Revision / Document History

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| Version No. | Date | Author | Description | Reviewed By |
| 1.0 | 19/09/18 | Manjula | Initial draft of test strategy | --------------- |
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Table of Contents

[Introduction](#_Toc525121066)

[1. Objective](#_Toc525121067)

[2. Types of tests to be done](#_Toc525121068)

[3. Potential Issues](#_Toc525121069)

[**Items to be tested(A sample for this interview purpose )**](#_Toc525121070)

[4. Approach](#_Toc525121071)

[5. Test Environment](#_Toc525121072)

[6. Test deliverables](#_Toc525121073)

[7. Test Techniques to be applied](#_Toc525121074)

[8 Test Schedules](#_Toc525121075)

[9 Test criteria](#_Toc525121076)

[10 Test team and roles](#_Toc525121077)

[11 Risks and contingencies](#_Toc525121078)

# Introduction

CV-Library is the UK's leading independent job board and we are experts in recruitment. We take pride in hosting 180,263 jobs across all sectors for the nation's jobseekers, and supporting recruiters and employers with our quality services.

The application will also provide the customers with a sophisticated search mechanism to easily navigate and search/find/apply jobs of their interest. In addition to this also support in recreating you resume and also give guide for any course information.

# Objective

The objective of this document is to describe the scope, approach, resources, and schedule of intended testing activities for CV-Library. It identifies test items, the features to be tested, the testing tasks, who will do each task, and any risks requiring contingency planning.

It also describes the details of how the testing will proceed, who will do the testing, what will be tested, in how much time the test will take place, and to what quality level the test will be performed and ensure that the product is free of the identified potential defects.

# Types of tests to be done

The various types of tests that will have to be done are:

Functionality testing

Button Verification testing

Field Validation

GUI Verification

Link Verification

Navigation testing

User validation testing

# Potential Issues

The strategy is intended to help the test team to develop effective test cases, and setup a process so that potential faults may be prevented/detected at the earliest stage in the most cost effective manner.

As a first step we have to identify the potential issues that may be encountered in this system and ensure that test scenarios/test cases are designed to prevent/discover these issues.

Some of the potential issues that can be anticipated are

1. ***Business functionality issues***

* Incorrect display of search results when searched with address
* Unable to create an activity
* Wrong navigation of the links
* Presence of broken links
* Missing and grammatically incorrect error messages
* Unable to access all the features due to disabled links
* Authorized users are unable to log in
* Unauthorized users are able to log in
* Users unable to logout of the application
* System does not automatically save the password when ‘Remember Me’ link is clicked
* That the name displayed in the login welcome message is not matching with the user logged in
* Incorrect name of the user logged in, is displayed
* Unable to retrieve the password via email
* Unable to edit the data in the dates fields
* Unable to print a particular page

1. ***UI related issues***

* Tool Icons not displayed correctly
* Inconsistency of the look and feel of the window
* Non-alignment of the listings
* Tab order
* Display of vertical scroll bar on exceeding max no search results per page
* Display of Tool Tip information
* Grammatical errors
* Alignment change when the search criteria is with max limit given
* Non display of page sections in the application
* Improper navigation of links
* Certain links are not hyper linked
* Unset of screen resolution
* Non display of messages when there are no search results
* Disabling of buttons

1. ***Data entry validation issues***

* Acceptance of Blank for a mandatory field
* Acceptance of database keywords as search criteria
* Acceptance of special characters in Numeric field
* Acceptance of numbers as names for user, user group
* Acceptance of invalid URL
* Acceptance of invalid email id’s
* Acceptance of characters in Date field
* Text field exceeding the field size
* Text field accepting less no of chars
* Calendar pickers for the dates fields are disabled

1. ***Error handling/Messages issues***

* Browser session time out
* Internet connection disconnects
* Accessing the application from 2 different browsers with same login id
* Improper error messages

1. ***Database issues***

* System handles conditions when database connectivity is lost
* Inconsistency in retrieval of details
* Error on saving the user information when edited
* User Password is not encrypted in the table
* Primary key is not set correctly for the UserID
* Search operation results in empty data
* Results extracted from database shows empty/Incorrect data
* Application hangs when more than x no. Users are created

1. ***Browser issues***

* UI frames are not consistent across the browsers
* Certain pages are not displayed in particular browsers
* JavaScript errors in certain browsers
* Certain GUI elements do not display in the browser

**Non-Functionality Issues**

**T**he documents provided do not specify the non-functional constraints. Hence it is necessary for us to know the limits. Alternatively, we would need to baseline it.

