Chapter 2

Manual Testing

2.1 Overview

This project focuses on performing comprehensive manual testing on the Parabank online banking application (https://parabank.parasoft.com). The main goal is to identify potential bugs and quality issues by applying various testing techniques. This report documents the testing process, observations, and challenges faced during the execution of test cases.

2.2 Manual Testing Types with Observations

2.2.1 Smoke Testing

Smoke Testing is a preliminary test to verify if the basic functionalities of the Parabank site work.

How to Perform: Open the homepage and check if the login page loads correctly. Try logging in with valid credentials.

Observed Issues: Occasionally, the login page took longer than expected to load. No crashes were observed.

2.2.2 Sanity Testing

Sanity Testing verifies that newly added features function correctly without testing the entire system.

How to Perform: After enabling a new account registration feature, fill the form and submit to check if registration is successful.

Observed Issues: Validation messages sometimes did not display for incomplete fields.

2.2.3   Functional Testing

Functional Testing confirms that each feature of the Parabank application works as intended.

How to Perform: Test fund transfer, account balance viewing, and transaction history features by performing typical user actions.

Observed Issues: Fund transfer sometimes failed with vague error messages.

2.2.4   Regression Testing

Regression Testing ensures that recent changes did not break existing functionalities.

How to Perform: After updating the payment module, retest login, balance checking, and fund transfer functions.

Observed Issues: Yes regression bugs were detected during testing.

2.2.5   Integration Testing

Integration Testing checks interaction between multiple modules.

How to Perform: Test bill payment feature integrated with account balance deduction and transaction record update.

Observed Issues: Transaction records were delayed in reflecting the latest payment.

2.2.6   System Testing

System Testing evaluates the entire Parabank application as a whole.

How to Perform: Perform end-to-end testing by simulating real-world banking scenarios such as login, transfer, bill payment, and logout.

Observed Issues: The system handled most flows well but showed slow response under multiple simultaneous transactions.

2.2.7   Acceptance Testing

Acceptance Testing validates the application against user requirements.

How to Perform: Verify that all user requested features are functional and meet expected behavior.

Observed Issues: Minor UI inconsistencies were noticed, but features worked failed.

2.2.8   Exploratory Testing

Exploratory Testing involves testing without predefined test cases to discover unexpected issues.

How to Perform: Navigate through the site randomly, trying different inputs and flows.

Observed Issues: Some pages lacked proper error handling for invalid inputs.

2.2.9   Ad-hoc Testing

Ad-hoc Testing is an informal test without structured planning.

How to Perform: Click buttons randomly, enter unusual inputs, and perform random sequences of actions.

Observed Issues: Rare crashes occurred when submitting empty forms repeatedly.

2.2.10   Monkey Testing

Monkey Testing is a type of random testing where random data or actions are injected to observe system stability.

How to Perform: Enter random characters in input fields, rapidly click buttons, and refresh pages randomly.

Observed Issues: The application showed occasional lag and UI glitches under heavy random input.

