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Mahidol University

Faculty of Information and Communication Technology

SKINSITE

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Abstract

The Thai skincare business grows yearly, but limited access to product information reduces its popularity. Many websites focus on international brands, with little to no presence of Thai products. Existing platforms also have usability issues, making it difficult for users to find key information. To address this problem, SkinSite is being developed to improve access to Thai skincare details, enhance trust in product quality, and provide features like product comparison, quality scoring, ingredient warnings, and personalized routine creation.

Objective

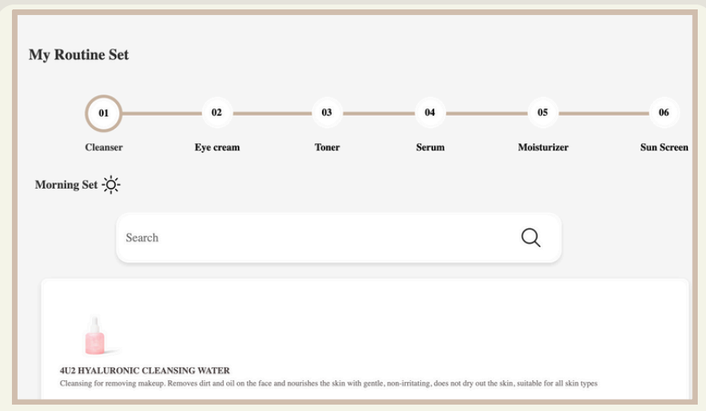
- To develop a Thai skincare brand website to improve accessibility.
- To understand the real problems and needs of users in facial skincare.
- To develop a Thai skincare database for users to find all relevant information in one place.

Scope

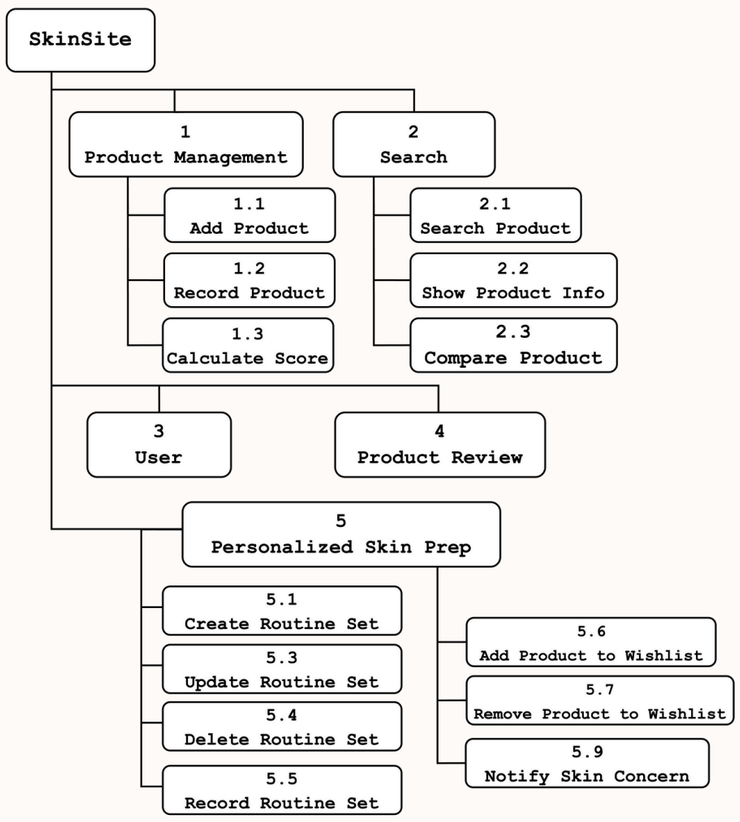
- Thai facial skincare products in convenience store or e-commerce platforms.
- 14 categories and expected 50 Thai brands.

Problem Statement

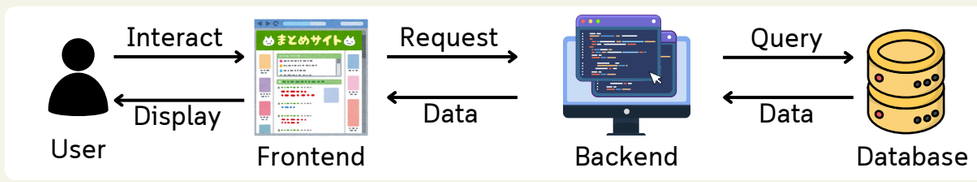
- Thai skincare brands face challenges presenting basic information such as product descriptions, ingredient lists, and pricing.
- This restricted access to comprehensive product details makes it difficult for consumers to search for information and assess the credibility of the products effectively.



