

CCPS Project Plan

Test Plan

12. Introduction

This section discusses the practices that will be used in the testing phase. A substantial amount of the project will involve developing test cases and executing them to determine results. This section outlines the procedures for each individual testing phase. This involves software and hardware testing, as well as integration and system testing. Below lists each testing phase and the deliverables for each.

12.1 Project Policies

The policies for this software project are outlined

12.1.1 Test Types and Scope

This project will require multiple test types to ensure that the customer's requirements are met. These tests include software testing, hardware testing, integration testing, unit testing and system testing. These tests will be completed by at most three project members to ensure completion in a timely fashion.

12.1.2 Test Documents

Additionally several test documents will be prepared. These documents include a test plan, a deployment plan, an inspection plan, prototype test results, and finalized test results.

12.2.3 Validation of Tests

Test cases will be developed throughout the project's duration to test the requirements that were drafted. These test cases will correspond to a requirement number in the requirements document. There will be multiple test cases for each requirement to ensure that no portion of that requirement is overlooked. These test cases will be implemented with a range of values that will be implemented throughout each testing phase.

12.1.4 Methods and Procedures

Test cases will be documented for this CCPS project by recording each test case in the test case document. Each test case will yield a number corresponding to the requirement it is testing. This will make traceability smoother throughout the duration of the project.

12.2 Software Unit Test

The testing team will hold the responsibility of developing unit tests for this CCPS project. They are responsible for developing the test cases concerning the requirements for this project. This group of individuals will work with the requirements developers to create test cases that properly test the requirements. The testing team will also seek help from the members of the development team to make sure they are testing all elements of the system. Software Unit Testing cannot begin until all of the requirements, and test cases for each testing phase have been drafted. This phase will result in a Software Unit Test document with each test case and its results. This testing phase will end when all tests pass.

12.3 Hardware Unit Test

The testing team is additionally responsible for developing hardware unit tests. They will continue to work alongside the requirements engineers to gather information necessary to complete this task. They will also work with employees responsible for the hardware design for

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this CCPS project. Hardware unit testing cannot begin until test cases have been developed for it. This phase will result in a Hardware Unit Test document with each test case and its results. The phase will be complete when all tests pass.

12.4 Software Integration Test

The testing team is responsible for completing integration testing for the software being developed for this CCPS project. This phase cannot begin until test cases have been developed for it to execute. It will result in a Software Integration Test document displaying the results of these test cases. This phase will be complete when all tests pass.

12.5 Hardware Integration Test

The testing team is responsible for this phase. It cannot begin until the proper test cases have been developed for testing the hardware associated with this project. The output will be a Hardware Integration Testing document containing the test cases and results for each. This phase will terminate when all tests pass.

12.6 System Integration Test

System Integration Testing begins when Hardware and Software Integration Testing has been completed. This involves testing each individual system involved in the project separately. The testing team is responsible for executing the system integration tests. This phase will result in a document containing each test case and the results of each. This phase will exit when all tests pass.

12.7 System Test

This phase serves to test the system and all of its components operating correctly as a whole. It can only be executed after system integration testing has taken place. The testing team will be responsible for completing this phase. The exit criteria will be a System Test document containing all the test cases and their results. This phase will terminate when all tests pass.

12.8 Inter-System Test

This phase will not begin until the System Test phase has completed. The testing team will be responsible for the completion of this phase and will work alongside the team members of the other system. The exit criteria for this phase will be an Inter-System Test document stating the test cases for this phase and the results of each. This phase will terminate when all tests pass.

12.9 Beta Test/ Acceptance Test/First Application

The testing team is responsible for organizing and executing beta and acceptance testing. This phase will not begin until all of the test cases required for this phase have been developed. Beta and Acceptance testing typically happens toward the end of a project's lifecycle when portions of the product are working, but the completed product has not yet been developed. The exit criterion for this phase is a document containing all of the tests for this phase and the results. This phase ends when all tests have passed.