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CART 451 /2 AA - NETWORKED MEDIA STUDIO
FALL 2022
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FINAL PROJECT PROPOSAL - Food Optimization

My Topic

The theme of my project will be Nutrition. To me, nothing is more important than your health and the health of the people you love. Eating properly is key to living a wholesome life even above physical exercise, although they pair together. Furthermore, nutrition fundamentals are relatively easy to understand and apply to your life. All it takes is an understanding of the food groups, a nearby grocery store, and self-discipline. However, few people are aware of what they are consuming and whether they are getting all the nutrients they need. The benefits of a healthy diet are proven to have countless advantages, while the opposite can be said for an unhealthy one.

As my subject is relevant to everyone, there is no limit to my audience. Nevertheless, I would like my users to be people who genuinely wish to improve their eating habits. I imagine my project being software people use regularly to check if their diet is optimal. For instance, the user will input all the food they ate in a day and the program will give them feedback by using recommended daily values.

Two Readings & My Project

Having read both texts, I noticed several points relating to my project. The first text, "A Sea of Data: Apophenia and Pattern (Mis-)Recognition" by Hito Steyer, relates to a key problem my project aims to solve. This problem is the "overabundance" of information. The internet is brimming with conflicting arguments on nutrition. Is red meat good for you? Are vegetables the best food group? Food is a hot topic on the web and trustworthy information is scarce amongst the sea of data. The reality is that nutrition is generally case specific. People have different responses to certain foods. Age, gender, pre-existing conditions, and objectives must also be considered when creating a diet. Therefore, some information about food could be entirely valid when addressing certain groups of people and not others. My project addresses the issue of being objective by entirely basing itself on science. I will compare the diet imputed by the user to the Daily Values (DVs). DVs are the recommended amount of nutrients to consume (or not to exceed) each day. Although they are a great way to base your eating habits, they are a bit too general. Ideally, I would at least allow users to set their profile in order to find their "reference dietary intake" (RDI). The RDI considers gender and age for a more detailed recommendation. Therefore, I would be able to create a more reliable plan for the user.

I will also discuss how the second text relates to my project. "The Point of Collection" by Mimi Onuha underlines the importance of details surrounding the data collection. How was it collected? Why was it collected? What purpose did the collectors have? These are all valid concerns. For example, if the data is collected to justify a pre-existing view, its credibility is questionable. Having acknowledged these concerns, the data I will be working with is entirely objective and free from bias. My data sheet contains thousands of food articles and their nutritional values. I do not know the context of its collection nor anything about the author, but rationally, there cannot be an ulterior motive for collecting these values. These numbers do not enforce any view. I would also doubt that the values are intentionally skewed. Collecting data on food aliments only serves one

purpose: to help people with their diet. Thus, I am confident my dataset is free from the concerns of “The Point of Collection” reading.

Mediums & Data

I will be using multiple mediums to realize my project. As it will be heavily reliant on data, I intend to use the mediums seen in class such as Node.js and MongoDB. My project will be a website, so I will also require HTML, CSS, and JQuery. Concerning data, my main source will be a dataset titled *Nutritional values for common foods and products*. I obtained it from the Kaggle website and it is exactly what I need to realize my project. It contains nutritional values for about 8.8k types of common foods.

Algorithms needed

I will need a few core algorithms to realize my project. The first and most difficult algorithm will be a search function that will let users add food to a list. This search function will have to be able to target any item from my list of thousands of food articles. The only way I envision creating this feature is through the help of a plugin or pre-existing code. I do not wish to reinvent the wheel. The second most difficult algorithm I need to create is the “generate report” function. Once the user has submitted all the food they have eaten for the day, they may generate a report that will give them feedback on their diet. in short, this implies compiling data from all the food they have eaten and comparing it to the daily recommended intake.

