Test Plan

Real time GPS Tracking System

Version 1.0

Created by

Jaspreet M

On

02-09-2019

Contents

[Introduction: 2](#_Toc18278312)

[Objective: 2](#_Toc18278313)

[Scope: 2](#_Toc18278314)

[Features to be tested: 2](#_Toc18278315)

[Features not to be tested: 2](#_Toc18278316)

[Test Strategy: 2](#_Toc18278317)

[Testing process: 2](#_Toc18278318)

[Testing techniques: 4](#_Toc18278319)

[Testing levels: 4](#_Toc18278320)

[Automation feasibility: 5](#_Toc18278321)

[Environments: 5](#_Toc18278322)

[Entry Criteria: 5](#_Toc18278323)

[Suspension Criteria: 6](#_Toc18278324)

[Resumption Criteria: 6](#_Toc18278325)

[Pass/Fail Criteria: 6](#_Toc18278326)

[Exit Criteria: 6](#_Toc18278327)

[Deliverables: 6](#_Toc18278328)

[Test Metrics: 6](#_Toc18278329)

[Test Closure: 6](#_Toc18278330)

[Test Management 7](#_Toc18278331)

[Tools: 7](#_Toc18278332)

[Test Schedule: 7](#_Toc18278333)

[Roles and Responsibilities: 7](#_Toc18278334)

[Contingency planning and management: 8](#_Toc18278335)

# 

# Introduction:

This test plan describes the testing strategy and overall approach to be employed for carrying out the testing of the real-time tracking of the delivery agents by the Operational Manager.

# Objective:

The test plan supports the following objectives:

* Define the scope and identify the features to be tested and not to be tested
* Describe the test strategy that will be applied during testing
* List the deliverables of the testing process
* Identify the test metrics to be reported
* Specify test management

# Scope:

The test plan mainly targets the functional and non-functional testing as per the problem statement.

# Features to be tested:

* Functional testing
* Non-functional testing
* Real-time tracking of delivery agents by the Operational Manager through the GPS service
* Testing on Android and iOS apps

# Features not to be tested:

None other than mentioned above.

# Test Strategy:

Below is the test strategy that will be applied by the QA team. It details the testing process to be followed, testing techniques testing levels that will be applied, entry and exit criteria to know when to start and stop the testing

## Testing process:

Testing process to be followed by the QA team is as follows:

**Understanding the requirements:**

* Requirements will be provided by the Product Manager(s)
* Design specifications will be provided by the Design team
* Understanding and analyzing of the requirements will be done by the QA team
* Listing out any doubts and/or missing touch points in the requirements by the QA team
* Assigning the queries and clarifications to the concerned Product Manager(s)
* Response and/or clarifications will be sent to QA team by the Product Manager(s)
* Understanding of the implementation (to be done by the developers) for maximum test coverage and/or missing touch points will be done by the QA and Product teams
* In lack of time, a meeting of QA, Development, Design and Product teams could be scheduled for clarifications

**Providing the test effort estimates:**

* After the clarifications, test estimates will be provided by the QA team for the below:
* Preparing Test Plan
* Preparing test cases and getting those reviewed
* Data creation
* Test execution
* Bug logging and tracking
* Retesting
* Regression testing on QA environment (Sanity testing during lack of time)

**Test Plan creation:**

Test plan will be prepared by the QA team with the help of the QA Lead for proper planning and reporting and efficient test execution

**Test Case Preparation:**

* Test cases will be prepared by the QA team using the established test case writing template
* QA team should get these reviewed by a Senior QA and by the Product Manager(s) & Design team
* Any comments, changes or suggestions by the reviewer will be re-worked on and added in the test suite
* Test cases will be shared with the development team and other stakeholders (or added onto the repository)
* Test suite will be uploaded to the test management tool (Eg. TestRail) for test runs during test execution (if required)

**Data creation:**

Test data will be created by the QA team based on the test cases and scenarios

**Test Execution:**

* Test cases will be executed by the QA team based on the designed scenarios and test data
* In lack of time, high priority test cases will be picked and executed
* ‘Actual Result’ along with the ‘Status’ (Pass/Fail) should be updated in the test cases
* Test run will be created and run by the respective QAs based on the test cases executed by them

**Bug logging and tracking:**

* All the bugs found during test execution will be logged in Defect Management Tool (JIRA) by the QA team and will be assigned to the concerned developer
* Following template will be followed by the QA team for bug logging:
* Summary
* Description
* Testing Environment
* Expected Result
* Actual Result
* Implications
* Test Data and Preconditions
* Steps to reproduce
* Priority and severity
* Screenshots
* Bug IDs generated will be added against the required test cases

**Retesting and Regression testing:**

* Resolved bugs will be tested and Bug ID will be marked as per the result
* ‘Actual Result’ and Status’ will be updated by the concerned QA
* Regression testing will be done if required

