Test Plan

Project – Realty Daddy

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CN SoftNet Pvt Ltd

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**Revision and Signoff Sheet**

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**Approvers List** - To track who has reviewed and signoff on the Test plan

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| Name | Role | Approver / Reviewer | Approval / Review Date |
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**Reference Documents** - Clearly mark the document used as an input to create the test plan

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# INTRODUCTION

## Purpose

This test plan describes the testing approach and overall framework that will drive the testing of the RD Web site. The document introduces:

* Test Strategy: rules the test will be based on, including the givens of the project (e.g.: start / end dates, objectives, assumptions); description of the process to set up a valid test (e.g.: entry / exit criteria, creation of test cases, specific tasks to perform, scheduling, data strategy).
* Execution Strategy: describes how the test will be performed and process to identify and report defects, and to fix and implement fixes.
* Test Management: process to handle the logistics of the test and all the events that come up during execution (e.g.: communications, escalation procedures, risk and mitigation, team roster)

## Project Overview

RD portal providing Real-Estate B2C Portal solution to search the real estate properties with the ability to view relevant information to customers to search property on geography, number of rooms, and various other filters.

The functionality spans through the entire system, making information available anywhere, anytime. All information is subject to company’s defined security policy, where he/she can only view the information he/she is authorized to.

## Audience

* Project team members perform tasks specified in this document, and provide input and recommendations on this document.
* Project Manager Plans for the testing activities in the overall project schedule, reviews the document, tracks the performance of the test according to the task herein specified, approves the document and is accountable for the results.
* The stakeholders’ representatives and participants (individuals as identified by the PMO Leads) may take part in the UAT test to ensure the business is aligned with the results of the test.
* Technical Team ensures that the test plan and deliverables are in line with the design, provides the environment for testing and follows the procedures related to the fixes of defects.
* Business analysts will provide their inputs on functional changes.

# TEST STRATEGY

## Test Objectives

The objective of the test is to verify that the functionality of RD works according to the specifications.

The test will execute and verify the test scripts, identify, fix and retest all high and medium severity defects per the entrance priority set by Product Owner or other Stakeholders.

The final product of the test is twofold:

* A production-ready software.
* A set of stable test scripts that can be reused for Functional test execution.

## Test Assumptions

**Key Assumptions**

* Product Wireframe, Design, Functional Flow documents with detail scenarios, and Product Requirements are finalized.
* Production like Test data required and be available in the system prior to start of Functional Testing
* **Code Review and unit tested with pass status** and results shared to Testing team prior to push any story into QA.

**General**

* **Exploratory Testing** would be carried out once the build is ready for testing
* **Performance testing** is not considered for this estimation.
* All the defects would come along with a snapshot JPEG format
* The Test Team will be provided with access to **Test environment** connectivity
* The Test Team assumes all necessary inputs required during Test design and execution will be supported by Development/BUSINESS ANALYSTs/PM appropriately.
* Test case design activities will be performed by QA Group
* **Test environment and preparation** activities will be owned by Dev Team
* Dev team will provide Defect fix plans based on the Defect meetings during each cycle to plan. The same will be informed to Test team prior to start of Defect fix cycles
* Product Owner/BUSINESS ANALYST will review and sign-off all Test cases prepared by Test Team prior to start of Test execution
* The defects will be tracked through **JIRA only**. Any defect fixes planned will be shared with Test Team prior to applying the fixes on the Test environment
* Project Manager/Product Owner will review and sign-off all test deliverables
* The project will provide test planning, test design and test execution support
* Test team will manage the testing effort with close coordination with Project PM/BUSINESS ANALYST
* Project team has the knowledge and experience necessary, or has received adequate training in the system, the project and the testing processes.
* There is **no environment downtime** during test due to outages or defect fixes.
* The system will be treated as a black box; if the information shows correctly online and in the reports, it will be assumed that the **database and Solr query** is working properly.
* Cycle x+1 will be initiated if there are more defects in Cycle x.

**Functional Testing**

* During Functional testing, testing team will use preloaded data which is available on the system at the time of execution
* The Test Team will be perform Functional testing only on RD Portal module.

