# Test Plan for VWO Application

## 1. Introduction

This test plan outlines the testing strategy for the VWO application, focusing on the login page and dashboard functionalities. The objective is to ensure a seamless and secure user experience by identifying and addressing potential issues before deployment.

## 2. Scope

The scope of this test plan covers:  
- Functional testing of the login page  
- Functional testing of the dashboard page  
- Security and performance testing of critical features  
- User experience validation  
- Compatibility testing across different devices and browsers

## 3. Test Objectives

The primary objectives of testing include:  
- Verifying that users can log in successfully with valid credentials.  
- Ensuring invalid credentials trigger appropriate error messages.  
- Checking the dashboard's functionality, including navigation, widgets, and role-based access.  
- Testing security measures such as SQL injection protection and session expiration.  
- Assessing the system's performance under load conditions.  
- Validating that the application meets user experience expectations.

## 4. Test Approach

4.1 Functional Testing  
Functional testing will be performed to validate the login page and dashboard features, including authentication, UI interactions, and data accuracy.  
  
4.2 Security Testing  
Security testing will focus on:  
- SQL injection attempts  
- Session timeout and unauthorized access control  
- Password encryption and masking  
- Role-based access control validation  
  
4.3 Performance Testing  
Performance testing will evaluate:  
- Response time under normal and high loads  
- System behavior during concurrent user logins  
- Stress testing to identify breaking points  
  
4.4 Compatibility Testing  
Compatibility testing will be conducted to ensure:  
- Proper functionality on different browsers (Chrome, Firefox, Edge, Safari)  
- Compatibility across desktop and mobile devices  
- No layout or functionality issues in different operating systems

## 5. Test Environment

Testing will be conducted on:  
- Browsers: Chrome, Firefox, Edge, Safari  
- Platforms: Windows, macOS, iOS, Android  
- Network Conditions: High-speed internet, slow network simulation  
- Devices: Desktop, mobile, and tablet

## 6. Test Cases

A total of 30 test cases have been created covering various aspects of login and dashboard functionalities, including:  
- Valid and invalid login attempts  
- UI responsiveness  
- Dashboard performance and functionality  
- Error handling for incorrect inputs  
- Role-based access control

## 7. Entry & Exit Criteria

Entry Criteria  
- VWO application is deployed and accessible.  
- Test data is available.  
- Test cases are reviewed and approved.  
- Required test environment is set up and functional.  
  
Exit Criteria  
- All planned test cases are executed.  
- Major defects are fixed and retested.  
- The application meets the acceptance criteria.  
- No critical or high-priority issues remain unresolved.

## 8. Test Deliverables

- Test case document  
- Bug reports  
- Test execution summary  
- Performance test results  
- Security test reports  
- Compatibility test summary

## 9. Risks & Mitigation

Risk Mitigation Strategy   
  
Login fails due to API issues | Monitor backend logs and report immediately   
Session timeout issues | Implement automatic session validation   
UI elements not loading properly | Ensure cross-browser compatibility testing   
Performance issues under load | Optimize backend performance and caching   
Security vulnerabilities | Conduct regular penetration testing

## 10. Conclusion

This test plan provides a structured approach to ensuring the quality and security of the VWO application’s login and dashboard functionalities. The execution of the defined tests will help ensure that the application performs well under various conditions, is secure, and provides a seamless user experience.