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# **Roll No: 210451**

Practical No: 8

**1)Designing test plan for a mobile app.**

**Test Plan for PlayStation App:**

**1. Preparing Test Plan:**

* Testing the PlayStation Mobile Application involves evaluating the functionality of the app, including user interactions and transactions. The main goal is to ensure the app's quality, meet specified expectations, reduce the risk of errors, and enhance customer satisfaction.
* Ensure that the app securely handles user data and interactions, and test key features like account management, game downloads, chat functionality, and remote play.
* Resources: Testing tools, PlayStation App, and a range of PlayStation-compatible devices for testing.

**2. Scope Management:**

* Define the scope of the testing process based on project specifications, budget constraints, and customer requirements.
* **Functionality Testing:**
  + Validate the installation and update process to ensure the app works smoothly without critical errors.
  + Verify compatibility across various mobile devices and OS versions.
  + Check if recommended games and content are displayed based on user activity.
  + Ensure successful game downloads and proper storage on the server.
  + Monitor live game views, friend list updates, and chat interactions.
  + Confirm that unique identifiers are assigned to games and user accounts to prevent conflicts.
  + Test the uniqueness of usernames and user profiles to prevent impersonation.
  + Evaluate the functionality of the chat system, including voice and text chat.
* **Prioritization of Features:**
  + New features that must be released.
  + Critical features that, if failed, could be disastrous.
  + Complex features that require extensive testing.
  + Features with tight deadlines.
* **Selected Features:**
  + Installation and update process.
  + Game search and discovery.
  + Game downloads and storage.
  + Chat and friend management.
  + Account and profile management.

**3. Deciding Test Approach:**

* Choose the appropriate type of test for each feature based on their priority.
* **Compatibility Testing:**
  + Ensure that the app adapts to various screen sizes, resolutions, and device hardware.
  + Verify that the user interface adjusts appropriately to different screen sizes.
  + Confirm readability of text on all devices.
* **Security Testing:**
  + Validate data and network security measures to protect user information.
  + Test the app's resilience against brute force attacks.
  + Check the strength of the password protection system.
* **Usability Testing:**
  + Evaluate the app's user-friendliness and efficiency.
  + Verify button size and suitability for different finger sizes.
  + Assess the clarity and consistency of icons.
  + Check for spelling and grammatical errors.
  + Ensure a consistent app layout.
* **Performance Testing:**
  + Assess the app's performance under different load conditions.
  + Test network compatibility at peak, average, and minimum user levels.
  + Validate the app's response times.
  + Evaluate the app's ability to handle large file downloads and uploads**.**

**4. Setting Up Criteria for Testing:**

* Define criteria for the successful completion of each test phase, including Pass/Fail, Suspend, and Resume criteria.
* **Example:**
  + Pass criteria: All critical and high-priority test cases pass without errors.
  + Fail criteria: Any critical functionality fails or exhibits major issues.
  + Suspend criteria: If more than 40% of test cases fail, suspend testing until all failures are resolved.
  + Resume criteria: Testing can resume when all previously suspended test cases pass successfully.

**5.Identifying responsibility**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Team manager** | **Program manager** | **Developer team** | **Test team** | **Client** |
| Acceptance test documentation and execution | X | X | - | X | X |
| System/Integration test | X | - | X | X | - |
| Unit test documentation and execution | X | - | X | X | - |
| System design review | X | X | X | X | X |
| Detail design review | X | X | X | X | - |
| Test procedure and rules | X | X | X | X | - |
| Screen and report reviews | - | - | X | X | X |
| Change control and regression testing | X | X | X | X | - |

**6. Staffing and training needs**

|  |  |  |
| --- | --- | --- |
| **Task** | **Members** | **Estimate effort** |
| Create the test Specification | Test Designer | 190 man-hours |
| Perform Test Execution | Tester, Test Administrator | 80 man-hours |
| Test Report | Tester | 10 man-hours |
| Test Delivery |  | 20 man-hours |
| **Total** |  | **300 man-hours** |

**7. Resource Requirements:**

* Requirement Tracking Tool:
  + Jira
  + Zephyr
  + IBM Engineering Requirements Management DOORS Next
  + Orcanos
* Bug Tracking Tool:
  + Bugzilla
  + RedMine
  + TestRail
  + GitLab
* Automation Tool:
  + GitLab [CI/CD]
  + Robot Framework [Acceptance Testing]
  + AWS CloudFormation [Managing code & infrastructure on AWS]

**8. Test Deliverables:**

The test deliverables for the PlayStation App project will include the following:

1. Test Plan Document
2. Test Cases
3. Test Design Specification
4. Tools and Their Outputs
5. Simulators
6. Static and Dynamic Generators
7. Error Logs and Execution Logs
8. Problem Reports and Corrective Actions
9. Test Summary Reports

**9. Testing Tasks:**

During the testing of the mobile application, several risks and challenges need to be addressed:

* Testing Approach Based on Device: Testing on various devices to ensure compatibility and functionality.
* Availability of Multiple Mobile User Interfaces: Testing on different mobile interfaces and versions.
* Greater Security Issues: Ensuring data security and privacy.
* Time Constraint to Market the App: Meeting tight deadlines for app releases.
* Constantly Changing Environment and Usage Patterns of Mobile Phones: Adapting to evolving mobile technologies.
* Testing of Touch Screens Is More Complicated: Ensuring touch-based interactions work correctly.
* User Experience and Issues with App Performance: Focusing on user satisfaction and app responsiveness.

**Size Estimation:**

1. Determine the amount of testing needed for the project.
2. Size of Product Release:
   * **Lines of Code (LOC)**: This metric depends on the programming style and compactness of the code. It considers only the coding phase.
   * **Function Points (FP)**: Estimates the size of the application based on input, output, interfaces, number of screens, and reports.

**Effort Estimation:**

Effort estimation includes:

* Productivity Data: Refers to the speed at which various testing activities can be carried out, including:
  + Number of test cases that can be developed per day.
  + Number of test cases that can be run per day.

**OUTPUT:**

  