

ĐẠI HỌC QUỐC GIA TP. HỒ CHÍ MINH
TRƯỜNG ĐẠI HỌC KHOA HỌC TỰ NHIÊN
KHOA CÔNG NGHỆ THÔNG TIN



Homework 4

Course: Testing

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1. Tool name

- Gemini - a large language model trained by Google.

2. Prompts used

The prompt used in Vietnamese with the attached image for demonstrating:
“Xin chào bạn, tôi đang muốn bạn sử dụng tri thức cá nhân để nhận xét và test giúp GUI testing về trang giao diện sau dựa trên yêu cầu này
Input your GUI checklist and interface screenshots into a Generative AI tool (e.g., ChatGPT, Gemini, Grok, DeepSeek, Copilot).

Use the AI-generated feedback to identify any UI issues, inconsistencies, or areas of non-compliance.

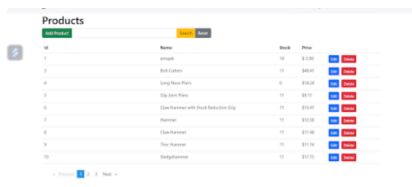
You need to describe:

The tool name

The prompts used

How you validated or refined the AI-generated results

Which test cases came from AI and which were created manually



ID	Name	Stock	Price
1	Apple	10	\$1.00
2	Banana	10	\$0.50
3	Orange	10	\$0.75
4	Lemon	10	\$0.50
5	Lime	10	\$0.50
6	Grapefruit	10	\$0.50
7	Pineapple	10	\$2.00
8	Mango	10	\$1.50
9	Papaya	10	\$1.00
10	Watermelon	10	\$10.00

Xin chào bạn, tôi đang muốn bạn sử dụng tri thức cá nhân để nhận xét và test giúp GUI testing về trang giao diện sau dựa trên yêu cầu này
GUI Testing with AI tools

Input your GUI checklist and interface screenshots into a Generative AI tool (e.g., ChatGPT, Gemini, Grok, DeepSeek, Copilot).

Use the AI-generated feedback to identify any UI issues, inconsistencies, or areas of non-compliance.

You need to describe:

The tool name

Prompting with image on Gemini

3. Validate AI generated-result

Here are the AI generated-results based on the prompt I used:

Thank you for providing a structured GUI checklist! This is a great way to systematically review an interface. I will continue filling out the checklist based on the provided screenshot and then summarize any UI issues, inconsistencies, or areas of non-compliance.

GUI Checklist & Analysis:

GUI ID: ID01

GUI name: View Product

GUI detail: When the admin logs in and navigates to the Product page, it will render the list of products and their details.

No.	Checkpoints	Yes	No	Remark
1	Aesthetic check			
1.0	Page Layout & Color			
1.0.1	Is the overall page background color appropriate and visually consistent with the rest of the application?	TRUE		Page Background is white

Identified UI Issues, Inconsistencies, or Areas of Non-Compliance:

Based on the completed checklist, here's a summary of the identified issues:

1. Missing Search Input Field (Usability Critical):

- **Issue:** The "Search" and "Reset" buttons are present, but there is no visible text input field for the user to enter their search query.
- **Impact:** This makes the search functionality unusable, as there's no way for the user to specify what they want to search for.
- **Compliance/Guideline:** Basic form design principles, usability heuristics.

2. Inconsistent Price Formatting:

- **Issue:** Most prices are formatted consistently (e.g., "48.41"), *but "Id1" shows* "-5.00".
- **Impact:** This is confusing and unprofessional. A negative price for a product on sale is highly unusual and could indicate a data entry error, a special case that isn't clearly explained, or a formatting bug.
- **Compliance/Guideline:** Data presentation consistency, clarity.

3. Button Size Inconsistency:

- **Issue:** The "Add Product" button is significantly larger than "Search" and "Reset."

- **Issue:** The "Add Product" button is significantly larger than "Search" and "Reset." Additionally, the "Delete" button in the table rows is slightly wider than the "Edit" button.
- **Impact:** This creates an unpolished and inconsistent visual design, which can subtly detract from the professional appearance of the application.
- **Compliance/Guideline:** Visual consistency, design system adherence.