Three research projects

I will now introduce three projects that have inspired my project's conception. The first project is the *NutriCalc Plus* software. I first came into contact with NutriCalc in my *BIOL203 - Fundamental Nutrition* class. This software allows one to search for any food in an extensive database and obtain a detailed report on its macronutrients, minerals, and vitamins. In addition, it allows the addition of multiple foods to a list in order to create a complete dietary plan. We used this software to gather all the nutritional information about someone's diet. Then, we compared these values to health standards in order to assess the quality of their diet. The goal for my project is to create software similar to NutriCalc, but much simpler and more accessible. One of the disadvantages of NutriCalc is the fact that it can only be accessed through a paywall. Furthermore, few people know about it. To be precise, only students or professors from McGill or Concordia learn of it. The software is not much of use to society as it stands. My objective is to create a program the average person can use daily. Not only do I intend my software to be free and public, I will make the interface intuitive unlike the complex NutriCalc one.
Link: https://mhedu.force.com/CXG/s/article/NCP

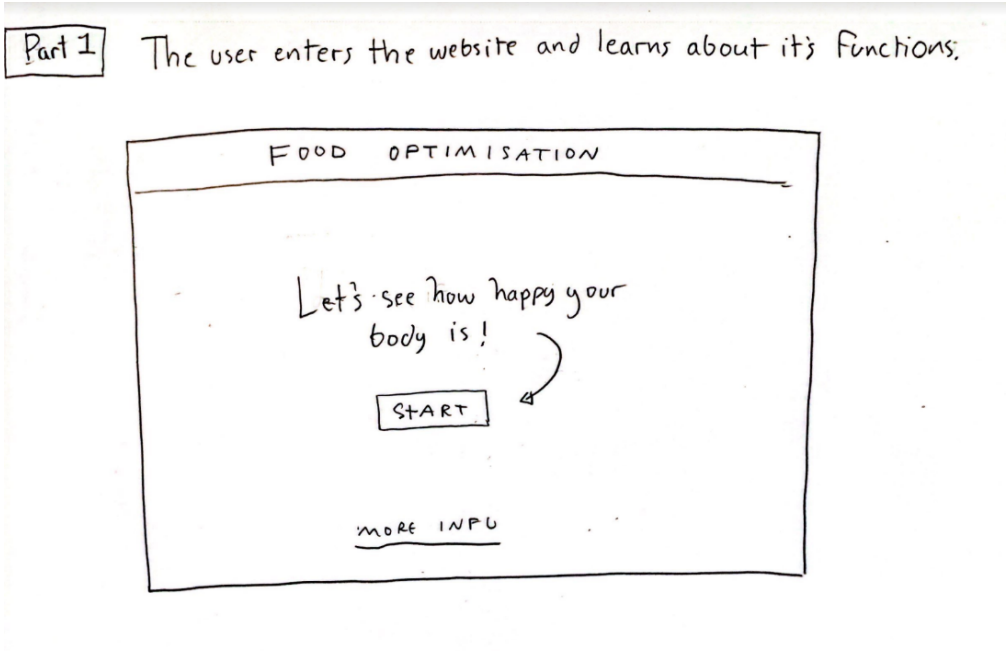
This leads me to the second project that inspired me: *Voila.ca*. Voila calls itself a "cutting-edge online grocery home delivery service." This description includes all you need to know about its functions. I like Voila for its friendly and accessible interface as well as its relevance to my topic (FOOD). Once on their home page, the user immediately understands they are on an online grocery store. How? Various food articles are displayed which immediately makes the users realize the context of their visit. Then, the "Add to cart" is made incredibly obvious. It is nearly the only function on the website. This not only simplifies the user's life but adds the grocery store feeling to the website. Aside from their intuitive home page, their browsing system is also something I will take inspiration from. Finding a specific food article is made simple with their straightforward browsing menu. Everything is divided into sections and

subsections. It takes no more than five seconds to find an item. I would love to implement their “effortless” interface to my project.
Link: https://voila.ca/

