

FINAL AUDIT REPORT

iBudget E2E Testing & Assurance Report

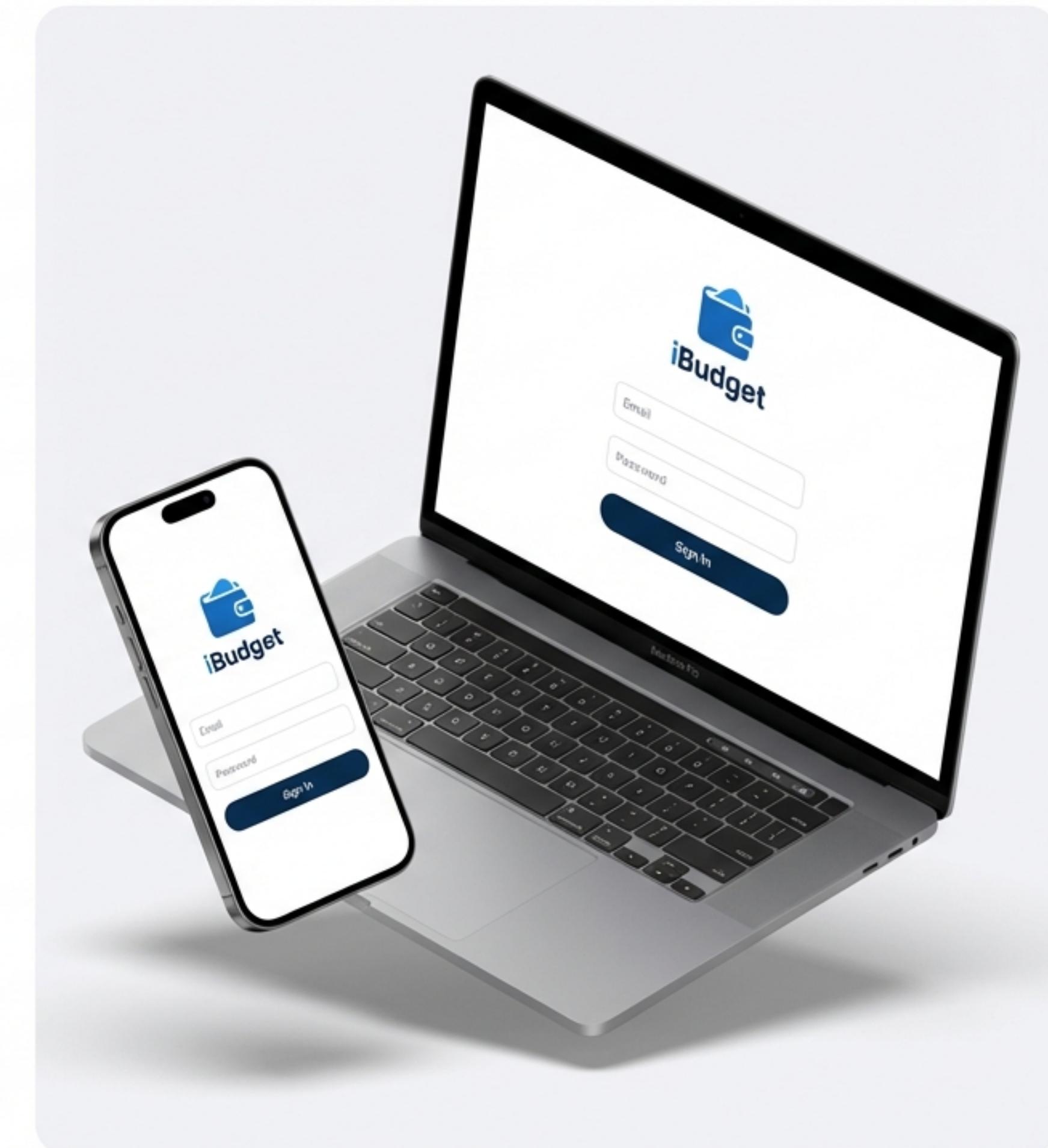
Comprehensive validation of the personal finance application for Filipino students.