4. Low Contrast Application Logo/Icon:

- **Issue:** The application logo/icon at the top left is very small and has low contrast against its background.
- **Impact:** It's difficult to see and recognize, diminishing brand presence and potentially affecting accessibility for users with visual impairments.
- **Compliance/Guideline:** Accessibility (WCAG contrast guidelines), branding visibility.

5. Lack of Visual Indication for "0" Stock:

- **Issue:** Products with "0" stock (e.g., "Long Nose Pliers") are displayed without any special visual cue.
- **Impact:** Users might overlook the stock status until they attempt to interact with the product, leading to frustration. A clear "Out of Stock" indicator (text, different color, grayed-out) would improve clarity.
- **Compliance/Guideline:** User experience, clarity of information.

6. Inconsistent Language Terminology:

- **Issue:** The navigation bar uses "Kontakt" (German for "Contact") while the rest of the

- **Compliance/Guideline:** User experience, clarity of information.

6. Inconsistent Language Terminology:

- **Issue:** The navigation bar uses "Kontakt" (German for "Contact") while the rest of the interface (and presumably the application) is in English.
- **Impact:** This is confusing for English-speaking users and demonstrates a lack of localization consistency.
- **Compliance/Guideline:** Language consistency, internationalization best practices.

7. Non-Sequential Product IDs:

- **Issue:** The "Id" column shows IDs like 1, 3, 4, 5... missing "2".
- **Impact:** While not a direct UI flaw, it can be an inconsistency in data presentation. Users might wonder why an ID is missing, potentially assuming data loss or incomplete records. If IDs are not strictly sequential, this should be an internal data management decision, but it can appear as an anomaly to the user.
- **Compliance/Guideline:** Data presentation clarity, data consistency.

Recommendation: Prioritize fixing the missing search input field and the inconsistent price formatting as these are critical usability and data integrity issues. Following that, address the visual inconsistencies and improve clarity for "0" stock items.

The table visualizes the checklist generated by AI

No.	Checkpoints	Yes	No	Remark
1	Aesthetic check			
1	Page Layout & Color			
1.0.1	Is the overall page background color appropriate and visually consistent with the rest of the application?	TRUE		Page Background is white
1.0.2	Do the colors of buttons clearly distinguish their actions?	TRUE		Yes (Green for Add, Yellow for Search, Gray for Reset, Blue for Edit, Red for Delete are standard and clear)
1.0.3	Is the page layout clear, logical, and easy for an administrator to understand at a glance?	TRUE		Elements display clearly
1.0.4	Is the spacing between elements (e.g., search bar and table, table columns, pagination) adequate and consistent?	TRUE		Spacing between components is equal
1.0.5	Is the display resolution set correctly	TRUE		Page displays well on default browser resolution.

	according to requirements (e.g., looks good on 1024x768, 1366x768)?			Overall display remains good when increasing or decreasing browser window size (responsive).
1.0.6	Support dark/light mode		NO	No obvious dark/light mode toggle. Assumed not supported based on the screenshot.
1.1 Typography & Alignment				
1.1.1	Is the page title "Products" clearly displayed, adequately sized, and centrally or left-aligned as per standard?	TRUE		The title is bold, set with larger font-size and left-aligned
1.1.2	Are the buttons the same size?		NO	The "Add Product" button is significantly larger than "Search" and "Reset". The "Delete" button is slightly wider than the "Edit" button for each row. This is an inconsistency.
1.1.3	Are table headers (Id, Name, Stock, Price) clear, distinct from data, and properly aligned with their respective columns?	TRUE		Headers are bold and distinct. They are aligned to their columns (Id, Stock, Price right-aligned, Name left-aligned, which is standard).
1.1.4	Is the font family and size consistent across similar elements (e.g., all table data, all button labels)?	TRUE		Font family and size appear consistent for table data and button labels, except for the varying button sizes.
1.2 Icons & Imagery				
1.2.1	Is the application logo/icon at the top left clearly visible and appropriately sized?		NO	The application logo/icon is present but very small and low contrast, making it hard to see.
1.2.2	Are the "Edit" and "Delete" actions clearly represented by appropriate icons or text labels?	TRUE		They are represented by text labels "Edit" and "Delete," which are clear.
1.3 Controls & Interactions				
1.3.1	Is there a clear input field for search functionality?		NO	There are "Search" and "Reset" buttons, but no visible text input field for the user to type their search query. This is a critical usability issue.
1.3.2	Are the "Add Product," "Search," and "Reset" buttons clearly labeled and easily clickable?	TRUE		Labels are clear and buttons appear clickable.
1.3.3	Does the pagination (Previous, Next, page numbers) clearly indicate the current page and allow navigation between pages?	TRUE		Pagination is present and indicates the current page ("1" is highlighted/larger). Navigation buttons are clear.