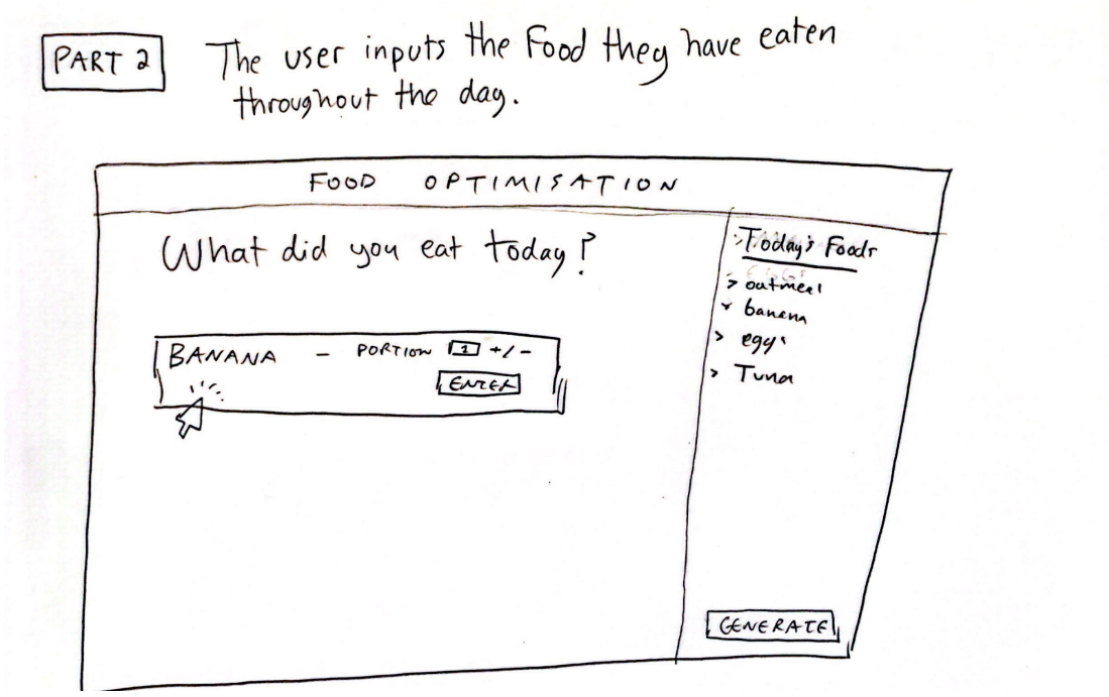
The third and final project that inspired me is the *Canadian Food Guide* (CFG). The CFG is a governmental project seeking to raise awareness of nutrition. What I like the most about it is its accessibility. The popular “food groups” pamphlet is presentable to people of all ages. I even remember obtaining one when I was in elementary soon. In addition, the guide stays updated with the latest news; their website offers daily food articles. Although the CFG is great, my project aims to take it one step further. I want people to use my website to have a detailed understanding of their diet. Not only the food groups they are missing, but the macronutrients, vitamins, and minerals as well. The program will “spoonfeed” the user what they are missing as opposed to having to calculate everything themselves.
Link: https://food-guide.canada.ca/en/

Storyboard

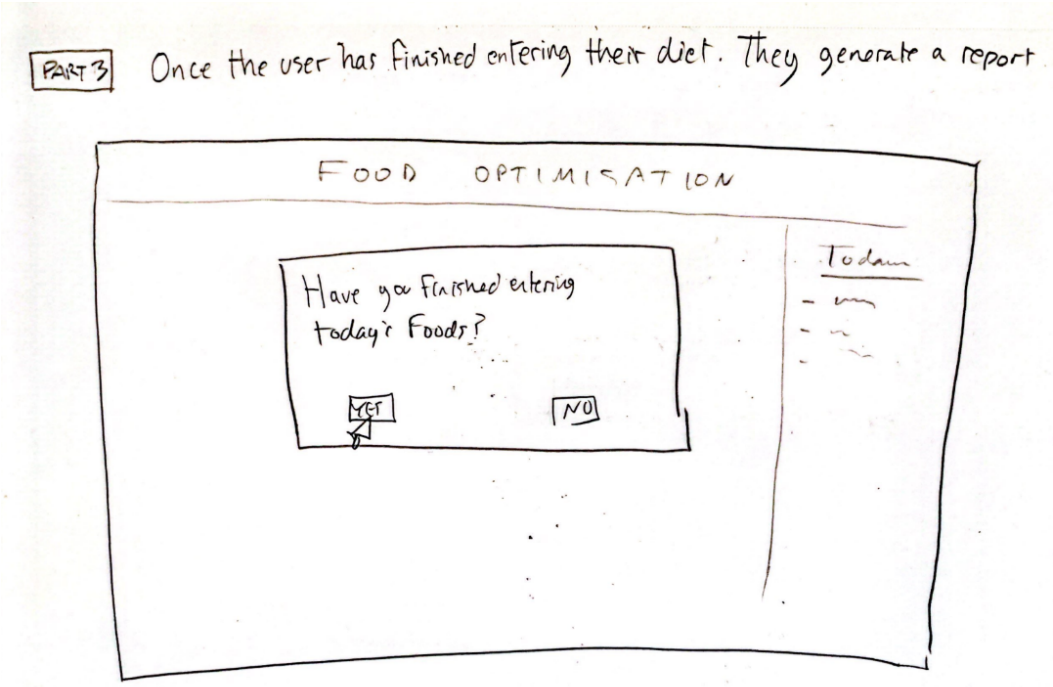
1. The user enters the website and learns about its functions.



