

Project Leadership

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Project Leadership

Lecture 5 Prioritization: The Core of Project Leadership

PMG 511
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Chapter

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Learning Outcomes

1. Why is Prioritization So Essential?
2. Estimation Methods
3. Estimates vs. Commitments
4. Accuracy and Precision
5. Project Scheduling
6. Project Tracking
7. Prioritizing Stakeholders
8. Summary and Conclusion

What is a Project Prioritization?

- **Project prioritization** is the foundation for successfully implementing projects. It's where you align your projects to strategy. It's where you win executive sponsorship and support. It's where you identify and eliminate waste.
- Poor prioritization leads to project failure and, ultimately, missed business goals.
- Done well, a good project prioritization process will allow the leader to strategically align resource allocation and decisions while delivering more successful projects.

What is Prioritization?

- Prioritization is a process where you work out which projects are the most important so that you can focus your resources on successfully delivering those value-added projects.



The Eisenhower Matrix



When thinking about prioritization it is important to address these six aspects:

1. Who wants the work to be done?
2. When do they want the delivery of the work?
3. Why does it fit there?
4. What do they want to be done?
5. Where does the work fit in the schedule?
6. How will this work impact the deadlines for other work?



Think about that (to Prioritize your project work):

- Grab your pen and paper and think about projects you need to prioritize their work.



Reasons to Prioritize a Project

- **Effort concentration:**

Focus on time and resource.

- **Costs:**

- The right investment in the adequate product/service.
- Better financial management.

- **Strategy:**

- Direct link to the strategic plan.
- Increase in strategic alignment (business objective).

Leadership Priorities

What are the strategic initiatives today, this year and next year?

- **Smart leaders** understand that their job requires, choosing what *not* to do as much as what *to* do.
- leaders often turn to rank ordering their priorities; it is natural and easy to make a list.

- Three interdependent variables that are essential for project prioritization:



Timing

Cost

Resources

Once a leader decides what **resources** will be allocated to achieve which **objectives** over what periods of **time**, he has no more need for ranking; he will be forced to acknowledging three kinds of priorities: **critical, important, and desirable..**

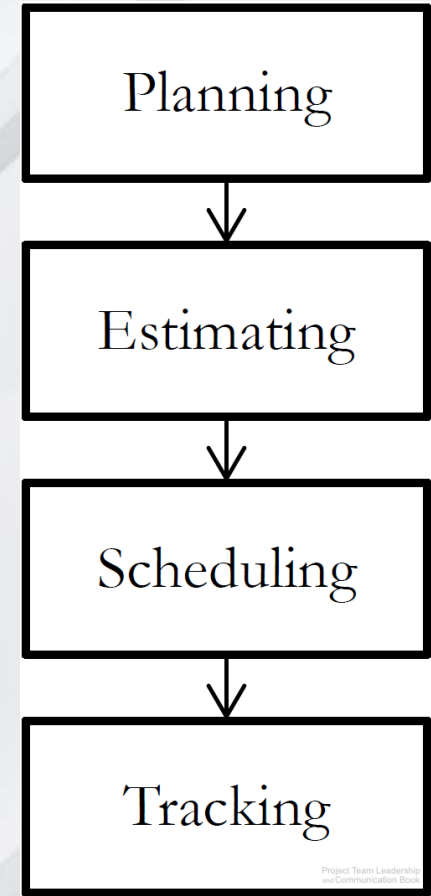


Planning and Prioritizing Project Work

- Before work can be completed, three basic steps must take place:
 - **Planning** takes place early in the project, and determines objectives to be completed, resources available, etc.
 - **Estimating** is the process of determining how long or how many resources each planned element will take
 - **Scheduling** is the **'calendarization'** of estimated work
- Once the work begins (*execution* of plans):
 - **Tracking** must occur, comparing actual results with plans, estimates, and schedules
 - If changes occur or results vary from plans, repeat the steps

Planning Project Work

Is devising and maintaining a workable scheme to accomplish the business need via using **a formal, approved documents used to guide both project execution and project**



Elements of a Project Planning Work

- **Interrelates all tasks on a common time scale like:**
 - Names of the tasks and work packages listed in the WBS (work breakdown structure).
 - Names of the persons responsible for each task.
 - Expected duration of each task.
 - Due date of each task.

