**TEST PLAN DOCUMENT**

**1. Test Plan ID**

TP-001

**2. Project Name**

Automated Expense Tracker

**3. Test Objectives**

* Validate functional correctness of the expense tracking system.
* Ensure that users can add, edit, delete, and categorize transactions.
* Verify authentication and access control mechanisms.
* Assess performance and reliability under expected load.
* Identify and log defects for resolution.

**4. Scope of Testing**

**In-Scope:**

* User authentication (login, logout, password reset).
* Transaction entry, modification, and deletion.
* Data visualization and analytics.
* CSV data export functionality.
* Mock API integrations for transaction synchronization.

**Out-of-Scope:**

* Live API integration with banks and email providers (future enhancement).
* Mobile application testing (only web application is considered).

**5. Testing Approach/Strategy**

* **Functional Testing:** To verify all features, work as expected.
* **Smoke Testing:** To ensure critical functionalities are operational before deeper testing.
* **Regression Testing:** To validate new changes do not break existing functionality.
* **System Testing:** To assess end-to-end system functionality.
* **Security Testing:** To check authentication, authorization, and data privacy.
* **Usability Testing:** To ensure the application is user-friendly.

**6. Types of Testing**

* **Manual Testing:** Core functional test cases.
* **Automated Testing:** Basic regression and critical functional flows.
* **Performance Testing:** Evaluating speed and responsiveness.

**7. Test Items**

* Web-based expense tracker system (Django framework).
* SQLite/PostgreSQL database.
* API endpoints for transaction processing.
* User authentication and authorization modules.

**8. Test Deliverables**

* Test Plan Document.
* Test Cases and Test Scripts.
* Test Execution Report.
* Defect Report.
* Final Test Summary Report.

**9. Test Environment**

* **OS:** Windows/Linux
* **Browser:** Chrome, Firefox, Edge
* **Database:** SQLite/PostgreSQL
* **Tools:** Selenium (for automation), Postman (for API testing)

**10. Entry & Exit Criteria**

**Entry Criteria:**

* Requirements and design documents are finalized.
* Test environment setup is complete.
* Test cases are reviewed and approved.

**Exit Criteria:**

* All planned test cases are executed.
* Critical and high-severity defects are resolved.
* Final test reports are submitted.

**11. Roles & Responsibilities**

* **QA Lead:** Oversees testing activities and test execution.
* **Test Engineer:** Designs and executes test cases.
* **Developers:** Fix reported defects and support test teams.
* **Product Owner:** Provides requirement clarifications.

**12. Test Schedule**

| **Activity** | **Start Date** | **End Date** |
| --- | --- | --- |
| Test Planning | 01-Feb-2025 | 05-Feb-2025 |
| Test Case Design | 06-Feb-2025 | 10-Feb-2025 |
| Test Execution | 11-Feb-2025 | 20-Feb-2025 |
| Defect Fixing & Retesting | 21-Feb-2025 | 25-Feb-2025 |
| Test Closure & Reporting | 26-Feb-2025 | 28-Feb-2025 |

**13. Risk & Mitigation Plan**

| **Risk** | **Mitigation Plan** |
| --- | --- |
| Delay in requirement finalization | Conduct requirement review sessions early. |
| Test environment issues | Ensure backup test environments are available. |
| High defect leakage | Implement rigorous regression testing. |

**14. Defect Management Process**

1. Log defects in the defect tracking tool (e.g., JIRA).
2. Assign defects to the development team.
3. Verify fixes and retest defects.
4. Close defects after successful validation.

**15. Test Metrics & Reporting**

* **Test Execution Rate:** (Test Cases Executed / Total Test Cases) \* 100
* **Defect Density:** (Defects Identified / Total Test Cases Executed)
* **Test Coverage:** (Executed Test Cases / Total Requirements) \* 100
* **Pass/Fail Ratio:** Passed vs. Failed Test Cases

**16. Approval & Sign-off**

**Approval By:**

* QA Lead: \_\_\_\_\_\_\_\_\_\_\_ (Signature & Date)
* Project Manager: \_\_\_\_\_\_\_\_\_\_\_ (Signature & Date)
* Product Owner: \_\_\_\_\_\_\_\_\_\_\_ (Signature & Date)

**End of Test Plan Document**