Team: Appvengers

Institution: Polytechnic University of the Philippines - Taguig Branch

Report Date: January 9, 2026



Executive Summary: The Verdict



100/100

Quality Score (Grade A+)

100%

Pass Rate (209/209 Tests)

0 Failed / 0 Pending

0

Active Bugs

10 Identified / 10 Resolved

Coverage: 9 Major Modules
(Frontend & Backend)

Testing Period: 3 Months
(Nov '25 - Jan '26)

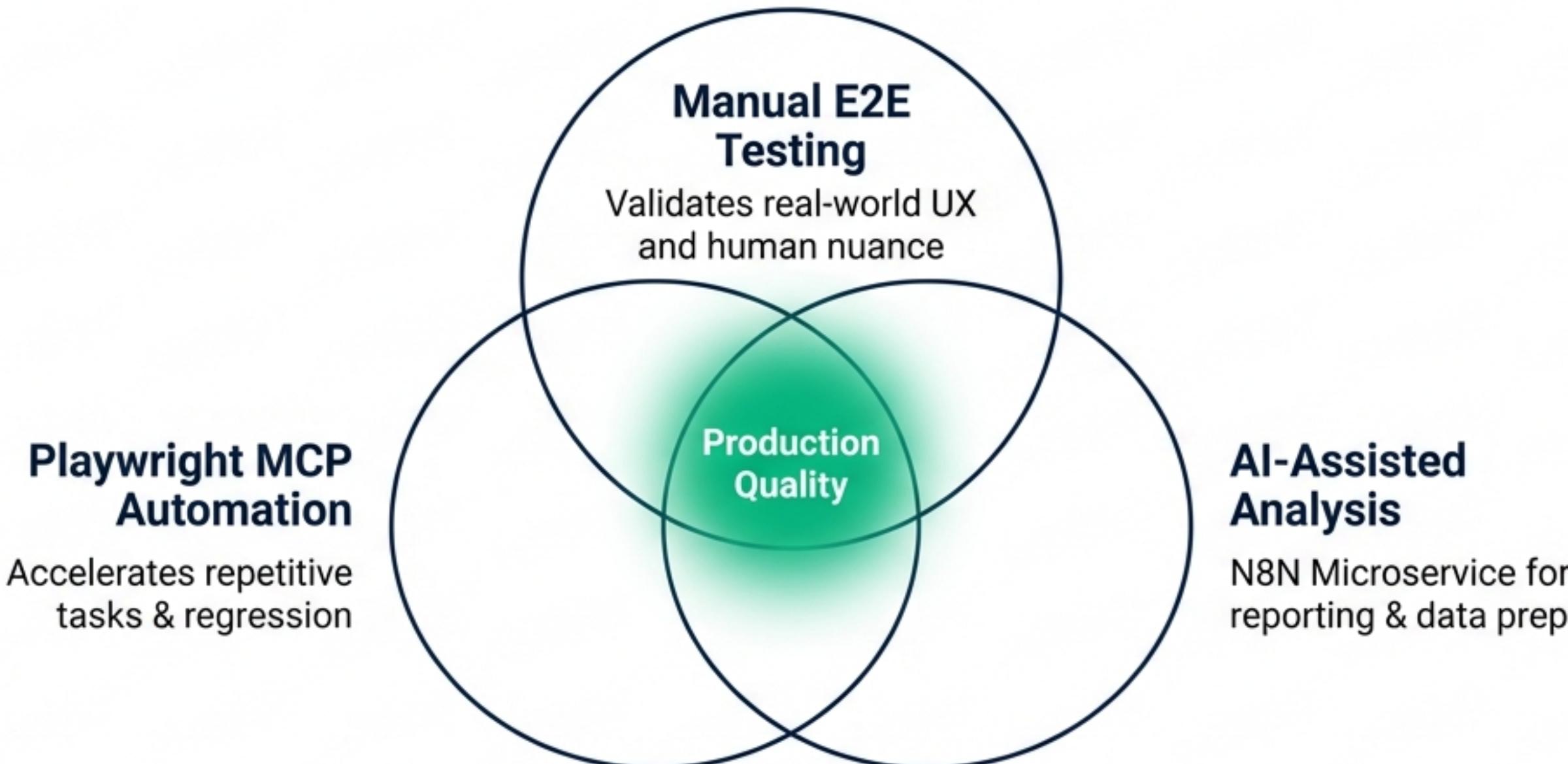
Environment:
Live Production



"The application has achieved a perfect pass rate across all priority levels (P0-P3), verifying complete functional stability, security compliance, and accurate financial logic."