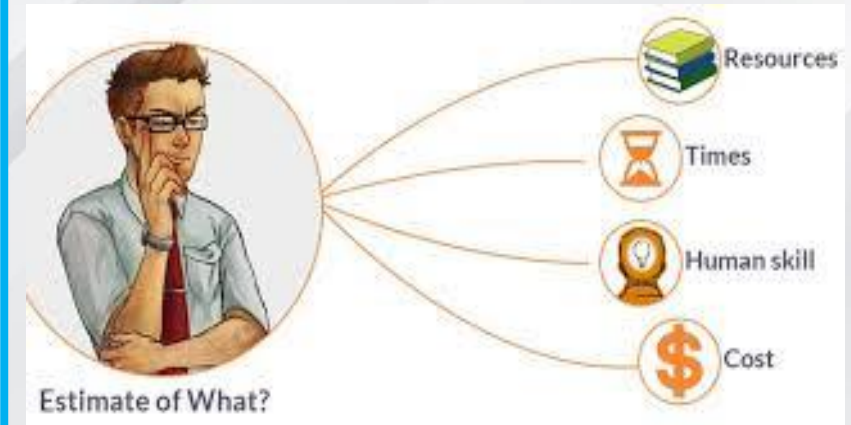
Estimation Methods

Why project leaders need to estimate the scope of work?

Estimating a project's scope of work means laying out what tasks, deliverables, and dependencies are all built into the project.

This covers all aspects of the project from technical development to catch-ups and calls.

To be more accurate: estimating what the project will actually involve will help you better predict how much it will cost, how long it will take, and what potential roadblocks may slow things down.

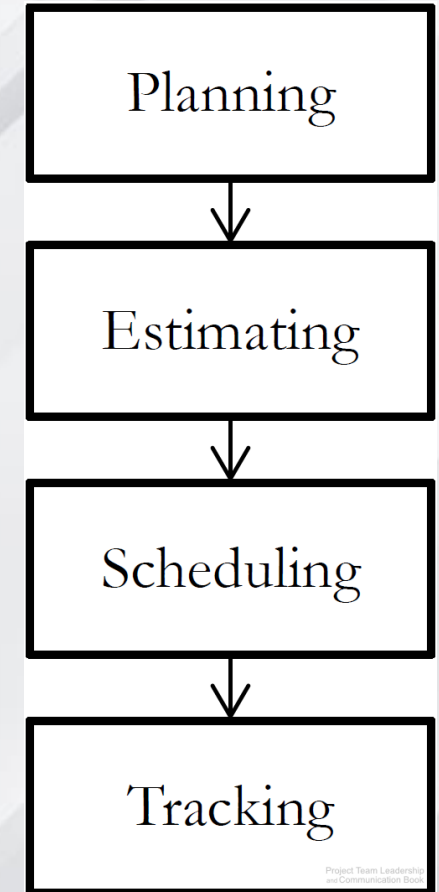


What is Estimating Project Work?

Project estimation means looking through all available data to propose the time, cost, and resources needed to complete a project.

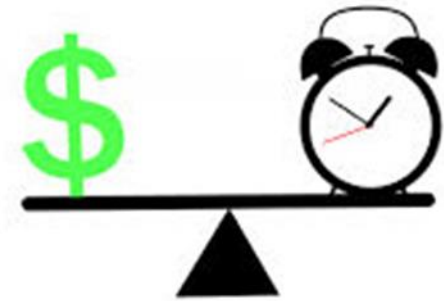
The deliverables of project estimation include:

- Project Timeline.
- Resource Overview.
- Cost Estimates.
- Risks



Why Project Leaders Need To Estimate the Project Timeline?

- To find a straightforward timeline covering all aspects of the project and the scope of work.
- This should show when different parts of the project start and finish, which parts depend on other parts, and when each milestone will be finished.



Why Project Leaders Need To Estimate the Resource Overview?

- Having a clear scope of work and a timeline will allow you to understand exactly what the project requires when it comes to resources.
- A good project estimation will make it clear who will be involved in the project (staff, contractors, vendors, or suppliers), what technical or other resources you will need (manufacturing, printing, shipping, etc.) and how these relate to the overall project.



Why Project Leaders Need To Estimate the Project Cost?

- Looking at the scope of work, timeline, and resource requirements will allow you to accurately forecast the project cost. With all key elements of the project mapped out, you'll be able to clearly estimate the overall cost range.
- Review all historical data related to past project costs. Dig into previous projects for similar clients to compare and adjust as needed. The more accurate data you have, the closer project estimates will be.



Why Project Leaders Need To Estimate the Risk Factors?

- After gaining a complete overview of the project, it's time to identify the risk factors and potential roadblocks.
- This step should cover all aspects of the project including potential roadblocks with resourcing, scope of work difficulties, and budget constraints.

