

COSC 360

Price Tracker Website- 'camelcamelcamel' Clone

GitHub Repo : <https://github.com/R4VILKHGB/Price-Tracker>

Server Link: <https://cosc360.ok.ubc.ca/santam04/home.php>

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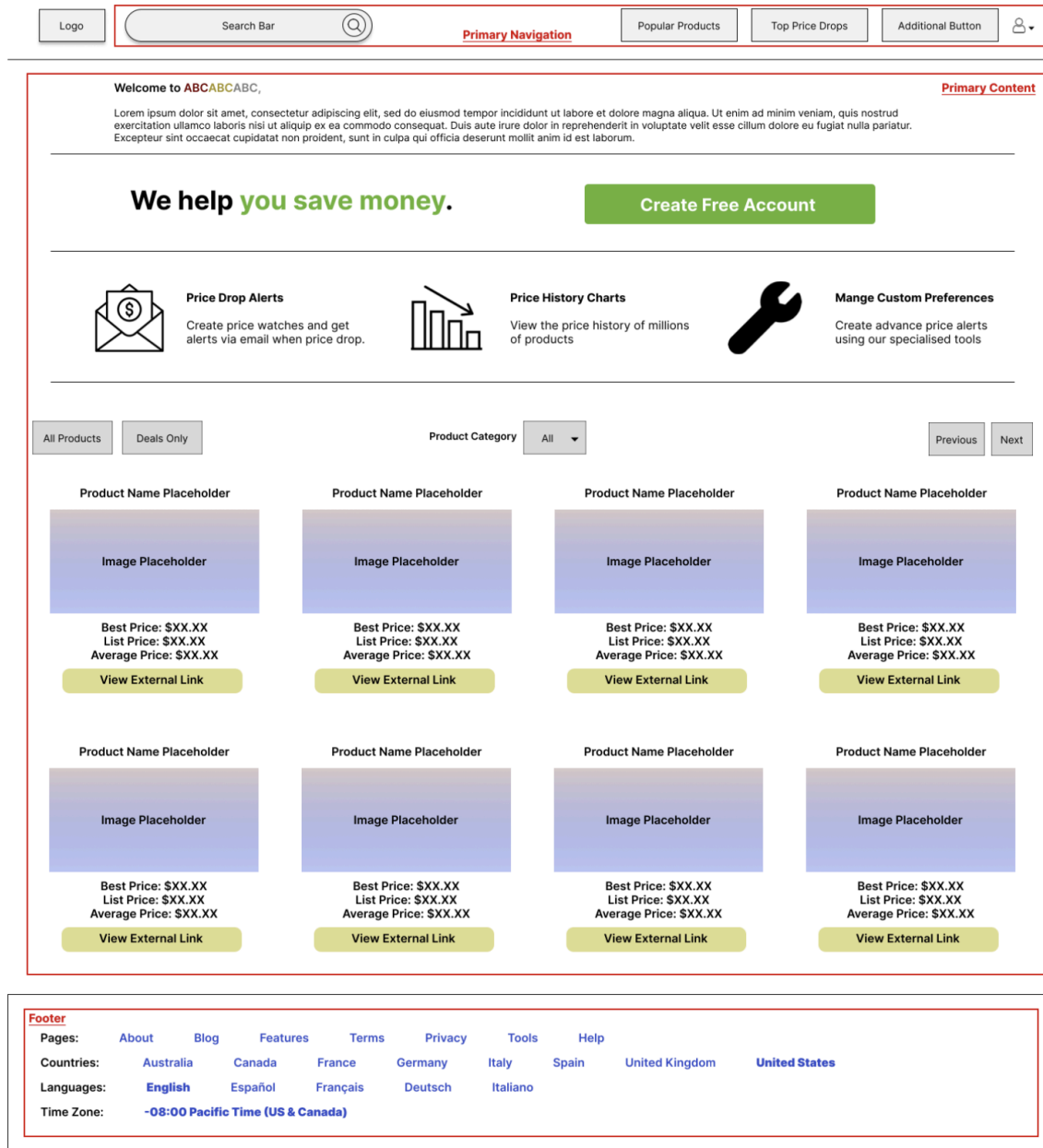
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Introduction

Welcome to the free **Amazon price tracker**, We monitor product prices across various online retailers, and enable users to buy at the best possible prices. This guide will walk you through the primary functionalities of our website.