2.3   Test Figures

Test Case ID	Module / Feature	Test Case Description	Test Steps	Expected Result	Actual Result	Status	Severity	Priority	Tester Name	Date
TC01	Login	Valid Login with correct credentials	Enter valid username & password, click login	Dashboard loads	As expected	Pass	High	High	Sakib Hossain	18-05-2025
TC02	Login	Invalid Login	Enter invalid credentials and login	Show error message	Error displayed	Pass	High	High	Sakib Hossain	18-05-2025
TC03	Login	Blank Username	Leave username blank, enter password, click login	Show error message	Error displayed	Pass	Medium	High	Sakib Hossain	18-05-2025
TC04	Register	Successful Registration	Fill all fields and click register	User registered	As expected	Pass	High	Medium	Sakib Hossain	19-05-2025
TC05	Register	Registration with missing fields	Leave mandatory fields blank	Show error	Validation error shown	Pass	Medium	Medium	Sakib Hossain	19-05-2025
TC06	Bill Pay	Successful Bill Payment	Fill payee details and submit	Payment confirmation	As expected	Pass	High	High	Sakib Hossain	19-05-2025
TC07	Bill Pay	Invalid Account Number	Enter incorrect account number	Show error	Error displayed	Pass	High	High	Sakib Hossain	20-05-2025
TC08	Navigation	Click on 'About Us' link	Click About Us	About page opens	As expected	Pass	Low	Low	Sakib Hossain	20-05-2025
TC09	Navigation	Broken Link Test	Click each link on sidebar	All links open pages	One link broken	Fail	Low	Medium	Sakib Hossain	20-05-2025
TC10	Logout	Logout after login	Login, then logout	Return to login page	As expected	Pass	High	High	Sakib Hossain	21-05-2025
TC11	Account Overview	View Account Balance	Login and open accounts	Show balance info	Balance visible	Pass	Medium	Medium	Sakib Hossain	21-05-2025
TC12	Account Transfer	Transfer Funds	Transfer between accounts	Confirmation message	As expected	Pass	High	High	Sakib Hossain	21-05-2025
TC13	Contact Form	Submit Contact Form	Fill and submit form	Success message	As expected	Pass	Low	Medium	Sakib Hossain	21-05-2025
TC14	Login	SQL Injection Test	Input ' OR 1=1-- in username	Show error / block	Input blocked	Pass	High	High	Sakib Hossain	21-05-2025
TC15	Security	Session Timeout	Stay idle 10 mins, click again	Redirect to login	As expected	Pass	High	High	Sakib Hossain	21-05-2025
TC16	UI	Check label alignments	Check all form fields	All aligned	Misaligned label	Fail	Low	Low	Sakib Hossain	21-05-2025
TC17	Performance	Page Load Test	Load homepage	Load within 3s	Loaded in 2.5s	Pass	Medium	Medium	Md. Mehedi Hasan	22-05-2025
TC18	Accessibility	Tab Navigation	Navigate via keyboard tab	All elements reachable	Partial skip	Fail	Medium	Low	Md. Mehedi Hasan	22-05-2025
TC19	Login	Password Masking	Enter password	Characters hidden	As expected	Pass	Low	Medium	Md. Mehedi Hasan	22-05-2025
TC20	Monkey Test	Random Clicks	Randomly click pages	No crash or error	As expected	Pass	Medium	Low	Md. Mehedi Hasan	22-05-2025

Figure 2.1: Sample of 20 Test Cases Designed for Parabank
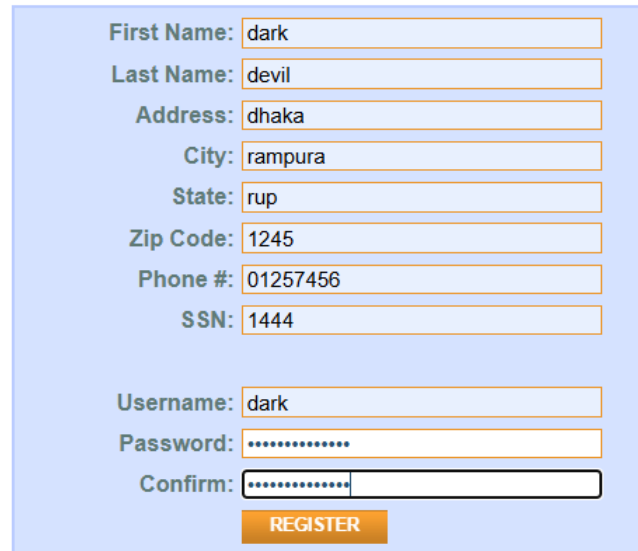

Figure 2.2: Smoke Testing on Parabank
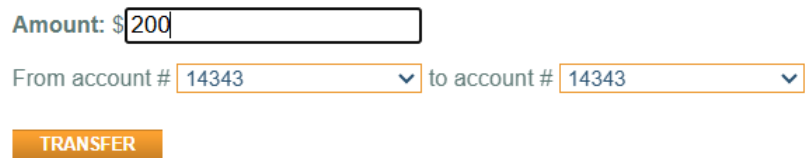
Figure 2.3: Sanity Testing on Parabank

Figure 2.4: Functional Testing on Parabank

Figure 2.5: Regression Testing on Parabank

Bill Payment Service

Enter payee information

Payee Name:	Sakib
Address:	mirpur
City:	bansree
State:	dhaka
Zip Code:	1425
Phone #:	01685749236
Account #:	2050
Verify Account #:	2050
Amount: $	100
From account #:	[⌄]

SEND PAYMENT

Figure 2.6: Integration Testing on Parabank

welcome dark devil

Account Services

- Open New Account
- Accounts Overview
- Transfer Funds
- Bill Pay
- Find Transactions
- Update Contact Info
- Request Loan
- Log Out

Figure 2.7: System Testing on Parabank

Error!

An internal error has occurred and has been logged.

Figure 2.8: Acceptance Testing on Parabank