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NUTREK PROPOSAL

Working Project Title: Nutrek

Summary of Nutrek:

Nutrek is a site that promotes nutritional health by generating personalized nutritional serving reports or food recommendations based on people's self-reported food intake, dietary needs, or preferences.

Summary of Dataset:

Nutrek generates/calculates all nutritional related reports based on data from The USDA Branded Food Products Database (BFPD). This database is created by a Public-Private Partnership aiming to “enhance public health” and “sharing of open data” of branded foods and private label data. The database includes branded products listed by Nutrient Database Number (NDB) and their corresponding nutritional values, serving size information, and ingredients list. The database is frequently updated as new information is received and processed. Data used in the BFPD download file is current as of July 13, 2018.

| Data Set Records | Information |
|--|---|
| Search terms/Search tool used to find data set | “Food and nutrition facts USDA” |
| URL | https://data.nal.usda.gov/dataset/usda-branded-food-products-database/resource/c929dc84-1516-4ac7-bbb8-c0c191ca8cec |
| Date Downloaded | 10/08/19 |
| Authorship | Publisher: USDA Agricultural Research Services |
| Authors | Pehrsson, Pamela R. Haytowitz, David B. McKillop, Kyle A. Moore, G. Finley, John W. Fukagawa, Naomi K. |
| Time period, geography, and/or scope covered | United States of America |

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| Exact name and data set version | <p>USDA Branded Food Products Database - ASCII csv file, 07/13/2018</p> <p>BFPD_csv_07132018.zip</p> <ul style="list-style-type: none"> ● BFD_Doc.pdf ● Serving_size.csv <ul style="list-style-type: none"> ○ Serving size file ● Products.csv <ul style="list-style-type: none"> ○ Products file ● Nutrients.csv <ul style="list-style-type: none"> ○ Nutrients file ● Derivation_Code_Description.csv <ul style="list-style-type: none"> ○ Derivations Code Description file |
| Location of dataset overview information | https://data.nal.usda.gov/dataset/usda-branded-food-products-database |
| Location of technical documentation | https://data.nal.usda.gov/dataset/usda-branded-food-products-database/resource/ba794c4e-1288-4e63-ae45-8cc50d9cbd52 |
| Data formats | .zip containing .csv files |
| Terms of Use | Data set intended for public use (USDA.gov) |
| Suggested Citation | <p>(original article) Kretser, A., Murphy, D., & Starke-Reed, P. (2017). A partnership for public health: USDA branded food products database. <i>Journal of Food Composition and Analysis</i>, 64, 10-12. https://doi.org/10.1016/j.jfca.2017.07.019</p> <p>(dataset) Pehrsson, Pamela R.; Haytowitz, David B.; McKillop, Kyle A.; Moore, G.; Finley, John W.; Fukagawa, Naomi K. (2018) USDA Branded Food Products Database . USDA Agricultural Research Service https://data.nal.usda.gov/dataset/usda-branded-food-products-database</p> |

Audience and Goals

Anyone with an interest in health and nutrition is a potential user of this site; however, Nutrek may be most useful for those with strict dietary needs (i.e. vegetarians or athletes), health conditions (i.e. diabetics, pregnant women, surgery patients) or specific food allergies. Users self-report the foods they eat in a detailed, interactive survey with easier ways of reporting food portions (i.e. pictures of food covering fraction of plate instead of entering exact numeric amount of food). Then, Nutrek puts comprehensive nutritional-related data right at user's fingertips based on their self-reported dietary habits and needs. Users can use their personalized reports to educate themselves on their current nutritional intake and take steps to improve their diet.

Our main goals for this website are to help people find a personalized, balanced and healthy diet. In addition, we aim to provide assistance to those who have dietary restrictions or needs, and display detailed information about calories, proteins, vitamins, and more in the patented foods they eat to enhance their overall health and awareness.

Lists of Requirements

In terms of functional requirements, for those with specific food allergies, the website will display lists of ingredients in common US branded foods and meals. Nutrek also provides information on foods that are rich in the specific nutrient(s) such as vitamins and minerals for people who have different nutritional deficiencies. For users with health conditions related to poor nutrition, the webpage can offer food recommendations that fit each individual need. For example, type 2 diabetes would receive a report of foods higher in protein and lower in sugar and fats. In addition, Nutrek reports the specific nutritional breakdown (vitamins, minerals, and even specific ingredients) that is present in each serving of their favorite foods. Finally, people following strict diets, such as athletes, the website generates reports of food higher in protein or with lower fat/lipid content depending on whether they want to increase or decrease weight and based on their current diet.

As for non-functional requirements, all information collected on the user will be stored anonymously to protect user privacy, and no login will be required to generate a nutrition report. In terms of web accessibility, the site will have various tools to serve a more widespread audience. For example, food reports and surveys will be available for users utilizing screen readers and other accessibility tools. Additionally, images of food in the interactive user survey will account for conditions such as color blindness.

Collaboration Plan

| Contributor | Roles/Responsibilities |
|-------------|------------------------|
|-------------|------------------------|

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|------------------------|--|
| Aishee Mukherji | Working with the data on the backend and front end, data manipulation and database development, utilizing data to calculate and generate reports based on user needs, designing interactive user survey (front end). Helps with mediator responsibilities. |
| Eric Odoom | Software development and integration of data with web based platform. Website aesthetic development. Mediator responsibilities using programming to develop a platform for translation of information from user to database. |
| Lydia Chau | Organizing the aesthetics and accessibility of the website visible to audiences. |

Team Plan: We will constantly make sure everyone is present and contributing. If any problems arise, we will make sure they are all openly addressed and resolved. We will set and enforce our own deadlines to ensure all team members are staying on track and the project is moving forward to meet the larger class deadlines. We are willing to be flexible in collaborating on different sections of the application so everyone has a chance to contribute and cultivate a diverse range of web application skills.