**QA World Cup :**

**Problem type: Designing Test Approach**

**Test Strategy**

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1. **Introduction and Overview:**

The purpose of this Test Strategy document is to define overall approach that will be taken by the Testing Team when delivering testing services to ABC for a new game based on native mobile App. The document helps to clarify the testing activities, roles and responsibilities, processes, and practice to be used across successive projects and ensure quality of testing.

This Test Strategy document outlines a high-level view of all major aspects that could affect the success of the Testing. It also aims to structure the direction and to shape the test effort.

**The purpose of the Test Strategy is to define:**

* Test Scope – Features and items to be tested and features not in scope
* Test Process and Procedures – What testing is needed and what are the activities
* Test Management – Reporting, control, schedule, Configuration, and problem management
* Test Tools – Tools, utilities etc. that will be used during testing
* Test Deliverables – Test preparation and test execution
* Test Environment
* Roles and responsibilities for the various test stages

By signing-off this document, the business will confirm agreement that the approach documented here meets the business requirements and the project team can start implementing it.

1. **Testing Objectives and Approach:**

The Management team has identified following objectives as critical success factors to successfully complete the validation of testing activities being executed by ABC IT Team for releasing a new Game based on native mobile App:

* Verify that the various systems under test, that are required to execute the functionality in scope, have been implemented correctly and are fit for purpose.
* Verify all the test scenarios that are mandatory for native mobile app testing.
* Verify that developed app is compatible with all the latest devices and operating system.
* Minimize the risk of failure in the app when it is implemented
* Measure product quality against agreed acceptance criteria

To meet the above objectives, following types of tests will be performed during this project:

* Functional Testing
* Compatibility Testing (Cross-Platform Testing)
* Performance Testing
* Recovery Testing
* Soak and Memory Leakage Testing
* Security Testing
* Localization Testing
* Compliance Testing

1. **Scope:**

ABC IT Team will cover the following Test Scenarios:

**Functional Testing:**

* Check for Font, animation, movement of character, graphics, Zoom In/Out
* Verify if loading indicator is displayed wherever required.
* Test for enable and disable images/icons/buttons etc.
* Test whether one object overlaps with another
* Check scrollbars and scrolling of the screen.
* ON/OFF sound & background music
* Verify if sound effects are in sync with action
* ON/OFF device sound (native sound) and check
* Check for vibration effect if present

**Compatibility Testing:**

* Check in Landscape/Portrait mode
* Check the app in latest iOS, Android, Window devices (As per the Client Requirements)
* Check the app in different screen sizes of mobile devices (As per the Client Requirements)
* Check the compatibility of different version of iOS, Android, Window Operating System. (As per the Client Requirements)
* Check the app with different mode (light / dark).

**Performance Testing:**

* Check in Loading time of the game.
* Check that any action is happen within considerable time.
* Check that app is working fine when 1000 users are concurrently active.
* Check the performance of app with different network Connectivity (2G, 3G, 4G, 5G)
* Check the Processor (CPU Utilization) and memory Constraints.

**Recovery Testing:**

* Check the app while Interruption with incoming call.
* Check the app while Battery is low or completely consumed.
* Check the app while Network is lost.

**Security Testing:**

* Check the Data Protection from external threats.
* Check uncontrolled System access restriction.

**Soak and Memory Leakage:**

* Check the memory leakage and rounding errors.
* Check the idle pause and its effect on title screen and sounds.

1. **Out of Scope:**

ABC Bank It will not perform the following activities:

* Back-End Testing (Database Testing)
* API Testing
* Automation Testing

1. **Test Completion Criteria**
   1. **Acceptance Criteria:**

Testing is completed once:

* All the assigned test cases have been executed and the result has been reported in Test Management tool.
* All the issue confirmed by the QA team will be raised in Defect Management tool and retested.
* The closure report of the testing activity has been sent.
  1. **Suspension and Resumption Criteria:**

Suspension and Resume are communicated and confirmed by client and simply managed through email communication.

1. **Scrum Delivery Model Testing KPIs:**

* Requirement Coverage
* Test Coverage
* Test Case Effectiveness = Number of valid bugs fixed/ (Bugs injected+ number of bugs escaped) \*100.
* Defect Density = Total Defect/Size
* Defect Leakage = (No. of Defects found in UAT / No. of Defects found in QA testing.)
* Burndown/Burn-up Chart
* Team Velocity
* Sprint completion ratio = (Number story points delivered / number of story points committed) \*100
* Detailed defect status – Breakdown of defects in terms of status and severity
* Defect Removal Efficiency (DRE) = (Total defects found in development / (Total defects found in development + Defects found in production)) x 100
* CSAT Survey (Conducting customer satisfaction research) = (Positive responses / Total responses) x 100
* Unit test coverage (generated automatically by tool)

1. **Assumptions and Dependencies:**

* Compatibility Metric for all the devices type, operating system and screen sizes will provided by client.
* All the mobile devices and their configuration will be available during testing period.
* All business requirements will be finalized, documented, and incorporated into the

documents which form the test base prior to the start of testing.

* The test environment will be available at the start of the testing period.
* A tool will be available to manage issue tracking and resolution.
* The test environment will not change after test preparation and execution.

1. **Risk and Constraints:**

* Testing games is a repetitive process every new build may have bugs, and so it must be tested thoroughly using game testing automation tools.
* Testing game on all available real devices and their operating system is quite difficult. So, client will provide the Compatibility Matrix for devices, their Operating System and screen size, testing will be done for them.

1. **Reporting and Escalation Process:**

If any issue from the Issues Log remains unresolved for two weeks and either client or QA Team regards the issue as significant, then the issue resolution is escalated through this route.

1. [Specify the escalation model as available in SoW/Contract. Else specify the route through which escalation flows. E.g., Sopra Project Manager will immediately inform <Customer Name> Manager and based on the reason for delay/issue, a plan to alleviate the delay and issue will be formulated.]

Team Member -> Test Lead -> Project Manager -> Service Manager -> GPM