Safety inspection

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Testing scenarios

1. Registration & Authorization

Goal: Verify that guest users can register (including via Google) and authenticate into the system, and that error messages are appropriately displayed.

1.1 Login Using Google Account

- **Requirement(s) Covered**: #12 (Guest users must be able to register via a google account)

1. **Action:** On the Login page, click “Log in with Google” and select a valid Google account.
   Expected Result: Login is successful. The user is logged in and redirected to the main page.

1.2 Register with a New Email and Valid Password

- **Requirement(s) Covered**: #13 (Registered users must be able to log in), partially #12 if using normal email

1. **Action**: On the Registration page, enter a unique email and a valid password, then submit.
   Expected Result: Registration is successful. The user can log in afterward with the same credentials.

1.3 Register with an Already Used Email

1. **Action**: On the Registration page, enter an email that is already registered in the system and a valid password, then submit.
   Expected Result: An error message is displayed indicating that the email is already taken. Registration is not allowed.

1.4 Register with Invalid/Empty Email or Password

1. **Action**: On the Registration page, leave the email and/or password fields empty, or enter an invalid email format, then submit.

Expected Result: The system does not proceed. An error or validation message is shown prompting the user to correct inputs.

1.5 Login Using a Valid Email and Password

1. **Action**: On the Login page, enter valid credentials of an existing user (from previous scenarios), then submit.
   Expected Result: Login is successful. The user is redirected to the main/home page.

1.6 Login with Incorrect or Empty Credentials

1. **Action**: On the Login page, enter an invalid or empty email, invalid or empty password, or both, then submit.
   Expected Result: An error message is shown, e.g. "The email address or password you entered is incorrect. Please try again." The user is not logged in.

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2. Searching & Filtering

Goal: Verify that both guest users and registered users can search products by name and receive correct feedback when no items are found.

- **Requirement(s) Covered**: #2 (Guest users must be able to search products by name), #16 (Inform users if a search returns no results), partial coverage for #9 (in case of searching for defective products).

2.1 Search for an Existing Product by Name

1. **Action**: From the main/home page, enter the exact product name into the search field (e.g., "Product A") and click "Search."
   Expected Result: The product "Product A" is displayed in the search results list.

2.2 Search for a Non-Existent Product

1. **Action**: Enter a random/unrecognized product name into the search field (e.g., "NonExistentXYZ") and click "Search."

Expected Result: A message such as “No products found” is displayed, rather than an empty page.

2.3 View Product Details from Search Results

1. **Action**: In the displayed search results, click on “See details” for a product.
   Expected Result: The product’s detail page is displayed, showing product information (descriptions, etc.).

2.4 Direct Link to Official Report

1. **Action**: In the displayed search results (or product detail view), click on “See Case URL” (or “Official Report Link”).
   Expected Result: The official report page for that product is opened in a new window/tab or loaded directly on the page.

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3. Barcode Scanning

Goal: Ensure that barcode scanning works correctly for both desktop and mobile cameras, recognizes invalid inputs, handles missing camera permissions, and displays product data (defective or not).

- **Requirement(s) Covered:**
  - #1 (Support barcode scanning via desktop webcams and mobile device cameras)
  - #3 (Guest users must be able to scan barcodes)
  - #4 (System requires access to the camera)
  - #5 (Alert users if webcam access is denied and provide instructions to enable it)
  - #6 (Notify users if the scanned barcode format is invalid)
  - #7 (Provide feedback if no barcode is detected after a certain time)
  - #8 (Barcode scanning must extract and display embedded data in real-time)
  - #9 (After a successful scan, display defective or not defective)
  - #10 (Defective product scan shows all product info)

    - #11 (Non-defective product scan shows option to add to personalized list)
    - #19 (Integration of a suitable barcode scanning library or API for real-time detection)

3.1 Scan a Valid Barcode of a Defective Product

1. **Action**: Ensure the camera is enabled. Scan a known defective product's barcode.
   Expected Result:
    - In real-time, the system recognizes the barcode (#8, #19).
    - The system displays the product data and indicates that it is defective (#9).
    - All available product information is shown (requirement #10).

