**Test Strategy for NopCommerce**

**1. Scope:**

Testing will follow structured phases similar to the Waterfall approach.  
  
Scope includes testing major features of the NopCommerce demo website such as registration, login, logout, adding products to cart, wishlist, comparison, and search functionality.  
  
Test Strategy will be reviewed by QA Lead and approved by Project Manager.  
  
Testing activities will be executed as per defined timelines. Any functionality not mentioned here is out of scope.

**2. Test Approach:**

* **Process of Testing**  
  Requirements → Test Planning → Test Case Design → Test Execution → Defect Management → Test Closure & Sign-Off
* **Testing Levels**  
  Unit → Integration → System → Regression
* **Roles & Responsibilities**  
  1. Test Manager – Approves plan and timelines.  
  2. Test Lead – Reviews strategy and guides testers.  
  3. Tester – Executes test cases, logs and re-tests defects.  
  4. Developers – Fix defects and support QA.
* **Types of Testing**  
  Functional, Regression, Smoke, UI Validation
* **Testing Approach & Tools**  
    
  1. Automation testing for major flows using Selenium WebDriver with TestNG.  
  2. ExcelUtils for data-driven testing.  
  3. Defect tracking to be done in JIRA or equivalent.
* **Defect Management & Sign-Off**  
    
  1. Defects will be logged, re-tested, and regression will be executed.  
  2. Sign-off after all critical defects are resolved.

**3. Test Environment:**

1. Local Environment – Eclipse/IntelliJ with Selenium, TestNG, Java.  
2. Testing/QA – Dedicated test runs with Maven build integration.  
3. Staging – Production-like infra with masked data.  
4. Browsers – Chrome (latest), Firefox (latest).  
5. Test Data – Excel sheets for RegisterData and LoginData.

**4. Sprint Plan**

|  |  |
| --- | --- |
| **Sprint** | **Focus Areas** |
| Sprint 1 | User Registration, Login, Logout |
| Sprint 2 | Add Desktops to Cart, Add iPhone to Wishlist |
| Sprint 3 | Compare Books, Add Flower Bracelet Quantity Two |
| Sprint 4 | Adidas/Nike Search, Open Wishlist, Shopping Cart, Logout |

**5. Testing Tools:**

Automation: Selenium WebDriver, TestNG  
Data Handling: ExcelUtils (Apache POI)  
Build/CI: Maven, Jenkins (future scope)  
Defect Tracking: JIRA  
Reports: TestNG reports, Allure (optional)

**6. Release Control:**

1. Sequential Phases: Requirements → Test Design → Automation → Execution → Reports.  
2. Versioning: Test code maintained in Git.  
3. Release Criteria: No release without passing smoke and regression suites.  
4. Patch Management: Hotfixes handled with quick regression checks.

**7. Risk Analysis:**

**Risks:**- Dynamic UI changes may break locators  
- Duplicate email issues in registration  
- Browser/driver compatibility issues  
  
**Mitigation:**- Use Page Object Model and stable locators  
- Generate unique test data dynamically  
- Regular updates of driver/browser versions

**8. Review and Approval:**

The Test Strategy will be reviewed by the QA Lead and approved by the Project Manager.  
Sign-off will be provided after successful execution of all regression test cases.