**Test Plan for Chaldal.com**

**1. Introduction**

This test plan outlines the testing strategy, objectives, scope, and approach for ensuring the functionality, performance, and reliability of Chaldal.com’s website and mobile application. The plan ensures all critical features and workflows of the platform are validated before release.

**2. Objectives**

* Ensure the platform functions as expected across various devices and browsers.
* Validate key workflows such as user registration, product browsing, checkout, and order management.
* Identify and address any security vulnerabilities.
* Verify scalability and performance under varying load conditions.
* Ensure seamless user experience and compatibility with integrations (e.g., payment gateways).

**3. Scope**

**In-Scope:**

1. Functional Testing:
   * User registration/login/logout.
   * Product search, filtering, and browsing.
   * Cart management (add/remove/update items).
   * Checkout process and payment gateway integration.
   * Order history and tracking.
   * Customer support functionalities.
2. Non-Functional Testing:
   * Performance and Load Testing.
   * Security Testing.
   * Compatibility Testing (across browsers, devices, and operating systems).
3. Integration Testing:
   * Third-party payment gateways.
   * SMS/Email notifications.
4. Regression Testing:
   * Key functionalities after every update or bug fix.

**Out-of-Scope:**

* Testing of backend-only components not exposed to end-users.
* Non-production environments outside staging and testing.

**4. Testing Approach**

**Test Levels:**

1. **Unit Testing**: Conducted by developers to validate individual components.
2. **Integration Testing**: Ensure seamless communication between modules.
3. **System Testing**: Validate the complete application in an integrated environment.
4. **Acceptance Testing**: Ensure the application meets business requirements.

**Test Types:**

* **Manual Testing**:
  + Exploratory testing for new features.
  + UI/UX validation.
  + End-to-end testing of critical workflows.
* **Automation Testing**:
  + Regression tests for frequently used workflows.
  + Performance and scalability tests.

**5. Test Environment**

**Environment Requirements:**

1. Staging environment that mirrors production.
2. Browsers to be tested:
   * Chrome, Firefox, Safari, Edge.
3. Devices:
   * Android and iOS smartphones.
   * Desktops and laptops with varying screen resolutions.
4. Tools:
   * Selenium for automation testing.
   * JMeter for performance testing.
   * OWASP ZAP for security testing.
   * TestRail for test case management.

**6. Test Cases**

**Examples:**

1. **User Registration**:
   * Verify registration with valid and invalid credentials.
   * Check for proper validation messages.
2. **Product Search**:
   * Verify search results for keywords, categories, and filters.
   * Validate empty result handling.
3. **Checkout Process**:
   * Verify adding items to the cart and proceeding to checkout.
   * Validate payment processing and order confirmation.
4. **Performance Testing**:
   * Measure page load time under different conditions.
   * Simulate concurrent users for scalability testing.
5. **Security Testing**:
   * Test against SQL Injection, XSS, and CSRF attacks.
   * Validate secure storage of sensitive user data.

**7. Entry and Exit Criteria**

**Entry Criteria:**

* All required environments are set up and functional.
* Test cases are reviewed and approved.
* Necessary test data is available.

**Exit Criteria:**

* All critical test cases are executed and passed.
* High-severity defects are resolved.
* Test summary report is reviewed and signed off.

**8. Risk Management**

**Potential Risks:**

* Delays in environment setup.
* Insufficient test data.
* Last-minute changes to requirements.

**Mitigation:**

* Ensure timely environment provisioning.
* Maintain a test data repository.
* Regular communication with stakeholders for updates.

**9. Deliverables**

1. Test cases and scripts.
2. Test execution reports.
3. Defect reports with prioritization.
4. Final test summary report.

**10. Timeline**

| **Phase** | **Start Date** | **End Date** |
| --- | --- | --- |
| Test Planning | [Date] | [Date] |
| Test Case Design | [Date] | [Date] |
| Test Execution | [Date] | [Date] |
| Reporting | [Date] | [Date] |

**11. Approvals**

* Test Manager: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Project Manager: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_