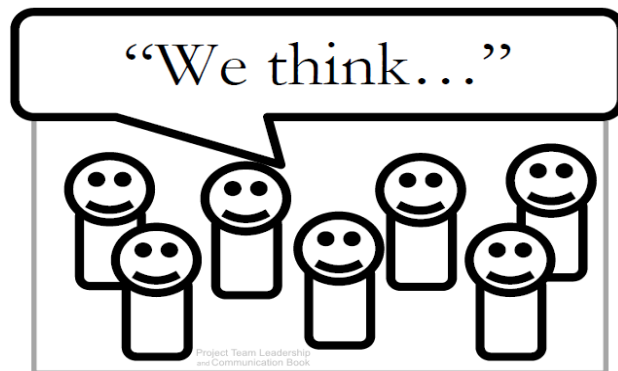


Estimation Techniques (1 of 3)

1- Expert Judgement: experience is used to estimate

The basis for all other techniques.

- **Strengths:** expert lends credibility to estimate.
- **Weaknesses:** one person's 'expertise' may fail.



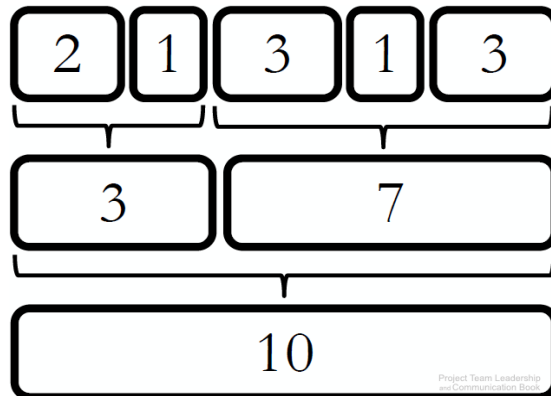
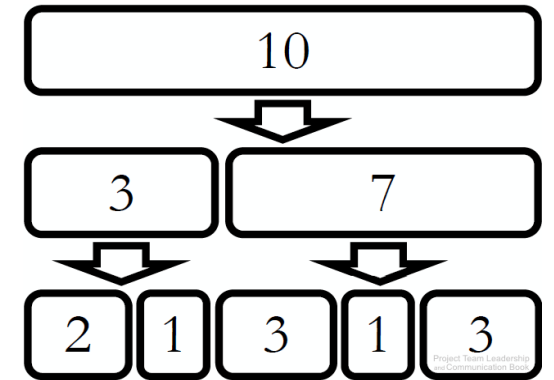
2- Group Consensus: various techniques are used to poll the group and reach consensus.

- **Strengths:** group participation and 'buy-in'.
- **Weaknesses:** bias and cultural issues manifest.

Estimation Techniques (2 of 3)

3- Top-Down: large units estimated then divided up.

- **Strengths:** usable when less detail is known.
- **Weaknesses:** inaccurate if major sections of the project aren't considered.



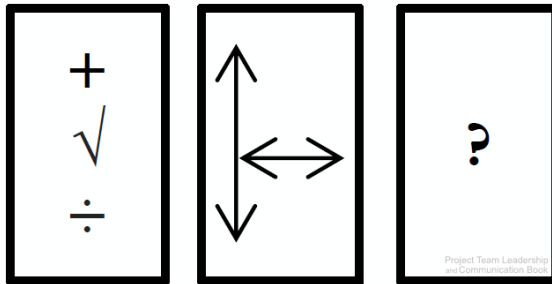
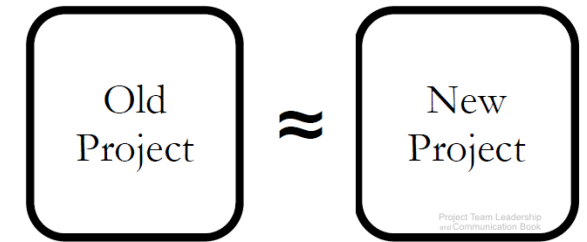
4- Bottom-Up: small units estimated then added together.

- **Strengths:** can be quite precise if used properly.
- **Weaknesses:** more time consuming than other techniques, changes to items can impact greatly.

Estimation Techniques (3 of 3)

5- Comparison or Analogy: projects (or components) are compared to previous work.

- **Strengths:** based on actual results, increasing credibility and potentially accuracy.
- **Weaknesses:** all projects are unique, may be difficult to find comparisons, data may not exist.



Other Methods: mathematical/statistical models, focusing on size rather than time, or industry-specific methods.