The Hybrid Testing Methodology

Combining human intuition with machine efficiency



Efficiency Impact

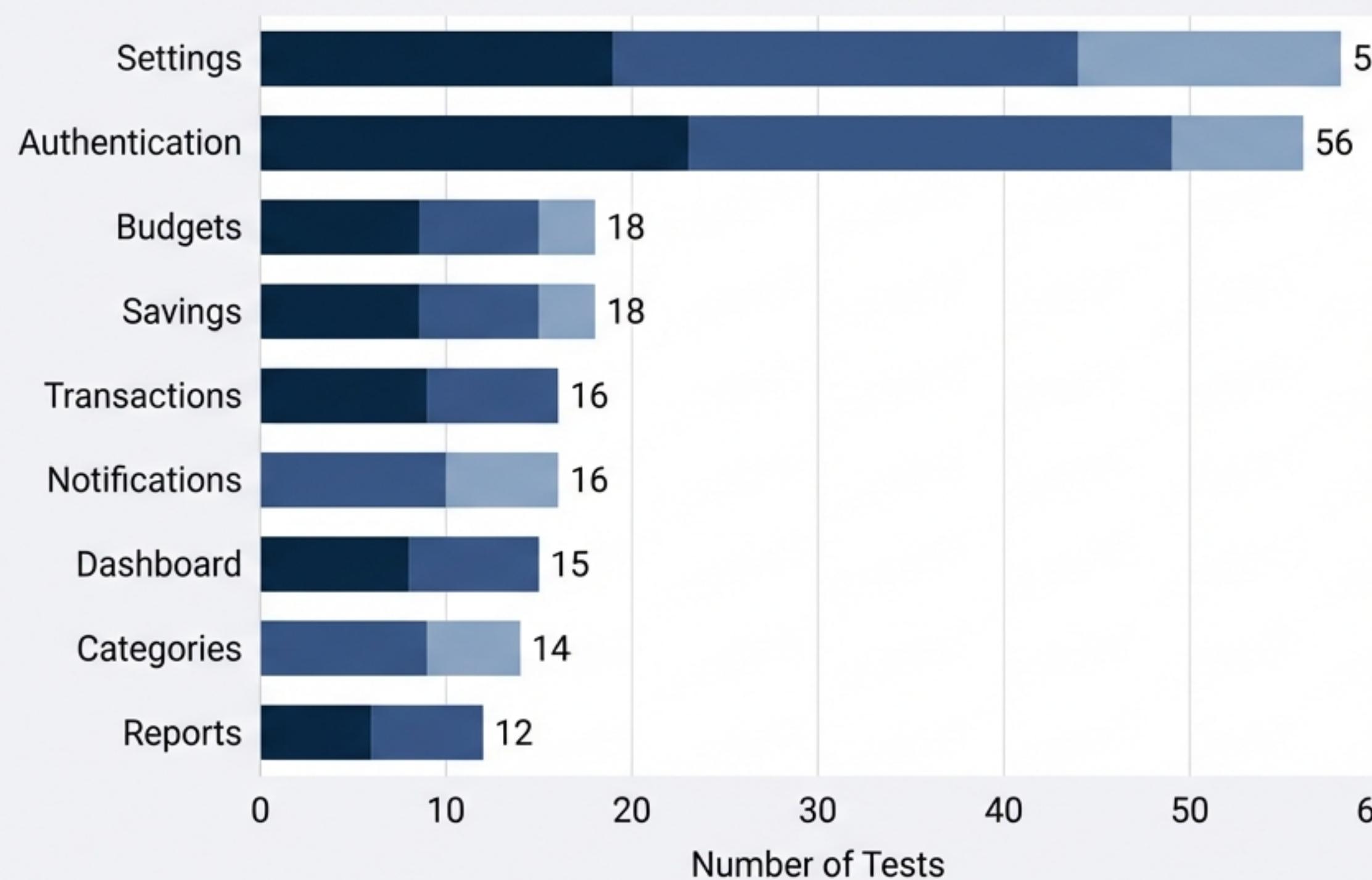
Reduced manual overhead by **60%** and accelerated documentation by **70%**.

