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Final QA Test Report

CleanCity – Waste Pickup Scheduler

Prepared by: Test Case Trio (PLP Software Testing QA team)

Date: November 18, 2025

1. Cover Page

Project Title: CleanCity – Waste Pickup Scheduler

Course: Software Testing

Institution: Power Learn Project (PLP) Software Development

Team Name: Test Case Trio

Document Version: 1.0

Date: November 18, 2025

> Team Members

- Mercy Melody Chemutai – Test Manager
- Lorraine Bwayo – Risk Analyst
- Susan Mwangi – Test Executor

2. Table of Contents

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3. Executive Summary

The **CleanCity Waste Pickup Scheduler** is a front-end web application designed to help users schedule waste pickups, submit feedback, manage profiles, and interact with community features such as blogs. This report summarizes the **testing activities, findings, defects, risk analysis, and recommendations**.

Key Findings:

- **Critical issues** exist in login, validation, admin functions, and dashboard synchronization.
- **High failure rate** in functional tests due to missing backend validation and poor UI input handling.
- UI is visually appealing but **not fully responsive** on smaller devices.
- Automated tests and unit tests partially cover components and forms.
- LocalStorage persistence works, but data integrity issues exist.

Overall, the application **meets basic functionality** but requires **major fixes** before production readiness.

4. Test Objectives

- Validate functionality, usability, and reliability of CleanCity.
- Ensure accurate waste scheduling, user authentication, and admin workflows.
- Verify responsiveness across devices and browsers.
- Identify and document defects.
- Validate input handling and localStorage data persistence.
- Establish baseline automated test coverage (Jest).

5. Scope of Testing

In Scope

- User registration, login, logout
- Waste pickup scheduling
- Admin dashboard actions (view/update/filter)
- Blog features (view/edit/create/delete posts)
- Feedback submission
- localStorage persistence
- Responsiveness & UI consistency
- Early Jest-based testing

Out of Scope

- Backend API/database integration
- Performance testing under heavy loads
- Third-party integrations
- Security penetration testing beyond validation/XSS checks

6. Team and Roles

Role	Member	Responsibilities
Test Manager	Mercy Melody Chemutai	Planning, coordination, documentation
Test Executor	Susan Mwangi	Manual test execution, defect logging
Risk Analyst	Lorraine Bwayo	Risk evaluation, regression testing

7. Test Environment

Component	Details
Application Type	Frontend Web Application
Browsers	Chrome, Firefox, Edge

Component	Details
Data Storage	localStorage
Devices	Lenovo ThinkPad T490S, HP ZBook G6, HP Spectre, Nothing Phone 2a, Redmi Note 14, iPhone 12 Pro Max
OS	Windows 10/11, Android 14, iOS 17
Tools	GitHub Kanban, Browser DevTools, Jest, Selenium, Chromedriver

8. Test Items

- Registration / Login / Logout
- Waste Pickup Form
- Admin Panel
- Dashboard Filters & Status Updates
- Feedback Form
- Blog System (CRUD + comments + images)
- Notifications
- Profile Editing
- Accessibility
- Responsiveness

9. Testing Types

- Functional Testing
- UI/UX Testing
- Validation Testing
- Accessibility Testing
- Compatibility Testing
- Regression Testing
- Manual Exploratory Testing
- Automated Testing (Unit + Integration using Jest)

10. Schedule (All Phases Completed)

Phase 1 — Setup

Task	Period	Status
Repo Setup	Nov 3–4	Done
Test Plan Prep	Nov 4–5	Done

Phase 2 — Test Design & Initial Execution

Task	Period	Status
Test Case Drafting	Nov 7–8	Done
Early Manual Testing	Nov 8–9	Done
Automated Testing	Nov 8–10	Done
Defect Logging	Nov 9–11	Done

Phase 3 — Final Testing & Submission

Task	Period	Status
RTM Compilation	Nov 10–11	Completed
Full Test Execution	Nov 10–15	Completed
Regression Testing	Nov 11–17	Completed
Final Documentation	Nov 11–17	Completed
Submission	Nov 18	Submitted

