

CMIS 330 STS Project

Scenario

You have been asked to lead a software development team to build a system fulfilling the Statement of Need specified in project 1. Your team is employed by a small company. The customer wants a project that balances reasonable development cost, timely delivery, software quality, and functionality.

In this project, you will work as part of team to define, refine, and proof test case descriptions for the B&B system. **If you do not submit project 3 as part of a team you shall receive a zero for this project.** Assume that the code for your B&B system has been developed based on the SDD whose requirements trace through the SRS to the SS. Note that the SS was not required to be a separate project submission as certain elements of the SS were integrated into the SES. The next step is to develop a software test specification (STS) that describes the test cases that you will perform to verify correctness and validate compliance to customer requirements of your B&B system.

You will select components from the Architectural Context Diagram (ACD) for the B&B system and using the derived use case and software requirements set for each software component and write the complete set of associated white and black box test case definitions.

Completing this project will require that you produce a software test specification (STS) document for the system. *The objective is to produce a cookbook for testers. A tester really only needs the STS, the test environment, the test tools, the test data, and of course, the software.*

STS Templates

Please develop your STS using the **IEEE Standard for Software Test Documentation**, standard 829-1998, posted in the [Reserved Readings](#) section on the [Class Menu](#). *Section 6 in the IEEE Std 829-1998 is most relevant to this assignment, so focus on completing this section as thoroughly as you can.*

The assignment

1. Form teams of no more than 3 class members for this assignment. The instructor will provide guidance on how to form the teams.
2. Complete the template as best as you can. Make any reasonable assumptions based on your understanding of the problem that allow you to address as many sections of the STS template as possible. (Please read the “project descriptions” in the project description section of the syllabus for additional context and information on course projects).
3. Pay special attention to the following. The bulk of your grade will be decided on how well you address these issues.
 - **Detailed Test Environment description:** including test hardware, software, test tools, and data
 - **White Box Test Cases:** for at least two cases.
 - **Black Box Test Cases:** for at least two components from your ACD and using the derived use cases, scenarios, and software requirements set for each of those components from your SRS.
 - **Traceability matrix:** Each test case is used to assess compliance to a SRS/SS requirement (i.e., Black Box) or to assess correct computation, e.g., correct inventory level (i.e., White Box). Your Test Cases should trace to one or more SRS requirements. See Table 4.4 in module 4 for an

example of a Traceability Matrix. (Please endeavor to use the use cases/scenarios and requirements as you specified them in your SRS).

4. Hints and suggestions

- a. For the STS, we shall be using only a subset of the IEEE template; specifically section 6 of the IEEE (Test Case Specification). Refer to **Module 4** for information on software testing and examples of black-box and white-box test case definitions. Remember: Each test case is used to assess compliance to a SRS/SS requirement (i.e., Black Box) or to assess correct computation, e.g., correct *inventory* level (i.e., White Box). Here are the details required for each test case description:
 - Test objective
 - unique test case identifier
 - input specification
 - output specification
 - special environment conditions
 - special procedural requirements
 - execution procedure steps
 - dependencies
- b. You are encouraged to select and use any one of your team member's ACD, use cases or requirements set to complete this assignment. Collaborate with your team and decide who has the best representation to use.
- c. Document is well-organized, contains minimal spelling and grammatical errors.

You should name the file yournameSTS.docx (or yournameSTS.pdf). So if my name was Julie Smith, I would name my document juliesmithSTS.docx. Each team member should submit the same document, in the LEO gradebook submission area.

Your name, and other team members should be clearly listed on the first page along with the class/section, professor and due date.

Your document should contain page numbers at the bottom of each page. Single or double space line formatting is acceptable. All references used for your report should be included in APA style format. See the following APA reference guide for details on how to cite your references:

http://www.umuc.edu/library/libhow/apa_examples.cfm

Your charts, illustrations and diagrams can be done using any word processing, drawing, and/or software CASE drawing tool (or by hand) as long as it is neat and organized.

Embed or scan any diagrams that you create in your STS document—do not upload them separately.

Grading Rubric

Attribute	Meets	Does not meet
Detailed Test Environment description	20 points Includes detailed descriptions of test hardware, software, test tools, and data.	0 points Does not Include detailed descriptions of test hardware, software, test tools, and data.
White Box Test Cases	20 points Includes at least two white box test cases. Each test case includes the name of the component being tested, Test objective, unique test case identifier, input specification, output specification, special environment conditions, special procedural requirements, execution procedure steps, and dependencies.	0 points Does not include at least two white box test cases. Each test case does not include the name of the component being tested, Test objective, unique test case identifier, input specification, output specification, special environment conditions, special procedural requirements, execution procedure steps, and dependencies.
Black Box Test Cases	20 points Includes at least two black box test cases based on the ACD. Each test case includes the name of the component being tested, Test objective, unique test case identifier, input specification, output specification, special environment conditions, special procedural requirements, execution procedure steps, and dependencies.	0 points Does not include at least two black box test cases based on the ACD. Each test case does not include the name of the component being tested, Test objective, unique test case identifier, input specification, output specification, special environment conditions, special procedural requirements, execution procedure steps, and dependencies.
Traceability matrix	20 points Each Black box test case is used to assess compliance to a SRS/SS requirement or to assess correct computation. Test cases trace to one or more SRS requirements.	0 points Each Black box test case is not used to assess compliance to a SRS/SS requirement or to assess correct computation. Test cases do not trace to one or more SRS requirements.
Documentation	20 points Document is well-organized, and contains minimal spelling and grammar errors.	0 points Document is not well-organized, and contains minimal spelling and grammar errors.

	<p>The student's name and other team members are clearly listed on the first page along with the class/section, professor and due date.</p> <p>The document contains page numbers at the bottom of each page.</p> <p>Single or double space line formatting is used.</p> <p>APA style format is used for references.</p> <p>Diagrams are embedded or scanned into the document.</p>	<p>The student's name and other team members are not clearly listed on the first page along with the class/section, professor and due date.</p> <p>The document does not contain page numbers at the bottom of each page.</p> <p>Single or double space line formatting is not used.</p> <p>APA style format is not used for references.</p> <p>Diagrams are not embedded or scanned into the document.</p>
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