### **Test Plan for Secure File Sharing Application**

#### **1. Introduction**

* **Purpose**: To ensure the secure file-sharing application meets all functional, security, and performance requirements.
* **Scope**: Testing includes login functionality, file upload/download, user account management, and overall system security.
* **Target Audience**: Developers, Testers, and Project Stakeholders.

#### **2. Objectives**

* Validate the user authentication process (e.g., login/signup, password reset).
* Ensure secure file upload and download.
* Verify user interface responsiveness and accessibility.
* Test system performance under varying loads.
* Identify and mitigate security vulnerabilities.

#### **3. Testing Approach**

* **Testing Types**:
  + *Functional Testing*: Verify each feature functions as expected.
  + *UI/UX Testing*: Ensure the interface is intuitive and error-free.
  + *Security Testing*: Conduct vulnerability analysis to check for data leaks or unauthorized access.
  + *Performance Testing*: Assess system responsiveness under load conditions.
* **Test Environment**:
  + Devices: Desktop, mobile.
  + Browsers: Chrome, Firefox, Edge, Safari.
* **Tools**: Selenium, Postman, JMeter (as applicable).

#### **4. Testing Strategy**

* **Functional Testing**: Verify that all features (login, file sharing, password reset) work as expected.
* **UI/UX Testing**: Test the responsiveness and accessibility of the interface across devices.
* **Security Testing**: Check for vulnerabilities like SQL injection and XSS attacks. Ensure proper encryption of user data.
* **Performance Testing**: Analyze the system's behavior under load, including concurrent user access and large file handling.
* **Regression Testing**: Ensure new updates do not break existing functionality.
* **Acceptance Testing**: Validate the system's readiness for deployment.

#### **5. Test Environment Setup**

* **Software**:
  + Web browsers: Chrome, Edge, Firefox, Safari.
  + Operating systems: Windows, macOS, Linux, Android, iOS.
  + Testing tools: Selenium (automation), Postman (API testing), JMeter (performance testing).
* **Hardware**:
  + Minimum requirements: Processor: i5, RAM: 8GB, Storage: 256GB SSD.
  + Network: Stable internet connection with varying speeds for performance testing.
* **Data**:
  + Create dummy accounts and test data for file uploads (e.g., images, videos, documents).
  + Simulate different user roles (admin, guest, registered user).

#### **6. Test Cases**

Examples of test cases include:

1. **Login/Signup**:
   * Verify login with valid/invalid credentials.
   * Test "Forgot Password" functionality.
2. **File Upload/Download**:
   * Upload files of varying sizes and formats.
   * Verify file download integrity.
3. **Security**:
   * Ensure user data encryption.
   * Test for SQL injection, XSS vulnerabilities.
4. **Performance**:
   * Measure response times under high user traffic.

#### **7. Deliverables**

* Test scenarios and cases document.
* Bug report log.
* Test summary report.
* Mind Map

#### **8. Risks and Assumptions**

* Risks: Unidentified security vulnerabilities, delayed testing cycles.
* Assumptions: All functional requirements are properly defined.

#### **9. Schedule**

* Testing Start Date: 02-04-2025

#### **10. Roles and Responsibilities**

* **Test Manager**:
  + Define testing strategy and ensure adherence to the test plan.
  + Allocate resources and oversee progress.
* **Test Engineers**:
  + Write and execute test cases.
  + Log defects and verify fixes.
* **Developers**:
  + Resolve defects reported by the testing team.
  + Support testers by providing build updates.
* **Business Analysts**:
  + Clarify requirements and validate test outcomes align with user needs.
* **Stakeholders**:
  + Approve test results and give the go-ahead for production deployment.

#### **11. Entry and Exit Criteria**

* **Entry Criteria**:
  + Functional requirements and design documents are finalized.
  + Test environment is fully configured.
  + Test cases are reviewed and approved.
* **Exit Criteria**:
  + All high-priority test cases are executed successfully.
  + No critical defects remain unresolved.
  + Test summary report is approved by stakeholders.