1.3.4	Do the "Edit" and "Delete" buttons for each product row function as expected (not testable from static image but design implies it)?	TRUE		Yes, the design implies they function as expected for each row.
1.4 Data Display				
1.4.1	Is the product list presented in a clear, readable table format?	TRUE		Yes, it's a standard table format.
1.4.2	Are all relevant product details (Id, Name, Stock, Price) visible in the table columns?	TRUE		Yes, the specified details are visible.
1.4.3	Is the "Price" column consistently formatted (e.g., currency symbol, decimal places)?		NO	Most prices are "XX.YY", but "-5.00" for Id 1 is inconsistent and suggests a potential data error or unhandled negative value display.
1.4.4	Is there any special visual indication for products with "0" stock?		NO	"Long Nose Pliers" shows "0" stock, but there is no special visual indicator (e.g., red text, "Out of Stock" label, grayed-out row) to draw attention to it.
1.4.5	Are the product IDs sequential, or is there a clear reason for gaps (e.g., missing ID 2)?		NO	IDs are 1, 3, 4, 5... missing "2". This is an inconsistency in numbering which might suggest a deleted item but without context, it's an anomaly.
1.5 Consistency				
1.5.1	Are the language and terminology consistent throughout the page (e.g., "Kontakt" vs. "Contact")?		NO	"Kontakt" (German for Contact) is used in the navigation bar, while the rest of the interface appears to be in English. This is an inconsistency.
1.5.2	Are button styles and sizes consistent for similar actions (e.g., "Edit" and "Delete" buttons within rows)?		NO	The "Delete" button is slightly wider than "Edit" buttons. Also, "Add Product" is much larger than "Search" and "Reset," leading to general button size inconsistency.
1.5.3	Is the header navigation (Home, Categories, Kontakt, John Doe) consistent with other pages in the application (not fully testable but assumed)?	TRUE		Assumed to be consistent, as it's a common top-level navigation.
1.6 Usability Check				

1.6.1	Is it intuitive for an administrator to add a new product?	TRUE		Yes, the prominent "Add Product" button is clear.
1.6.2	Is it intuitive to search for products?		NO	No, because the search input field is missing, making the "Search" button non-functional on its own.
1.6.3	Is it easy to edit or delete individual products?	TRUE		Yes, "Edit" and "Delete" buttons are clearly visible and accessible for each row.
1.6.4	Is the current pagination state clearly visible?	TRUE		Yes, "1" is highlighted.

3.1 AI-refinement and validation:

I refined the initial AI output by structuring it into a clear, point-by-point GUI checklist format. I then compared this AI-generated checklist with my own existing checklist to identify both similarities and differences in the two versions. This comparative analysis allowed me to create a more comprehensive and robust final checklist.

Following this, I validated the checklist by systematically going through each item and comparing it directly against the provided screenshot. This involved:

1. **Direct Observation:** Confirming the presence or absence of each checkpoint's characteristic in the image.
2. **Consistency Checks:** Looking for uniformity in elements like button sizes, font styles, and data formatting.
3. **Usability Assessment:** Evaluating if the interface actions (like search) were intuitive and complete based on the visual evidence.
4. **Issue Identification:** Highlighting specific visual discrepancies, missing elements, or problematic data displays as 'No' in the checklist and elaborating in the 'Remark' column.
5. **Summarization:** Consolidating all identified 'No' remarks into a concise 'UI Issues, Inconsistencies, or Areas of Non-Compliance' section with detailed explanations and potential impacts."

