Project III Proposal (Draft)

**Project Requirements**

**Proposal**

**Stage -II**

WebApp - NutrOmeter

1. ML-Need to add data into the app
2. ML-Recommend which food items go with a specific item
   1. Identify user diet deficiency
   2. Identify which vitamin is absorbed better with a specific nutrient.
   3. Identify a food that goes together for optimum nutrient absorption
      1. Calcium is absorbed will with vitamin D
3. Provide hospitals with optimum diet for patients.
   1. Add a dietary restriction to the user form. Provide recommendations
4. Provide Schools with optimum diet for students.
5. ML Five year prediction for meal trends
6. ML-Restaurant data-make predications to provide to restaurants on what customers will want.
7. Make prediction for a group of users logged in. based on sample data predictions. User for a school and add meals for their school. Select multiple schools. Have app provide recommendations to include in future meals.
8. Improvements to current app:
   1. Include age group
   2. Include plotting over time
      1. Animated bar graph
      2. Slide bar-daily, weekly, monthly
   3. Bubble chart graph with size depending on how much of a given nutrient.

Stage III feed the world

**Stage -I (Project III)**  
·       WebApp - NutrOmeter  
·       Creation of an individual user account, log the height,weight, gender.  
·       A WebApp to log the food intake of individual users  
·       Calculate the nutrition intake by looking up at the USDA database  
·       Shows daily/weekly/monthly visualization of the nutrients consumed.  
·       Comparison charts for the ideal needs - showing the deficit or excess.  
·       Suggestions for food items in case of deficit of a nutrient  
·       Create a report with the above information**Stage - II**  
·       Calculate a $/calorie for a given diet.   
·       Calculate the Ideal body weight and then return a recommended calorie to reach a goal.   
·       We can then take that $/calorie and apply it to countries/regions suffering from famine.   
·       Our visualizations can show how if an average American can reduce his/her caloric intake that we can feed x # or people.   
·       I think we can feed the world but it would be cool to show that            **Project III RequirementProposal**  
·       Must submit a one-page proposal before starting**Core App**

* Must use HTML
* Must use Flask or FastAPI
* Must use a sci-kit-learn model
* (May use a database)
* (May use R to select models, but final models must be in Python)

**Routes**

* Must have a home route that uses a Jinja template
* Must have a route that takes in user data and returns a prediction
* Must have a route that serves a report of how the ML model(s) was selected
* (May have routes that “collection” data from the user and send it to a database)
* (May have a route that uses Plotly or D3 for visualization in a Jinja template)
* (May have a route that accesses, filters, and serves data from the database as a JSON)
* (May have a route that dynamically filters and displays data to the UI)

**Testing**

* Use Postman with at least one request for each route

**Deployment**

* Must be deployed
* Must use Pipenv

**Repo**

* The repository must have a properly formatted a [README.md](http://readme.md/)
* Code must be formatted with Black and Prettier.js where appropriate
* Must have at least 5 GitHub Issues

**Presentation**

* Prepare a **7**-minute presentation

**Individual**

* Every member must make at least 5 commits that are eventually merged to master
* Every member must write code that solves at least one meaningful Issue

Role assignment is recommended to accomplish specific tasks and delegate responsibilities!Here are some example roles:**Project manager**  
**Lead Developer**  
**Frontend Developer**  
**Backend Developer**  
**Tester Possible Data Sets:**  
**If we go with Healthy Food**[**https://fdc.nal.usda.gov/**](https://fdc.nal.usda.gov/)  
[**https://wwwn.cdc.gov/nchs/nhanes/Default.aspx**](https://wwwn.cdc.gov/nchs/nhanes/Default.aspx)  
[**https://www.who.int/data/gho**](https://www.who.int/data/gho)  
[**https://www.choosemyplate.gov/myplatekitchen/recipes?f%5B0%5D=program%3A128&f%5B1%5D=program%3A140**](https://www.choosemyplate.gov/myplatekitchen/recipes?f%5B0%5D=program%3A128&f%5B1%5D=program%3A140) (edited)

**Project manager**

**Pratima**

**Lead Developer**

**Parul**

**Frontend Developer**

**Randy/Nareman**

**Backend Developer**

**Hongmei/Pratima/Nareman**

**Tester**

**Hongmei/Nareman**

**Possible Data Sets:**

**If we go with Healthy Food**

[**https://fdc.nal.usda.gov/**](https://fdc.nal.usda.gov/)

[**https://wwwn.cdc.gov/nchs/nhanes/Default.aspx**](https://wwwn.cdc.gov/nchs/nhanes/Default.aspx)

[**https://www.who.int/data/gho**](https://www.who.int/data/gho)

[**https://www.choosemyplate.gov/myplatekitchen/recipes?f%5B0%5D=program%3A128&f%5B1%5D=program%3A140**](https://www.choosemyplate.gov/myplatekitchen/recipes?f%5B0%5D=program%3A128&f%5B1%5D=program%3A140)