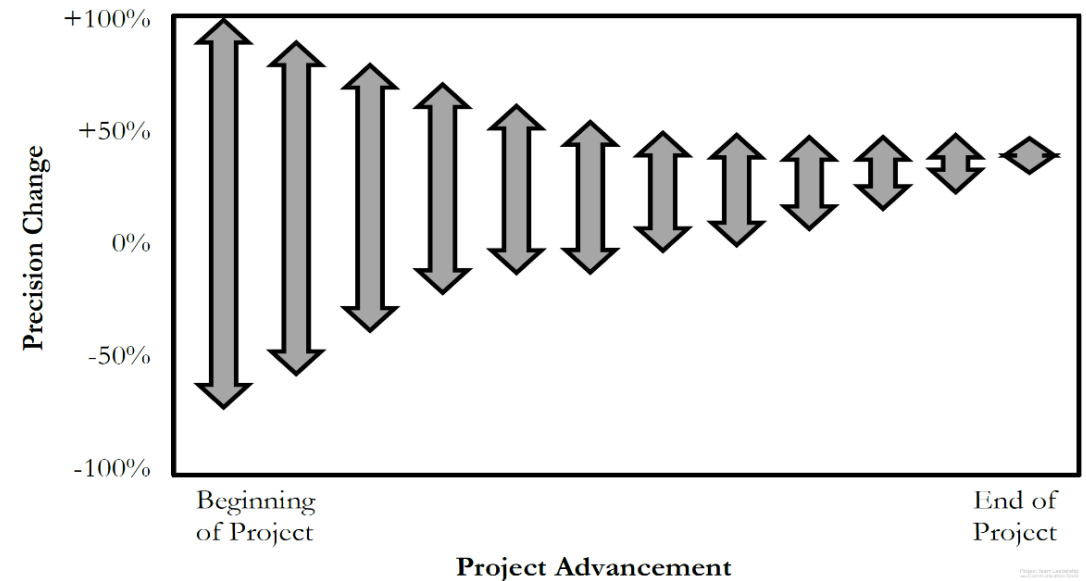
Estimates vs. Commitments



- All parties must be careful not to confuse estimates with commitments
- Commitments: Are deadlines ‘real’ or arbitrary?
- **Estimates:** Presentation can be important: **Ranges** (6-8 Months), **plus/minus qualifiers** (7 Weeks +/- 1 Week), and **Confidence factors** (4 weeks: 30% chance, 5 weeks: 50% chance) can be helpful.
- Don’t confuse estimation with scheduling, which sets actual dates

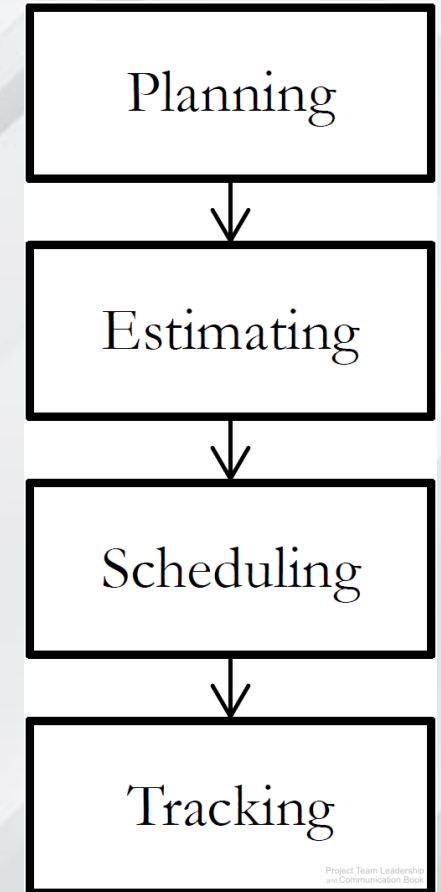
Accuracy vs. Precision

- **Accuracy** is how *true* a value is
 - ‘4-6’ is accurate if the actual # is 5.5
- **Precision** is how *exact* a value is
 - ‘4-6’ is less precise than ‘4.5-5.5’
- Within a project communications should **always be as accurate as possible** (especially in estimating)
- Because uncertainty is high at the beginning of a project, the only way to be accurate is to be **less precise**.
- As the project progresses, we can be more precise while remaining accurate (ranges get smaller and smaller)



Project Scheduling

In project management, a schedule is a listing of a project milestone activities, and deliverables, usually intended **start and finish dates**.



Organizing Tasks: The Work Breakdown Structure (WBS)

A **Work Breakdown Structure (WBS)** is a deliverable-oriented hierarchical decomposition of the **work** to be executed by the **project** team to accomplish the **project** objectives and create the required deliverables.

A **WBS** is the cornerstone of effective **project** planning, execution, controlling, monitoring, and reporting.