11. Test Case Summary

A total of **130+ test cases** were designed covering:

✔ Authentication ✔ Waste Pickup ✔ Dashboard ✔ Admin Functions ✔ Blog Features ✔ User Settings ✔ Notifications ✔ Export & Analytics ✔ Responsive Layout ✔ Accessibility

Execution Breakdown:

- **Passed:** ~40
- **Failed:** ~60
- **Draft/Not Executed:** ~30

(Full test case sheet in Appendix A)

12. Defect Summary

A total of **50+ confirmed defects**, with severity breakdown:

Severity	Count	Examples
Very Critical	3	Login bypass, admin unrestricted access
High	18	Invalid scheduling, dashboard not syncing
Medium	20	Form errors, missing input validation
Low	10	UI inconsistencies, minor UX bugs

(Full defect log in Appendix C)

13. Risk Assessment

High Risks

- Missing backend validation
- Security loopholes
- Inconsistent data handling
- Responsiveness issues

Medium Risks

- Incorrect form validations
- Duplicate data submissions

Low Risks

- UI polishing
- Missing minor labels

(Full risk matrix included earlier)

14. Requirement Traceability Overview

All **88 requirements (R-001 to R-088)** were mapped to:

✔ Test Cases ✔ Execution Status ✔ Defects ✔ Risks

Full table is provided in **Appendix B**.

15. Test Metrics

Test Case Metrics

Metric	Value
Total TC	130+
Executed	100+
Passed	~40
Failed	~60

Defect Metrics

Severity	Count
Critical	10+
High	20+

Severity	Count
Medium	30+
Low	15+

Coverage

✔ 100% requirement coverage ❌ Only ~30% execution passed ❌ Multiple critical features not stable

16. Entry Criteria

Testing began after:

- Application rendered without runtime errors
- Test environment ready
- Test plan + data prepared
- GitHub Issues tracking enabled

17. Exit Criteria

Testing ended when:

- All priority test cases executed
- All critical issues logged
- Regression completed
- RTM validated
- Final report ready

18. Assumptions & Dependencies

- Application stays frontend-only.
- Developers fix issues in future iterations.

- No server/API layer exists.
- Test data is synthetic.

19. Limitations

- No real backend → limited validation.
- localStorage is volatile.
- Limited automation coverage.
- Real performance/load testing not possible.

20. Recommendations

1. Add backend with API validation.
2. Implement role-based permission guard.
3. Add proper form validation.
4. Improve responsiveness across devices.
5. Implement analytics dashboard correctly.
6. Ensure accessibility compliance (WCAG 2.1).

21. Conclusion

While CleanCity demonstrates strong potential as a community-driven waste management application, current implementation faces **major reliability, validation, and security issues**. With improvements in backend integration, form validation, admin logic, and UI responsiveness, it can reach production quality.

22. Approval Section

Name	Role	Signature	Date
Mercy Melody Chemutai	Test Manager		18/11/2025

Name	Role	Signature	Date
Lorraine Bwayo	Risk Analyst		18/11/2025
Susan Mwangi	Test Executor		18/11/2025
Instructor / QA Lead	Reviewer		18/11/2025

