

TeaStir

Github link: <https://github.com/NicolasA47/TeaStir>

ENSE 352 Project Report

Nicolas Ansell

200431074

nra862[@uregina.ca](mailto:nra862@uregina.ca)

Yuting Li

200434800

yld020@uregina.ca

Dinesh Dalip

200401946

ddz706@uregina.ca

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Project Idea

When we were deciding what to do with our ENSE 352 Project, we had spent a lot of time brainstorming. We decided to find inspiration from our daily lives so that this software would be able to facilitate people and help them to solve their problems in actual needs. As someone who loves their morning cup of tea, Nicolas had spent his fair share of time browsing through tea websites trying to find something he enjoys, Nicolas was interested in a simple way to go about finding a few teas that he knew he wouldn't be disappointed with, this spawned the idea of TeaStir.

Project Goals

We decided that TeaStir should be a fully functional web-based application that can fulfill the task of giving a list of teas to a user based on their preferences. Due to the strict time constraint that we were given, we had prioritized our functionalities based on their importance. Our primary function is the tea recommendation function.

Besides that, we were also thinking of creating some secondary functions that are socially related. Since TeaStir is a small project that was expected to be done within a semester, we have also carefully analyzed the scope of the project and came up with some reasonable project exclusions. First, TeaStir will not sell any products directly on its website, whereas, when the user gets their recommendation for their perfect cup of tea, there will be a clickable link which will take them to a retailer's website (such as DAVIDsTEA) and that is the place where they can actually buy tea. Secondly, TeaStir will not have an overly complicated built-in social system. TeaStir is always focusing on its core function: tea recommendation. At the time of writing this

project report, we have successfully implemented the tea recommendation function. As a result, TeaStir allows the user to take surveys and return a meaningful result that can help the users to find their perfect cup of tea. Due to the time constraint, we did not implement any social functions into TeaStir, but it was indeed the right move, we decided to focus on the “must-have” part instead of the “nice to have”, therefore, we had spent the rest of the time on project optimization in a bid to create better user experiences.

Team Software Process

The process towards our MVP was Model, View, Control as a divide and conquer. The team had a meeting to talk about the requirements of the coding phase, where we came up with the classes to interact with Model, View, Controller. We chose MVC because it gives the ability to simultaneously develop and evolve the project over time. Since our team was of three members, we divided the MVC of the project. Nicolas had the most knowledge about the front-end from his experience. Therefore he was given the view of the project. Dinesh had the most experience with the back-end due to his previous projects out of all the team members therefore he was in charge of the Model. Yuting was incredibly educated about the controller side of the part. Which led him to be in charge of the interaction of users with the site.

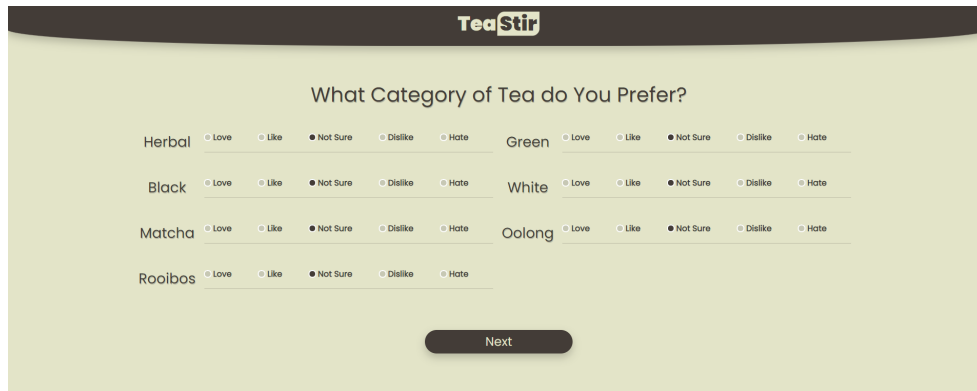
Process Outcome

The outcome of this process indeed was successful, our first iteration of MVP was surprisingly completed in a short time. This same process would also be used for all the iteration

of the MVP where the team comes together and clearly defines variables and classes to interact with each other.

Taking Our Survey

The user starts by clicking the ‘start survey’ button on our landing page, this takes them to the first survey question where they can begin to fill out their preferences based on the tea categories, the subsequent pages are in the same format but for tea flavour, and tea caffeine level. Screenshot provided below.



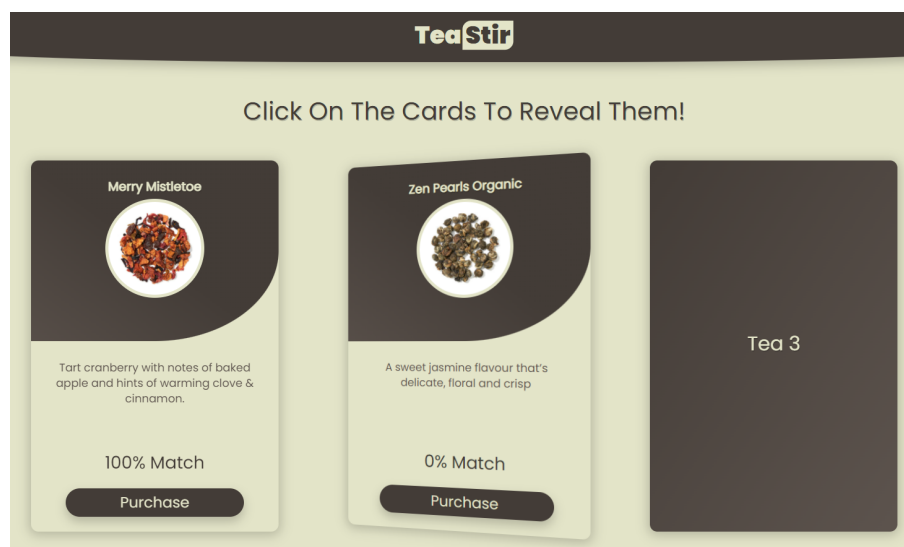
TeaStir

What Category of Tea do You Prefer?

Herbal	<input type="radio"/> Love	<input type="radio"/> Like	<input checked="" type="radio"/> Not Sure	<input type="radio"/> Dislike	<input type="radio"/> Hate	Green	<input type="radio"/> Love	<input type="radio"/> Like	<input checked="" type="radio"/> Not Sure	<input type="radio"/> Dislike	<input type="radio"/> Hate
Black	<input type="radio"/> Love	<input type="radio"/> Like	<input checked="" type="radio"/> Not Sure	<input type="radio"/> Dislike	<input type="radio"/> Hate	White	<input type="radio"/> Love	<input type="radio"/> Like	<input checked="" type="radio"/> Not Sure	<input type="radio"/> Dislike	<input type="radio"/> Hate
Matcha	<input type="radio"/> Love	<input type="radio"/> Like	<input checked="" type="radio"/> Not Sure	<input type="radio"/> