

Project III: Software Development Life Cycle

The Integration & Usability Test Plan!

Overview

It is now time to start the integration and usability testing phase of the SDLC. For this phase, you will be following the same process you followed in Project II, however, the focus will include usability testing with your integration work.

As you did for the Software Requirements and Design document, you will have to create a jointly owned Integration and Usability Test Plan using SharePoint and Microsoft Teams.

You will also be required to handle traceability during your testing by issuing and managing bug reports using the GitHub issue tracking functionality (*see GitHub Requirements document*).

What to do

The following steps will walk you through the development of the Integration and Test Plan.

Step #1: Integration & Usability Test Plan Setup (this step is a group activity)

First step is to create a new document in your MS Teams SharePoint called **“Integration and Usability Test Plan”**. Once created, setup the following sub-sections:

“Usability Test Plan”

“Integration Tests”

“Usability Tests”

Step #2: Create the Test Cases and Procedures for Integration Activities (this step is an individual activity)

You already know from your design and requirements what all the interfaces are. The next step is to define all the test cases that will formally test all your interface requirements and integration activities (i.e your constructors, set/get methods, and defined data structures).

In the text box below, write down a 1-2 sentence description of each test you need to run to verify all the requirements you listed for your object.

In Step #1 you created a sub-section called **"Integration Tests"**. The next step is to take the test descriptions above and define the test cases in the **"Integration and Test Plan"** document using the following template:

TEST CASE TEMPLATE

Test Case ID	A unique ID that represents the type of case and/or the modules that are being integrated
Author	Your name
Test Case Description	What is being tested? What components of the system are being tested? What is the purpose of the test?
Testing Prerequisites	Are there any conditions that must be present or exit within the system before this test can be executed?
Testing Steps	How to run the test? List and describe any steps that must be taken (manual or automated) in this test.
Input Data	Document any input data that is required for any of the steps above. Indicate for which step the data is for
Expected Result	What do you expect the output to be? What will the data look like? If this is a UI style test, what should the tester expect to see on the screen?
Actual Result & Traceability	Left blank for the plan, but will be used in the test report to document results and Github tracking numbers
Pass/Fail	Left blank for the plan, but will be used in the test report to document the pass/fail status

Step #3: Define your Usability Testing Requirements (this step is an individual activity)

You have defined the tests needed to integrate your object to the 'Master' branch now, but what about the user. Based on the system level requirements, your object controls and/or provides data in the SCADA/HMI system for the user. What tests do you need to complete in order to make sure the user (a) understands your data, (b) verifies your data and (c) verifies the users know how to control your object (if applicable).

In the text box below, write down a 1-2 sentence description of each usability test you need to run to verify your object.

In Step #1 you created a sub-section called **“Usability Tests”**. The next step is to take the test descriptions and define the test cases in the **“Integration and Test Plan”** document using the same table/template as stated above for integration tests.

Step #4: The Plan! (this step is a group activity)

Hold a group meeting and review all the test cases in your MS Teams groups **“Integration and Test Plan”** document. Think about the seven (7) methods of usability we discussed in class. Which method(s) best suit executing the usability test cases your team have created? In the **“Usability Plan”** section of the group document write an executive summary of your plan. What method(s) are you planning on using? Why?. This executive summary should be 300-500 words long.

Depending on the complexity, and number of usability test cases, you may use external people like family members or friends (none BCS students) to complete some of the usability testing. However, you must use fellow BCS students during Week 13 to complete 1-2 tests in class. So pick which tests will be performed in class and which tests will be performed externally.

Rubric

See eConestoga for details

What to Hand In

Each member of the group must upload a completed copy of this PDF form to their eConestoga accounts. The group **“Integration and Test Plan”** document must also be completed and on the SharePoint site for review.