**Test Strategy and Test Plan:**

**Project name: Expense Reimbursement System**

**Revision History**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Version** | **Author** | **Description** |
| 12.6.2022 | 1.0 | Sophia | Test strategy initial draft |
| 19.6.2022 | 1.1 | Kavitha | Final version |
|  |  |  |  |
|  |  |  |  |

**Table of content:**

1. Introduction
2. [Scope](https://docs.google.com/document/d/1q0r0PPyHZMDSWIy-xGqAqI3QoIF_hAm8/edit#heading=h.gjdgxs)
3. Quality Objective
4. [Approach](https://docs.google.com/document/d/1q0r0PPyHZMDSWIy-xGqAqI3QoIF_hAm8/edit#heading=h.30j0zll)
5. Test Methodology
6. Test Environment
7. Testing Tools
8. User Stories
9. Acceptance Criteria
10. Test case and testing results
11. Requirement traceability matrix
12. Release Control
13. Risk Analysis
14. Review and Approval

# 1. Introduction:

The Test Plan is designed to prescribe the scope, approach, resources, and schedule of all testing activities of the project expense reimbursement system.

# 2. Scope:

* The objective of this statement work flow is to align creative reimbursement system of a company website that have features such as creating reimbursement request from employee and the manager have access to accept or decline the request and all the employees can see their previous request and can delete requests.
* This website provides complete user experience for creative reimbursement request for both employees and manager.
* The primary goal of the project is the employee creating reimbursement requests.
* All feedback must be in a written and consolidated format by Client and come from the manager.
* This project duration takes 15 days.

## 2.1 In Scope:

|  |  |  |
| --- | --- | --- |
| **Module Name** | **Applicable Roles** | **Description** |
| Employee Login | Employee | Employee: valid designation, username, password in employee login page |
| Manager Login | Manager | Manager: Login in  to the manager Login page valid designation username password |
| fill request | employee | After successful login, employee can submit reimbursement request with valid data and view request |
| View request | Manager | All the employee request manager able to view accept or decline the request |

## 2.2 Out of scope:

These features are not be tested because they are not included in the software requirement specs

* Hardware Interfaces
* Software Interfaces
* Database logical
* Communications Interfaces
* Website Security and Performance

# 3.Quality objective:

The test objectives are to **verify** the Functionality of website expenses reimbursement system, the project should focus on testing the **employee, manager login operations and request such as** view request, accept or decline, and delete to **guarantee**all these operations can work **normally**in real business environment.

## 3.1Roles and responsibilities:

* 1. Identifying and describing the test techniques/tools/test Approach
  2. Implement the Test cases, Test plan, Test program
  3. Test environment for test execution
  4. Check the testing process is meeting specified requirements.

# 4. Test Approach

Write testcases and designing the test environment so it helps entry and exit criteria of our project.

Testing levels:

Unit Test

Integration testing

System testing

Acceptance testing

Responsibilities:

1.We plan and develop the Test

   2.Monitor and debug the code

3.share Test Results

Discuss the Test progress and up to date milestones and keep working on next level of our project.

# 5.Test Methodology:

1. waterwall methodology
2. System Testing
3. Unit Testing
4. Integration Testing

**3.1Bug:**

First test the test code find more failed cases after we find the filed cases then plan to correct.

**3.2 Test completeness:**

* Specifies the criteria that denote a **successful**completion of a test phase achieving the pass rate.

# 6. Test Environment

Development Environment:

This environment developers spend time to writing the application code. Use (python and PostgreSQL)

Testing Environment:

Local system is our testing environment

Hosting:

Amazon web Services (AWS)

Use our local host web address http://127.0.0.1:5000

Backup of test data and restore strategy:

Use GitHub for our code backup restore strategy.

# 7. Testing Tools

* + - BDD (Behavior Driven Development)
    - Pytest
    - Postman
    - Python
    - Selenium

Pytest is a software testing framework based on python programming language. It can be used to write various types of software tests, including unit test, integration tests, end to end tests, and functional test, its features include parametrized testing, fixtures, and assert re-writing

Postman also open-source community, and we've created a web page where you can test the license information for all third-party dependencies used by Postman.

Selenium is an open-source testing tool that allows users to test web applications across different browsers and platforms.

# 8.User Stories

A **Test Case** is a set of actions executed to verify a particular feature or functionality of your software application.

Some of the test cases are listed below:

* As an employee, I want to login into the application.
* As an employee, I want to submit reimbursement request
* As an employee, I want to see ongoing and previous requests
* As an employee, I want to delete any request
* As an employee, I want to logout of the application
* As a manager, I want to login into the application
* As a manager, I want to see all requests of employees
* As a manager, I want to accept/ decline the requests
* As a manager, I want to logout of the application

# 9. Acceptance criteria:

* An Employee can Login into Employee Login Page into the application
* An employee can submit the reimbursement request
* An employee can see the ongoing and previous request
* An employee can delete the application
* An employee can logout of the application
* Manager Login into the manager login page in the application
* Manager can see all the employee reimbursement request
* Manager can accept/ decline the employee request
* Manager can logout of the application

# 10. Test cases and Testing Results:

Some of the testing results are shown below:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Test Case ID | Test Case Description | Test steps | Test data | Expected Result | Actual Result | Pass/Fail |
| 1 | Check employee login with valid data | 1. Enter designation as an Employee  2. Enter valid username  3. Enter valid password | Designation-Employee  Username- Sophia  Password- Sophia1234 | Employee should login to the application | As expected, | Pass |
| 2 | After successful login, employee can submit reimbursement request with valid data | 1. Enter valid employee Id  2. Enter valid description  3. Enter valid amount less than 1000  4. Enter valid status  5. Enter valid comments | Employee ID = 1  Description = Insurance expense  Amount = $500  Status = Pending  Comments = Awaiting Approval | Employee should be able to submit request successfully | As expected, | Pass |
| 3 | Check manager login with valid data | 1. Enter designation as a Manager  2. Enter valid username  3. Enter valid password | Designation-Manager  Username- Ajay  Password- Ajay1234 | Manager should login to the application | As expected | Pass |

# 11. Requirement traceability matrix

|  |  |  |  |
| --- | --- | --- | --- |
| REQ NO | REQ DESC | TESTCASE ID | STATUS |
| R1 | Check employee login with valid data | 1 | 1-Pass |
| R2 | After successful login, employee can submit reimbursement request with valid data | 2 | 2-Pass |
| R3 | Check manager login with valid data | 3 | 3-Pass |

# 12. Release control

Test is start after developing the application it will take seven days and we are using Kanban board for planning and progress Sections on the board can be drawn to denote each stage and members can move notes, or draw sketches, as the release progresses planning, scheduling, and controlling of an entire web application build through every stage and environment involved, including testing and deploying web application going to be releases for user practices.

# 13. Risk Analysis

* + Use of new technology
  + Use of new automation tool
  + The sequence of code
  + Test resource
  + Some unavoidable risk is the time that allocated for testing

Risk level is Low:

* + It is tolerable
  + No financial loss
  + No external exposure

# 14. Review and Approvals

All these activities are review and approved by our team manager