**Final Project Proposal - Open Beauty Facts and Allergen Information**

***Names of students in your group***

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***What is your project concept?***

Basic Idea of this project is to build up a cosmetics visualization website, by looking at ingredients in commonly used cosmetics and make this information available to users. Making information easier to be read, giving people easier methods to compare and contrast cosmetics have not been done in current website and market. It will solve the problems of selection of good cosmetics products from tons of different brands and different products, and make people who want to buy cosmetics products more convenient and help them to save money.

***What will be the goals or purpose of your visualization?***

One of the purposes that our visualization would serve is its ability to help the user determine which products contain common allergens. The data contains allergen tags for each product which would aid in discerning which products actually contain allergens. Additionally, consumers may have a unique predisposition to a certain set of ingredients and would like to search for products that primarily contain those ingredients. For example, some of these products may contain parabens or phthalates which consumers may or may not want to avoid.

Secondly, there is potential to explore cheaper generic products with identical ingredients. Consumers can also determine if a beauty product is a overpriced if key ingredients are missing from product or if the amount of key ingredients is scant. Consumers may also want to avoid products with certain ingredients if those ingredients have been falsely marketed as essential and effective.

In order to achieve this purpose, the interactive visualization will enable filter-based searches that can show products that contain ingredients that belong to specific chemical families, much like the visualization contained within the link from a past project: <http://betterfoodforyou.ddnsfree.com/>. The user will be able to group by Brand (Mabelene, Aveda, etc) or ingredients, compare two or more products to compare the ingredients contain within them, or filter by category (facial cleanser, makeup, lotion, hair, antiperspirants, etc.), among other functionalities.

For each category that the user chooses to filter, the user could find the best brand or product based on chemical sensitivity. This could be achieved since the data contains a Categories\_hierarchy field which denotes the category of the product and for each item. There are tags which detail, for example, whether or not a product has been dermatologically tests, which increases consumer confidence.

***Where will you get your data?***

Open Beauty Facts has an [open-source MongoDB dump](https://world.openbeautyfacts.org/data). We will download this data and process it into JavaScript Object Notation (JSON) before uploading as a document to the School servers our visualization can call. The datasource holds information on more than 8,000 creams, lotions, cosmetics, shampoo, deodorant, and other hygiene products.

Along with this data, Open Beauty Facts also has an experimental API that can be called with a product’s UPC code. This API is JSON-formatted and includes even more information about a product, including the types of allergens contained in the product. Our visualization will allow users to click on a product and bring up data of interest from the API. A sample of the data can be found [here](https://world.openbeautyfacts.org/api/v0/product/3600550578041.json). If at all possible, for a classification of hygiene product, we would like to call the API for all UPCs in that classification and bring back the most hypoallergenic product so the user can make a decision based upon allergens.