Initial Design



Site-map and Hierarchy

The main hierarchy is structured around the Home page, which is the central point of entry. Through featured sections like Popular Products and Top Price Drops user engagement is prioritised. Navigation links on the header and footer contribute to the consistency in accessing key sections of the website. User Login and Registration Forms are accessible for account personalization (on the dashboard) and management. Once logged in, users are directed to a personalised User Dashboard, main page to manage tracked products, set price alerts, and adjust account settings. Footer links (About, Contact, Terms and Conditions, Privacy Policy, Help) redirect to the appropriate pages which provide additional information about the website and support. This structure emphasises a user-centric design, providing easy navigation and accessibility features along with resources and support.

GitHub Link:

Home:

- Search Bar**
- Popular Products**
- Top Price Drops**
- User Registration/Login**
 - Login Form**
 - Registration Form**
- User Dashboard (Upon Login):**
 - Tracked Products**
 - Price Alerts**
 - Account Settings**

About:

- Information about the Site**
- Mission Statement**

Contact:

- Contact Form**
- Customer Support Information**

Navigation Links:

Header:

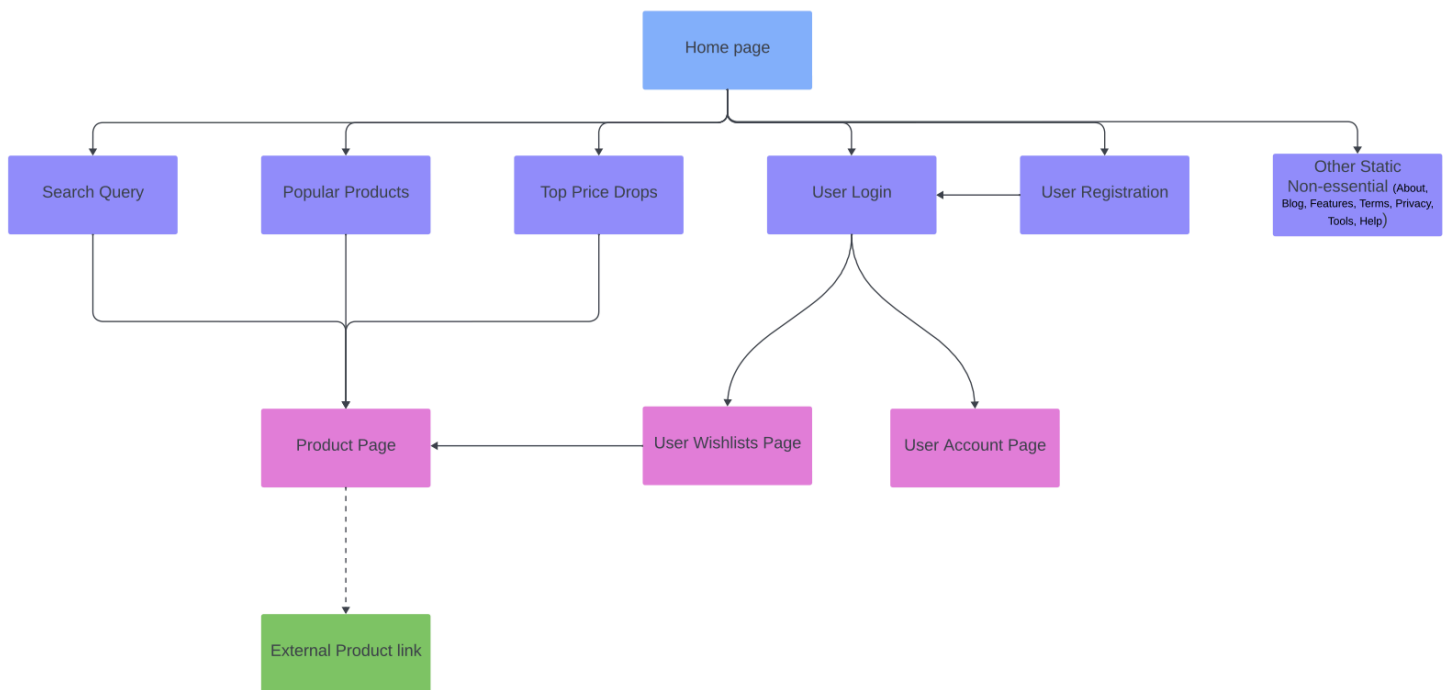
- Brand Logo (links to Home)**
- Popular Products**
- Top Price Drops**
- User Registration/Login**

Footer:

- About**
- Contact**
- Terms**
- Privacy Policy**
- Help**

User Registration/ Authentication:

- Registration Form**
- Login Form**



Developed using Lucid Charts - [COSC360 Sitemap Document](#)

Getting Started

Note : To access the Price Tracker website, you'll need an internet connection and a compatible web browser. Access to the website is limited to users within the UBCO campus network (ubcosecure) or via VPN to the UBCO VPN endpoint, due to security reasons.