The Work Breakdown Structure (WBS)

A good WBS should exhibit the following characteristics:

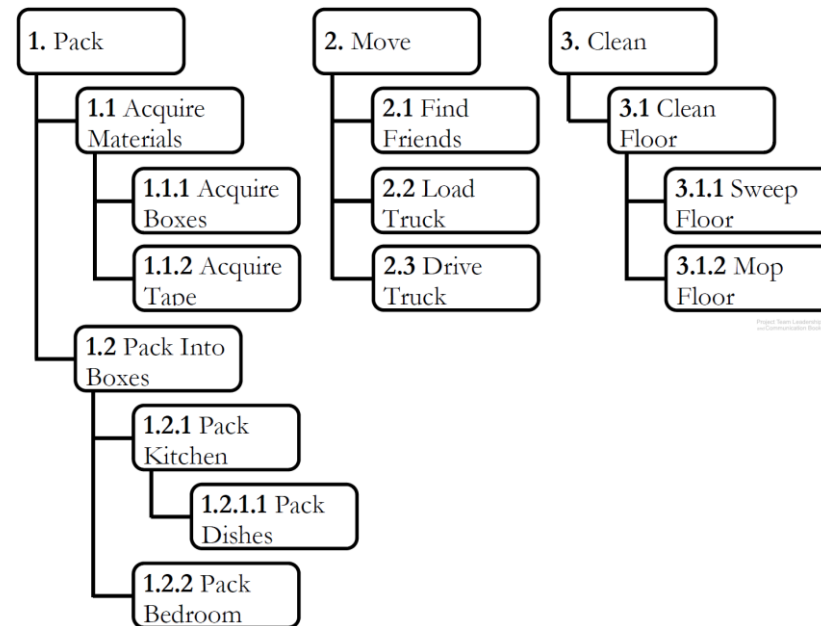
- **Definable**—can be described and easily understood by project participants.
- **Manageable**—a meaningful unit of work where specific responsibility and authority can be assigned to a responsible individual.
- **Estimateable**—duration can be estimated in time required to complete, and cost can be estimated in resources required to complete.
- **Independent**—minimum interface with or dependence on other ongoing elements (i.e., assignable to a single control account, and clearly distinguishable from other work packages).
- **Integratable**—integrates with other project work elements and with higher level cost estimates and schedules to include the entire project.
- **Measurable**—can be used to measure progress; has start and completion dates and measurable interim milestones.
- **Adaptable**—sufficiently flexible so the addition/elimination of work scope can be readily accommodated in the WBS framework.

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The Work Breakdown Structure (WBS)

- Organizes elements with ‘sub-numbers.’ 1.2.3 is part of 1.2
- Two types: product & process
 - Product divides by components
 - Process divides by activities/tasks
- Can be built ‘top down,’ ‘bottom-up,’ or ‘rolling-wave’
- A good way to organize brainstorming efforts early in the project
- Sequencing of tasks or components isn’t needed until later in scheduling efforts



- Pack
 - Acquire Materials
 - Acquire Boxes
 - Acquire Tape
 - Pack Into Boxes
 - Pack Kitchen
 - Pack Dishes
 - Pack Bedroom
- Move
 - Find Friends
 - Load Truck
 - Drive Truck
- Clean
 - Clean Floor
 - Sweep Floor
 - Mop Floor

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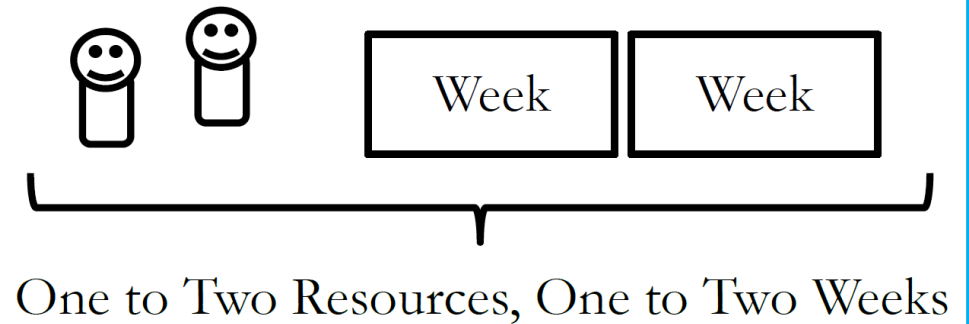
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The One-to-Two Rule

How do you know when you've divided tasks into small enough 'chunks'?

- If tasks are too large, it becomes difficult to track progress
- If tasks are too small, time is wasted micromanaging the project

Optimize with 'The One-to-Two Rule,' which states that tasks have been divided enough when each requires 1-2 resources 1-2 weeks to complete it