23. Appendices

Appendix A: Full Test Cases

> Open Test Cases

Appendix B: Requirements Traceability Matrix

> Open Requirements Traceability Table

Appendix C: Defect Log

> Open Defect Log

Appendix D: Challenges.md

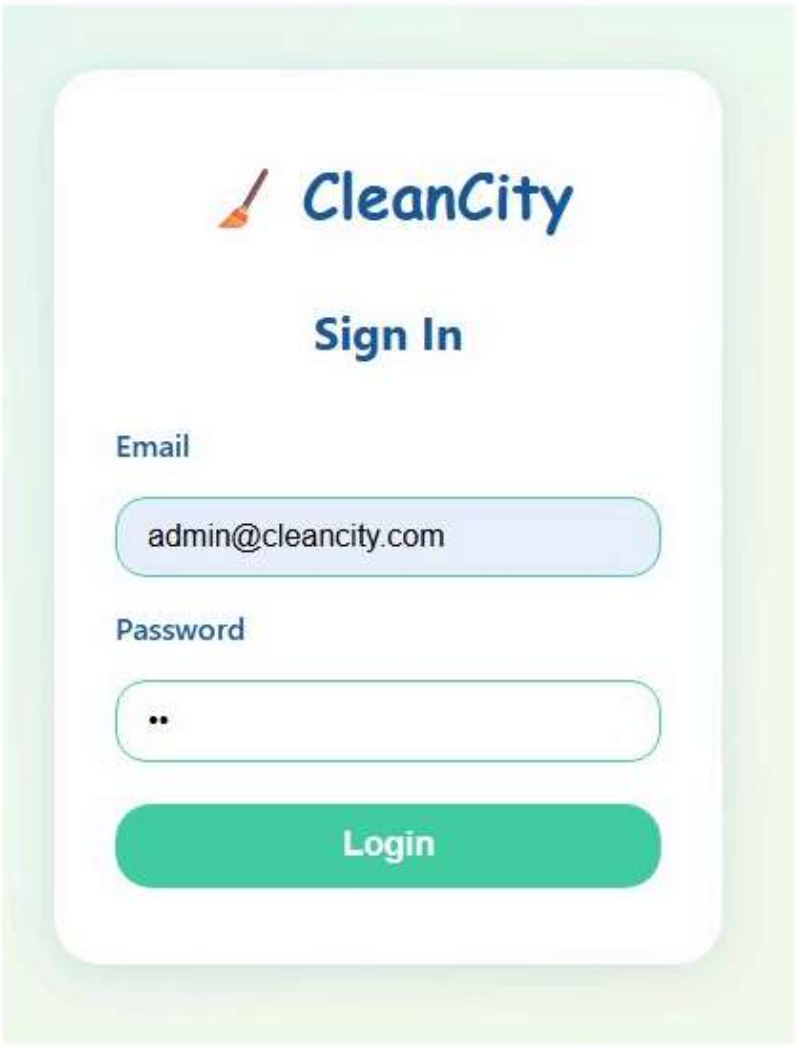
Open Challenges Document

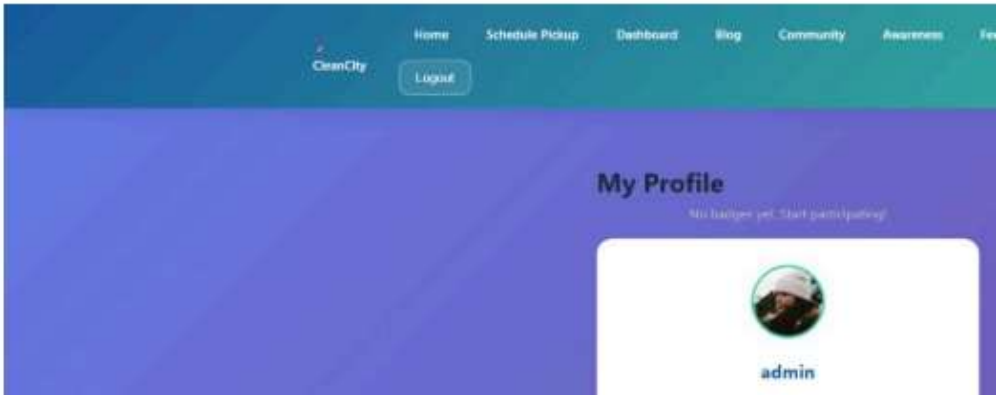
Appendix F: PDF Version of Report

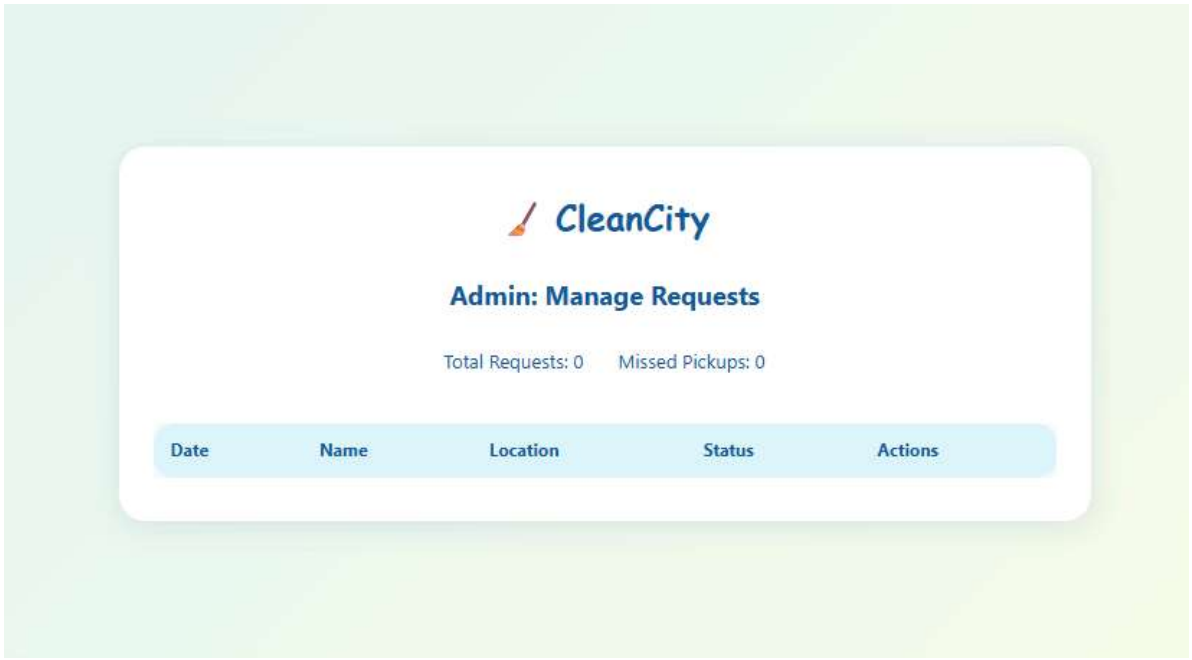
TestCaseTrio – CleanCity QA Report (PDF)