## Test Principles

* Testing will be focused on meeting the business objectives, cost efficiency, and quality.
* There will be common, consistent procedures for all teams supporting testing activities.
* Testing processes will be well defined, yet flexible, with the ability to change as needed.
* Testing activities will build upon previous stages to avoid redundancy or duplication of effort.
* Testing environment and data will **emulate a production environment** as much as possible.
* Testing will be a repeatable, quantifiable, and measurable activity.
* Testing will be divided into **distinct phases**, each with clearly defined objectives and goals.
* There will be entrance and exit criteria.

## Data Approach

* In functional testing, RD portal will contain **pre-loaded property test data** and which is used for testing activities.

## Scope and Levels of Testing

### Functional Test

**PURPOSE:**  Functional testing will be performed to check the functions of application. The functional testing is carried out by feeding the input and validates the output from the application.

**Scope:** Need to finalize the Testing scope.

# Test Effort Estimate

This document lists out all the activities that have to be performed by the QA team and estimates how many man-hours each activity is going to take.

define first level estimation based on development plan, delivery and estimation.

*Note: this estimate is for the Web Portal team only*

# TEST MANAGEMENT PROCESS

## Test Management Tool

Atlassian JIRA and Confluence is the tool used for Test Management. All testing artifacts such as Epic, Test cases, test results are updated in the JIRA tool.

* Project specific folder structure will be created in Confluence
* Each resource in the Testing team will be provided with Read/Write access to add/modify Test cases in Confluence.
* During the Test Design phase, all test cases are written directly into Confluence. Any change to the test case will be directly updated in the Confluence.
* Any defect encountered will be raised in JIRA linking to the particular Test case/test step.
* During Defect fix testing, defects are re-assigned back to the tester to verify the defect fix. The tester verifies the defect fix and updates the status directly in JIRA.
* Various reports can be generated from JIRA to provide status of Test execution. For example, No. of open defects, module wise defects etc.

## Test Design Process

* During the preparation phase, tester will use the prototype, use case and functional specification to write step by step test cases.
* The tester will understand each requirement and prepare corresponding test case to ensure all requirements are covered.
* Each Test case will be mapped to Use cases to Requirements as part of Traceability matrix.
* Testers will maintain a **clarification Tracker (Query) sheet** or Logged into JIRA and same will be shared periodically with the Product Owner and accordingly the test case will be updated. The clarifications may sometimes **lead to Change Requests** or not in scope or detailing implicit requirements.
* Sign-off for the test cases would be communicates through mail
* Any subsequent changes to the test case if any will be directly updated in Confluence.

## Test Execution Process

* Once all Test cases are approved and the test environment is ready for testing, tester will start a **exploratory test of the application** to ensure the application is **stable for testing**.
* Each Tester is assigned Test cases directly in Confluence.
* Testers to ensure necessary access to the testing environment for updating test status and raise defects. If any issues, will be escalated to the Test Lead and in turn to the Project Manager as escalation.
* If any showstopper during exploratory testing will be escalated to the respective development for hot fixes.
* Each tester performs step by step execution and updates the executions status. The tester enters Pass or Fail Status for each of the step directly in Confluence.
* If any failures, defect will be raised as per priority guidelines in JIRA tool detailing steps to simulate along with screenshots if appropriate.
* Testing team will participate in defect triage meetings in order to ensure all test cases are executed with either pass/fail category.
* If there are any defects that are not part of steps but could be outside the test steps, such defects need to be captured in confluence and map it against the test case level or at the specific step that issue was encountered after confirming with Test Lead.
* This process is repeated until all test cases are executed fully with Pass/Fail status.