3.2 Scan a Valid Barcode of a Non-Defective Product (Guest User)

1. **Action**: As a guest (not logged in), scan a non-defective product.
   Expected Result:
    - The system recognizes the barcode and displays the product data (#8, #9, #19).
    - The system indicates that it is not defective.
    - Because the user is not logged in, the system does not show the personalized-list option (#11). Instead, it might prompt the user to register or log in.

3.3 Scan a Valid Barcode of a Non-Defective Product (Logged-In User)

1. **Action**: As a registered/logged-in user, scan a non-defective product.
   Expected Result:
    - The system recognizes the barcode and shows product data (#8, #9, #19).
    - Indicates the product is not defective.
    - Displays an option/button to add the product to the personalized list (requirement #11, #14).

3.4 Scan a Barcode When Camera Access Is Denied or Disabled

1. **Action**: Have the user's browser/mobile device deny camera permissions when prompted, then try to scan a barcode.
   Expected Result:
   - The system displays an alert or message stating that camera access is denied (#4, #5).
   - Provides instructions to enable camera access in the browser/device settings.

3.5 Scan an Invalid or Unrecognized Barcode Format

1. **Action**: Present a barcode image or code in a format not supported by the scanning library/API, or intentionally corrupt the code.
   Expected Result:
   - The system displays an error message indicating the format is invalid or unrecognized (#6).

3.6 No Barcode Detected for a Certain Period

1. **Action:** Point the camera at a random surface (no barcode) for a specified timeout period (e.g., 10 seconds).
   Expected Result:
   - The system times out or displays feedback such as "No barcode detected. Please try again." (#7).

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4. Personalized List

Goal: Verify that logged-in users can add, view, edit, and delete products in their personalized list, and that the system behaves correctly when empty.

- **Requirement(s) Covered:** #14 (Option to add scanned non-defective products to personalized list), #9, #11

4.1 Add a Non-Defective Product to the Personalized List

1. **Action**: As a logged-in user, successfully scan a non-defective product (see scenario 3.3) and click “Add to My List.”
   Expected Result: The product is added to the user’s personalized list, and a confirmation message is displayed.

4.2 View Personalized List When It Is Empty

1. **Action:** As a logged-in user with no products in the personalized list, open the “My List” page.
   Expected Result: A message “No products found” (or similar) is displayed.

4.3 View Personalized List with Items Added

1. **Action:** As a logged-in user with products already added, open the “My List” page.
   Expected Result: A list of all added products is displayed with basic info (name, barcode, status).

4.4 Edit a Product Entry in Personalized List

1. **Action:** On the “My List” page, click on “Edit” next to a product. Change any editable fields (e.g., notes or custom labels), then save.
   Expected Result: The changes are saved and displayed immediately.

4.5 Delete a Product from Personalized List

1. **Action:** On the “My List” page, click on “Delete” next to a product.
   Expected Result: The product is removed from the list.

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5. Notification Service

Goal: Verify that users are notified when their personalized products become defective according to the database updates.

- **Requirement(s) Covered:** #17 (Notify users via email if products in the personalized list have been added to the defective product database)

5.1 Product from the Personalized List Added to the Defective Database

1. **Action:** As an admin (or via the scraping routine), mark a previously non-defective product in the database as defective.
2. **Action:** This product must be in at least one user's personalized list. Expected Result: The registered user(s) with this product in their list receive an email notification stating that the product is now defective.

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6. Web Scraping

Goal: Ensure that administrators can trigger a scraping program to retrieve product data from designated websites, and the data is correctly integrated into the database.

- **Requirement(s) Covered:** #18 (Admin can trigger scraping), #20 (Implement data scraping service)

6.1 Admin Triggers Scraping Process

1. **Action**: As an admin, click "Scrape Sites" on the admin/home page. The designated websites must be accessible.
   Expected Result:
   - The system starts scraping, possibly showing progress logs (e.g., "Scraping in progress...").
   - Data is retrieved from the target websites and inserted/updated in the product database (#20).
   - A success message indicates the scraping has finished.

