

Chapter 1: Introduction to Software Project Management

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Learning Objectives

- Understand the concept of software projects
- Explain what project management is
- Identify the importance of managing software projects
- Describe the roles and responsibilities of a project manager



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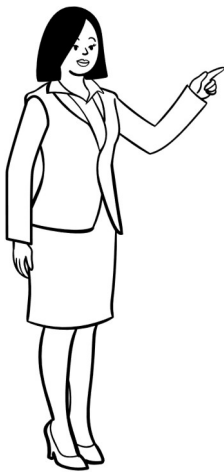
What is a Software Project?

- A temporary endeavor with a defined goal
- Creates a unique software product or service
- Requires coordination of resources, time, and people
- Has a specific start and end date



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Characteristics of a Software Project



- Intangible product (not physical)
- Dynamic requirements (can change often)
- Involves teamwork and communication
- Must balance cost, quality, and schedule

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What is Project Management?

- The process of **planning, organizing, and controlling** project activities
- Ensures that project goals are achieved efficiently
- Combines **technical and managerial skills**
- Focuses on **time, cost, quality, and scope**



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Importance of Software Project Management

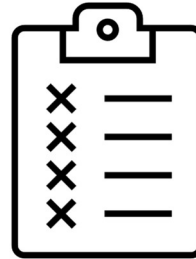
- Reduces project risks and uncertainties
- Improves team coordination and communication
- Ensures on-time and on-budget delivery
- Enhances quality and customer satisfaction



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Why Do Software Projects Fail?

- Poor or unclear requirements
- Inadequate planning
- Lack of communication and leadership
- Unrealistic deadlines or budget
- Technical complexity or scope creep



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Role of a Project Manager

- Plan, lead, and monitor the project
- Manage resources and team members
- Communicate with stakeholders
- Ensure project quality and success
- Handle risks and changes



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Key Skills of a Project Manager

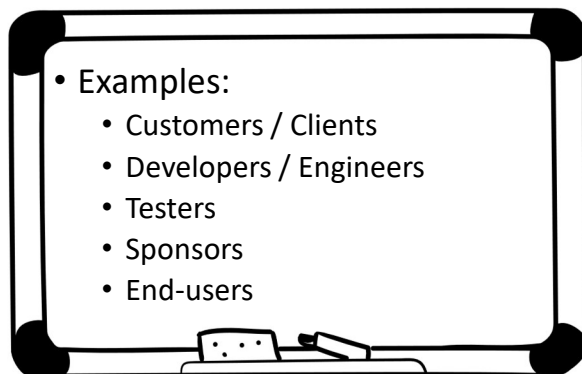
- ✓ Technical skills: understanding software processes
- ✓ Managerial skills: planning, scheduling, budgeting
- ✓ Interpersonal skills: communication, teamwork, motivation
- ✓ Analytical skills: problem-solving, decision-making



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Project Stakeholders

People who are affected by or can influence the project



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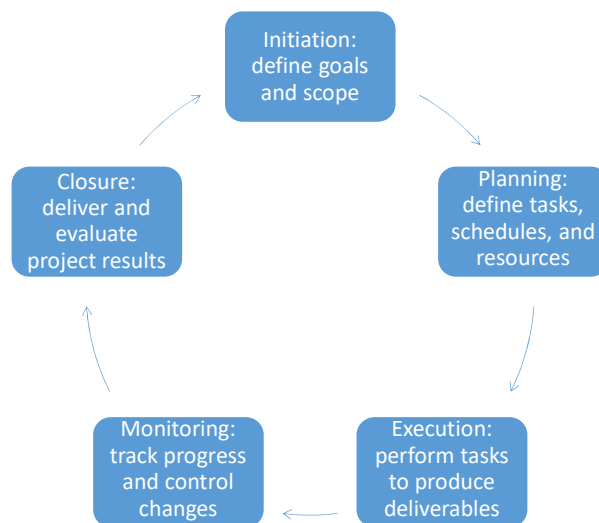
The Triple Constraint



- Three main elements: **Time – Cost – Scope**
 - Any change in one affects the others
 - Quality depends on balancing all three
 - Visual: Triangle showing Time, Cost, Scope
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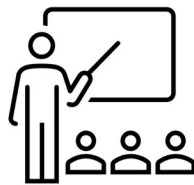
Software Project Life Cycle (Overview)



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Software Development Models

- Waterfall Model: sequential steps
- Iterative Model: repeated development cycles
- Agile Model: flexible, adaptive to change
- Hybrid Models: combine multiple approaches



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Factors for Project Success

- Clear objectives and requirements
- Effective leadership
- Strong team collaboration
- Stakeholder support and communication
- Continuous monitoring and improvement



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Project Environment



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Project Management Tools

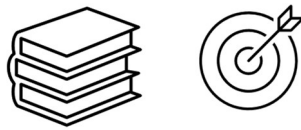
- MS Project: scheduling and tracking
- Trello / Jira: agile planning, collaboration
- Asana / ClickUp: task and progress tracking
- GitHub Projects: version control and issue tracking



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Project Documentation

- Project Charter – defines objectives and scope
- Schedule Plan – outlines activities and milestones
- Status Report – monitors progress
- Closure Report – summarizes results and lessons learned



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Ethics and Professional Responsibility



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Summary

- Software projects require structured management
- Project management balances time, cost, scope, and quality
- Success depends on leadership, communication, and control
- The next chapter will cover Software Project Life Cycle in detail

