**Risk-Based Testing for given User Stories**

1. **Identify Risks**

Below are the potential risks associated with the required functionality

* **User Story 1: Registered User Login from a New Device**
  + **Risks:** 
    - OTP not received: SMS delivery issues
    - Logout from other devices failed: leading to security vulnerabilities
    - Users can access the account from multiple devices
* **User Story 2: Individual Investor: Upgrade to Premium**
  + **Risks:** 
    - Document upload failed or not validated correctly
    - Compliance staff not receiving notifications: delaying approvals
    - Users selected incorrect criteria: leading to unauthorized access
    - Document uploads are not secure: landing into data breaches
* **User Story 3: Approvals Notifications | SMS**
  + **Risks:** 
    - SMS notifications not working.
    - Rejection reason not communicated to the requester
    - Customer dissatisfied due to delays in processing loan requests
    - Notifications status not tracked properly
* **User Story 4: Departments Approval**
  + **Risks:** 
    - The approval process malfunction, leading to unapproved requests
    - Concurrent approvals are not handled properly by the system
    - Incorrect permissions, allowing unauthorized access for approvals
* **User Story 5: Corporate Investor - Commercial Registration Verification Via [X]**
  + **Risks:** 
    - Integration with the third-party failing
    - Invalid data handling
    - Start date validation was not correct: leads to processing errors later in the flow

1. **Assess Risks**

Each risk is assessed based on likelihood and impact (Low, Medium, High):

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **User Story** | **Risk Desc** | **Likelihood** | **Impact** | **Risk Level** |
| 1 | OTP not received by the user | High | High | Critical |
| 1 | Failed logout from other devices | Medium | High | High |
| 1 | Account accessed from other devices | Medium | High | High |
| 2 | Document upload may fail | Medium | High | High |
| 2 | Compliance staff may not receive notifications | Medium | Medium | Medium |
| 2 | User may select incorrect criteria | Low | High | Medium |
| 2 | Document Uploads are not secure | Medium | High | High |
| 3 | SMS notification not sent | High | High | Critical |
| 3 | Reasons for rejection not communicated | Medium | Medium | Medium |
| 3 | Delays in processing loan requests | Medium | High | High |
| 3 | Status of notification not tracked | Medium | Medium | Medium |
| 4 | Approval process malfunction | High | High | Critical |
| 4 | Concurrent approvals not handled properly | Medium | High | High |
| 4 | Permissions may not be properly set | Medium | High | High |
| 5 | Integration with third party failure | High | High | Critical |
| 5 | Invalid Data handling | Medium | High | High |
| 5 | Incorrect validation of start date | Medium | High | High |

1. **Prioritize Testing Based on Risk Levels**

* **Critical Risks:** First priority items
  + User Story 1: Ensure OTP delivery and logout functionality are thoroughly tested.
  + User Story 3: Verify SMS notifications for loan statuses.
  + User Story 4: Confirm the approval process functionality.
  + User Story 5: Validate integration with the third-party service.
* **High Risks:** After critical risks, high-risk areas should be tested.
  + User Story 2: Test document upload and compliance notifications.
  + User Story 3: Test for delays in processing loan requests.
  + User Story 4: Test concurrent approvals handling.
  + User Story 5: Test invalid data handling and start date validation.
* **Medium Risks:** Below to be tested after high risks
  + User Story 2: Test for incorrect criteria selection and document security.
  + User Story 3: Test reasons for rejection communication and notification tracking.
  + User Story 4: Test approval history visibility and permission settings.

1. **Create Test Cases for High and Critical Risks**

Create test cases to ensure that above risks are adequately tested. For example:

* **Test Case for User Story 1 (Critical Risk):**
  + TC: Verify that the OTP is received within expected time
* **Test Case for User Story 3 (Critical Risk):**
  + TC: Verify that an SMS notification is sent to the loan requester after final approvals
* **Test Case for User Story 4 (Critical Risk):**
  + TC: Verify that the approval process functions correctly
* **Test Case for User Story 5 (Critical Risk):**
  + TC: Verify that integration with the third-party service returns valid results for a valid input