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7. Scan History

Goal: Verify that registered users can view all previously scanned product barcodes.

- **Requirement(s) Covered:** #15 (Registered users must be able to view the history of previously scanned products)

7.1 No Previous Scans

1. **Action:** As a newly registered user with no scanning activity, navigate to “Scan History.”
   Expected Result: The system displays a message “No scans found” or similar.

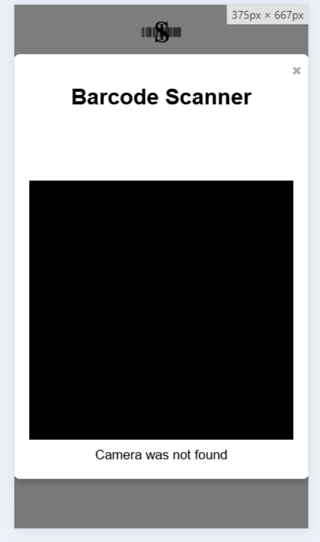
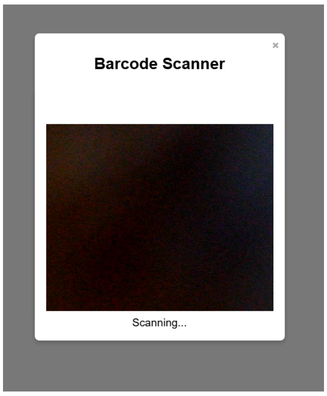
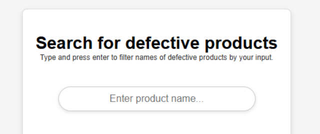
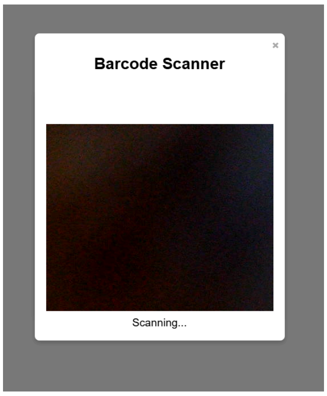
7.2 View History After Scanning Products

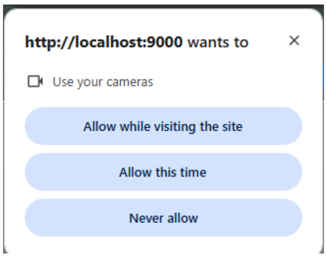
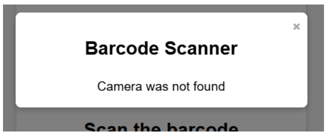
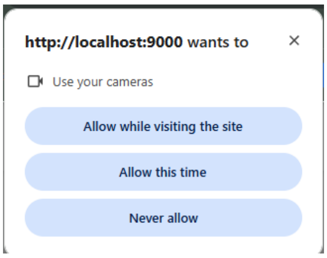
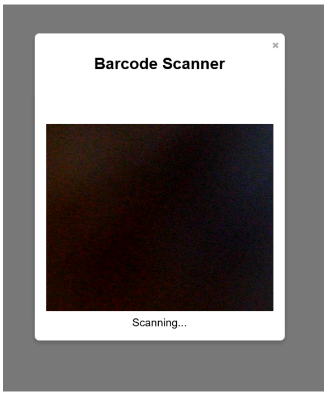
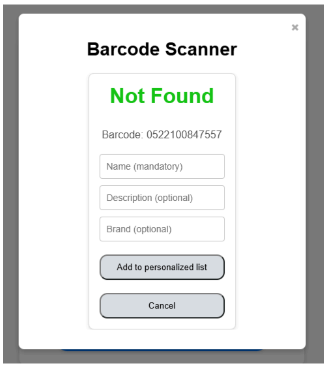
1. **Action:** As a logged-in user, scan one or more barcodes (defective or not). Then go to “Scan History.”
   Expected Result: The page lists previously scanned barcodes with time, date, and product name.

