# Test Plan

**Google Search** |**Krystal**

**Version Control**

| **Version** | **Description/Status** | **Date** | **Author** |
| --- | --- | --- | --- |
| *V1.0* | *Draft* | *02/10/2020* | Chirumamilla Srinivas Bhargav |

**Stakeholders**  
The following stakeholders have been identified as key members of the project and are advised to review and approve the contents of the document prior to the execution.

|  |  |
| --- | --- |
| **Name** | **Role** |
| KRITI | Project Manager/Product Owner |
| JAMES | Software Developer |
| DERICK | Test Lead |
| ALEX | Test Manager |

**Associated Documents**

PFB Clarity link for the documents respective to Google search. These documents are part of Testing test scope. If any updates to these documents are made, will test with the latest versions.

|  |  |  |
| --- | --- | --- |
| Clarity Project No | Clarity Link | Version |
| 11 | www.google.com/docs/ | X |

Introduction:  
  
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**Purpose**

* This document provides an overview of Testing Activities involved in Krystal.AI project
* The methodologies and processes which will be followed while testing the product are highlighted in this document.
* It also outlines testing priorities, along with the risks, responsibilities and pre-requisites affecting the project.
* **Note:** This document must be finalized and signed off by key stakeholders in early stage of Alpha phase.

**Project Overview:**

* Project Kystal- Google search is about the search made by end user and validation of the results
* We will be following Agile methodology for this project

**Project Description**-

* Google search UI -application should work on all platform [ Android, IOS, WEB, Mobile Responsive]
* User should get the desired result through Google search
* The UI of the product should be attractive and user friendly
* Any random search should be acceptable by the application

**Test Scope**

Test Items in Scope-

|  |  |
| --- | --- |
| **S no** | **Summary** |
| 1 | Configurable Options |
| 2 | Audit Screen Verification |
| 3 | UI verification |
| 4 | API Verification |
| 5 | Help Screen Verification |
| 6 | Code Compare |
| 7 | Code Review |
| 8 | Performance Testing |
| 9 | Load testing |
| 10 | Automation of Application |
| 11 | Random Testing |
| 12 | Business UAT |
| 13 | Beta Testing |
| 14 | Bug Bash |

**Test Items not in Scope**

The test scope for the application will **not** specifically focus on items such as:

a)   Hardware functionality

b) Opened defects on production

c)   Modules not impacted for the related functionality and which is not in use for Customers

d) Issues that are not obvious for Google

f)    Interoperability testing with live systems.

g)   Platform related functionality which is less priority

However, SIT will report issues in JIRA related to the Hardware and Platform if these issues are inadvertently found. In this case, SIT will report these issues in JIRA, if not already reported and assign those issues to the appropriate functional area (e.g. Platform, Hardware).

**Test Approach**

Google search Functionality would be tested by Testing team

* Functional Testing
* Integration Testing
* Performance Testing
* Stress Testing
* API testing
* UI testing
* Usability testing
* Localization testing
* Unit testing

**Test Environment**

**Hardware:** Testing will be done on Android devices, IOS devices, IPAD, MAC & windows machine, Mobile browsers  
**Software:** The build revision released by the development team will be used for testing after the successful entry criteria. Majority of the test cases will be executed in production build unless the test case mandates the debug version.

# Test Deliverables

Here mention all the Test Artifacts that will be delivered during different phases of the testing lifecycle.

* Here are the sample deliverables

|  |
| --- |
| * Test Plan * Test Cases * Requirement Traceability Matrix * Bug Reports * Test Strategy * Test Metrics * Customer Sign Off |

**Testing Tools**:

Selenium

* Java
* Open Source
* BDD
* NodeJS
* JMETER
* Rest Assured
* Postman
* Jenkins
* AWS
* JIRA
* Code language to be used: JAVA, JAVASCRIPT, CSS
* Localization testing to be performed in required domain language – English, Spanish, Arabic

**Test Scenarios:**

**Functional Scenario:**

* To check whether we type any letter that must be seen in google search
* To check search URL is correct
* To check it must show some option word related to what we typed in the search text box
* To check whether it must provide the option word as a dropdown box
* To check whether it must provide the dropdown box with correctly ten options
* To check whether we once typed our word and we give search it must display the searched word page
* To check whether if we select advanced search, it moves to the advanced search page
* To check whether it shows with advanced search text boxes
* To check, whether if we click only advanced search button it must move to google home page
* To check whenever we open the page, the cursor should always be in the first text box
* To check based upon the maximum characters the text box should maximize along with web page should also be increased
* To check it we delete the words it must resize to its original size
* To check when we click the tip button, it must display the tip message
* To check whether we are in drop down box when we give the first letter of the word it must be shown with the word starting with that character
* To check whether we provide any invalid data it must not work
* To check when we select the + marked increase text box, the page should be expanded, and it must show the corresponding text fields
* To check whether we gave all the values to the field, and we select the advanced search button, it must show the result based on the data we have provided.
* To check [Google.com](http://Google.com) search working in different Browsers [e.g safari, chrome, IE]

**Performance Testing:**

* Check time taken to open a new page when giving valid data to the text box
* When users are giving some data to text box check, related data is showing or not.
* Check back button status when the user wants to go back page.

**Load test:**

* Check how many google page users can open.
* Suppose the user already opens a 7,8 new tab if we open another new tab, whether it is opening or not.
* The user using google page ex.for 10 hrs what is behavior

**Platform/OS Testing**

Check Google search functionality in different platforms e.g. Android, IOS, WEB and mobile site  [different type of OS]

**API testing**

* Get the request calls from developer and  check  the responses are proper or Not
* Every call should give Response 200 as status code
* GET and POST details  should be taken from Swagger and verify those

**Test Entry and Exit Criteria**

* Alpha Build acceptance – Application delivery from software needs to meet entry criteria for the testing to be initiated. Any exceptions to the criteria will require the sign off from the project stakeholders
* Testing Entry Criteria can be found in the following link: www.randompage.list
* Into Beta Test – Application will be submitted for Beta testing to meets Alpha Exit criteria. Any exceptions to the criteria will require the sign off from the project stakeholders. Testing Exit Criteria can be found in the following link: www.randompage.list
* Once the pre-compliance cycle is completed, application will be transferred to tech admin provided it meets the Beta Exit criteria : www.randompage.list

**Test case Management**

Test cases will be managed and tracked through Zephyr/TestRail/Jiara

Defect Management

Defects will be logged and tracked in JIRA. Below is the defect management flow of an issue:

A screenshot of a cell phone

Description automatically generated

Issues will be reported by Team in JIRA as an “Internal Defect”.

The typical fields which will be filled out for the defect report are listed in the table below:

| **No** | **Field** | **Description** |
| --- | --- | --- |
| 1 | **Summary** | A short description of the overall defect |
| 2 | **Description** | A detailed description of the defect behavior, including expected behavior |
| 3 | **Environment** | Details such as tool chain and boot loader versions, SVN tags, compilation type, simulator settings |
| 4 | **Priority** | This is the defect severity as defined in Defect Severity section |
| 5 | **Resolution** | Resolution of the defect |
| 6 | **Affects Version/s** | The version where the issue was found |
| 7 | **Fix Version/s** | The version where the issue is resolved |
| 8 | **Issue Links** | Link to similar reported issues in the past, current ongoing games and failed Zephyr test cases |
| 9 | **Attachments** | Any attachments relevant to the defect such as documents, screenshots and videos |
| 10 | **Source** | Specify where the issue is originated from i.e. SIT or ATF (informal) |
| 11 | **Assignee** | Issue assignment |
| 12 | **Category** | Issue category |

**Triage Process**

Following needs to be done as part of the defect triage process to have a successful issues closure:

* Meeting to be initiated by Lead with all the project stakeholders.
* Issues assessment need to happen to set the severity and priority of the issues. Any conflicts or differing opinions about the issues to be resolved here.
* After the issue’s assessment, the issues are assigned to right assignees to resolve.
* The outcome of the triage meeting to be communicated by PMO to the project team through JIRA or email.

Once a defect is logged by team it is assigned to the Triage team in JIRA where it will be reviewed and then assigned to its respective owner by the Software Development Lead. Communication on the issues will occur in the comments section of the JIRA defect to help bring the issue to closure.

If there are issues which are proving difficult or tardy to resolve after the above steps take place, a list of outstanding issues will be shared via email by the test lead before a triage meeting occurs. The meeting will be closed once the project team agrees on how to appropriately resolve each issue with order of priority. The test lead will then capture the action items for each defect and distribute to the project team via email.

New family products will be subject to more frequent triage meeting sessions (as and when required), particularly if outstanding issues are proving difficult to resolve.

**Defect Severity**

|  |  |
| --- | --- |
| **Severity** | **Description** |
| Blocker | Particular functionality cannot continue to be tested |
| Critical | Compliance related issues, issues that severely impact the functionality of the game in the field or affect the chance of the game being approved by the regulators |
| Major | Functional defects such as a feature not working as described in the game specification, game performance issues |
| Minor | Cosmetic issues, documentation issues |
| Trivial | Observations raised by SIT that seem to be unusual or different to other game behaviors, but not necessarily a defect. Can also be queries, Redundant code. |

 Defect Assignees

Defects will be assigned as outlined in the below table below. Each defect will be raised in JIRA. The person designated, as the defect assignee will analyze the defect and direct it to the relevant area for investigation and resolution.

All the communication to go through Krystal Team depending the on the Project Leads.

**Suspension Criteria and Resumption Requirements**

The test cycle will be suspended if any of the following occurs:

* Suspension Criteria
  + Blocker level issues as described in section X are reported
  + Required hardware is unavailable
  + Application features are incomplete
  + Application environment is incomplete
  + Compliance related issues
  + Change in requirements and/or scope which renders past tests invalid

If a test cycle has been suspended, it will only resume if all the following occur:

* Resumption Criteria
  + All blocker level issues are resolved and/or fixed
  + All features are implemented
  + Required hardware is available

**Roles and Responsibilities**

|  |  |
| --- | --- |
| **Responsibility** | **Activities** |
| Assigned Test Lead | * Appropriately assign test cases to testers to execute * Plan test cycle duration and time frame * Liaise with ATF using JIRA to resolve ATF reported issues * Liaise with appropriate project team members to resolve SIT and ATF reported issues * Assess progress of SIT testers and update schedule if necessary * Create Test Plan wherever required * Create Test Data wherever required * Review Test Plan * Review Test Data if necessary * Review test scenarios * Provide support to the team to resolve any queries/concerns regarding hardware/software/technical * Work on Testing Framework for Appium/IOS/WEB/API * Work on CI CD Jenkins set up * Set Up In AWS or Sauce Labs |
| Assigned Tester | * Create Test Plan * Create/Re-use scenarios/Test Cases (as applicable) * Execute Test scenarios/Test cases assigned to them by lead * Create/Re-use test data (as applicable) * Report defects in JIRA and assign issues to the appropriate functional group * Raise any queries or concerns with the game or testing to lead * Provide a daily progress update on testing activities to lead * Raise any risks to project schedule to the Lead/Manager * Raise any hardware dependencies for project schedule to the Manager   Automation:  Working on assigned features of Automation [UI+API]  Integrate the test scripts to Jenkins |
| Test Manager | * Have a look on outstanding issues that are not resolvable – with guidance from the compliance team, wherever required * Review Test plan and provide feedback to lead (if required) * Review Test Cases and provide feedback to lead (if required) |

Schedule:

| **Activity/Phase** | **Expected Start** | **Expected Completion** |
| --- | --- | --- |
| Alpha Phase  Beta Phase | *<date- 02-10-2020>*  *<date 15-10-2020>* | <*date date- 22-10-2020* >  <date *date- 31-10-2020*> |
|  |  |  |

