## **Test Plan for AmaderHR Web** APPLICATION

**1. Introduction**

The test plan for the Software Quality Assurance (SQA) activities to be performed on the AmaderHR website. This test plan details the scope of testing, objectives, required resources, schedule, testing environment, deliverables, potential risks and their mitigation strategies, entry and exit criteria for testing phases, and the prioritization technique to be employed. The goal of this testing effort is to ensure that the AmaderHR website is functional, reliable, user-friendly, secure, and meets the specified requirements and expectations of its users.

**2. Scope**

**2.1 In-Scope:**

The following modules and functionalities of the AmaderHR website will be included in this testing effort:

* **User Authentication and Authorization:**
  + Login and logout functionality for different user roles (e.g., Admin, HR Manager, Employee).
  + User registration and profile management.
  + Password management (reset, change).
  + Role-based access control and permissions.
* **Employee Management:**
  + Adding, viewing, editing, and deleting employee records.
  + Employee profile management (personal information, contact details, job information, etc.).
  + Organization chart and reporting structure.
* **Leave Management:**
  + Leave application submission by employees.
  + Leave balance tracking and management.
  + Leave approval/rejection workflow for managers.
  + Leave type configuration and management.
* **Attendance Management:**
  + Clock-in and clock-out functionality (if applicable).
  + Attendance tracking and reporting.
  + Integration with timekeeping systems (if applicable).
* **Bank Management:**
  + Bank Name: Creation, viewing, editing, deletion, search/filtering.
  + Branch Name: Creation (with bank association), viewing, editing, deletion, search/filtering (including by bank).
  + Data Integrity: Maintaining valid bank-branch relationships, preventing deletion of banks with associated branches.
  + UI/UX: Clear interface, consistency, responsiveness, accessibility, informative error messages.

### Pay Grade Management (Grades, Earnings, Deductions)

* **Grades:** Create, view, edit, delete, and search pay grades.
* **Earnings:** Add, view, edit, delete, and filter earning components linked to grades.
* **Deductions:** Add, view, edit, delete, and filter deduction components for each grade.
* **List:** View, sort, paginate, and export the list of pay grades.
* **Report:** Generate, view, export, and customize reports showing earnings and deductions per grade.
* **Data Integrity:** Maintain accurate links between pay grades and employee records; validate earnings/deductions; restrict unauthorized changes.

**2.2 Out-of-Scope:**

The following aspects are explicitly excluded from the current scope of testing:

* Integration with third-party systems is not explicitly mentioned above.
* Performance testing and load testing beyond basic responsiveness.
* Security testing beyond basic user authentication and authorization.
* Advanced payroll features
* Advanced reporting and analytics capabilities.
* Mobile applications (if separate from the responsive website).
* Localization and internationalization testing.

**3. Objectives**

The primary objectives of this testing effort are to:

* Verify that the specific in-scope functionalities of the AmaderHR website operate as expected and meet the specified requirements.
* Identify and document any defects or discrepancies in the website's functionality, usability, performance (basic responsiveness), and security (basic authentication).
* Ensure that the website is user-friendly, intuitive, and provides a positive user experience for all intended user roles.
* Confirm the stability and reliability of the AmaderHR website under normal usage conditions.
* Provide stakeholders with a clear and comprehensive assessment of the quality of the AmaderHR website before deployment or release.

**4. Resources**

**Human Resources:**

**● Test Manager**

**● Test Lead**

**● Testers: 2 SQA engineers**

**Hardware Resources:**

**● Test servers for different environments (development, staging, production)**

**● Various devices for cross-device testing (desktops, tablets, smartphones)**

**5. Schedule**

The following is a high-level schedule for the testing activities. Specific dates and durations will be determined based on the project timeline and the availability of the website and resources.

