed within Budget? (if not, How much over budget?)		Project completed within Budget (under budget) with $3,777 dollars saving, a 16% savings against the quotation budget.							
Issues currently impeding the closing of the project		No issues pending.							

Project Closing Reviews

Lessons Learned List

	LESSONS LEARNED	
Item	Issue	Countermeasure
1	The project was delayed because the customer contact point was not available for the pre-installation survey	Request from the customer more than one contact point in case the primary contact point is unavailable
2		
3		
4		
5		

Standard Project Documentation (creation)

- Project Charter (PDD) [Initiate]
- Statement of Requirements (SOR) [Initiate]
- Issues/Decisions/Risk Register [Initiate]
- Budget [Initiate]
- Project Plan (Schedule of Activities) [Planning]
- Timeline [Planning]
- Communication Plan/Agreement [Planning]
- Project Plan Progress Review [Monitor]
- Lessons Learned List [Close]

The Greatest Challenges of Project Management

- Inconsistent direction – Lack of Standards
- Difficulty assigning the correct resources
- Economic Pressure – Not enough money
- Limited visibility of the tasks required by the project
  - Projects late or overrun
- Incompetent PM or not trained in Project Management
  - Dissatisfied Clients, Quality problems
- Project Managers that do not accept change and want to do it the old way!

PM Leadership role

- The PM:

    - Leads and give direction to the Project Team
    - Coordinate the appropriate resources needed by the project
    - Resolves interpersonal conflicts of the Project Team, etc.
    - Monitors the progress of the project and initiates corrections when necessary

References/Bibliography

- *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)*
- *The Project Management Institute Website*
- *Exploring Requirements: Quality before Design by Gerald Weinberg*
- *Successful Project Management –Step-by-Step Approach with Practical Examples By Milton D. Rosenau, Jr.*
- *DSDM ATERN Handbook (Agile Project Management)*
- *Many others….*

Credentials

- *J. Miguel Hidalgo:*
  - *Master in Business Administration (E-Commerce)*
  - *B.S. in Computer Science*
  - *B.S. Professional Aeronautics*
  - *Certified DSDM Agile Project Management Foundations by APM Group (UK)*
  - *Certified Project Management Professional (PMP) by PMI*
  - *Certified Lean Sigma Black Belt (Ohio State University)*
  - *Certified Lead Auditor ISO9001:2015 by LRQA*
  - *ITIL Foundations Certified*
  - *U.S. Army Veteran*

Practical Project Management

Q & A