4. Manual Checklists and AI checklists

The checklist below is merged with both manual and automated checklists

GUI ID	01				
GUI name	View Product				
GUI detail	When the admin logs in and navigates to the Product page, it will render the list of products and thier details				
GUI No	Checkpoints	Yes	No	Remark	Checklist type
1	Aesthetic check				
1.0	Page Layout & Color				
1.0.1	Is the overall page background color appropriate and visually consistent with the rest of the application?	TRUE		Page Background is white	Manual
1.0.2	Do the colors of buttons clearly distinguish their actions?	TRUE		Yes	Manual
1.0.3	Is the page layout clear, logical, and easy for an administrator to understand at a glance?	TRUE		Elements display clearly	Manual
1.0.4	Is the spacing between elements (e.g., search bar and table, table columns, pagination) adequate and consistent?	TRUE		Spacing between components is equal	Manual
1.0.5	Is the display resolution set correctly according to requirements (e.g., looks good on 1024x768, 1366x768)?	TRUE		Page displays well on default browser resolution. Overall display remains good when increasing or decreasing browser window size (responsive).	Manual

1.0,6	Support dark/light mode		TR UE	No	Manual
1.1	Typography & Alignment				
1.1.1	Is the page title "Products" clearly displayed, adequately sized, and centrally or left-aligned as per standard?	TRUE		The title is bold, set with larger font-size and left-aligned	Manual
1.1.2	Are the buttons the same size		TR UE	The Add product button is much larger than the 2 buttons The Delete button is much larger than the Edit button	Manual
1.2	Color & Branding				
1.2.1	Are the colors used for various elements (buttons, table, text) consistent and aesthetically pleasing?		TR UE	too many colors with different color tone, cause inconsistent with white background	Manual
1.04	Is the font type and size consistent across all text elements (titles, table headers, data, buttons, navigation) and easily readable?	TRUE		Font-type is Arial and font-size is standard	Manual
1.06	Is the website logo (top-left) clearly visible at the top left corner?		TR UE	No website logo found	Manual
2	Product List Table				
2.0	Table Headers & Content				
2.01	Are the table headers (Id, Name, Stock, Price) clear, concise, and accurately represent the data below?	TRUE		Data is displayed below the header	Manual
2.02	Is text data within columns (e.g., Product Name) left-aligned by default?	TRUE		Left-aligned	Manual

2.03	Is numeric data within columns (Id, Stock, Price) right-aligned by default?		TRUE	Left-aligned	Manual
2.04	Is all product data (Id, Name, Stock, Price) displayed completely and accurately for each row?	TRUE		No empty row is recorded	Manual
2.1	Table Display & Style				
2.1.1	Are alternating row backgrounds or clear row separators used to enhance table readability?	TRUE		Light grey separator to separate row	Manual
2.1.2	The space between each column is reasonable		TRUE	The space between Id and Name column is too narrow	Manual
2.1.3	Does the color change when hovering to each row within the table	TRUE		Turns to grey	Manual
2.1.4	Are the table headers clickable for sorting?		TRUE	No sorting options	Manual
2.1.5	Do the "Edit" and "Delete" buttons show a clear hover effect	TRUE		Turning to click mode when hovering to these buttons	Manual
2.1.6	Are command buttons ("Edit", "Delete") present and consistently placed for every product row?	TRUE		Yes	Manual
2.2	Numeric Formatting				
2.2.1	Is the "Stock" column clearly indicating quantity and does it handle zero/low stock values appropriately (e.g., different color, warning icon)		TRUE	Same color when stock = 0	Manual
2.2.2	Is the "Price" column formatted consistently with currency symbol and appropriate decimal places?	TRUE		Format: \$ number	Manual
2.3	Pagination				