1. ***Performance/Load issues***

* Application is inaccessible/behaves erratically/inconsistently when more number of users accesses it simultaneously *(We need to know what is the large number?)*
* Searching for any information on a database results in very slow response *(We need to know what is the acceptable time limit)*

1. **Application Security Issues**

* Allows to an unauthorized user to login
* Application can be accessed when the URL is pasted in another browser window
* Allows User1 to access details of User2
* Password Encryption issues

1. **Time related issues** 
   * Application does not logout even after browser session timeout
2. **Concurrent issues**

* Application hangs when concurrent users access the application *(We need to know how many users can access concurrently)*

1. **Load Issues/Volume Issues**

* Application does not respond when max # of users are created *(We need to know the maximum users allowed)*
* Does not allow to create n[[1]](#footnote-1) users
* Application does not respond when multiple users access the application concurrently
* Slow response time when an email is sent to the friend

1. **Stress Issues**

* Application does not recover when a large data is given for print
* Application does not respond when multiple users access the application concurrently

Given these potential issues that may be present, we need to ensure a cost-effective approach to detecting these. Some of the issues that were outlined are “Level1-oriented” issues and should be detected by developer at the development stage. For example issues related to basic validation of a field-accepting blank for a mandatory field should be detected at the earliest stage (unit testing).

The table below outlines the optimal V & V method. The V & V method applied shall be a mix of tests, inspection, may be aided by checklist, standard Test scenarios/Test scripts.

|  |  |
| --- | --- |
| Functionality Issues | Functional System Test |
| Data Validation Issues | Data validation Test |
| UI/Usability Issues | Look and feel test, Usability tests, Inspection |
| Error Handling/Messages Issues | Functional System Test |
| Database Issues | Code inspection from the standpoint of inspecting DB-handling code |
| Time Related Issues | Functional System Test, Performance tests |
| Performance Issues | Performance Tests, Design reviews focused from performance standpoint, Needs to be done using a tool |
| Concurrency Issues | Load/Stress testing needs to be done using a tool |

# 

# **Items to be tested(A sample for this interview purpose )**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Functionality to tested in each cycle** | **Cycle 1** | **Cycle 2** | **Cycle 3** | **Cycle 4** |
|  |  |  |  |  |
| Home Page |  |  |  |  |
| SignIn Page |  |  |  |  |
| Apply Page |  |  |  |  |
| Find Page |  |  |  |  |
| Search Page |  |  |  |  |
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| Training course |  |  |  |  |
| Job Alert |  |  |  |  |
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# Approach

Our approach to validation of the CV-Library is based on test engineering method STEM .We apply the Quality Growth principle of STEM™ to ensure that the quality grows continuously. To do this we identify the key attributes to be satisfied to be ‘certified clean’ then device various milestones of quality that the software should pass before it is released. Our objective is to ensure that the quality grows continuously and we apply the Quality Growth principle of STEM™. The quality levels defined as per the quality growth principle for each cycle are:

* 1. Level-1 ( Milestone – 1) Look and feel quality is good
     1. **Field validation test** –That the data entered is properly validated
     2. **Link verification test** – That the links work correctly
     3. **Navigation testing**- That the navigation is correct and as per standards
     4. **Button verification test** – That the actions performed by the buttons are correct
     5. **GUI verification test** – That the user interface is correct and meets the UI specifications
  2. Level 2 (Milestone-2) Individual features work correctly
     1. **Functionality test**– That the functionality implemented by the SUT is correct
     2. **Email test** – That the system does send right emails to right people in response to certain features that result in emails
  3. Level 3 (Milestone-3) – That the system does work correctly on the required browsers
     1. **Multi-browser test** – That the system works correct when used with different browsers: XP(IE6/7, FireFox 1.5/2.0+), Vista(IE7, FireFox 2.0+), Mac 10.4(Firefox1.5/ 2.0+,Safari 2.0)
  4. Level 4 (Milestone-4) – That the business use cases work correctly
     1. **Use case test** - That the features woven together to form the business use-case do work correctly. The focus now is on to check that the interactions of the various features work well. The use cases outlined
  5. Level 5 (Milestone-5)- That the system performance is good enough and that it can handle the stated load and can handle the expected stress
     1. **Performance test** – That the system’s performance is good enough