Tech Stack Context

-  Angular 20 (Frontend)
-  Spring Boot 3 (Backend)
-  MySQL (Database)
-  N8N (AI Orchestration)

Scope & Critical Path Coverage

Distribution of 209 Test Cases across 9 Modules



Priority Breakdown

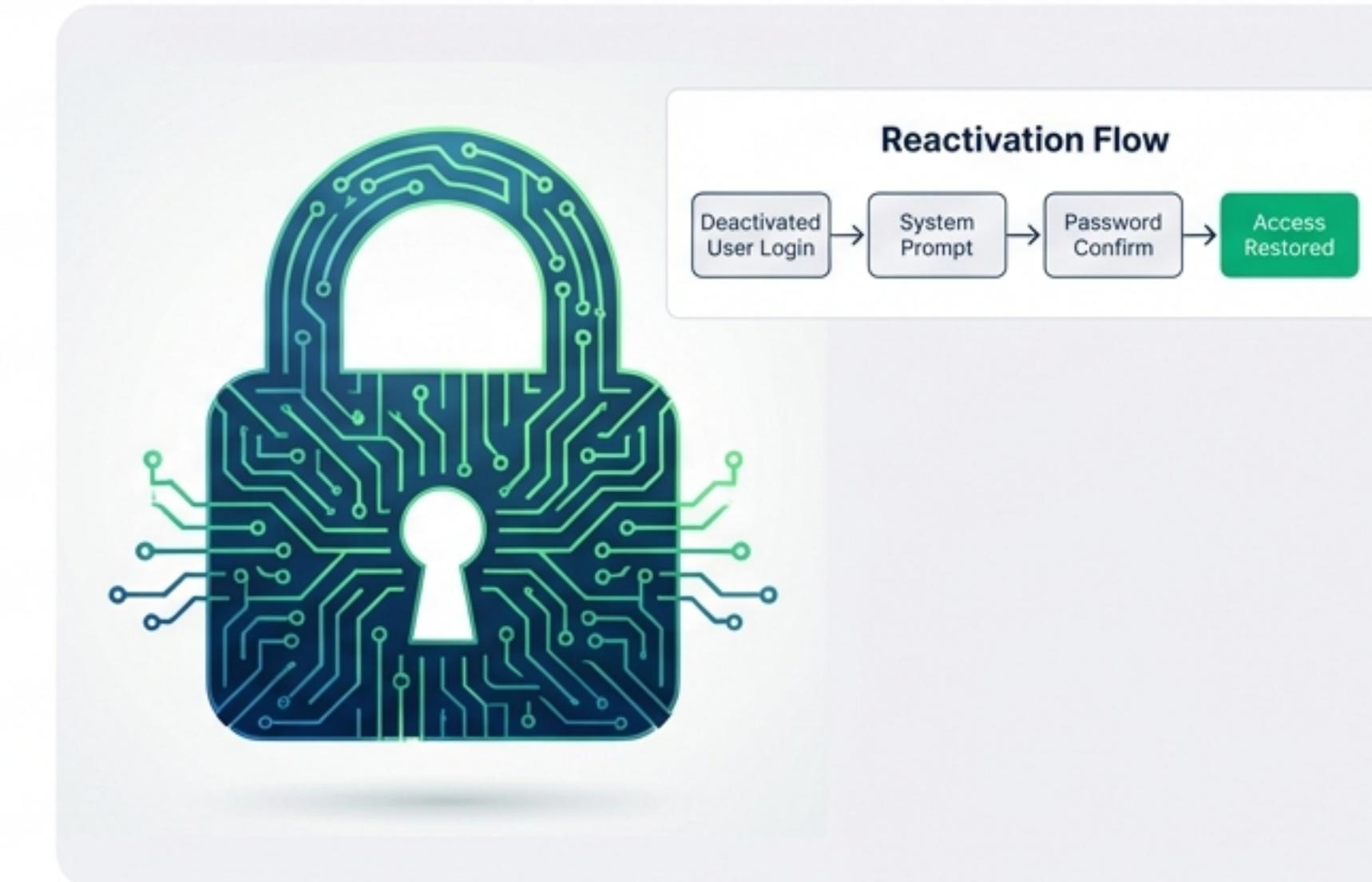
- P0 (Critical):** 63 tests (30.1%) - Must-pass core functionality
- P1 (High):** 97 tests (46.4%) - Important workflows
- P2/P3 (Secondary):** 49 tests - Edge cases

Module Deep Dive: Authentication & Security

The Gatekeeper: 56 Tests | 100% Pass Rate

Key Validations

-  **Registration:** Enforced password strength (min 12 chars) & email format.
-  **Access Control:** Unverified emails strictly blocked from login.
-  **Recovery:** Secure token handling for password resets.
-  **Lifecycle:** Full 'Account Reactivation' flow & Soft Delete.



