Overall Bug Report

Project: Parabank Online Banking Application

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Version: 1.0

Environment: Windows 10, Firefox Browser (latest)

Testing Type: Manual, Selenium & JUnit Automated Testing

1. Summary

This document reports the identified bugs and issues found during comprehensive manual and unit testing of the Parabank online banking system. The focus was on core functionalities including registration, login, account creation, fund transfers, bill payment, and UI/UX stability under various test conditions.

2. Test Environment

Parameter	Description
Application URL	https://parabank.parasoft.com
Browser	Mozilla Firefox (latest)
OS	Windows 10 Pro (64-bit)
Testing Types	Manual Testing, JUnit Unit Testing
Tools Used	NetBeans IDE, JUnit 5, Firefox Developer Tools

3. Summary of Tests Performed

Test Type	Features Covered	Result Summary
Smoke Testing	Login Page Load, Basic Login	Login page occasionally slow to load, no crashes
Sanity Testing	New User Registration	Validation messages sometimes missing
Functional Testing	Fund Transfer, Account Balance, Transaction History	Fund transfer fails with unclear errors
Regression Testing	Payment Module Update	No regression bugs found
Integration Testing	Bill Payment Integration	Payment transaction record delay noticed
System Testing	End-to-End Banking Flow	System slows under concurrent transactions
Acceptance Testing	All User Requested Features	Minor UI inconsistencies detected
Exploratory Testing	Random Inputs & Navigations	Some pages missing proper error handling
Ad-hoc Testing	Random clicks & unusual inputs	Rare crashes on submitting empty forms
Monkey Testing	Random rapid inputs & refreshes	Occasional UI lag and glitches
JUnit Unit Testing	Backend logic for login, registration, fund transfer, bill payment	All unit tests passed except handled exceptions

4. Detailed Bug List

Bug ID	Summary	Severity	Module/Feature	Description	Steps to Reproduce	Expected Result	Actual Result	Status
001	Login page slow loading	Medium	Login	Login page takes longer than 10 seconds to load intermittently	Open the homepage and click login	Login page should load within 2 seconds	Takes ~10+ seconds sometimes	Open
002	Registration validation missing	High	User Registration	Validation messages do not appear for empty required fields	Submit registration form with empty fields	Validation messages should appear	No messages displayed	Open
003	Fund transfer error message vague	High	Fund Transfer	Error messages on failed transfers are unclear	Transfer funds exceeding balance	Clear, descriptive error message	Generic error message shown	Open
004	Bill payment delay	Medium	Bill Payment	Transactions take longer to reflect in transaction history	Make bill payment and check transaction log	Transaction recorded immediately	Delay of 1-2 minutes observed	Open
005	Slow response under load	High	System	Multiple simultaneous transactions cause UI lag and slow responses	Simulate 5+ users making transfers concurrently	Smooth, fast response expected	Noticeable lag and UI freeze	Open
006	UI inconsistency	Low	Various Screens	Minor differences in button sizes and alignment on multiple pages	Navigate between multiple pages	Consistent UI appearance	Buttons misaligned on some screens	Open
007	Error handling missing on inputs	Medium	Exploratory Inputs	Invalid inputs sometimes do not trigger error handling	Enter invalid data in random fields	Proper error messages shown	No feedback for invalid inputs	Open
008	Crash on repeated empty form submit	Critical	Ad-hoc Testing	Application crashes after repeatedly submitting empty forms	Submit empty form 5+ times quickly	Should not crash, show validation	Application crashes	Open

5. Notes on JUnit Testing

- Automated unit tests written with JUnit validated backend logic.
- Key features like login, registration, fund transfer, and bill payment were covered.
- Tests included both success and failure cases (e.g., invalid login, insufficient balance exceptions).
- All tests passed successfully except expected exception cases, which were properly handled.

6. Recommendations

Improve loading performance on login page through optimization or caching.
- Enhance form validations to ensure users get immediate, clear feedback.
- Clarify and standardize error messages across the system.
- Optimize backend to handle concurrent transactions with minimal delay.
- Conduct UI/UX consistency audits to ensure uniform look and feel.
- Add comprehensive input validation and error handling on all forms.
- Fix the crash related to repeated empty form submissions by strengthening input checks.

7. Conclusion

The Parabank application demonstrates solid core functionality with occasional issues mostly related to user experience and performance under stress. Through the combination of manual testing and automated JUnit testing, critical bugs have been identified which, when resolved, will significantly improve the overall quality and reliability of the application.