Load/Stress testing – That the system can handle the stated load (imposed by 100 users) and can handle the stress imposed

# Test Environment

The execution should be done in the following environment:

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Win XP** | **Win Vista** | **Mac 10.4** |
| **IE version x.x** | \* | \* |  |
| **IE version x.x** | \* |  |  |
| **IE version x.x** | \* | \* | \* |
| **Firefox x.x** | \* |  | \* |
| **Safari x.x** |  |  | \* |

# Test deliverables

The following are the deliverables from the test team:

1. Test strategy
2. Test planning
3. Test case documents
4. Test execution report
5. Automated test execution report

# Test Techniques to be applied

Broadly, we will apply black box techniques and generate the system-level test scenarios/test scripts (both functional and non-functional). To ensure that the input is validated correctly, Boundary value analysis, Equivalence class partitioning techniques need to be used to ensure that all types of values, values on/around (inside and outside) the boundary is done. In addition Special value technique to generate interesting data also need to be used.

The black box technique “Decision table” will be used to generate test scenarios to check the correctness of the matching algorithm.

A UI checklist shall be used to ensure that the mapping UI is correct and usable.

# Test Schedules

|  |  |  |
| --- | --- | --- |
| **Sl. No.** | **Activity** | Date |
| 1 | Understand the business problem,technology,users,business cases,featuresand frequency of usage | October 5, 2018 |
| 2 | Baselining the features and requirements | October 8, 2018 |
| 3 | Identify and list the potential defects | October 8, 2018 |
| 4 | Design Assumed field specifications ,Test scenarios, Test data and Test cases mapped with defects | October 10, 2018 |
| 5 | Review level 1 testcases | October 12, 2018 |
| 6 | Design test scenarios, test data,test cases for level 2 and mapped with defects | October 12, 2018 |
| 7 | Exploratory testing of iteration 1 and logging defects | October 16, 2018 |
| 8 | Testing of iteration 1 and logging defects | October 29, 2018 |
| 9 | Regressing of iteration 2 | October 6, 2018 |
| 10 | Updating the quality level 1 and 2 test scenarios testcases | October 8, 2018 |
| 11 | Reviewed level 1 and 2 test scenarios testcases | October 8, 2018 |
| 12 | Regressing of iteration 2 | October 13, 2018 |
| 13 | Regressing of iteration 3 | October 15, 2018 |
| 14 | Regressing of iteration 4 | October 20, 2018 |
| 15 | Design of level 1, level 2 testcases, GUI checklists | October 23, 2018 |
| 16 | Review the designed testcases and GUI checklists | October 23, 2018 |
| 17 | Exploratory testing | October 28, 2018 |
| 18 | Design of level 1, level 2 and level 4 testcases, GUI checklists for few features | October 29, 2018 |
| 19 | Review the designed testcases and GUI checklists | October 29, 2018 |
| 20 | Exploring the VSTS tool | October 30, 2018 |
| 21 | Exploring the VSTS tool | November 3, 2018 |
| 22 | Running the load tests | November 3, 2018 |
| 23 | Creating reports | November 3, 2018 |
| 24 | Running the load tests | November 10, 2018 |
| 25 | Updated the designed testcases and GUI checklists | November 14, 2018 |

# Test criteria

**Entry criteria**

1. The test design shall commence once when the requirements are understood
2. The execution will start when the build is formally released

**Completion criteria**

1. When the planned test cases are executed and these cover all the system requirements-functional and non functional.
2. When the defects are analysed and the impact of these defects are low.

# Test team and roles

The following are the roles of the team:

|  |  |
| --- | --- |
| **Test Engineer** | **Role** |
|  |  |
| Name of the engineer | Test design and execution |
|  | Test design and execution |
|  | Test design and execution |
|  | Review the documents, plan the changes |
|  | Test planning,strategy coordinate the planning |

# Risks and contingencies

|  |  |
| --- | --- |
| **Risks** | **Mitigation plan** |
| Non-availability of resources | Have the backup of resources |
| Delayed release of the build | Acceptance variance in plan would occur |

1. Here an n user means the maximum no. of users that can be created [↑](#footnote-ref-1)