Analysis and Design



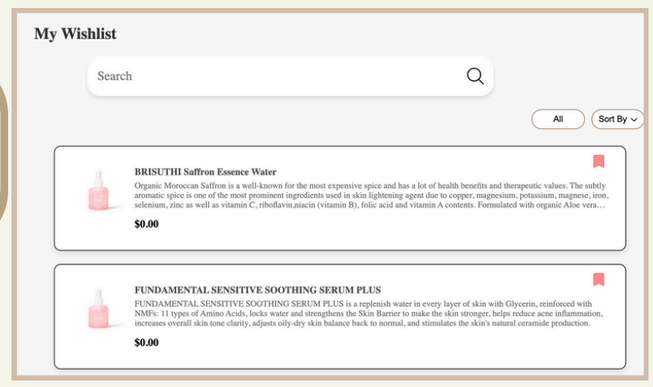
System Architecture

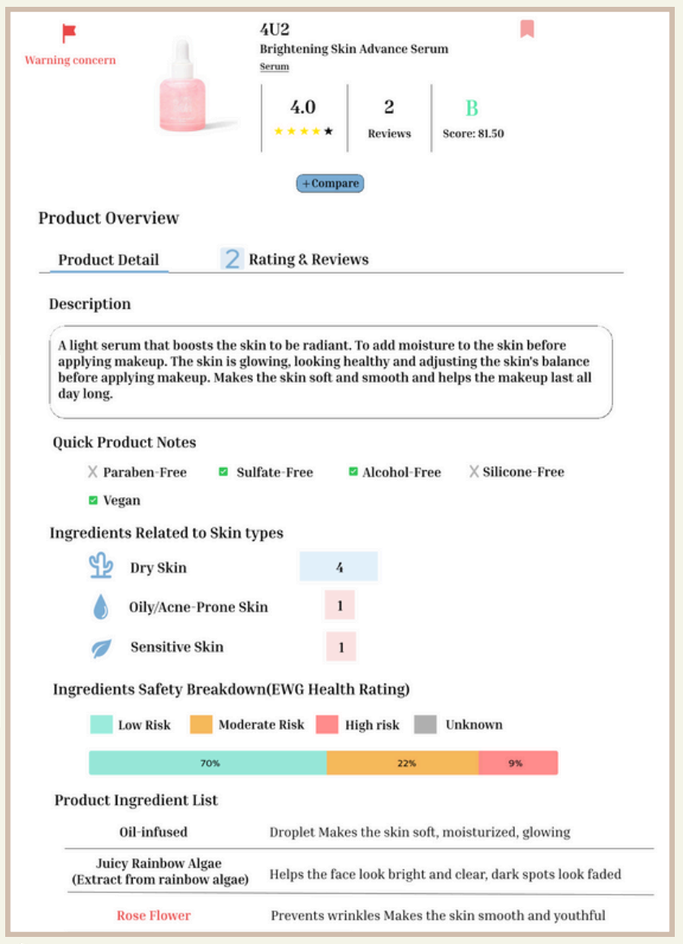


Tools

NEXT.JS, React, MySQL, elasticsearch

Ingredient Score Calculateion





Factor	Description	Weight (%)
Risk (NΣ((Reverse EWG Risk)×10)×0.3) :Reverse EWG Risk = 10−EWG Risk :N ingredients	Ingredients with lower risk scores (1-10) will be reversed (10 = best, 1 = worst).	30%
Safety Safety score = Risk score	Measures how safe the ingredient is overall, based on EWG's classification.	30%
EWG Data Availability (NΣ(Data Availability×10)×0.3) :N ingredients	Indicates how much data availability exists for the ingredient, ensuring transparency.	30%
Matching (Skin Type) (Skin Type Match×10)×0.1) :N ingredients	Measures how well the product matches a user's skin type.	10%
Final score = Risk + Safety + EWG Data Availability + Matching (Skin Type) A is dark green, B is light green, C is yellow, D is orange, and E is red. The calculation of the full score is 100, (A: 81-100, B: 61-80, C: 41-60, D: 21-40, and E: 0-20).		

Skin Type / Ingredient suitable for skin type	Oily	Normal	Dry
Oily	10	5	0
Normal	5	10	5
Dry	0	5	10

Hazard Score

Best — 1 2 Low Hazard | 3 4 5 6 Low Hazard | 7 8 9 10 High Hazard — Worst

Data Availability

Least Data — Normal Limited **Low Availability** | Fair **Moderate Availability** | Good Robust **High Availability** — Most Data

Implementation

Requirement Gathering

- **Survey Period**: October 24 to November 5, 2024
- **Number of participants**: 124 participants

Summary of User Requirement

Problem in Purchasing Thai Facial Skincare Products	Top Features Users Want
Misleading or unclear information.	Powerful and comprehensive search filters.
Non-official product & Lacking quality.	Able to compare product information.
Lack of safety certifications.	See reviews and ratings.

MySQL

We use MySQL to manage data implementation, including Product, User, Ingredient, Skin Type, Category, Brand, Review, Wishlist, Routine Set, and Size.

Example of Score Calculation

Ingredient A: EWG Risk = 2, EWG Data Availability = 7
Ingredient B: EWG Risk = 5, EWG Data Availability = 9
Ingredient C: EWG Risk = 7, EWG Data Availability = 6
Skin Type is **Normal to Oily**

Step to Calculate

1. **Risk Score Contribution**
   - **Reverse EWG Risk**: 10−2 = 8 , 10−5 = 5 , 10−7 = 3
   - **Risk**: (8+5+3)x10 = 160
   - **Weighted**: (160/3) × 0.3 = 16%
2. **Safety Score Contribution**
   - 16%
3. **Data Availability Contribution**
   - **Total score**: (7x10) + (9x10) + (6x10) = 220
   - **Weighted**: (220/3) × 0.3 = 22%
4. **Skin Type Match Contribution**
   - **Weighted**: (5 × 10) x 0.1= 5%

Final Score: **16 + 16 + 22 + 5 = 59%**

Testing/ Evaluation

We plan to conduct testing with 20 users, who will explore the website's features and provide feedback through a survey. The collected data will be analyzed in a Use Case Study, and the insights gained will guide further website improvements.

Conclusion

Our project is a website that provides information about Thai skincare products, including product details, prices, ingredients, and breakdowns of each ingredient. It also features product search, comparison, wishlist creation, and a personalized skincare routine builder. We are currently working on the website interface and integrating the data.

Reference

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- https://www.ewg.org/skindeep/understanding_skin_deep_ratings/
- https://www.ewg.org/skindeep/learn_more/about/