As per Process, final sign-off or project completion process will be followed

## Test Risks and Mitigation Factors

| Risk | Prob. | Impact | Mitigation Plan |
| --- | --- | --- | --- |
| **Lose Entry Criteria**   * Lacking in clarify of Product scope, Testing scope. * Poor prototype, undefined requirements, undefined use cases and functional specification to write test cases. | High | High | * Product Owner/Business Analyst must have provide the fine tune functional requirement document with detail use cases to Testing Team |
| **SCHEDULE**   * Testing schedule is tight. * If the start of the testing is delayed due to design tasks, the test cannot be extended beyond the UAT scheduled start date. * Pre-loaded property test data unavailable. * Failure to identify complex functionalities and time required to develop those functionalities. | High | High | * The testing team can control the preparation tasks (in advance) and the early communication with involved parties. * Some buffer has been added to the testing schedule for contingencies. * Test data scripts should pre-loaded by dev team into testing build before start execution |
| **RESOURCES**  Not enough resources, resources on boarding too late (process takes around minimum 30 days) | High | High | Holidays and vacation have been estimated and built into the schedule; deviations from the estimation could derive in delays in the testing. |
| **DEFECTS**  Defects are found at a late stage of the cycle or at a late cycle; defects discovered late are most likely be due to unclear specifications and are time consuming to resolve. | Medium | High | Defect management plan is in place to ensure prompt communication and fixing of issues. |
| **SCOPE**  Scope completely defined | Medium | Medium | Scope is well defined but the changes are in the functionality are not yet finalized or keep on changing. |
| Natural disasters | Low | Medium | Teams and responsibilities have been spread to two different geographic areas. In a catastrophic event in one of the areas, there will resources in the other areas needed to continue (although at a slower pace) the testing activities. |
| Non-availability of Independent Test environment and accessibility | Medium | High | Due to non availability of the environment, the schedule gets impacted and will lead to delayed start of Test execution. |
| Delayed Testing Due To new Issues | Medium | High | During testing, there is a good chance that some “new” defects may be identified and may become an issue that will take time to resolve.  There are defects that can be raised during testing because of unclear document specification. These defects can yield to an issue that will need time to be resolved.  If these issues become showstoppers, it will greatly impact on the overall project schedule.  If new defects are discovered, the defect management and issue management procedures are in place to immediately provide a resolution. |

## Communications Plan and Team Roster

## Role Expectations

The following list defines in general terms the expectations related to the roles directly involved in the management, planning or execution of the test for the project.

| SN0. | Roles | Name | Contact Info |
| --- | --- | --- | --- |
| 1. | Project Manager |  |  |
| 2. | Test Lead |  |  |
| 3. | Product Owner/Business Analyst |  |  |
| 4. | Development Lead |  |  |
| 5. | Testing Team |  |  |
| 6. | Development Team |  |  |
| 7. | Technical Lead |  |  |

### Project Management

* Project Manager: reviews the content of the Test Plan, Test Strategy and Test Estimates signs off on it.

### Test Planning (Test Lead)

* Ensure entrance criteria are used as input before start the execution.
* Develop test plan and the guidelines to create test conditions, test cases, expected results and execution scripts.
* Provide guidelines on how to manage defects.
* Attend status meetings in person.
* Communicate to the test team any changes that need to be made to the test deliverables or application and when they will be completed.

### Test Team

* Develop test conditions, test cases, expected results, and execution scripts.
* Perform execution and validation.
* Identify, document and prioritize defects according to the guidance provided by the Test lead.
* Re-test after software modifications have been made according to the schedule.
* Prepare testing metrics and provide regular status.

### Test Lead

* Acknowledge the completion of a section within a cycle.
* Give the OK to start next level of testing.
* Facilitate defect communications between testing team and technical / development team.

### Development Team

* Review testing deliverables (Test cases, scripts, expected results, etc.) and provide timely feedback. (If requested).
* Assist in the validation of results (if requested).
* Support the Testing team to setup Test environment and pre-loading Test Data.
* Hot fix on test environment if any kind of showstopper and requested to fix it.
* Define processes/tools to facilitate the initial and ongoing migration of components.
* Conduct first line investigation into execution discrepancies and assist test executors in creation of accurate defects.
* Implement fixes to defects according to schedule.

# EXECUTION STRATEGY

## Entry and Exit Criteria

* The entry criteria refer to the desirable conditions in order to start test execution; only the migration of the code and fixes need to be assessed at the end of each cycle.
* The exit criteria are the desirable conditions that need to be met in order proceed with the implementation.
* Entry and exit criteria are flexible benchmarks. If they are not met, the test team will assess the risk, identify mitigation actions and provide a recommendation. All this is input to the project manager for a final “go-no go” decision.
* Entry criteria to start the execution phase of the test: the activities listed in the Test Planning section of the schedule are 100% completed.
* Entry criteria to start each cycle: the activities listed in the Test Execution section of the schedule are 100% completed at each cycle.

