



CleanCity Web Application: Comprehensive Quality Assurance Report

A meticulous validation of performance, reliability, and functionality,
prepared by Team Jowii – July 2025.

Our Esteemed Team: Jowii



Edwin Kariuki

Team Lead

Spearheaded the testing strategy and directed team coordination, ensuring comprehensive test coverage and project alignment.



Victor Mutinda

Risk Analyst

Proactively identified potential vulnerabilities and meticulously assessed security implications throughout the application architecture.



Rehema Shammah

Test Executor

Rigourously executed comprehensive test cases, meticulously documenting findings with precision and clarity.

Our Multi-Layered Testing Strategy



Team Jowii implemented a robust, multi-layered testing strategy, leveraging five distinct methodologies to rigorously evaluate the Clean City platform. Each approach was precisely designed to address critical aspects of functionality, usability, and reliability.

Our comprehensive strategy seamlessly integrated structured test cases with dynamic exploratory techniques, ensuring the identification of both apparent defects and deeply embedded anomalies.

Strategic Testing Approaches Utilized

01

Functional Testing

Rigorous verification of all core functionalities, encompassing secure login/logout, seamless registration, intuitive navigation, responsive button interactions, and efficient pickup scheduling workflows.

02

UI/UX Testing

Thorough evaluation of user interface clarity, visual consistency, and overall user experience to guarantee intuitive navigation and an engaging interaction.

03

Exploratory Testing

Dynamic, unscripted testing sessions were conducted to proactively uncover unforeseen issues and edge cases beyond the scope of predefined test plans.

04

Compatibility Testing

Cross-device compatibility was rigorously assessed, leveraging developer tools to ensure optimal responsiveness and a consistent visual experience across diverse screen sizes and platforms.

05

Validation & Error Handling

Robust validation and error handling mechanisms were meticulously tested to confirm appropriate system responses to erroneous data inputs, such as invalid email formats, empty required fields, and improper value submissions.



Key Areas of Success

Intuitive and Polished Interface

The application presents a highly engaging and aesthetically refined design, characterized by clear navigation pathways that facilitate an effortless user experience.

Seamless Core System Operation

Essential functionalities, including user registration, authentication, and primary navigation, demonstrate robust stability and operate without notable discrepancies or errors.

Optimized Pickup Scheduling Process

The waste pickup scheduling mechanism is remarkably efficient and user-centric, ensuring a straightforward and easily completable workflow for all users.

Critical Issues Identified



Inadequate Data Persistence

User-specific data is not consistently retained, resulting in loss upon browser cache clearance, indicating a deficiency in robust server-side storage implementation.



Compromised Authentication Security

The absence of a comprehensive password policy and the allowance of user logins without email verification significantly undermine overall account security.



Erroneous Past-Date Scheduling

The system permits the scheduling of pickup services for dates that have already passed, which can lead to operational discrepancies and scheduling conflicts.



Restricted User Control & Feedback Management

Users encounter limited options for profile customization, and submitted feedback is not systematically stored, hindering effective user interaction and system improvement.

Elevating Security & Data Integrity

Strengthening Authentication Protocols

The application currently exhibits significant vulnerabilities in its authentication mechanisms, falling short of contemporary web security standards. Addressing these gaps is crucial:

- Passwords lack proper hashing and encryption, exposing sensitive user credentials.
- The system bypasses essential email verification during user login, compromising account authenticity.
- Absence of robust password complexity requirements leaves accounts susceptible to brute-force attacks.

Ensuring Data Persistence & Reliability

Critical user information is not being reliably stored or managed, leading to potential data loss and user frustration:

- Feedback submissions are not consistently recorded, resulting in lost user insights.
- Clearing the browser cache leads to complete and irrecoverable user data loss.
- The system lacks essential backup and export functionalities, risking long-term data integrity.



Usability & Experience Findings

1 Form Validation Inconsistencies

Inconsistent real-time validation allows for the submission of erroneous data in critical input fields, potentially impacting data integrity.

2 Accessibility Deficiencies

Current accessibility features provide limited support for screen readers and keyboard navigation, necessitating significant enhancements to ensure comprehensive inclusivity.

3 Suboptimal Dashboard Functionality

The dashboard's filtering and sorting capabilities are rudimentary, significantly impeding users' ability to effectively manage and analyze their data.

4 Device Responsiveness Overview

While overall device responsiveness is generally robust, minor layout inconsistencies have been observed on smaller screen resolutions.



Strategic Recommendations



Fortify Security Protocols

Implement robust password hashing and enforce stringent complexity rules. Mandate email verification for all new accounts to ensure secure access and user authentication.

