**Semester Project**

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Proposal: Diet recommendation for individual people. How to eat well and balanced is a problem for a lot people. It takes a lot work to figure out what to eat and how much should we eat. And there are so many diet programs, it’s hard to follow sometimes. So our idea is to based on user’s information and diet preference, give user a reasonable diet recommendation.

Input Parameters: Sex, Age, Weight, Activity Level.

Restriction: vegetarian, vegan, low fat, low carbohydrate, balanced.

Goal: weight loss or gain weight

Output: Total calories: percentage in Protein, Carbohydrate, fat.

Detail about the meal, including what protein and vegetable, how much oil or butter to use.

Have a KB include different food calorie per oz and food type.

Example:

beef is a meat protein, it has 213 calories per 85g, Carbohydrate 0%, protein: 44%, fat 20%.

Kale is a vegetable, it 59 calories per 91g, Carbohydrate: 4%. protein: 5%, fat: 0%.

Olive Oil is a seasoning, it has 119 calories per 13.5g, Carbohydrate 0%, protein: 0%, fat: 21%.

We calculate the normal total calories intake per day based on individual person, based on the diet goal, set a proximate calorie quote.

Then based on the selected diet, set a calorie cap for protein, fat and carbohydrate categories. ( In order to have actual good meal plan, it need to have a more detailed category, for example, each meal will have 1 kind of meat, 2 vegetables and seasoning( this is something like pepper, oil, cream, etc), and the meal type is different based on breakfast, lunch, dinner.)

Use a search tree to find the proximate answer sets. We want to leave some margin since it’s really hard to fine calculate our actual calorie intake.