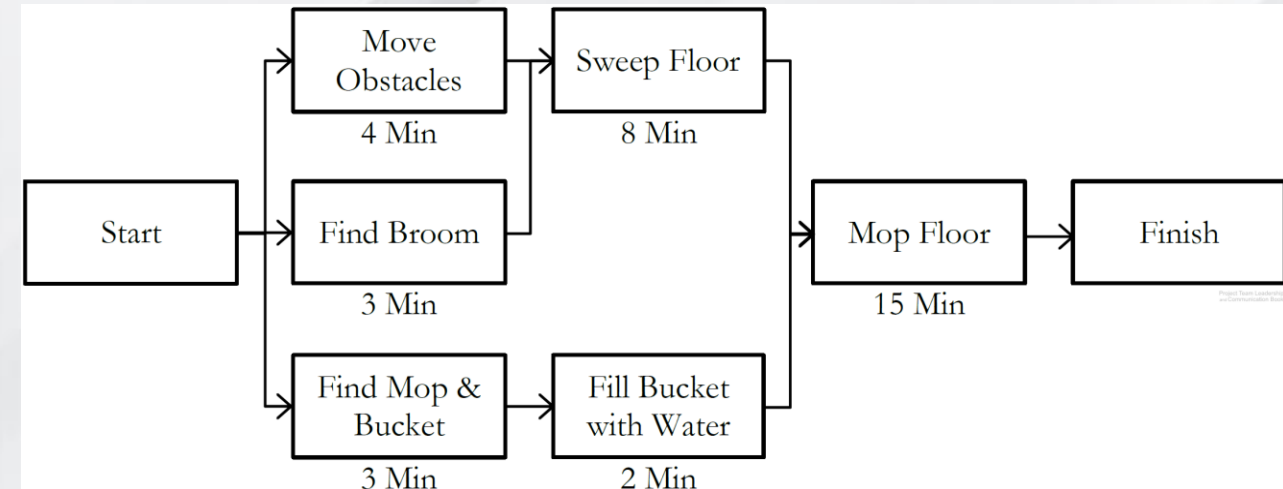
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Sequencing and Scheduling Tasks

- Predecessors or dependencies are determined for all tasks
- Using this information, a *precedence* diagram is created
 - The longest path, called the *critical path*, determines project length.
 - *Slack time*, the ability to delay starting without impacting the schedule, is available to some tasks which are not on the critical path
- Tasks are then ‘**calendarized**,’ with actual dates based on resources available.

	Task	Estimated Duration	Dependencies
A	Move Obstacles	4 Min	Start
B	Find Broom	3 Min	Start
C	Sweep Floor	8 Min	A, B
D	Find Mop & Bucket	3 Min	Start
E	Fill Bucket with Water	2 Min	D
F	Mop Floor	15 Min	C, E



Activity – Organizing and Sequencing Tasks

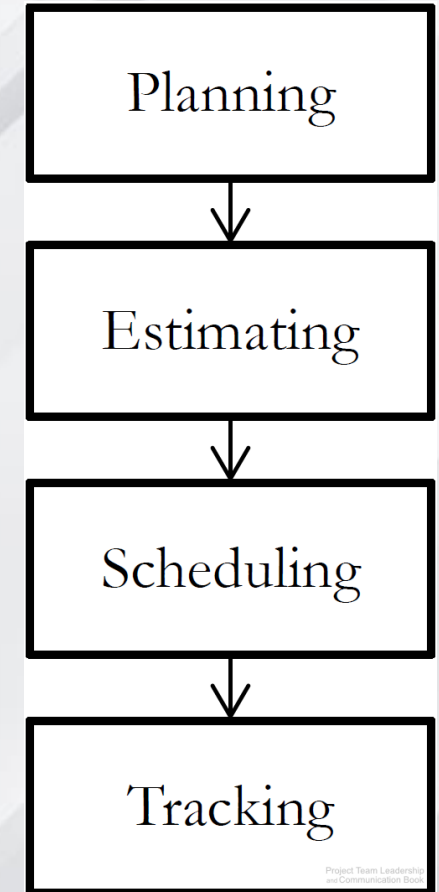
- Consider the following scenario:

One of your best friends is graduating from college and you've decided to throw her a big party. Her parents have volunteered to let you decorate and hold the event at their house, the food is to be catered, and you would like to invite as many of her friends and family as you can.

1. Create a basic work breakdown structure, **listing 15 planning activities that must take place**
2. After determining which activities must occur before others, create a *precedence diagram* with the activities and tasks outlined in your work breakdown structure

Project Tracking

A combination of **cost** and **time tracking** will let you finish tasks earlier, delay non-critical tasks for the same of keeping to the project baseline, and find ways for reducing costs and the project scope.



Project Tracking

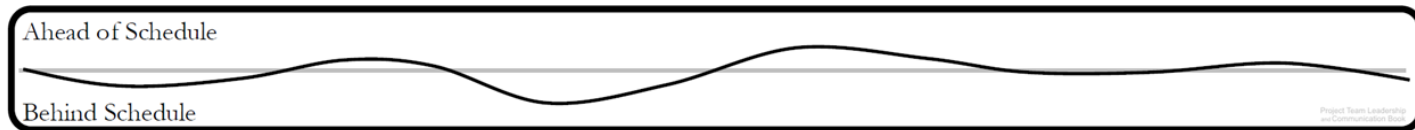
To succeed in delivering your project, you will need to get an understanding of how to track your project and what items need to be monitored.