Resource Management

*QA Resources*

**QA** 1 – API Automation for Web and Mobile Apps

**QA** 2 - Manual

**QA** 3- Manual

**QA** 4 - Automation, Performance for Web and Mobile Apps

**Testing Timeline:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Testing Type** | **Resource** | **Start Date** | **End Date** | **Total no of hours[per day 6 hours/per resource]** |
| Functional |  |  |  |  |
| Smoke/Sanity | QA1+QA2+QA3 | 02.10.2020 | 02.10.2020 |  |
| Feature 1 | QA1 + QA2 | 03.10.2020 | 04.10.2020 | 24 |
| Feature 2 | QA1 + QA2 | 05.10.2020 | 06.10.2020 | 24 |
|  |  |  |  |  |
| Integration | QA1 | 08.10.2020 | 09.10.2020 | 12 |
|  |  |  |  |  |
| API[Manual Automation] | QA3 | 02.10.2020 | 04.10.2020 | 36 |
|  |  |  |  |  |
| UI automation | QA2+QA3 | 12.10.2020 | 13.10.2020 | 24 |
|  |  |  |  |  |
| Stress/Load | QA3 | 13.10.2020 | 13.10.2020 | 6 |
|  |  |  |  |  |
| Performance [JMETER] | QA3 | 14.10.2020 | 14.10.2020 | 6 |
|  |  |  |  |  |
| Regression | QA2+QA1 | 15.10.2020 | 17.10.2020 | 36 |
|  |  |  |  |  |
| Business UAT | QA team | 19.10.2020 | 19.10.2020 | 12 |
|  |  |  |  |  |
| QA sign Off | QA Team | 20.10.2020 |  |  |

Risks and Contingencies

The following section details certain risks, which have been identified as having potential to impact testing activities in Golden Gong DL. Refer to appendix for scoring matrix.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No** | **Risk Description** | **Likelihood** | **Impact** | **Mitigation** | **Owner** | **Project Affected/ Comments** |
| 1 | Misunderstanding of requirements/intended behaviors | 1 | 4 |          Discussion with Lead/SMEs to get clarification on intended game behavior | Krystal | All Requirements/Intended behaviors were discussed. |
| 2 | Insufficient test coverage | 3 | 4 |          Ensure Test plan and Test Scope are reviewed by Lead. | Krystal | Test Plan and Test Scope were reviewed by relevant stakeholders. Feedback incorporated. |
| 3 | Change in test resources | 2 | 4 |          Assess impact of timeline on project | KRYSTAl | Risk was raised proactively and mitigated by deploying additional resources. |
|          Inform Lead/Manager for changes in resources |
| 4 | Scope Changes/Scope Creep | 1 | 4 |          Allow buffer time for changes to scope and re-assess impact on project | Krystal | Sufficient time was provided to execute the scope delta. |
| 5 | Internal dependencies | 3 | 3 | Need of machine | Krystal | Pending implementations delivered on subsequent tags. SIT tested the pending implementations and their probable impact on other areas. |
| * Will coordinate with other project stakeholders and plan optimum utilization of Plantronics |
|  |
|  |
|  |

 Appendix

Risk Management Scoring Matrix

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Likelihood** | | | | | |
| **Impact** | **1** | **2** | | **3** | **4** | **5** |
|  | **Rare** | **Unlikely** | | **Possible** | **Likely** | **Certain** |
| **5 Catastrophic** | 5 | 10 | | 15 | 20 | 25 |
| **4 Major** | 4 | 8 | | 12 | 16 | 20 |
| **3 Moderate** | 3 | 6 | | 9 | 12 | 15 |
| **2 Minor** | 2 | 4 | | 6 | 8 | 10 |
| **1 Negligible** | 1 | 2 | | 3 | 4 | 5 |
| **Score** | **Risk Severity** | |
| **1-3** | Low | |
| **4-6** | Moderate | |
| **8-12** | High | |
| **15-25** | Extreme | |

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