Backcountry Food Planner

My backcountry food planner will be a food planning resource for backcountry expeditions. It will allow a user to enter details about an upcoming trip, such as the number of people, the length of the trip, the meals they would like to eat, and the amount of food they plan on eating (like 2lbs per day or 3lbs per day). They could select from pre-made meals or create their own. The program would generate a food packing list with the weight/amount of each food, and the nutrition information for each meal.

I expect all kinds of individual backcountry users would use my site. Thru hikers, mountaineers, researchers ect... I also hope that this will be a useful tool for groups and organizations such as Outward Bound and NOLS.

I plan on using nutrition data, specifically calories, carbohydrates, fat, and protein since this information is relevant and important when planning expeditions. Right now I’m going to use the USDA Food Data central API. <https://fdc.nal.usda.gov/api-guide.html>. It has a search endpoint to retrieve ID’s for types of foods and a food details endpoint that gives detailed nutrition information for that food. The api references four different databases and the format of the information is different for each database. It will take some time for me to familiarize myself with each one and figure out how to get the data I need out. I will also need to do some conversions on amounts, because the nutrition data for most unbranded foods like apples or carrots is per 100g. I also may run into issues selecting the most relevant food id from a search since I found most searches return a lot of results for each food.

Some of my ideas for organizing data: A trip class, that will create a new object for each trip with properties such as length, number of people, number of meals ect.. A meal class that will create meal objects with information such as an ingredient list, two main ingredients, and total weight of the meal. This class could have methods such as get\_weight for a specific ingredient and get\_nutrition\_data for a meal ect...My plan for the user flow would start with the user entering the length of their trip and number of people. They would then be prompted to pick a certain number of meals for breakfaest, lunch, and dinner based on the length of their trip, they could select from premade meals or create their own meal with three ingredients. Once submitted they would get a packing list with ingredients and quantities to pack, as well as a meal plan showing nutritional information for each meal. I’d also like to add functionality to show if meals are vegetarian/vegan/gluten free/fat free.

I’m still deciding on what information would be valuable to store in a database. One idea is to store premade meals in a database. When a user creates a custom meal I could store it in the database and allow other users to choose that meal as well. Another idea is to have users create accounts and save their trips, so they could reference data from previous trips. Although I like the idea of someone being able to use it, without having to create an account. I plan on calculating food amounts based on weight per day, but it would be nice to have an option to calculate based on calories per day since both are important considerations when planning food

I think there are a lot of features I could include and possibly make it too complex and time consuming at first. So, my main objective for now is to allow a user to enter their trip details and return a list of foods with a quantity for each food and a list of meals with nutrition data for each meal.