**Deployment:**

* After all the test cases are executed, all the major high priority bugs are fixed and retested, the code will be deployed to the UAT environment
* QA team will perform one round of testing (or sanity testing) on the UAT environment
* QA sign-off will be provided by the QA team
* Product Manager will perform one round of testing on UAT environment and provide sign-off
* Once the code is released on Production environment after Product team’s sign-off, post release sanity will be performed by the QA team

## Testing techniques:

Following testing techniques will be applied by the QA team for test execution:

* Equivalence Class Partitioning
* Boundary Value Analysis
* Adhoc testing

## Testing levels:

Functional testing will be performed by the QA team to test all the functionalities given in the requirements by covering maximum scenarios

Below functional testing levels will be covered:

* Smoke testing
* Integration Testing
* Regression testing
* Sanity testing
* UAT testing

Non-Functional testing will be covered to test the system’s efficiency, performance, reliability, security

Below non-functional testing levels will be covered:

* Security testing
* Performance testing
* Load testing
* Recovery Testing
* Efficiency testing
* Compatibility testing
* Scalability testing

## Automation feasibility:

Test cases will not be automated for this part of the requirements.

## Environments:

There will be three environments where the code will be deployed:

* QA environment to execute the designed test scenarios and cases by the QA team.

<QA Env URL> and QA DB

GPS Service on QA

* UAT environment to sanity test the feature mainly by the Product Team. <URL>

<UAT Env URL> and UAT DB

GPS service on UAT

* Prod environment to sanity test the release by the QA team.

<Prod Env URL> and Prod DB

GPS service on Prod

## Entry Criteria:

* Code must be reviewed by a senior developer before deployment on QA environment
* All the hardware, software, environments requirements must be in place
* Code must be deployed properly on the QA environment
* QA team must have understood all the requirements and have the domain knowledge
* Test cases must be ready and reviewed by concerned parties

## Suspension Criteria:

* Frequent and significant changes by the Product Manager(s)
* Insufficient bandwidth of the resources
* Rejection of the smoke build
* Unstable testing environment

## Resumption Criteria:

Testing will be resumed when all the problems that caused the suspension are resolved

## Pass/Fail Criteria:

If the test cases meet the requirements as specified in the problem statement, will be marked as ‘Pass’ else will be marked as ‘Fail’.

## Exit Criteria:

All the high priority test cases have been executed

All the bugs found have been logged

All the high priority and severity bugs have been fixed and retested

All the testing deliverables are ready and shared with the stakeholders

# Deliverables:

* Test Plan
* Test cases
* Defects
* Sanity checklist
* Test summary report

# Test Metrics:

* Number of test cases written
* Number of test cases executed
* Number of bugs found
* Defect density
* Number of reopened bugs
* Number of high priority bugs

# Test Closure:

* All the deliverables have been provided to the stakeholders
* All the test metrics have been reported
* Post release prod sanity checklist has been prepared and shared
* QA sign off has been provided by the QA team

# Test Management

## Tools:

Below testing tools will be used by the QA team: (Assumed)

* TestRail tool for creating test runs
* JIRA tool for bug logging and tracking
* Confluence tool for Project management
* Zeplin tool for design
* Performance tools like JMeter
* Working mobiles with latest builds of Android and iOS apps

## Test Schedule:

This will be followed as per the ‘Testing process’ above.

## Roles and Responsibilities:

* Product Manager team:
* Will be responsible by providing the product specifications
* Will be reviewing the test cases prepared by the QA team
* Will be responsible for sanity test on UAT environment
* Will be the point of contact for the Design, Development and QA team in case of specification-related queries
* Design team:
* Will be responsible for providing the design specifications
* Will be reviewing the design test cases prepared by the QA team
* Will be the point of contact for the Product, Development and QA team in case of design-related queries
* Development team:
* Will be responsible for developing the functionality
* Will be responsible for writing and executing the unit testing cases
* Will be responsible for fixing the bugs raised by the QA team
* Will be responsible for pushing the code on all the environments
* Will be the point of contact for the Product, Design and QA team in case of implementation-related queries
* QA team
* Will be responsible for understanding the requirements and raising queries if any
* Will be responsible for writing and executing the test cases
* Will be responsible for preparing the Test Plan and other test metrics
* Will be responsible for raising the bugs
* Will be responsible for smoke testing, retesting, regression testing and sanity testing

## Contingency planning and management:

* Assigned resource(s) go on unplanned leave: Another suitable resource with bandwidth should be assigned for the time being
* Delay in development thereby impacting the QA team timeline: High priority test cases should be executed first. May have to go extra mile to cover the testing on time
* Understanding the requirements: Meetings should be scheduled for doubt clarifications at the earliest
* Insufficient knowledge: Training should be provided to the team