Significant testing effort applied to the Account Reactivation flow, ensuring deactivated users are prompted securely upon login attempts.

Validating Financial Logic & Integrity

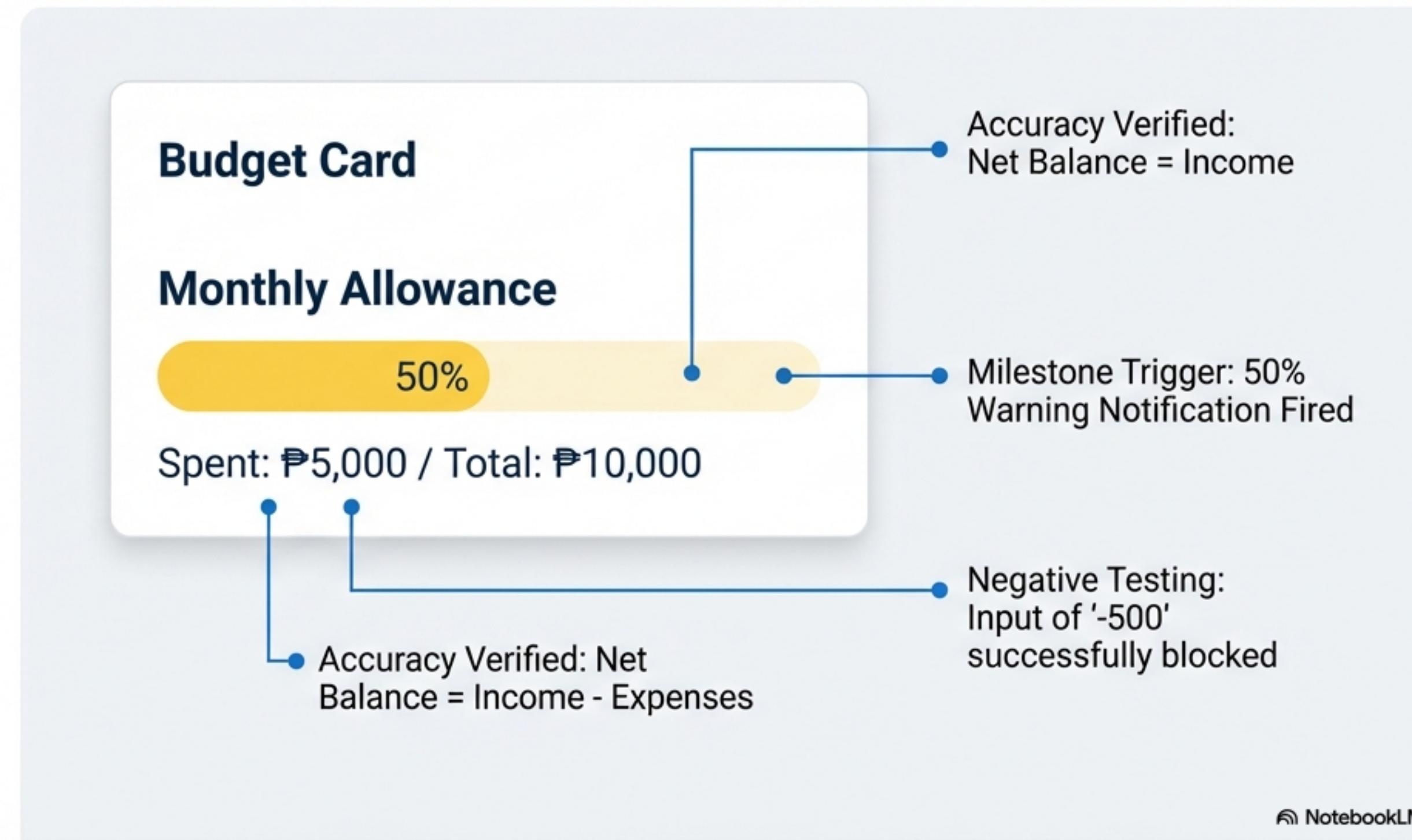
Ensuring mathematical accuracy in Budgets, Savings, and Transactions

Key Scenarios:

Calculation Integrity across all floating point values.

