Table of Contents

1. Introduction
2. Reading
3. Segment Overview
4. Objectives

1. Introduction

View the presentation below to kick-start this segment.

In this segment, we will cover the activities that will be carried out during the project planning phase of the project management roadmap.

This segment provides an overview of traditional systems development methodologies and estimation methods. It is becoming more and more important to apply continuous improvement standards to the processes used within a business. Standards such as ISO 9000 and Software Engineering Institute's Capability Maturity Model (CMM) focus on improving the processes of software development. Software development organisations are being required by some user organisations to certify compliance with these standards. Compliance is also very beneficial to software producing organisations. We will review these standards and also examine different types of information systems (IS) projects and their features, followed by a broad framework of the systems development approach.

2. Reading

Reading: Textbook and Other Readings

Required Textbook Readings:
Refer to the List of Textbook Readings for relevant readings.

Reference Readings:

- Ingram, R. and Lunsford, D., "Developing an e-commerce system using active server pages", Journal of Information Systems 17, no.1 (Spring 2003). The article presents a case involving the system analysis, design and implementation of a complex eCommerce system. The procedure to develop a conceptual design, involving a web interface and a relational database, are presented, followed by physical design and implementation. The article also demonstrates the activities involved in system analysis and design in a real environment.
3. Segment Overview

This segment consists of the following topics:

<table>
<thead>
<tr>
<th>Topic Title</th>
<th>Topic Overview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Segment Introduction</td>
<td>This topic provides an introduction to system development methodologies. It also introduces the various standards and processes used in the analysis, design and implementation of systems.</td>
</tr>
<tr>
<td>Systems Analysis and Design Methods</td>
<td>This topic presents methods used to develop IS projects. It includes the basic Waterfall approach and some of the other methods commonly used.</td>
</tr>
<tr>
<td>Agile Methods</td>
<td>This topic describes the recent movement in the software industry towards practices that enable software to be developed faster and better aligned to user needs.</td>
</tr>
<tr>
<td>The Spiral Model</td>
<td>This topic presents an iterative systems analysis and design approach incorporating risk analysis and prototyping to identify and overcome project risks.</td>
</tr>
<tr>
<td>Software Development Standards</td>
<td>This topic reviews common standards used in the industry and discusses the impact of high levels of quality software development.</td>
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<tr>
<td>Software Configuration Management</td>
<td>This topic discusses how changes in complex software development projects can be controlled and managed.</td>
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<tr>
<td>Software Quality Tools</td>
<td>This topic presents reuse and open source approaches as different means to increase software quality.</td>
</tr>
<tr>
<td>Work Breakdown Structure (WBS)</td>
<td>This topic introduces a popular method for hierarchically representing the tasks or deliverables in a project that can be used as a starting point for estimation.</td>
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<tr>
<td>Estimation Methods</td>
<td>This topic introduces lines of code and function point methods for software project estimation. It also</td>
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</tbody>
</table>
4. Objectives

Objectives: Project Planning

Upon completion of this segment, you should be able to
- explain the different methodologies to system development
- use agile methods as an alternative software development approach
- apply methods and practices to manage risk on a project
- describe the tools and practices for quality management in IS projects
- decompose a project into its constituent parts, using a work breakdown structure (WBS)
- apply a variety of different project estimation methods