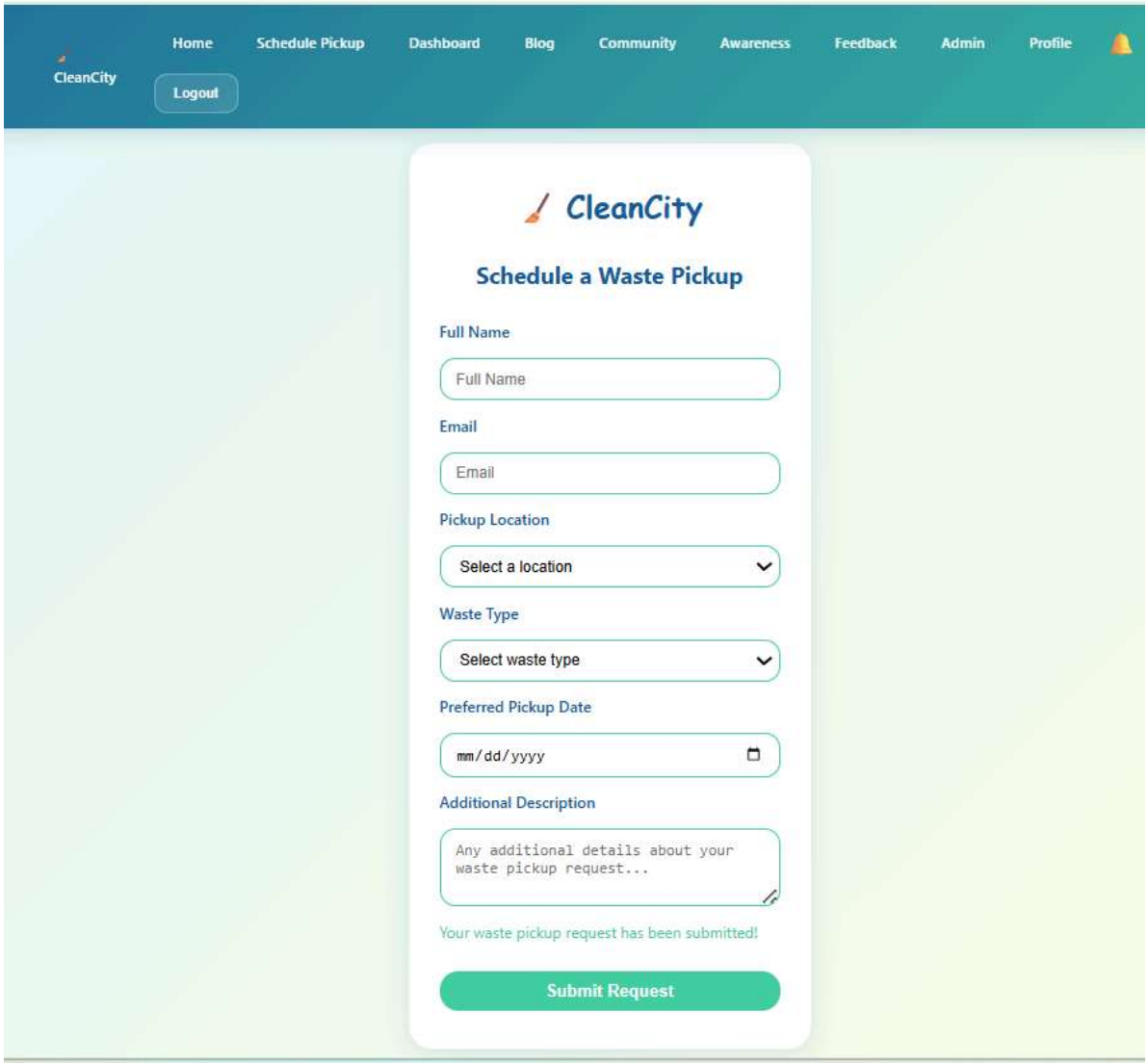
Appendix G: Screenshots

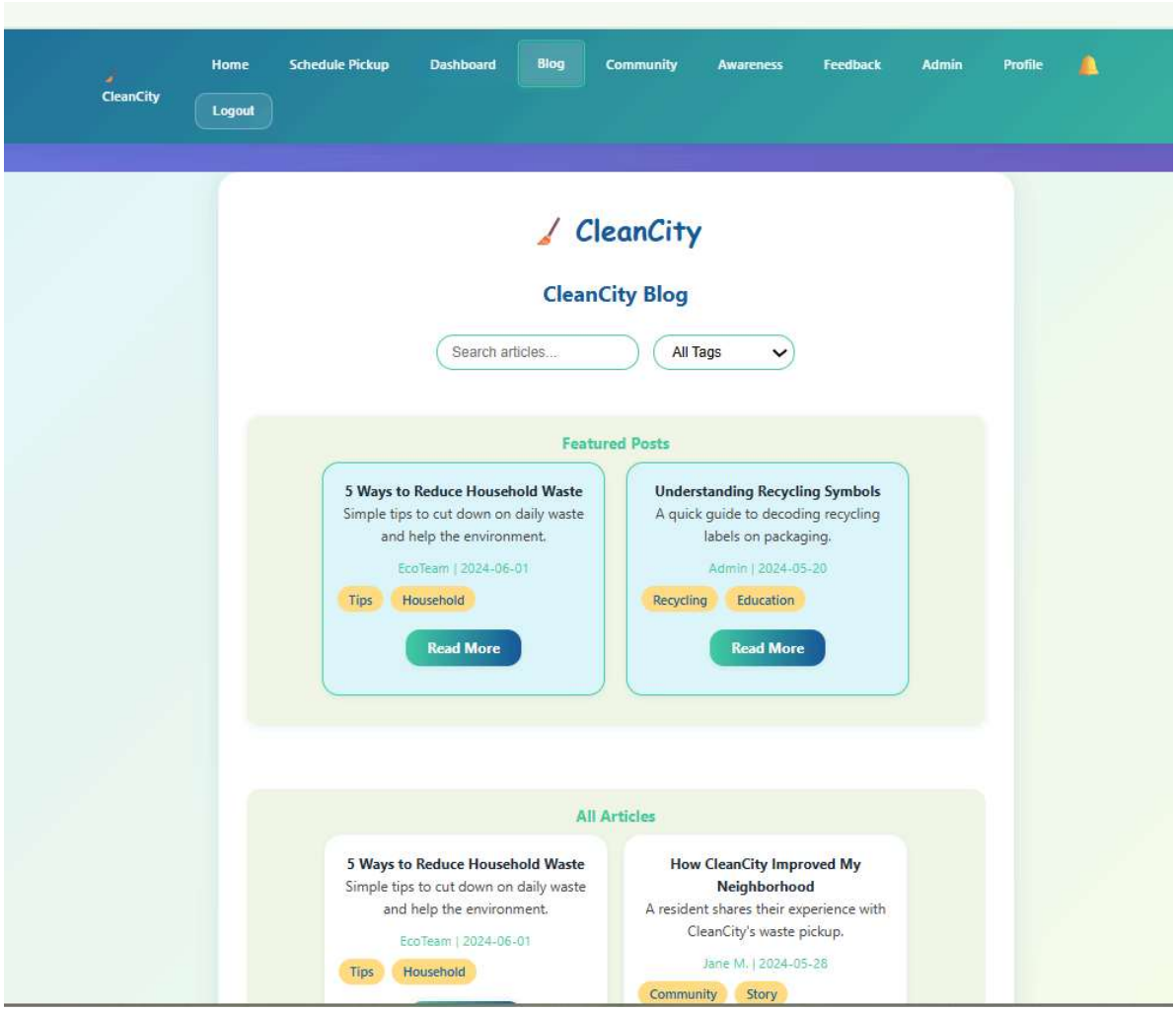
Open Authentication bypass TC002 #4






CleanCity
Admin: Manage Requests
Total Requests: 0
Missed Pickups: 0
Date
Name
Location
Status
Actions


CleanCity
Home
Schedule Pickup
Dashboard
Blog
Community
Awareness
Feedback
Admin
Profile
Logout
CleanCity
Schedule a Waste Pickup
Full Name
Full Name
Email
Email
Pickup Location
Select a location
Waste Type
Select waste type
Preferred Pickup Date
mm/dd/yyyy
Additional Description
Any additional details about your waste pickup request...
Your waste pickup request has been submitted!
Submit Request



D002	#2 (Admin Dashboard)	Status updates not reflected on dashboard	Log in as admin → Submit or update a request → Check dashboard	High	Open	UI not refreshing	Lorraine Bwayo
D003	#3 (UI/UX)	Navbar overlaps page content on mobile devices	Open app on any mobile device → Observe header and body overlap	Medium	Open	Needs responsive fix	Melody Chemutai
D004	#4 (Authentication)	Password validation bypass allows login with any password	Enter any email + any password → Login → Access granted	**Very Critical**	Open	Security flaw; needs immediate fix	Susan Mwangi
D006	#6 (Pickup Scheduling)	System allows scheduling pickups on past dates	Open pickup form → Select a past date → Submit	High	Open	Date validation missing	Melody Chemutai
D007	#7 (Duplicate Requests)	Allows double booking for same date/time/location	Create pickup → Repeat same details → System accepts again	High	Open	No duplicate booking check	Melody Chemutai
D008	#8 (Filtering Function)	Filter function not working correctly	Apply filter (e.g., location, status) → Results do not update	Medium	Open	Filtering logic broken	Melody Chemutai
D009	#9 (Task Status Update)	Status can be changed for tasks not completed	Select any request → Mark "Completed" without verification	High	Open	Missing backend validation	Susan Mwangi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