# Test Summary Report

**Project: Equipment Status Tracker**

Application URL: https://qa-assignment-omega.vercel.app

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Test Period: 15 August 2025

Test Environment:

- Browser: Google Chrome (Latest) on macOS

- API: As per Swagger documentation (/docs)

- Test Data: Unique sets created for each run

## 1. Objective

To verify the functional correctness, API reliability, and user experience of the Equipment Status Tracker application through manual testing, bug identification, and automation readiness for both UI and APIs.

## 2. Scope

In-Scope:

- Equipment List Display

- Adding Equipment

- Status Update Functionality

- History Modal Functionality

- Error Handling and Validations

- Accessibility & Keyboard Navigation

- API endpoints:

GET /api/equipment,

POST /api/equipment,

POST /api/equipment/{id}/status,

GET /api/equipment/{id}/history

Out of Scope:

- Authentication

- Advanced Security and Performance Testing

## 3. Test Approach

Testing was conducted using a combination of manual test execution and automated test suites:

## Manual Testing: Functional and negative test cases executed based on defined scenarios.

* Exploratory Testing for usability and UX validation.
* UI Automation: Implemented with Cypress (JavaScript, Page Object Model).
* API Automation: Implemented with Supertest + Mocha/Chai.
* Performance Checks to ensure p95 ≤ 1000 ms for API responses.
* Reports: Mochawesome HTML reports generated for both UI and API test runs

## 4. Test Execution Summary

-Automation Coverage- 96% Automated with UI and API Frameworks

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Type | Total Cases | Passed | Failed | Blocked | Pass % |
| Manual Functional | 6 | 4 | 2 | 0 | 67% |
| UI Automation Functional | 9 | 5 | 4 | 0 | 56% |
| API Tests (Supertest) | 29 | 21 | 8 | 0 | 72% |
| Performance Checks | 1 | 1 | 0 | 0 |  |
| Total | 46 | 30 | 16 | 0 | 65% |

Performance Testing:  
- Average response times within 500–800ms  
- 95th percentile (p95) < 1000ms for all endpoints tested

## 5. Defects Found

Total Bugs: 13

Severity Distribution:

- High: 7

- Low: 6

Top Issues Identified:

- Unable to open history modal for 'Under Maintenance' equipment.

- Real-time updates do not reflect across tabs.

- No error shown when changing status from 'Under Maintenance' to other statuses

- Status history shows only last 10 entries, no pagination.

- Active equipment count mismatch.

- Idle status badge displays wrong color (Red instead of Yellow).

- No max character limit on Equipment Name & Location.

## 6. Risks & Observations

NOTE

- Intermittent 500 error observed for GET /api/equipment

- Inconsistent API response when trying to update equipment status from 'Under Maintenance'

- Functional Risk: Real-time updates unreliable across multiple sessions.

- UI Risk: Accessibility gaps in keyboard navigation and bugs.

- API Risk: No proper error handling for negative scenarios.

- UX Concern: Missing validation messages reduces user feedback clarity.

## 7. Recommendations

- Fix validation and inconsistency issues in API.

- Implement consistent real-time sync across all open sessions.

- Add comprehensive input validation on UI and API levels.

- Improve accessibility with keyboard shortcuts.

- Implement pagination for history records.

## 8. Exit Criteria & Conclusion

Exit Criteria Met:

- All high-priority test cases executed.

- Bugs documented with reproducible steps and evidence.

- Automation suites (UI + API) ready for execution.

## 9. Conclusion:

The application is functional but has multiple high-severity defects that need resolution before production release. Automation readiness is high, with clear coverage for both UI and API flows.