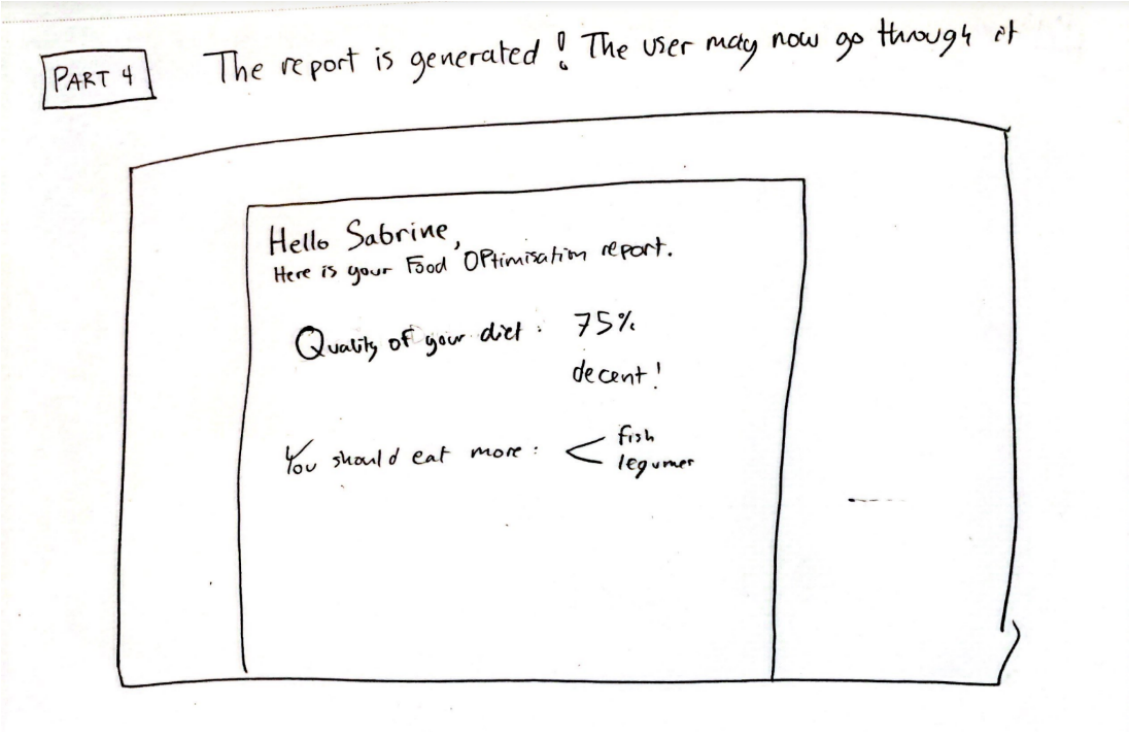
2. The user inputs the food he has eaten throughout the day.



3. Once the user has entered his diet, he generates a report.



4. The report is generated! The user may now go through it.



5. The user may now improve their diet and be more healthy!