- Track time and cost
- Track human resources
- Track team progress and efficiency
- Track risks, changes, issues
- Track project health



Tracking Progress

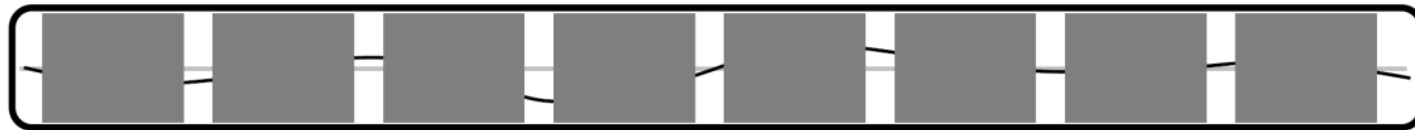
Actual Project
Advancement



Typical Project
Visibility



Great Project
Visibility



- A main concern of project tracking is **visibility**. Often, the team isn't aware of how far along they are due to long phases
- *Project Visibility* is often only achieved when phases are started or completed

Tracking Earned Value

- Tasks or groups of tasks are often tracked with little *granularity* (large chunks instead of small) and simple not-started / started / complete progress reporting
- By giving each task a **relative weight** and assigning *earned value* to sub-tasks, the percentage of progress can be calculated (example: $660/2100=31\%$ complete)
- Calculated *earned value* can be compared to the time or resources expended

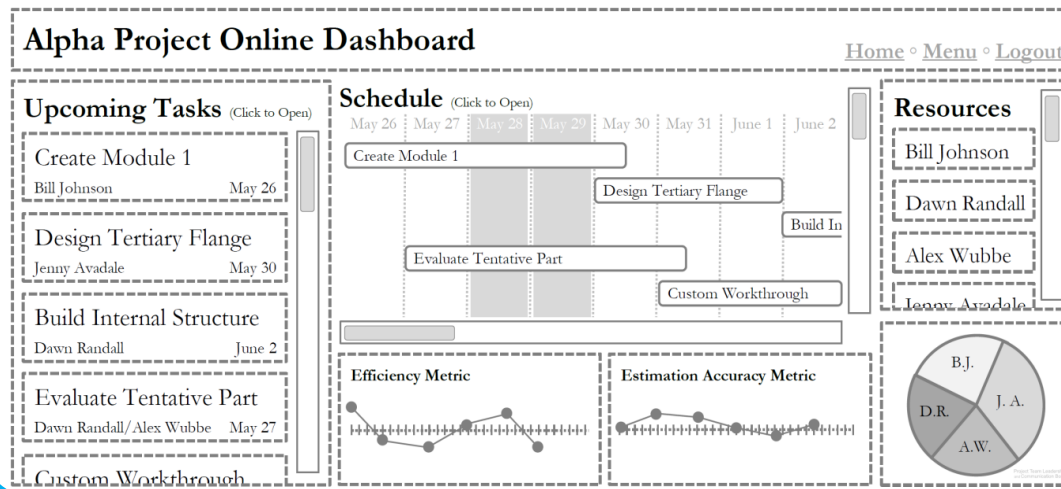
Work Unit	Completion Status
Conceptual Design	Complete
Detailed Specification	Complete
Build	In Progress
Documentation	In Progress
User Manual Production	Not Started
Testing	Not Started

Work Unit	Completion Status
Conceptual Design	200/200
Detailed Specification	300/300
Build	150/600
Documentation	10/100
User Manual Production	0/400
Testing	0/500

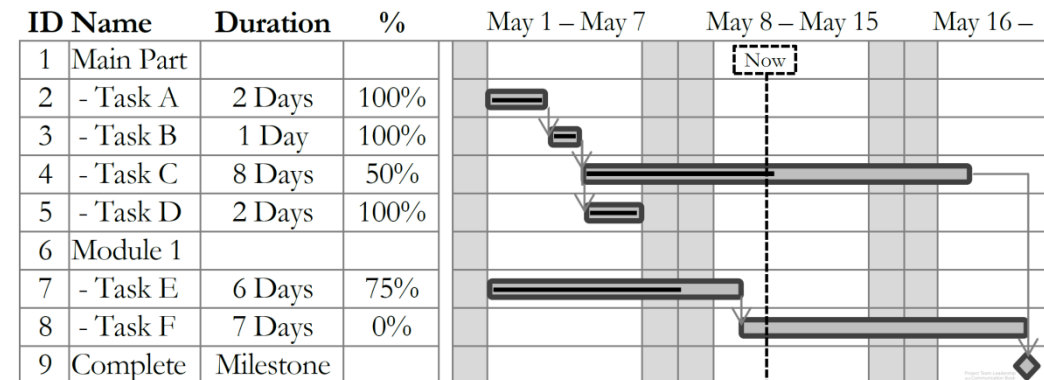
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Scheduling/Tracking Tools and Visualizations