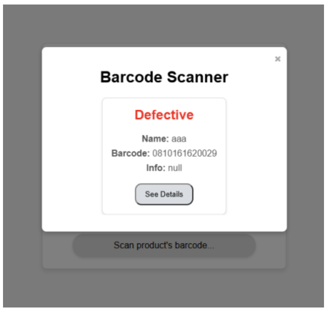
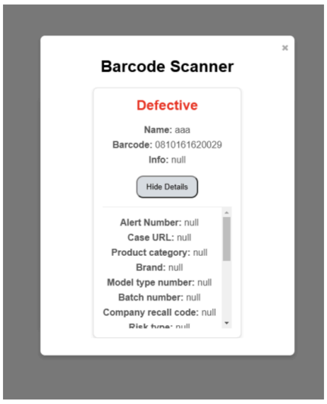
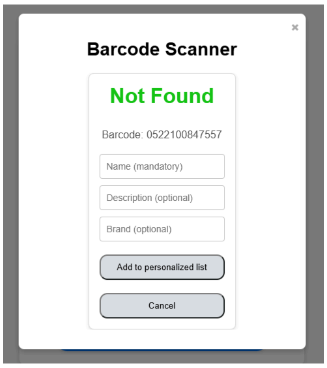
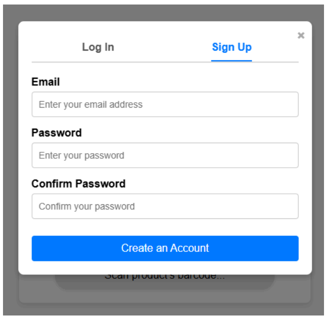
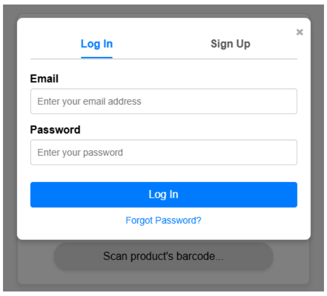
7.3 Navigate to Product Page from History

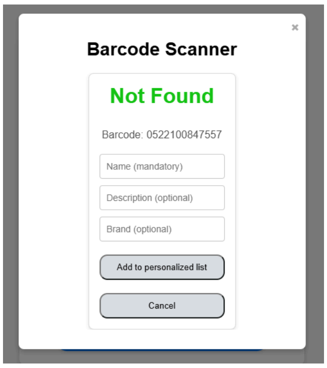
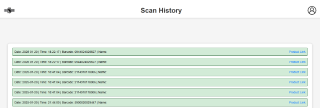
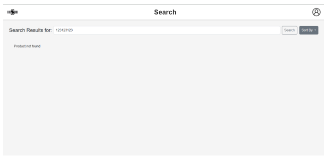
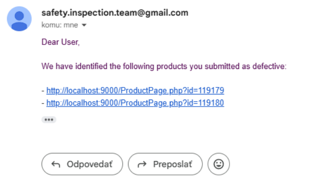
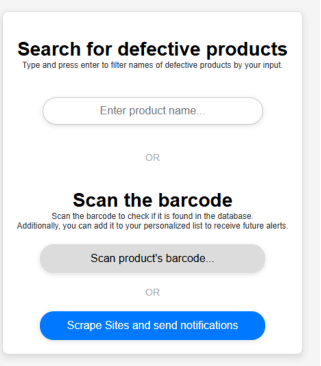
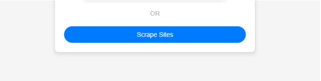
1. **Action:** In “Scan History,” click “View Product” next to a defective product.
   Expected Result: The system redirects to that product’s detailed page, showing the defective status and product details.
2. **Action:** In “Scan History,” click “View Product” next to a non-defective product.
   Expected Result: The system either redirects to the product’s detail page or the user’s “My List” page if the product was added to the personalized list.