Optimize Data Stewardship

Integrate comprehensive server-side storage solutions, provide reliable backup mechanisms, and introduce flexible data export functionalities to safeguard against information loss and enhance data integrity.



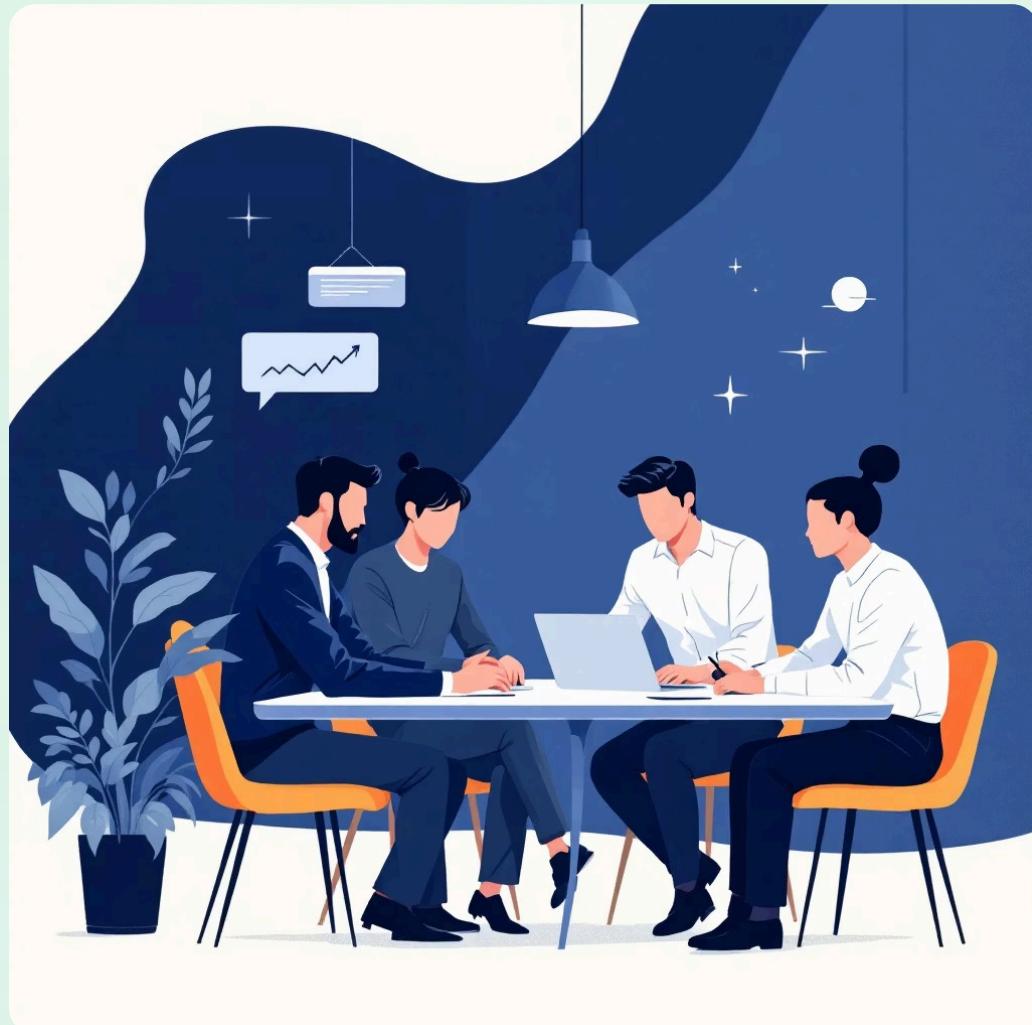
Refine Input Validation

Deploy advanced real-time form validation across all input fields. Proactively prevent erroneous data entry, including invalid date selections, to ensure scheduling accuracy and system reliability.

Elevate Accessibility Standards

Integrate full keyboard navigation support and ensure comprehensive screen reader compatibility. Enhance dashboard functionality with advanced filtering capabilities to support diverse user needs and improve overall usability.

Moving Forward



Key Takeaways

Our comprehensive assessment of the Clean City web application has revealed both its inherent strengths and critical areas for improvement. While the platform demonstrates robust core functionality and an intuitive interface, it necessitates immediate strategic enhancements in security, data persistence, and overall user experience.

Next Steps

To elevate the Clean City platform, our immediate focus will be on strengthening authentication protocols, establishing robust data storage solutions, and implementing comprehensive validation for all user inputs. These strategic actions are crucial to evolving Clean City into a truly robust, secure, and exceptionally user-friendly application.