

Learning Guide Unit 6

Site: [University of the People](#)
Course: CS 4403-01 Software Engineering 2 - AY2025-T1
Book: Learning Guide Unit 6

Printed by: Mejbaul Mubin
Date: Thursday, 5 September 2024, 2:43 PM

Description

Learning Guide Unit 6

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Overview

Unit 6: Implementation and Maintenance, Testing and Quality Assurance

Topics:

- Characteristics of Languages
- Comparison of Languages
- Request for Proposal Purpose
- Contents for RFP
- Hardware and Software
- RFP Evaluation
- Testing Terminology
- Testing Strategies
- System and Quality Assurance Testing

Learning Objectives:

By the end of this unit you will be able to:

1. Evaluate the types of scoring systems for a vendor proposal and weigh their pros and cons
2. Discuss and differentiate between different types of Financial proposals and implementations of RFPs under different categories
3. Discuss and implement appropriate testing strategies applicable in a given scenario

Tasks:

- Peer-assess Unit 5 Programming Assignment
- Read through the Learning Guide and the Reading Assignment
- Complete the Discussion Assignment by posting in the Discussion Forum
- Respond to three of your fellow classmates' posts in the Discussion Forum
- Complete and submit the Programming Assignment
- Submit the Learning Journal
- Take and submit the Self-Quiz

Introduction

CHAPTER 15: The chapter defines characteristics of languages, to allow us to distinguish between ten languages that are evaluated. Then, the languages are matched to the application types discussed in Chapter 1 and to the methodologies discussed in Chapters 7-12. Language selection, rather than code structure, is emphasized because of the increased use of computer-aided software engineering (CASE) tools to generate code. The chapter first describes identifying characteristics of languages. Then, the implementation of each characteristic is described for ten languages. Based on the language characteristics, we define the types of applications for which each language is best suited. The chapter defines a number of distinguishing characteristics of languages. These include: data type definitions supported, data type checking, operators supported, type of user processing supported, and processing for loops, conditional statements, arrays, I/O, and subprograms.

Chapter 16: This chapter discusses how to evaluate and choose between alternatives for application use. The trade-off between building the item in-house or purchasing it elsewhere is commonly called a make-buy decision. We will first discuss the formal procurement process, describing the steps performed in the purchasing decision process. The informal process is then described and compared with the formal process. Then, the contents of each RFP section are detailed. Sections and contents of a request for proposal (RFP) are defined and developed for the ABC case (as example) to show what they look like. Examples of RFP expectation criteria for each type of work are provided to give a sense of the level of detail to which work is defined in an RFP. Next, we discuss the selection process and criteria that are important to it. Finally, automated support tools for RFP management and evaluation are presented.

Chapter 17: In this chapter, we discuss useful strategies for testing and the strategies which are most applicable to each level of testing. Test types are matched to strategies to develop an effective overall strategy for testing applications. For each level of testing, key issues in test case development are identified. Based on research on testing errors found, guidelines for deciding when to stop testing at each level are provided. Then, we discuss and develop test plan examples for the ABC rental system to demonstrate how theory is applied to practice.

Reading Assignment

TEXT: The New Software Engineering:

- Part IV : Implementation and Maintenance
- Chapter 15: Choosing an Implementation Language
- Chapter 16: Purchasing Hardware and Software
- Chapter 17: Testing and Quality Assurance

Additional Reading:

A handy list of comparison of programming languages

- <http://programming.dojo.net.nz/resources/programming-language-comparison/index>

Articles and How To for RFP

- <http://www.techsoup.org/support/articles-and-how-tos/rfp-library>
- A guide to writing a request for proposal. Download the [pdf](#).

Discussion Forum

Describe why there are so many types of Financial Proposals and briefly define them. Differentiate between the criteria to be provided in a hardware RFP, in a software package RFP and in a software development RFP.

You must post your initial response (with references) before being able to review other student's responses. Once you have made your first response, you will be able to reply to other student's posts. You are expected to make a minimum of 3 responses to your fellow student's posts.

Programming Assignment

Develop a test strategy for testing the entire application chosen in unit 3 for analysis and design. Keep in mind that testing that involves users should minimize their time commitment while obtaining essential information from their involvement. Specifically define roles, responsibilities, timing, and test strategy for each level of testing.

Your response must be a complete APA lab report (title page, conclusion and references page) and your own work.

Purdue OWL APA guide help. Retrieved from: <https://owl.english.purdue.edu/owl/>

Learning Journal

The Learning Journal is a tool for self-reflection on the learning process. In addition to completing directed tasks, you should use the Learning Journal to document your activities, record problems you may have encountered and to draft answers for Discussion Forums and Assignments. The Learning Journal should be updated regularly (on a weekly basis), as the learning journals will be assessed by your instructor as part of your Final Grade.

Your learning journal entry must be a reflective statement that considers the following questions:

1. Describe what you did, what you learned, your weekly activities, in what ways are you able to apply the ideas and concepts gained, and finally, describe one important thing that you are thinking about in relation to the activity
2. Describe the three types of scoring systems for vendor proposals, identifying the pros and cons of each.

Self-Quiz

The Self-Quiz gives you an opportunity to self-assess your knowledge of what you have learned so far.

The results of the Self-Quiz do not count towards your final grade, but the quiz is an important part of the University's learning process and it is expected that you will take it to ensure understanding of the materials presented. Reviewing and analyzing your results will help you perform better on future Graded Quizzes and the Final Exam.

Please access the Self-Quiz on the main course homepage; it will be listed inside the Unit.

Checklist

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