Matrix Coverage

ID	Requirement	Implemented In
1	The application must support barcode scanning via desktop webcams and mobile device cameras.	 375px × 667px Barcode Scanner Camera was not found  Barcode Scanner Scanning...
2	Guest users must be able to search products by their name	 Search for defective products Type and press enter to filter names of defective products by your input. Enter product name...
3	Guest users must be able to scan barcodes	 Barcode Scanner Scanning...

4	The system requires access to the camera.	 http://localhost:9000 wants to Use your cameras Allow while visiting the site Allow this time Never allow
5	Alert users if webcam access is denied and provide instructions to enable it.	 Barcode Scanner Camera was not found  http://localhost:9000 wants to Use your cameras Allow while visiting the site Allow this time Never allow
6	Notify users if the scanned barcode format is invalid or unrecognized.	 Barcode Scanner Scanning...
7	Provide feedback if no barcode is detected after a certain time period.	
8	Barcode scanning must extract and display embedded data in real-time.	
9	After a successful scan, the system will display whether the product is defective or not defective.	 Barcode Scanner Not Found Barcode: 0522100847557 Name (mandatory) Description (optional) Brand (optional) Add to personalized list Cancel

10	Scanning a defective product will display all available information about said product.	 Barcode Scanner Defective **Name:** aaa **Barcode:** 0810161620029 **Info:** null See Details Scan product's barcode...  Barcode Scanner Defective **Name:** aaa **Barcode:** 0810161620029 **Info:** null Hide Details **Alert Number:** null **Case URL:** null **Product category:** null **Brand:** null **Model type number:** null **Batch number:** null **Company recall code:** null **Risk type:** null
11	Scanning a non-defective product will display an option to add it to a personalized list.	 Barcode Scanner Not Found Barcode: 0522100847557 Name (mandatory) Description (optional) Brand (optional) Add to personalized list Cancel
12	Guest users must be able to register via a google id	 Log In Sign Up **Email** Enter your email address **Password** Enter your password **Confirm Password** Confirm your password Create an Account Scan product's barcode...
13	Registered users must be able to log in.	 Log In Sign Up **Email** Enter your email address **Password** Enter your password Log In Forgot Password? Scan product's barcode...

14	Registered users who have logged in must have the option to add scanned non-defective products into a personalized list.	 Barcode Scanner Not Found Barcode: 0522100847557 Name (mandatory) Description (optional) Brand (optional)
15	Registered users must be able to view the history of previously scanned products.	 Scan History Date: 2025-01-20 | Time: 18:22:17 | Barcode: 0944024029527 | Name: Product Link Date: 2025-01-20 | Time: 18:22:17 | Barcode: 0944024029527 | Name: Product Link Date: 2025-01-20 | Time: 18:41:04 | Barcode: 2114910178006 | Name: Product Link Date: 2025-01-20 | Time: 18:41:04 | Barcode: 2114910178006 | Name: Product Link Date: 2025-01-20 | Time: 18:41:04 | Barcode: 2114910178006 | Name: Product Link Date: 2025-01-20 | Time: 21:44:00 | Barcode: 5900020029447 | Name: Product Link
16	Inform users if a search returns no results instead of showing an empty page.	 Search Search Results for: 123123123 Product not found
17	Registered users, will be notified via email if the products in the personalized list have been added in the defective product database.	 safety.inspection.team@gmail.com komu: mne Dear User, We have identified the following products you submitted as defective: - http://localhost:9000/ProductPage.php?id=119179 - http://localhost:9000/ProductPage.php?id=119180
18	Admin users can trigger a scraping program to retrieve product data from the web.	 Search for defective products Type and press enter to filter names of defective products by your input. Enter product name... OR Scan the barcode Scan the barcode to check if it is found in the database. Additionally, you can add it to your personalized list to receive future alerts. Scan product's barcode... OR Scrape Sites and send notifications
19	Integrate a suitable barcode scanning library or API for real-time detection.	HTML library Quagga was used
20	Implement a data scraping service to retrieve product information from designated	 OR

	websites and compile the data into a database.	