Task 2: Test log

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Description of test | Test data to be used (if required) | Expected outcome | Actual outcome | Comments and intended actions |
| Test Signup with Correct Details | Name: Test User, Email: test@user.com, Password: P@ssw0rd | User should be registered successfully. | Signup successful, user registered. | Test again with different valid details. |
| Test Signup with Mismatched Passwords | Password: P@ssw0rd, Confirm Password: 12345 | Should return a password mismatch error. | Correct error message returned. | Test with other password variations to check error handling. |
| Test Login with Correct Details | Email: test@user.com, Password: P@ssw0rd | Should log in successfully and return a JWT token. | Login successful, JWT returned. | Ensure token is valid and accessible. |
| Test Login with Incorrect Password | Email: test@user.com, Password: wrongpassword | Should return an error | Should return an error | Check error handling for invalid password cases. |
| Test Login with Non-Existent Email | Email: fake@user.com, Password: P@ssw0rd | Should return an error | Should return an error | Test error handling for missing email. |
| Test Google OAuth Login with Correct Account | Google account credentials | Google OAuth should authenticate and return a valid token. | Google login worked successfully. | Test with different Google accounts. I use dmy personal google account |
| Test Google OAuth Login with other Account | Google account credentials | Google OAuth should authenticate and return a valid token. | Google login wasn’t operable on another device | Investigate Google OAuth setup if necessary. To be tested later on |
| Test JWT Middleware with Valid Token | JWT token from login | Should grant access to protected routes. | Protected routes accessible with JWT. | Ensure that the JWT is correctly verified. |
| Test JWT Middleware with Invalid Token | Invalid JWT token | Should deny access with a "Unauthorized" error. | Access denied, error message returned. | Ensure error handling for expired/invalid tokens. |
| Test Database Setup | N/A | Database should store and retrieve data correctly. | Data saved and retrieved successfully from SQLite. | Test with various data models (user, carbon footprint). |
| Test Missing Data in Database Query | N/A | Should return an error or no data message. | Data returned as expected with no errors. | Handle cases of missing or incomplete data. |
| Test Password Hashing and Storage | Password: P@ssw0rd | Should store the password in a hashed format, not plaintext. | Password hashed and stored correctly. | Confirm using a bcrypt or similar hashing function. |
| Test Frontend Signup Form | Valid user details | Frontend form should submit data correctly. | Form submitted successfully and user data saved. | Check for any validation issues. |
| Test Frontend Login Form | Valid credentials | Frontend form should submit data correctly. | Form submitted successfully, JWT received. | Test with different browsers to check form functionality. |
| Test Form Input Validation (Empty Fields) | Empty fields for signup | Should show validation error messages for missing fields. | Error message displayed for missing fields. | Test for edge cases (e.g., empty email, password). |
| Test Form Input Validation (Invalid Email) | Invalid email format (e.g., abc.com) | Should show validation error for invalid email format. | Invalid email error shown. | Test with various invalid email formats. |
| Test JWT Token Expiry Handling | Expired JWT token | Should return an "Unauthorized" error due to expired token. | Expired token error returned. | Ensure token expiry time is correctly set. |
| Test Form Reset After Successful Signup | N/A | Form fields should reset after successful submission. | Form resets as expected. | Check other pages for proper form reset behavior. |
| Test Signup with Invalid Email Format | Email: invalid-email, Password: P@ssw0rd | Should show an email format validation error. | Correct error message for invalid email format. | Test multiple invalid email patterns. |
| Test User Profile Creation | Name: John Doe, Email: john@doe.com | User profile should be created and saved in the database. | Profile saved and retrieved successfully. | Ensure profiles are correctly saved and accessible. Initially, had issues with token verification and thus couldn’t extract the user profiles |
| Test Carbon Calculator Functionality | Inputs: 5 hours driving, 3% food wastage etc | Should calculate and display the carbon footprint. | Carbon footprint calculated and displayed. | Test with different input values for edge cases. |
| Test Energy Usage Tracker | Energy usage: 150 kWh | Should display energy consumption on the graph. | Energy data displayed correctly. | Test with different usage values to ensure graph accuracy. |
| Test Booking Slot Availability | Available slots for consultation | User should be able to select an available time slot. | Slot selection worked successfully | Verify that time slots are correctly populated from DB. |
| Test EV Locator Search by Location | Search for "London" | EV stations should be displayed for the search query. | EV stations displayed for London. | Check for edge cases in location searches. |
| Test EV Locator Map Integration | User location: [51.5074, -0.1278] (London) | Should show EV charging stations on the map. | EV stations displayed correctly on map. | Check map integration with Google Maps API. |
| Test EV Locator Filters (Connector Type) | Filter by "Type 2" connector | Should only show stations with Type 2 connectors. | Couldn’t verify this feature as the APIU doesn’t support it. | Ensure filters are integrated correctly with the backend |
| Test EV Locator Filters (Network Operator) | Filter by "BP Pulse" | Should only show BP Pulse stations. | Couldn’t verify this feature as the APIU doesn’t support it. | Check different filter combinations |
