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**Problem Identification**

For those interested in cosmetics and skincare, product options are seemingly endless with new launches occurring daily. Consumers are now able to search product claims, reviews, ingredients and much more. Many people know that certain products cause them irritation in the form of hives, acne, dryness, etc., but they do not know which ingredient(s) in the product is(are) the culprit of this irritation. My aim was to create a software solution to enable users to find out if a particular cosmetic or skincare product contains irritating ingredients. A software solution is the best option for this problem because it allows users to search a product using the product’s name SKU, or ingredients list quickly and easily to determine if a particular product contains ingredients which will cause irritation. Currently, the Environmental Working Group has a search feature which allows users the ability to search one ingredient at a time. Naturally this process can get very tedious, especially if the aim is to search multiple products. The goal and purpose of this software solution is to save the user time and deliver results in an easy to digest fashion.

User searches for and copies the ingredient list, SKU or product name from an outside webpage. User pastes the data into the project webpage. The webpage compares the ingredient list to a list of ingredients that cause skin irritation. If the searched ingredient list does not contain any skin irritants, the webpage will return a message like, “Nice! This product does not contain any ingredients known to cause skin irritation.” If the searched ingredient list does contain skin irritants, the webpage will return the irritating ingredient and the level at which it can be irritating.

**Validation and Justification**

The purpose of unit testing is to

The purpose of integration tests are to

The purpose of end-to-end testing is to