2.3.1	Does the table handle a large number of rows gracefully through pagination?	TRUE		Pagination when number of rows exceed 10	Manual
2.3.2	Is the pagination section (Previous, 1, 2, 3, Next) clearly visible and functional at the bottom of the table?				Manual
2.3.3	Are the "Previous" and "Next" pagination links disabled when at the first or last page, respectively?	TRUE		Turns to disabled	Manual
2.3.4	Do the numerical page links (1, 2, 3...) accurately navigate to the corresponding page when clicked?	TRUE		Yes, turning to list products from relating to theirs ID	Manual
2.3.5	Is the currently active page number clearly highlighted in the pagination control?	TRUE		Turns blue	Manual
3	Search & Action Elements				
3	Check				
3	Search Input				
3.0.1	Is the search textbox clearly identifiable for user input?	TRUE		Yes	Manual
3.0.2	Does the search input field have a placeholder text to guide user input text?		TRUE	Empty placeholder	Manual
3.0.3	When hovering over the search textbox, does the mouse cursor change to an I-beam (insert bar) indicating editability?	TRUE		Yes	Manual
3.0.4	Does pressing the "Enter" key in the search textbox trigger the search function?	TRUE		Yes	Manual
3.1	Search & Reset Buttons				
3.1.1	Is the "Search" command button explicitly labeled and positioned next to the search input?	TRUE		Yes	Manual

3.1.2	Is the "Reset" command button functional and does it clear the search field and results to show the full list?	TRUE		Yes	Manual
3.2	Visual Feedback				
3.2.1	When clicking a button, is there changing color?	TRUE		Yes	Manual
3.2.2	Do all command buttons on the screen (Search, Reset, Add Product, Edit, Delete) have a consistent background and text color when not hovered/clicked?		TRUE	Too many colours	Manual
3.2.3	Is there clear visual feedback (e.g., loading spinner, "Searching..." text) when a search is initiated?		TRUE	No feedback	Manual
4	Navigation & Interaction Check				
4.1	Page & Modal Navigation				
4.1.1	Is the scrollbar (on the right for the main page content) present when needed and does it function smoothly?	TRUE		Yes	Manual
4.1.2	Does clicking the "Add Product" button navigate to the correct page or open an appropriate modal for adding a new product?	TRUE		Navigating to the Add product page	Manual
4.1.3	Do the "Edit" buttons correctly navigate to an edit form pre-populated with the selected product's details?	TRUE		Yes, with filled data	Manual
4.1.4	Do the header navigation links (Home, Categories, Kontakt,...) navigate to right page?	TRUE		Not in focus mode when navigating to other sections (Home, Categories,...)	Manual
4.2	Dialogs & Confirmations				
4.2.1	All actions return with a proper message	TRUE		Yes	Manual
4.2.1	When a "Delete" button is clicked, is a confirmation dialog displayed before the item is permanently removed?	TRUE		Yes	Manual

5	Usability & Validation Check				
5.1	Usability				
5.1.1	New users easily understand on first trials	TRUE		Yes	Manual
5.1.2	Users can remember the process of using the functionality	TRUE		Yes	AI
5.1.3	Are actions reversible (e.g., undo, cancel, go back)		TRUE	No	AI
5.1.4	The speed of executing is acceptable		TRUE	Takes 1-2 seconds to render a page	AI
5.1.5	Do input fields support autofill/autocomplete		TRUE	No	AI
5.1.6	Does it support to prevent user error?		TRUE	Not applicable	AI
5.2	Validation & Error handling				
5.2.1	Are input constraints enforced (e.g., max length, numeric-only fields)		TRUE	No, empty search is allowed	AI
5.2.2	Is there a consistent timeout or feedback for long-running actions (e.g., spinner/loading bar)		TRUE	Wait for 3-5 seconds with a few products	AI
5.2.3	Are error states preserved when the page reloads or refreshes?	TRUE		Yes	AI
6	Compatiable				
6.1	Does the page render correctly on major browsers (Chrome, Firefox, Safari, Edge	TRUE		Yes, same on different browsers	AI
6.2	The layout responsive	TRUE		Yes	AI
6.3	UI respond correctly to system/browser zoom settings (e.g., 125%, 150%)	TRUE		Yes, same on different settings	AI
6.4	Mobile-specific features (touch scrolling, tap targets) working on touch devices	TRUE		Yes	AI
6.5	Work on both web and mobile app	TRUE		Yes	AI