Negative Testing blocks user errors.

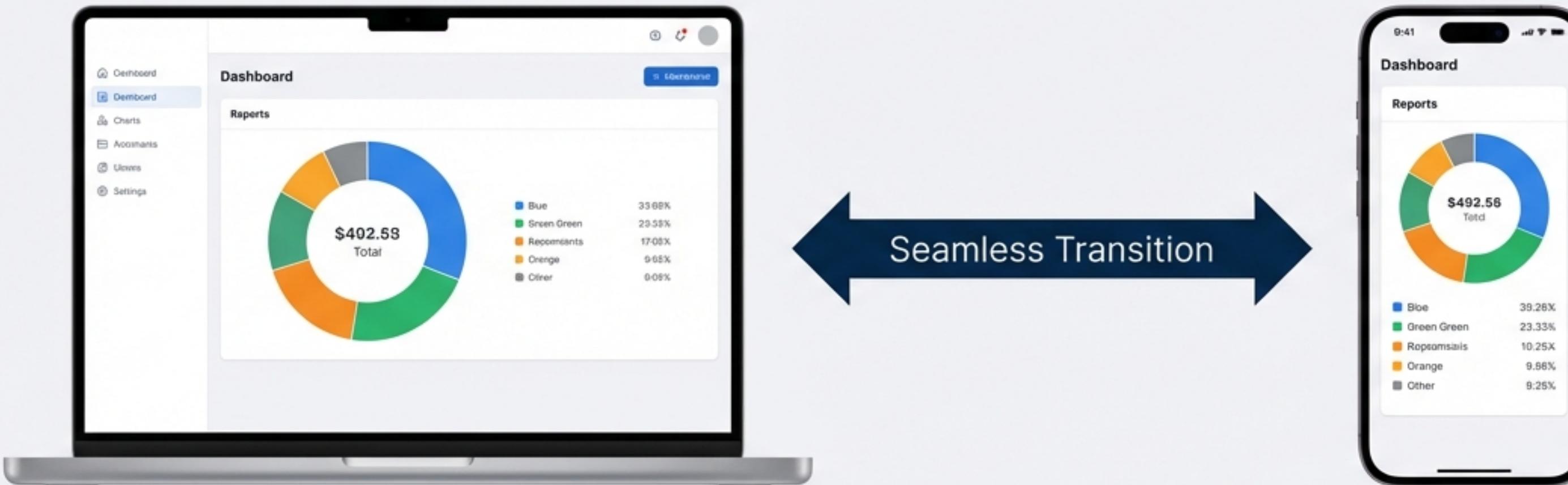
Real-time updates of savings goals.



User 1. User Experience & Interface Stability

Responsive design and route protection.

Device Family



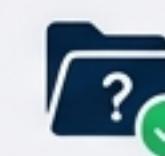
Real-time Feedback:
Toast notifications & confetti celebrations.



Responsiveness:
Charts resize correctly on all viewports.



Navigation Security:
Auth Guards redirect unauthenticated users.



Empty States:
Graceful 'No Data' screens for new users.