- Accessing the website
 - Connect to UBCO VPN
 - Access <https://cosc360.ok.ubc.ca/santam04/home.php> using your preferred browser
- Browsing the website
 - Search amazon products for deals and product information
 - Using the search bar embedded within the navbar, input any Amazon Canada product URL to perform a search.
 - Sign in
 - Within the navbar we also included a signin/signup feature, simply hover over the profile icon and choose sign in to be redirected to the Sign in page
 - Create a new account
 - Likewise hover over the profile icon and choose “Create Free Account” to be redirected to the Sign up page
 - Popular Products & Price Drop
 - These pages fetch the top deals and products from amazon and present them to the user.
 - Wishlist Items
 - For each product you search, you have the option to save them to your wishlist

Logic Processes and Navigation for Users

Home Page

Purpose: Serve as the entry point, showcasing an overview of site features and guiding the users to major sections

Process: Home page dynamically displays top categories, recent updates, and quick links to popular products, top price drops, and user account management (login/registration). A search bar allows direct product searches. Featured deals or news are showcased to engage users and highlight exciting opportunities.

At the top of every page on the site, you'll find the navigation bar, designed for smooth navigation experience throughout the site. The navigation bar includes:

Home: Click to return to the homepage at any time

Products: Click to explore popular products and categories

Top Price Drops: Click to discover products with significant price reductions

User Login/ Registration: Click to access your personalized account or create a new one

Popular Products Page

Purpose: Spotlight products with high user interest or activity.

Process: Lists products based on popularity metrics, such as views, watchlist additions, or historical price drops. Users can filter products by category, price range, and other relevant criteria. Each product links to its individual page for more details and facilitating more informed purchasing decisions.

Filtering Options: Filter products by category, price range, and other criteria

Information: Click on a product to view detailed information, including but not limited to current price, price history, external product links, user reviews and comments

Top Price Drops Page

Purpose: Showcase products with significant recent price reductions.

Process: Features a list of products sorted by the percentage or absolute value of their price drops within a set timeframe. Users can customise their view using filters, like categories, price ranges, or drop percentages to discover enticing deals and savings opportunities..

User Login Page

Purpose: Allow existing users to access their personalised account securely.

Process: Includes fields for username/email and password, with options to remember the user on the device and to recover forgotten passwords. Users are redirected to their personalised dashboard, upon successful login, for a secure and smooth experience.

User Registration Page

Purpose: Enable new users to create an account.

Process: Collects necessary information (e.g. email, username, password) and preferences. Security measures are implemented with CAPTCHA or email verification. The process guides users through setting up their profiles and preferences (for a more tailored user interaction).

Individual Product Page

Purpose: Provide detailed information about a specific product.

Process: Displays current price, price history graph, external product links (e.g., Amazon), user reviews, and the option to add to the wishlist. Additionally, users may set alerts for price drops or availability changes to better track and manage products of interest.

User Wishlist Page

Purpose: Allow users to manage their list of products of interest effectively.

Process: Users can view, add, or remove products from their wishlist, set price alert thresholds, and view price history. The page offers sorting and filtering functionalities, streamlining the management of products.

User Account Preferences Page

Purpose: Let users customise their experience and manage account settings.

Process: Provides options to change personal information (e.g., email, password), notification preferences for price alerts, and newsletter subscriptions. Additional features may include account deletion or privacy settings, granting users control.

User Login & Registration:

Process:

The registration process collects necessary information (e.g. email, username, password) and preferences to enable new users to create an account with the site. The process guides users through setting up their profiles and preferences (for a more tailored user interaction).

The login process includes fields for username/email and password, with options to remember the user on the device and to recover forgotten passwords, allowing existing users to access their personalised account securely. Users are redirected to their personalised dashboard, upon successful login, for a secure and smooth experience.

Client-side Validation:

The website makes use of JavaScript to ensure login and signup forms are not being submitted with empty fields. Additionally, it performs advanced validation, such as verifying the entered password matches the second confirmation password field. Lastly, JavaScript is used to limit the number of characters possible for the input fields for data integrity.

Login Credentials for Admin User:

Username: user5

Password: password5

Login Credentials for Non-admin User:

Username: user1

Password: password1

Security:

Client-side Security:

All passwords are hashed before storing them on the database, making sure the sensitive information is protected. Login and registration forms employ secure POST methods for data transmission during (login) authentication and registration processes.

