Human Computer Interaction (HCI) Project – Analysis & Explanation Report

Damson Furniture Website Redesign

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1. Introduction

Human Computer Interaction (HCI) is concerned with designing systems that are efficient, usable, and accessible while ensuring a positive user experience. Poor interface design can lead to confusion, frustration, and task failure, especially in e-commerce platforms where usability directly affects user satisfaction and conversion rates.

This project presents a UI/UX analysis and redesign of the Damson Furniture website. The original website suffers from several usability and visual design issues that negatively impact the overall user experience. The main objective of this project is to analyze these problems from an HCI perspective and redesign the website using established usability principles to create a more intuitive, accessible, and user-friendly interface.

2. Project Overview and Goals

The Damson Furniture website is an online platform designed to display furniture products and provide users with information about the company's branches, certificates, and services.

Project Goals:

- Improve usability and accessibility
- Apply HCI principles to solve existing UX and UI problems
- Enhance visual hierarchy and consistency
- Simplify navigation and product discovery

- Create a smoother and more intuitive shopping experience

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3. Analysis of the Old Design (UX Problems)

3.1 Homepage Content Organization

In the original design, certificates and company information are scattered across the homepage alongside product listings. This lack of content separation creates confusion and increases cognitive load, as users cannot easily distinguish between informational content and shopping-related content.

Additionally, the homepage displays **all product categories at once**, making the page excessively long. This negatively affects accessibility and makes it harder for users to locate specific items efficiently.

3.2 Navigation and Interaction Issues

The top bar on the homepage is intended to provide quick access to branches and addresses. However, it continuously moves, making it difficult for users to interact with. Furthermore, every clickable element in this bar redirects to the same page, causing redundancy and reducing navigation efficiency.

Another major issue is the presence of elements that appear clickable but are not functional. For example, the first image on the homepage gives users the illusion that it is interactive, yet it does not lead to any destination. This violates the principle of clear affordances and misleads users.

3.3 Product Page Usability Issues

On the single product page, users must scroll extensively to view all product images. Meanwhile, the sidebar containing product details moves downward with the page, forcing users to scroll back up to add items to the cart or view essential information.

Additionally, the original design lacks:

- A product reviews section

- An additional information section

This limits users' ability to make informed purchasing decisions.

3.4 Sidebar and Footer Problems

The sidebar contains product categories but does not clearly prioritize navigation. The homepage link is not listed first, which may confuse users. It also includes irrelevant links such as job openings, which are not related to the main user goal of shopping.

Moreover, some social media icons in the sidebar redirect to non-functional or non-existent company accounts, reducing user trust and credibility.

3.5 Branches Page Issues

All company branches are listed consecutively without spacing or visual separation. This makes it difficult for users to distinguish between branches. Additionally, the text color suggests that

branch names are clickable, but only the location links actually redirect to Google Maps, creating a mismatch between appearance and functionality.

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4. Analysis of the Old Design (UI Problems)

4.1 Inconsistent Visual Design

The old interface uses multiple font styles, sizes, and colors without a clear system. This inconsistency weakens brand identity and creates visual clutter.

4.2 Weak Contrast and Readability

The lack of sufficient contrast between text and background reduces readability, particularly for users with visual impairments. This directly affects accessibility and violates inclusive design principles.

4.3 Weak Visual Hierarchy

The interface does not clearly distinguish between primary and secondary elements. Important information does not stand out, making it difficult for users to prioritize content and navigate the interface efficiently.

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5. Redesign Approach and Applied HCI Principles

The redesign focuses on applying key HCI principles, including:

- Consistency and standards

- Visibility of system status

- Recognition rather than recall

- Aesthetic and minimalist design

- Clear affordances and feedback

Each design decision was made to reduce cognitive load and improve usability.

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6. UX Solutions Implemented

6.1 Improved Product Organization

A dedicated product page was developed where products are organized into categories within a sidebar. This simplifies product discovery and improves accessibility.

6.2 Redesigned Single Product Page

The single product page was redesigned to enhance clarity:

- Product description is placed below the product

- Reduced need for excessive scrolling

- Added product reviews section

- Added additional information section

This design improves decision-making and user confidence.

6.3 About Page Development

A new **About page** was introduced to centralize:

- Branch locations

- Working hours

- Certificates and company information

This separates informational content from shopping content and improves clarity.

6.4 Sidebar and Footer Enhancements

The sidebar now focuses on:

- Product categories

- Filters for easier browsing

Social media links were moved to the footer, making them accessible without distracting users from shopping tasks.

6.5 Improved Clickability and Interaction

Previously non-clickable elements were converted into functional buttons, including:

- Navigation bar

- Cart

- Sign In

- Contact Us

- Explore More

- Check Out

This ensures consistency between visual cues and functionality.

6.6 Redesigned Branches Section

Branches are now displayed in visually distinct boxes:

- Each box includes the governorate name

- Working hours are clearly displayed

- Location links are easy to access

Certificates were moved to the About page alongside a "Why Choose Us" section, improving structure and readability.

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7. UI Solutions Implemented

7.1 Modernized Cart and Checkout

The cart was redesigned with a modern, user-friendly layout. A receipt prototype was added, including a **Check Out** button that redirects users to the payment page.

7.2 Improved Sidebar and Sign-In Page

The sidebar was streamlined using clearer categories and improved colors.
The sign-in page was redesigned with a modern and visually appealing interface to enhance first impressions and usability.

8. New UI Design Overview

The redesign introduced:

- A new logo aligned with brand identity

- A redesigned footer menu

- An updated homepage layout

- New pages for branches, certificates, and contact

These changes create a more cohesive and professional visual experience.

9. Conclusion

This project demonstrates how applying Human Computer Interaction principles can significantly improve both usability and user experience. By analyzing the original Damson Furniture website and addressing its UX and UI issues, the redesigned interface provides a clearer structure, better accessibility, and a more intuitive shopping journey.

The final design successfully reduces user confusion, enhances visual consistency, and creates a more trustworthy and engaging e-commerce experience.