ID	Milestone	Planned	Actual
01	Design Begins	May 12 ✓	May 12
02	Design Complete	June 15 ✓	June 15
03	Module 1 Construction Begins	June 18 ✓	June 18
04	Module 2 Construction Begins	June 22 X	June 24
05	Construction Complete	July 14 July 17	
06	Delivery to Customer Complete	July 18 July 21	



Milestone Charts list major points in time, or *milestones*, such as phases ending



Gantt Charts provide an easy-to-understand visualization of the schedule and progress

Many software packages and online tools are specifically designed for managing projects

Activity – Tracking Project Progress

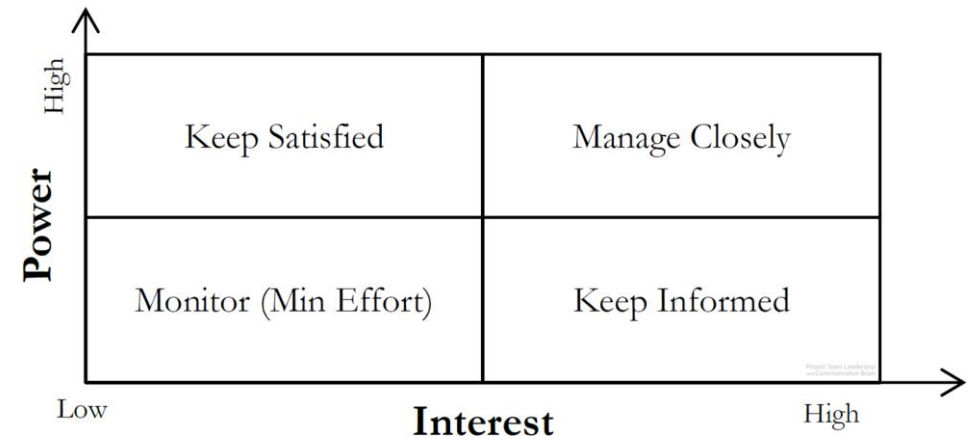
- Examine the following project status information:

ID	Task	Units of Work	Units Complete	Days	Start Date
1	Plow/cultivate soil	15	15	5	April 30
2	Plant seeds	25	25	8	May 6
3	Water, weed, and fertilize growing crops	15	5	90	May 15
4	Initial harvest	25	0	7	August 20
5	Water, weed, and fertilize growing crops	5	0	21	August 27
6	Second harvest	15	0	5	September 20

- Calculate the percentage complete, or *earned value*
- Using a whiteboard or application, create a basic *Gantt chart*. Estimate the total time elapsed for the project

Prioritizing Stakeholders

- Stakeholders are people who can **affect or are affected by the execution or outcome of a project**. Everyone should be involved in identifying them
 - Stakeholders can be groups
- Once identified, they should be analyzed
 - High or low power, or ability to affect the project
 - High or low interest, or how they're affected by the projects positive or negative outcome



Prioritizing Stakeholders

- All information should be recorded/tracked in a *stakeholder register*.

ID	Name	Title	Info	Notes	Power	Interest	Strategy
1	Casey Johnson	Sales Lead	cjohnson@co.com	Initiated the contract	Low	High	Keep Informed
2	Jordan Baker	Team Specialist	555-1532		High	High	Manage Closely

Activity – Finding and Analyzing Stakeholders

Consider the stakeholders in a typical wedding. Remember that stakeholders with a similar stake can be listed as groups.

- **list 15 stakeholders**/stakeholder groups on a whiteboard.
- For each, **analyze their level of interest and power** as it pertains to the planning and execution.
- Determine each stakeholder's **management strategy** (monitor, keep informed, etc.)

ID	Name	Title	Info	Notes	Power	Interest	Strategy
1	Erin	Bride	Local				
2	Brian	Groom	Local				
3	Julia	Mother of the Bride	Santa Clara, CA	Visiting 3 weeks before			

Summary and Conclusions

- Project work requires planning, estimating, scheduling, and tracking.
- Estimating judges how long project work will take:
 - There are several techniques (top-down, bottom-up, analogy, etc.)
 - Teams must provide clarity between and estimate and a commitment
 - Early estimations should be imprecise (ranges, etc.) to remain accurate
- In order to properly schedule tasks, they must first be sequenced
 - Work Breakdown Structures assist in dividing work into smaller, estimate-able tasks
 - Tasks have dependencies/*precedence* which must be accounted for in final schedule
 - Use visualizations and tools such as milestone charts, Gantt charts, and *precedence* diagrams
- Tracking after the project begins is what makes scheduling efforts ‘worth it’
- Stakeholder prioritization starts with identification, then analyzes and formulates strategies



Thank You