|  |  |  |  |
| --- | --- | --- | --- |
| **Exit Criteria** | **Test Team** | **Technical Team** | **Notes** |
| 100% Test Scripts executed |  |  |  |
| 95% pass rate of Test Scripts |  |  |  |
| No open Critical and High severity defects |  |  |  |
| 95% of Medium severity defects have been closed |  |  |  |
| All remaining defects are either cancelled or documented as Change Requests for a future release |  |  |  |
| All expected and actual results are captured and documented with the test script |  |  |  |
| All defects logged in JIRA |  |  |  |
| Test Closure Memo completed and signed off |  |  |  |
| Test environment cleanup completed and a new back up of the environment |  |  |  |



## Test Cycles

* + There will be two cycles for functional testing. Each cycle will execute all the scripts.
  + The objective of the first cycle is to identify any blocking, critical defects, and most of the high defects. It is expected to use some work-around in order to get to all the scripts.
  + The objective of the second cycle is to identify remaining high and medium defects, remove the work-around from the first cycle, correct gaps in the scripts and obtain performance results.

## Validation and Defect Management

* It is expected that the testers execute all the scripts in each of the cycles described above. However it is recognized that the testers could also do additional testing if they identify a possible gap in the scripts. This is especially relevant in the second cycle, when the any new team member or Stakeholder join the in the execution of the test, he/she must have a deeper knowledge of the product features/functionalities. If a gap is identified, it will have to escalate to Product Owner to update into change management and based on decision it will include in the project scope.
* The defects will be tracked through JIRA only. The PM/Product Owner/Business stakeholder will gather information from JIRA, and request additional details from the Defect Coordinator. Issue found during the Testing will post in JIRA by

|  |  |
| --- | --- |
| **Issue Type** | **Impact** |
| 1. Bug | * Programmatically error, in the application which is created. |
| 2. Requirement GAP | * Post the if any requirement is missed to test scenario or not properly defined |

* It is the responsibility of the tester to open the defects, link them to the corresponding script, assign an initial severity and status, retest and close the defect; it is the responsibility of the PM/PL to review the severity of the defects and facilitate with the dev/technical team the fix and its implementation, communicate with testers when the test can continue or should be halt, request the tester to retest, and modify status as the defect progresses through the cycle; it is the responsibility of the dev/technical team to review JIRA on a daily basis.
* Defects found during the Testing will be set priority according to the bug-reporting tool “JIRA” and the categories are:

|  |  |
| --- | --- |
| **Priority** | **Impact** |
| 1. (Blocker) | * This bug is critical enough to crash the system, cause file corruption, or cause potential data loss * Any kind of showstopper it causes the application to hang and requires re-booting the system. |
| 2. (Critical) | * This bug is critical enough to crash the system, cause file corruption, or cause potential data loss * It causes an abnormal return to the operating system (crash or a system failure message appears). |
| 3. (Major) | * It causes a lack of vital program functionality with workaround. * This Bug will degrade the quality of the System. However there is an intelligent workaround for achieving the desired functionality - for example through another screen. * This bug prevents other areas of the product from being tested. However other areas can be independently tested. |
| 4. (Minor) | * There is an insufficient or unclear error message, which has minimum impact on product use. * There is an insufficient or unclear error message that has no impact on product use. |
| 5. (Trivial) | * There is an insufficient or unclear error message that has no impact on product use. * Cosmetic issue |

## Test Metrics

Test metrics to measure the progress and level of success of the test will be developed and shared with the project manager for approval. The below are some of the metrics

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| --- | --- | --- |
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## Defect tracking & Reporting

Following flowchart depicts Defect Tracking Process:

**Approved?**

**Start**

**Tester:**

**Report defects**

**Dev Lead**

**Assign defects**

**Developer:**

**Fixes defects**

**Tester:**

**Retests the product**

**No**

**Stop**

**Close defect**

**Yes**

**Test Lead**

**Validate defects**

# TEST ENVIRONMENT

A windows environment with Internet Explorer 8, 9 and 10, and with Firefox 49.0, as well as Google Chrome 52.0 and later should be available to each tester.

Separate Testing Environment with auto schedule deployment and pre-loaded with Test Data.

# APPROVALS

The Names and Titles of all persons who must approve this plan.

|  |  |
| --- | --- |
| **Signature:** |  |
| **Name:** |  |
| **Role:** |  |
| **Date:** |  |

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| **Role:** |  |
| **Date:** |  |