What is a **Project**?

- **Definition**
  - A complex, nonroutine, one-time effort limited by time, budget, resources, and performance specifications designed to meet customer needs.

- **Major characteristics of a project**
  - Has an established objective.
  - Has a defined life span with a beginning and an end.
  - Typically requires across-the-organizational participation.
  - Involves doing something never been done before.
  - Has specific time, cost, and performance requirements.

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**Programs versus projects**

- **Definition of a Program**
  - A series of coordinated, related, multiple projects that continue over an extended time and are intended to achieve a goal.
  - A higher-level group of projects targeted at a common goal.
  - Example:
    - Project: completion of a required course in project management.
    - Program: completion of all courses required for a BSE.

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**Routine work vs projects**

<table>
<thead>
<tr>
<th>Routine, Repetitive Work</th>
<th>Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taking class notes</td>
<td>Writing a term paper</td>
</tr>
<tr>
<td>Daily entering sales receipts into the accounting ledger</td>
<td>Setting up a sales kiosk for a professional accounting meeting</td>
</tr>
<tr>
<td>Responding to a supply-chain request</td>
<td>Developing a supply-chain information system</td>
</tr>
<tr>
<td>Practicing scales on the piano</td>
<td>Writing a new piano piece</td>
</tr>
<tr>
<td>Routine manufacture of an Apple iPod</td>
<td>Designing an iPod that is approximately 2 X 4 inches, interfaces with PC, and stores 10,000 songs</td>
</tr>
<tr>
<td>Attaching tags on a manufactured product</td>
<td>Wire-tag projects for GE and Wal-Mart</td>
</tr>
</tbody>
</table>
Project definition phase

- Characterize the project in terms of:
  - assumptions about the situation
  - alternative ways of achieving the objectives
  - decision criteria and models for choosing among viable alternatives
  - practical constraints
  - significant potential obstacles
  - resource budgets and schedules needed to implement the viable alternatives.
- Clearly define the scope of the project.
- Tentatively select the overall approach that will be used to achieve the objectives.

Unambiguous project description including
- How the work will be done
- How the project will be organized
- Who the key personnel are
- A tentative schedule
- A tentative budget
Planning phase

- Detailed plans are prepared by responsible parties
  - Tasks identified
  - Task milestones are determined
  - Detailed budgets are determined
  - Resource requirements are established for each task
- Organization is established (personnel hired or assigned)

The challenge of project management

- The Project Manager
  - Manages temporary, non-repetitive activities and frequently acts independently of the formal organization.
    - Marshals resources for the project
    - Provides direction, coordination, and integration to the project team
    - Manages a diverse set of project stakeholders
    - Dependent upon others for technical answers
    - Is responsible for performance and success of the project
  - Must induce the right people at the right time to address the right issues and make the right decisions.

Project Management

What questions might project managers be interested in?

- How long will the project take?
- Can I add manpower or tools to reduce the overall project length?
- To which tasks should I add resources?
- What tasks are on the critical path?
- Is the project on schedule?
- When should materials and personnel be in place to begin a task?
- Am I within budget?
- Should I transfer funds between line items?
- Other?…
Roles and responsibilities of the PM

- Project management involves a set of duties that must be performed and are no one else’s prime responsibility.
  - Ensure Customer Satisfaction
  - Direct and Control All Day-to-day Activities Necessary to Accomplish the Project
  - Take Initiatives as Required in Order to Accomplish the Project
  - Negotiate Commitments with the Customer
  - Ensure Collection of the Fee
  - Inherent Duties

Ensure customer satisfaction

- Often considered the most important responsibility of the project manager
- Good customer service procedures:
  - Confirm key issues during the course of the project
  - Maintain good informal relationships with the customer
  - Reread project requirements on several occasions
  - Keep the customer informed so that they can help respond to or influence project results and timing (no surprises)
- Not all customers are good customers
  - If all else fails, legally terminate the relationship

Direct & control day-to-day activities

- Direction and control may vary depending on staff capability and motivation (set goals and deliverables for some and micro-manage others).
- Constantly use foresight to predict if project is staying on time and within budget
- Maintain appropriate back-up plans when necessary.
Take initiatives as required in order to accomplish the project

- Problems will occur, when they do, the project manager needs to initiate corrective action.
- Do not hesitate to seek advice (from supervisor, peers, employees, consultants, other.)

Negotiate commitments with the customer

- Ultimate responsibility for commitments to the customer resides with the project manager.
- If assigned to a project after commitments have been made:
  - Evaluate if commitments can actually be achieved.
  - You may have to negotiate new terms if unachievable, or report to management if no resolution possible.
- As project progresses, some give and take may be necessary with customer.

Ensure collection of fee

- Ensure customer meets their obligation of delivering fees for service (this is often handled by other parts of an organization).
- Ensure all obligations are met by project team so that customer has no reason to withhold payment.
Inherent duties

- Interpret the statement of work to supporting elements.
- Prepare and be responsible for an implementation plan.
- Define, negotiate and secure resource commitments.
- Manage and coordinate interfaces created by subdividing the project.
- Alert management to difficulties beyond one's control.
- Maintain standards and conform to established policies and practices.
- Monitor and report progress and problems (informal.)
- Organize and present reports and reviews (formal.)
- Develop personnel as needed to accomplish the project.
- Motivate!!

Real World Examples

- Project: development of the Whirlpool Duet® washer/dryer pair – Global project
  - European front-loader platform, North American design group, manufactured and sold in both North America and Europe.
  - Short development time (<3 years, compared to 5+ for major platform development.)
  - Challenges centered around distance between design and development groups, differences in manufacturing processes and materials, etc.
  - Success of the project attributed to strong project management, communication, and cooperation among the team.

Real World Examples

- Project: design and manufacture of a new private jet for Gulfstream – Global project
  - Parts manufactured in 5 different countries around the world.
  - Engine manufacturer a newly merged corporation in Germany.
  - Key to success – mitigation plans ('what happens if something goes wrong?')