Final Submission Notes & Enhancements

Purpose

This document supplements the existing **QA Test Report.pdf**, **UI Test Cases.xlsx**, and **API Test Cases.xlsx**.
 It addresses feedback areas such as completeness, coverage, evidence, and RCA clarity — ensuring this submission fully aligns with the Brainholics QA assignment criteria.

Summary of What's Included

File	Description
QA Test Report.pdf	Detailed exploratory analysis with findings and bug reports
ui_test_cases.xlsx	Structured UI test cases covering Signup, Login/Logout, Enrichment, and Verification modules.
api_test_cases.xlsx	Black-box API test cases for major endpoints, including auth, enrichment, and verification APIs.
Final_Submission_Notes_and_Enhancements	This document (explains completeness, improvements, and reasoning).

 Key Enhancements Added After Review

Area	Enhancement	Description
UI Test Cases	Added missing cases	Included test cases for Google Sign-In, forgot password, page refresh/back navigation,

		accessibility (keyboard navigation and contrast checks).
API Test Cases	Added negative and edge cases	Included invalid tokens, expired session handling, insufficient credits, large file uploads, and malformed CSV tests.
Bug Report Quality	Improved evidence & RCA	Added reproducibility column, HAR/log capture, clearer frontend vs backend attribution, and consistent severity definitions.
Verification Module	Added new tests	Added UI + API tests for verification flow: resend email, expired/invalid verification links, and email validation API response handling
Security & Validation	Added simple security checks	Tested for field injection, invalid headers, CORS policy, and password masking.
Automation (Optional	Added sample scripts	Included optional Playwright (UI) and Postman (API) test files with a `README.md` guide on execution.

How to Read the Test Case Files

UI Test Cases

Each test case includes:

- TC ID
- Title
- Preconditions
- Steps
- Expected Result
- Priority
- Severity

Test areas:

- Signup / Login / Logout
- Enrichment (file upload, mapping, credit handling)
- Verification (email validation)
- Navigation and accessibility

API Test Cases

Each test case includes:

- Endpoint
- Method
- Request Body / Parameters
- Expected Response
- Negative Scenarios
- Notes (Schema Validation, Token Handling)

Covers:

- `/api/auth/signup`
- `/api/auth/login`
- `/api/enrich/upload`
- `/api/verify/email`
- `/api/credits`
- `/api/me` and `/api/logout`

Additional Test Coverage Overview

Module	Positive	Negative	Edge	Total
Signup/Login	10	6	3	19
Enrichment	12	8	4	24
Verification	6	4	3	13
DAshboard/Logout	4	2	1	7
Total	32	20	11	63

Root Cause Analysis (RCA) Approach

To differentiate **frontend vs backend** causes:

- **Frontend:**
    - No API call triggered in the Network tab.
    - Console log or hidden validation messages visible in DOM.
    - Issue reproducible across browsers without network changes.

- **Backend:**
    - API response code or payload incorrect (e.g., 200 OK with empty body).
    - The same issue occurs in Postman, not browser-specific.
    - The backend returns an unexpected status or message.

- **Both:**
    - UI sending malformed payload or missing parameters causing backend 400s.
    - Error messages mismatched between API response and UI display.

Known Issues & Follow-Up Tests

ID	Title	Status	Root Cause
BUG-001	Login form missing visible error for empty fields	Open	Frontend (hidden validation)
BUG-002	Generic error message for invalid credentials	Open	Frontend (not parsing backend message)
BUG-004	CSV with unmapped required columns still uploads	Open	Backend (validation missing on server)
BUG-006	Back button after login redirects to Login instead of Dashboard	Open	Frontend routing issue
BUG-009	Empty enrichment results for valid file	Open	Backend (processing logic or credit mismatch)

Final Submission Checklist

All major UI and API flows covered
Negative & edge case testing included
Frontend vs Backend RCA clear and evidence-based
Consistent naming and severity levels across all bugs

Submission Information

- **Candidate:** Nithish Chandra
- **Assignment:** QA Assignment – Brainholics
- **Date:** November 2025.