The Value of Testing: 100% Fix Rate

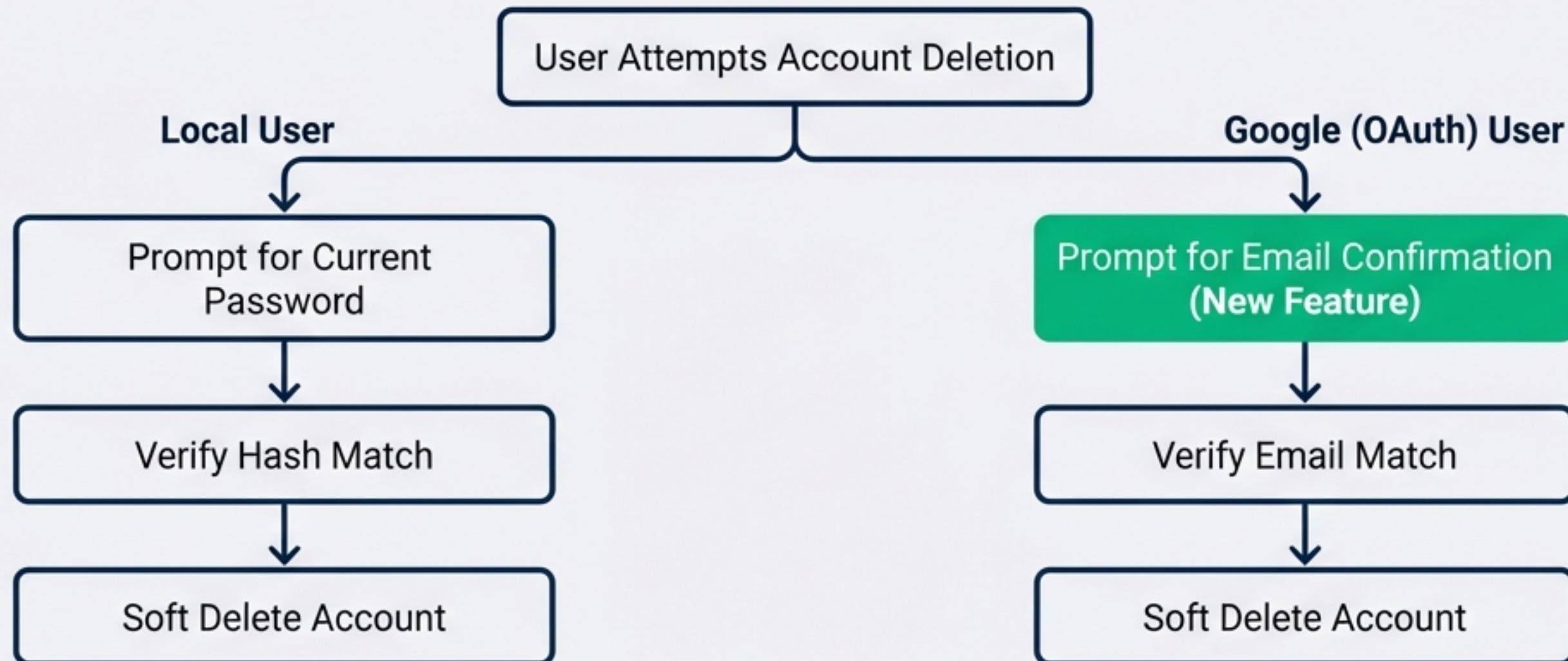
10 Issues Found. 10 Issues Fixed. 0 Remaining.

Problem vs Solution

Problem		Solution
Issue: Unverified email accounts could initially log in.	→	Fix: Backend validation enforced; access blocked until verification.
Issue: Negative values allowed in Budget/Savings forms.	→	Fix: Form validators now reject non-positive integers.
Issue: Weak passwords allowed during registration.	→	Fix: Enforced 12-character minimum & complexity rules.

Feature Spotlight: The OAuth Integration

Handling complex user journeys for Google vs. Local Users.



Challenge: OAuth users have no password to verify action.

Solution: Implemented strict email-match confirmation logic for OAuth users to ensure security parity with local users.

Quality Metrics & Health Check

Roboto: Benchmarking against industry standards.

Defect Density



Benchmark: <5% is Excellent

Test Stability



0 Flaky Tests. 100% Retest Pass Rate.

Critical Path Coverage



All P0 & Security Tests Covered.

