Project Final Deliverable

1. Project title and description

The True Beauty Filter is a search service project that has additional data analysis. Our project's goal is to provide a solution to the issue of there being uneducated consumers in the cosmetic industry. Many consumers tend to purchase products with very little awareness of the ingredients inside these products or the effects of them. Although products come listed with various ingredients, from the study we conducted it suggest that there is an opening for educating consumers about what they're truly putting on their bodies. Sometimes ingredients used can put consumers' health at risk when they don't look into what the ingredients they are using or the effects of the ingredients long term. Our project helps prevent these outcomes by educating users about these ingredients.

2. Team members and roles

Vivian Thai | Analyst | vthai@terpmail.umd.edu

> *Leads team members in analyzing the problem, breaking it down into sub-problems, identifying system components, creating a description and/or diagram of the components (modules, functions, etc.), and how they fit together. Makes sure that all the code produced by the individual coder fits together. This role especially often draws on the computational thinking strategies (although they all do to some extent)*

Nadia Ndumu | Project Manager | nndumu@terpmail.umd.edu

> *Keeps track of individual task commitments, due dates and status (complete, in-progress, overdue, etc.). Reminds (and sometimes nudges) team members on their tasks. Reports weekly team update. Needs to be organized, a good communicator and willing to "push" people a bit.*

Yao Poudima |Tester | ypoudima@terpmail.umd.edu

> *Determines whether the code meets the requirements. Identifies what parts of the requirements are satisfied, and what parts are not yet satisfied. Makes sure that new code doesn't break old functionality – that the system still works.*

Alicia Afriyie | Tester | aafriyi1@terpmail.umd.edu

Determines whether the code meets the requirements. Identifies what parts of the requirements are satisfied, and what parts are not yet satisfied. Makes sure that new code doesn't break old functionality – that the system still works.

Jessica Castor | Researcher | jessicacastor@gmail.com

Gathers the data or information needed. For example, gets sample data from clients, finds Python functions or modules that do specific functions needed by the team, etc.

3. Summary of accomplishments

With the True Beauty Filter, we have effectively created a project that directly addresses the needs of the average consumer. We created a clear system and program of data analysis in order to establish a strong core of values for the service. The education service is achieved through the main functionality of the project.

The project does achieve our goals, however, there is still room for improvement. Achieving our goals and leaving room for improvement helps the projects stand out as it has implications for future long term usage.

4. Summary of learning

As a team we learned a lot about programming, teamwork, time management, conflict resolution, and team dynamics. Some challenges we faced throughout the project revolved around translating ideas into code and working with each other. Differences in ideas and time restraints put a strain on the progression of our work. Specific roadblocks we faced in the programming process was with class and matplotlib. We had to go back into our resources in order to cater our learned concepts into the project.

A new approach we found for programming is navigating through Jupyter Notebook. Through this project we familiarized ourselves with Jupyter Notebook and were able to strengthen our overall programming skills with large projects.

5. Computational Thinking and Software Engineering Techniques

The computational thinking used during the lifetime of our project was a problem solving process that includes a number of characteristics as well as disposition. We broke down our data into smaller, manageable parts as we observed the pattern, trends and irregularities in our data. We then developed a step-by-step testing instructional process for accessing data from

ingredients and telling the user what the source of the ingredient is. We then visualized the data by graph comparisons to notice a trend by writing a program to sort out the data.

The testing technique used was first identifying the patterns of the problem, we did this by doing a student survey of the students in our information science program. Once we realized the problem, we broke it down into parts of a program in which we extracted data from the consumer first before giving them results. Then we sorted the data into logical groups which were based on the nature of the solution we were working on. We then filtered and prioritized the information about the problem, and outputted this information to the user. This solves the problem by creating consumer awareness about an ingredient inside of their product that they choose to look up. The design technique was done to find possible solutions and identify the strengths and weaknesses of any solution.

6. Next steps

- Incorporate more into the data analysis with user information. Doing this strengthens our service and datasets.
- Expand on the ingredients functionality in order to have a more user integrated system.
- Obtain information from various datasets to expand our database of good and bad ingredients.
- The possibility of user inputting a comma-separated list of ingredients and showing the information and classification (prohibited or not) of each.
- Have the program be implemented through GUI.

7. Extra credit (GUI, GitHub, Web service) Optional

The additional feature we added to our project is GitHub. We had prior experience with it before so implementing it was very simple. Using GitHub helped us in a way where we had to manage the whole program more effectively. It became the initiator for us to set it up for the project submission.

8. Individual contributions

- Vivian Thai: [Did the ingredient filter functionality with the required functions and the “ingredients.csv” dataset. Also I did the matplotlib getting the graphs. Helped with other parts of the program.]
- Yao Poudima:[Did the data analysis and created the notebook’s visuals. Also I did the matplotlib with the pie chart and worldcloud . Helped other members with their part throughout the project, extracting ingredients data with Jessica.]

- Jessica Castor:[Extracted ingredient data from various Datasets to form our own datasets for the database. I helped with concepts of the functions and edited/reworked code.]
- Alicia A:[I did the intro coding, that basically gets the users information and asks them what type of cosmetic product do you use the most.]
- Nadia N:[Attempted to contribute to group ideas.]