

CS 316 Milestone 1

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Brief description:

Our application, “Big (Mac) Data”, will be a food point calculator while also doubling as a tracker for what foods the user is eating. With input from the user, specifically food points left and allergies, the calculator will be able to output foods of appropriate cost that will be in line with the allergies they have. Once the user selects the food that they are going to be eating, the application will save this data in order to find out which foods are trending on campus. The user can also see what foods are trending by either choosing a certain location, or certain food type, and then the time scale they want to view. The application will find the foods that are being eaten the most frequently and then return that list in descending order to the user.

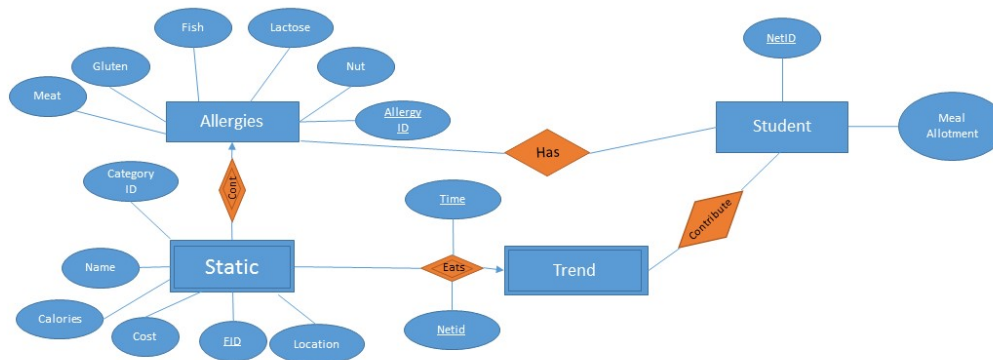
A plan for getting the data:

Our plan for acquiring our dataset is to use the menus of each food establishment to gather pricing and food options for every dish on Duke’s campus. We will then use the provided allergy information on Duke’s Nutrition info page to match up the menu items with the allergens they contain. We will then have to manually enter all of this information into our Food database.

List of assumptions:

- Every person is only entering for their own netid
- Allergens line up with foods and are up to date
- Not taking tax into account
- Meat and fish are not the same
- Establishments are not changing their prices or menus

E/R diagram:



A list of database tables:

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Allergy(allergy_id, gluten_contains, fish_contains, lactose_contains,  
        nut_contains, meat_contains)  
Food(food_id, allergy_id, category_id, name, calories, cost, location)  
Trend(food_id, time, date, netid)  
Student(netid, meal_allotment, gluten_allergy, fish_allergy,  
        lactose_allergy, nut_allergy, meat_allergy)
```

A description of the Web interface:

In order to interact with the web page, users will be presented to a home page that has two sections. The first will be the food selection part of the project and the second part will be the trending aspect of the project. Upon arriving at the home page, the user will see a set of boxes. The first box will be an entry box where the user will be able to enter their food points. They will then also be able to check off any allergies that they have. Once they hit submit, their food points per day will be calculated by dividing the food points they enter by the number of days left in the semester. Then appropriate SQL queries will sort out all of the foods that the person is unable to eat based on allergies. From there a list of foods they can eat will be presented. As of right now the list will only have foods that are less than 1/3 of the total food points per day that was calculated. This is to ensure that the user is able to eat three meals a day. Once we get this aspect of the site working we may include another drop down entry where the user will select the number of meals they want to eat that day. We will also scale the cost of each meal with proportion to average meal cost as opposed to the 1/3 ratios that we are using right now.

The second section of the website will be the trending aspect of it. The trending section will have various drop down entries where the user can choose to sort by location or type of food

and then see which foods are being eaten the most at those places during the timescale that they enter. We will also be keeping track of user's net ids in order to make sure that one person eating the same food at the same place over and over again won't skew the results. Once submit is hit a page showing the foods that are being eaten the most by the various locations or types will be shown in descending order. Once these queries are perfected additional queries can be added easily to show different trends of interest to the user.

