



PES University, Bengaluru

UE19CS302 Software Engineering Assignment for Aug-Dec 2021

Max Marks: 10 will be scaled to 5

1. Each student (Individually) should select **any one** of the given four scenarios and address the questions listed in bullet number 5 below.
2. Students are required to submit and upload the scanned copies of only **handwritten assignments** written in 4 (no's) one sided A4 sheets in the google links provided by your class teacher.
3. No soft copies and typed assignments are accepted.
4. Plagiarism will be checked and if the submissions are found to contain duplicate information, then all those students will get Zero marks.
5. Every submission should include
 - a. Strategy being planned with any of the following
 1. The testing mindset or the test models that will be followed
 2. What test types would be used and why that is planned to be used as part of the process
 3. Test environment that will need to be available for supporting the strategy
 4. Automation strategy to be followed with a brief rationale
 5. Risk identification for the strategy, analysis, contingency planning and trigger for the risk.
 6. Process Improvement suggested
 7. Other (please specify) and explain as necessary
 - b. Two test cases with all the fields needed to be into a test case (with one each with the different test types chosen)
 - c. Two measures and metrics which are planned for use

Scenario #1:

Consider a mobile application say for scanning documents which are going to be used by a large number of customers, on number of hardware platforms and Operating Systems.

Testing this in a constrained time is a necessity. We would like you to come up with a test strategy to assure quality, reduce efforts and cost with comprehensive test coverage. Emphasize on a methodical and planned approach to systematically distribute the testing across various devices/OS combinations.

Hint ... you can consider creating a Test optimization matrix using the usage statistics, sales statistics and past experience of data while coming up with a test strategy and answering all of the questions in the Assignment description 5 for this scenario.

Scenario #2:

XYZ is a leading global mobile application service-provider for utility payment with a physical presence across several countries and continents. They are venturing into newer domains like banking and financial transactions, travel bookings and loans.

Provide a test strategy for XYZ to perform thorough test coverage of their new ventures, with a focus on mobile regression and to ensure that the test coverage is performed seamlessly for the Indian market.

Along with the feature testing and a foolproof regression testing, your test strategy should ensure that the mobile application supports and works impeccably on iOS and Android devices. You can think about the following problem solving areas:

- Market suggestions around device compatibility matrix
- Exploratory testing around UI issues and usability
- Suggestions for regression automation in the future
- a mix of short and elaborate regressions to bring in the required coverage on time and a constant revisit on the regression suite, to ensure it brings in optimal coverage, as the test suite continues to grow by the day.

Generate the test strategy and answer all of the questions in the Assignment description 5 for this scenario.

Scenario #3:

ABC is a World's Leading manufacturer of sensors and sensor solutions. The company develops a vast array of sensors that addresses the comprehensive requirements of sensing applications. As an innovation leader, the Company offers solutions not just for current requirements but also futuristic needs, with intelligent sensors that can be optimally integrated into the systems, communicate in the network, collect data and evaluate in real time. The data sent by sensors are calculated and stored properly in the database and the application is scalable enough to work with very large data sets.

There are simulators which are used for ensuring comprehensive testing of the same. These software simulators can easily be modified to prepare different sets of data for testing, which enables a mechanism to test and a solution to test comprehensively with the required coverage across varied permutations and combinations.

Provide a test strategy for ensuring that the functionality and Performance of Sensor Solutions created by this company is adequate while answering all of the questions in the Assignment description 5 for this scenario.

Scenario #4:

VidPub is a video publishing company that provides users tools to upload, edit and publish their videos. The video player was well designed to be used in high bandwidth scenarios, functioning without any packet loss where bandwidth was upwards of 2 MBPS. This restricted the user base for the player as it was not able to reach out to the audience who had low bandwidth internet connections. This application is now being enhanced to support usage with significantly lower bandwidth.

Provide a test strategy with focus on performance and usability of the player and help VidPub to reach out to newer audiences in newer target markets and thus helping to increase their sales drastically while answering all the questions in the assignment description 5.