| Test Station Markers on EV Locator Map | Test multiple stations with markers | Markers should be correctly placed on the map for each station | Markers were not displayed. | Ensure accurate marker placement for all stations. |
| Test API Rate Limit on EV Locator | Multiple requests to the API | Should gracefully handle API rate limits and show an error message. | API rate limit error handled gracefully. | Check for API rate limiting issues with Google API. |
| Test Google Maps API Integration | Location: [40.7128, -74.0060] (New York) | Stations should show correctly for New York. | Stations displayed for the correct location. | Verify map accuracy with various locations. The issue is thta while the markers were rendered, the map wasnt centering on the desired area. |
| Test Station Markers on EV Locator Map | Test multiple stations with markers | Markers should be correctly placed on the map for each station | Markers displayed for each EV station | Ensure accurate marker placement for all stations. |
| Test EV Locator with No Stations Found | Search for "Non-existent Location" | Should return a message "No stations found". | Correct message displayed for no stations. | Test for fallback messaging when no stations exist. |
| Test Map Zoom Functionality | Test map zoom in/out | Map zoom should be smooth and responsive. | Map zoom function working as expected. | Test for zoom issues on mobile devices. |
| Test User Location on Map | Allow browser location access | Map should display user’s current location. | User's location correctly displayed on map. | Ensure that location permissions are requested. |
| Test Map Marker Clustering | Multiple nearby stations | Markers should group/cluster when too many are in the same area. | Markers grouped as expected. | Ensure that large numbers of stations are handled well. |
| Test API Response Time for Station Search | Location: [51.5074, -0.1278] (London) | Should return station data within 2 seconds. | Response time is within acceptable limits. | Monitor API performance for any slowdowns. |
| Test Dashboard Carbon & Energy Stats | User data: carbon 2000 kg, energy 1500 kWh | Should display carbon footprint and energy usage in graphs. | Dashboard displayed carbon and energy correctly. | Verify data aggregation and correct graph plotting. |
| Test Account Settings (Change Email) | New Email: newemail@user.com | Should update user’s email successfully | Email updated correctly. | Check email validation for correct format. |
| Test Account Settings (Change Password) | New Password: NewP@ssw0rd | Should update user’s password after validation. | Password updated successfully. | Ensure password strength validation is in place. |
| Test Language Selector | Switch language to "Spanish" | Should change the UI language to Spanish. | Language switched correctly. | Ensure all text components are updated when language is switched. |
| Test Theme Toggle (Light/Dark Mode) | Toggle light/dark mode | Should switch between light and dark themes. | Theme switched correctly. | Test responsiveness and smoothness of theme switching. |
| Test UI Responsiveness on Mobile | Test on mobile view (small screen) | UI should adjust and display correctly on smaller screens | UI displayed correctly on mobile. | Check different breakpoints for responsiveness. |
| Test Dashboard Line Chart | Carbon data over time (2000, 1500, 1000) | Should show carbon data over time in a line chart. | Line chart displayed correctly with data points. | Test for accurate data representation on charts. |
| Test Dashboard Area Chart | Energy data (500, 1000, 1500) | Should show energy usage breakdown in an area chart. | Area chart displayed correctly. | Ensure chart is responsive and properly styled. |
| Test Account Settings Form Reset | N/A | Form fields should reset after successful submission. | Form reset as expected. | Ensure other forms reset correctly after submission. |
| Test Password Strength Validation | Weak Password: "123" | Should reject weak passwords and show validation message. | Error message for weak password displayed. | Test various weak password combinations. |
| Test Account Settings Error Handling | Invalid Email Format (e.g., abc.com) | Should show an error for invalid email format. | Error message displayed for invalid email format. | Test different invalid email formats. |
| Test Theme Toggle with Language Switch | Switch to "German" and toggle theme | Language should update, and theme should switch accordingly. | Language and theme toggled correctly. | Verify interaction between theme toggle and language selector. |
| Test Settings Page Accessibility (Keyboard Navigation) | Use keyboard navigation | User should be able to navigate through form fields with keyboard. | Navigation worked smoothly with keyboard. | Ensure accessibility features are functioning well. |
| Test UI Enhancements (Loading State) | Test slow API responses | Should show a loading spinner or message while waiting. | Loading state displayed correctly. | Test on slow network for better feedback. |
| Test Page Not Found (404 Error Handling) | Enter invalid URL | Should redirect to a "Page Not Found" message. | 404 page not displayed | Ensure all invalid routes redirect to 404 page. To be talked about more in the evaluation. |
| Test Security Headers | N/A | Should have security headers (e.g., Content-Security-Policy). | Headers present in network requests. | Check for proper security headers in network traffic. |
| Test Cross-Browser Compatibility | Test on Chrome, Firefox, Edge | UI should display and function consistently across browsers. | UI displayed consistently across browsers. | Test UI behavior in different browsers and versions. |
| Test Responsiveness with New Devices | Test on iPad and Android tablet | UI should adjust to different device screen sizes. | UI displayed correctly on tablet devices. A few elements didnt adjust to the smaller screens(eg. Navbar) | Verify responsive media queries for all screen sizes. |