Efficiency Gains

1. Manual Overhead Reduced

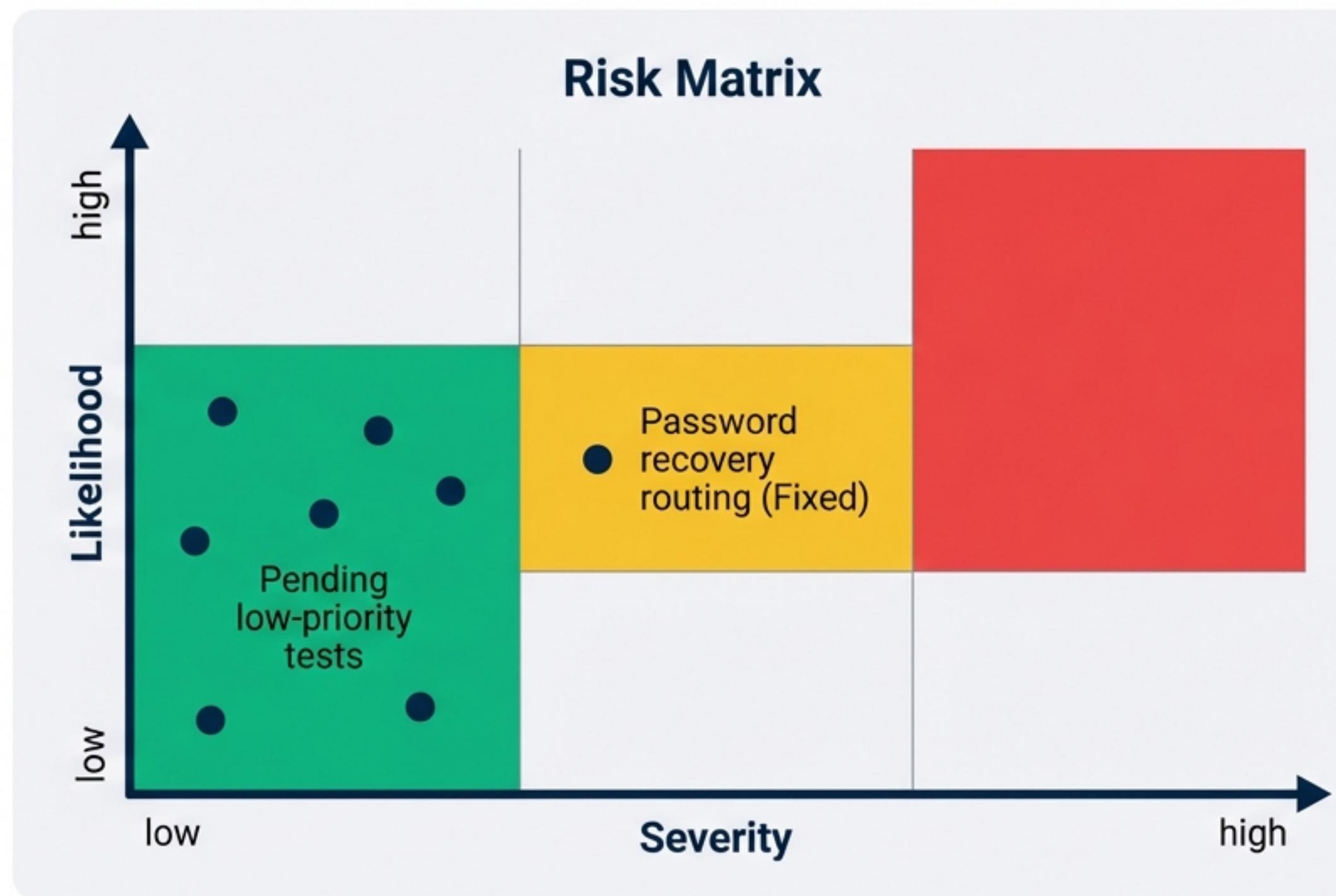


2. Documentation Speed



Risk Assessment & Roadmap

Current Status: **Low Risk** (All critical items mitigated)



Roadmap Timeline



Short-Term (Completed)

Fix routing, finish P2/P3 tests.



Medium-Term (1-2 Months)

Performance Load Testing, Accessibility (WCAG 2.1), Automate 30% of regression.



Long-Term (3-6 Months)

CI/CD Pipeline, Penetration Testing.

Final Verdict: Production Ready

Functionality

Core features and edge cases verified.

Security

Robust Auth & Data Protection.



Reliability

Zero active bugs.
Stable performance.

Usability

Intuitive, responsive,
& validated.

GO FOR LAUNCH

The iBudget application has met all quality standards and is ready for deployment to Filipino students at PUP-Taguig.

The Appvengers Team

Polytechnic University of the Philippines - Taguig Branch

- Justine Delima
- John Matthew Arroyo
- Ma. Bea Mae Ynion
- James Michael Mejares

Built & Tested With

- Frontend: Angular 20
- Backend: Spring Boot 3 + MySQL
- QA: Playwright MCP + N8N AI Microservice
- Tools: Chrome DevTools

<https://i-budget.site>