## 5. Schedule

| **Activity** | **Start Date** | **End Date** |
| --- | --- | --- |
| Test Planning | 01-Apr-2025 | 05-April-2025 |
| Test Design | 06-April-2025 | 15-April-2025 |
| Test Environment Setup | 10-April-2025 | 12-April-2025 |
| Test Case Development | 13-April-2025 | 20-April-2025 |
| Test Execution | 21-April-2025 | 05-May-2025 |
| Regression Testing | 06-May-2025 | 10-May-2025 |
| Performance Testing | 06-May-2025 | 08-May-2025 |
| UAT (User Acceptance Test) | 11-May-2025 | 15-May-2025 |
| Test Closure | 16-May-2025 | 18-May-2025 |

**Note:** This schedule is indicative and subject to change based on project progress and findings.

**6. Test Environment**

**● Development Environment: Internal servers, development builds**

**● Staging Environment: Mirrors production, staging builds**

**● Production Environment: Live servers, final production build for post-release validation**

**7. Deliverables**

The following deliverables will be produced as part of this testing effort:

* **Test Plan Document:** This document (the current one).
* **Test Cases:** A repository of detailed test cases covering all in-scope functionalities.
* **Defect Reports:** Detailed reports for each identified defect, including steps to reproduce, expected results, and actual results.
* **Test**

**8. Risk and Mitigation**

The following potential risks have been identified, along with their proposed mitigation strategies:

| **Risk** | **Likelihood** | **Impact** | **Mitigation Strategy** |
| --- | --- | --- | --- |
| Incomplete or Ambiguous Requirements | Medium | High | Early and frequent communication with the Business Analyst/Product Owner to clarify requirements. Review requirements thoroughly. |
| Delays in Website Development | Medium | High | Close monitoring of the development progress. Proactive communication with the development team. Adjust test schedule if needed. |
| Test Environment Instability | Low | Medium | Ensure a stable and well-configured test environment is set up. Have a backup plan or quick resolution process for environment issues. |
| Lack of Adequate Test Data | Medium | Medium | Allocate sufficient time for test data creation. Utilize data generation tools if possible. |
| Shortage of Testing Resources | Low | High | Plan resource allocation carefully. Communicate resource needs early. Consider cross-training team members. |
| Difficulty in Reproducing Defects | Low | Medium | Ensure detailed steps to reproduce are included in defect reports. Encourage collaboration between testers and developers. |
| Scope Creep During Testing | Low | Medium | Adhere strictly to the defined scope. Any change requests should go through a formal change management process. |
| Critical Defects Found Late in the Test Cycle | Low | High | Prioritize testing of critical functionalities early. Conduct regular smoke and sanity tests. |

**9. Entry and Exit Criteria**

**9.1 Entry Criteria:**

The following criteria must be met before a specific phase of testing can begin:

* **Test Planning:** Requirements documentation is baselined and accessible. Test environment is partially or fully set up. Test management and defect tracking tools are in place.
* **Test Case Design:** Requirements are well-understood and documented. Access to the application/module under test is available.
* **Test Environment Setup:** Necessary hardware and software resources are available and configured. Test data is prepared. Access to the test environment is granted to testers.
* **Test Execution:** Test cases are reviewed and approved. Test environment is stable and accessible. Build of the application/module under test is deployed to the test environment.
* **Retesting:** Defects are marked as "Fixed" by the development team and are ready for verification. The build containing the fixes is deployed to the test environment.
* **Regression Testing:** A stable build with no critical open defects is available in the test environment. Sufficient time and resources are allocated for regression testing.

**9.2 Exit Criteria:**

The following criteria must be met for a specific phase of testing to be considered complete:

* **Test Case Design:** All identified test scenarios have been covered with test cases. Test cases have been reviewed and approved. Traceability matrix is updated.
* **Test Execution:** All planned test cases have been executed. Test execution results are documented. Defect reports have been raised for all identified issues.
* **Retesting:** All fixed defects have been retested and verified.
* **Regression Testing:** A predefined percentage of regression test cases have been executed with a satisfactory pass rate (e.g., 95%).
* **Overall Testing:** All planned testing activities have been completed. All critical and high-priority defects have been resolved and verified. The test summary report has been prepared and approved by stakeholders. Stakeholders provide sign-off on the completion of testing.

**10. Estimation Technique**

Using historical data from previous HRM system projects and expert judgment, the effort required for testing this project is estimated to be approximately 300 person-hours.

## 11. Test Case Prioritization

High Priority:

● User registration and login

● Checkout process

● Payment gateway integration

● Security testing (e.g., SQL injection, XSS)

Medium Priority:

● Product search and filtering

● Shopping cart functionality

● Order history and tracking

Low Priority:

● User account management

● UI/UX testing (aesthetic issues)