Server-side Security:

The website utilizes PHP to operate the backend processes, interacting with the database to retrieve, store, and manipulate the necessary data. Additionally, PHP performs security validation to prevent data breaches and unauthorized access.

When new users register, their information is stored in the database. The stored information include username, email, (hashed) password, name, surname, address, city, state, country, postal code, phone number, date of birth, and profile picture. User information is stored in the database for authentication and personalized experience.

The site maintains user state, meaning logged-in users stay authenticated while they navigate the website, until they log out from their accounts. Usernames are displayed in the header bar upon login.

Data Storage:

The website utilized MySQL for data storage, providing efficient management of users' account information. The access to the server is limited to campus networks (ubcsecure) or via VPN to the UBCO VPN endpoint.

AJAX Integration:

The website incorporates AJAX for personalized experience and dynamic content without needing to reload the full pages, providing real-time updates in regards to the notifications, discussion threads, alerts, reviews, comments, and other dynamic elements. The asynchronicity contributes to reduced serve load and faster loading times.

Profile Management:

The website offers profile management features to the user. Upon registration, users can create their profiles and a profile picture. They can easily update their profile on their dashboard. The users can track their activity, products, and history.

Error Handling:

The website implements error handling (in the case of invalid inputs, unexpected errors, bad navigation, etc.) to ensure smooth user experience. If a user inputs wrong username or password, a warning is displayed alongside the problematic input fields. The website's server-side validation makes sure the data submitted via the forms meet the specified criteria.

Responsive Design & Navigation:

For the overall design of our website, we have drawn inspiration from the minimalistic and modern aesthetic of the Bootstrap website. This decision aligns with our goal of creating a minimalistic, convenient yet visually engaging platform. Our buttons are intentionally coloured to help with the user navigation and interaction and provide a vibrant touch to the overall interface.

We have incorporated a navigation bar at the top of every webpage mirroring the design principles of the Bootstrap website. The navigation bar includes links to the homepage, products, top price drops, and user login and registration. It seamlessly integrates into the Bootstrap framework we chose to use, ensuring a consistent and user-friendly navigation throughout all the webpages. We decided to copy this style from the website and used Bootstrap to implement it. We put the navigation bar at the top of every webpage on our site.

Forms play a significant role in our design and replicate the functions of the website. For this milestone, the login form already performs user input validation, displaying a warning sign. Our development focus will be on implementing the essential backend functionalities for user interactions through these forms (including a server-side authentication mechanism using PHP and creating the user registration process on the server side).

Additionally, we designed the auxiliary pages such as about and contact, adhering to the minimalist approach and providing users with clear and concise information in a visually appealing way. We implemented design elements such as: homepage content, footer, font styles and colour schema. As we progress, we intend to refine such elements, contributing to the overall user experience and setting the foundation for future interactive features of the website.

- Homepage content: engaging content (including a search bar, links to popular products, top price drops, login, and registration to add to the user experience from the first point of entry)

- Footer: relevant links and information for coherent user experience (including the links to auxiliary pages: about, terms, privacy, help)
 - Font styles and colour schema: consistent and visually engaging font styles across all pages and complementing the minimalistic theme with adopting a carefully selected colour schema (featuring coloured accents for buttons and links, white background, black texts along with a responsive layout and overflow property adjusting to different devices)
- The typography prioritises readability, employing the font family (font-family: -apple-system,system-ui,BlinkMacSystemFont,"Segoe UI",Roboto,"Helvetica Neue",Arial,sans-serif) with appropriate font sizes.

Developer's Perspective: Implementation

High-level Overview

- Backend: Implemented using PHP and MySQL for efficient data storage and management
- Security: Client-side and server-side validation and security measures
- Access Control: Limited access to the server for security (UBC campus network or via VPN)
- Dynamic Content: Used AJAX for personalized experience and real-time updates
- Error Handling: Implemented error handling for smooth user experience

Limitations

- Limited access to the server may restrict accessibility for users outside the UBCO network.
- AJAX functionality may not be fully supported on all browsers or devices.
- Error handling may not cover all possible scenarios, leading to unexpected user experiences.

Contributions

- Santam Bhattacharya- Implementation for security, creation Of administrator page, working on maintaining state of the web page, working on hyperlinks and connecting web pages
- Ravil Bigvava - Login and signup pages, creation of home page and website layout, setting up database, code review and merging pull requests.
- Ritvick Khurana - Setting up popular products and top price drops page. Established data scraping connection and implementation with amazon.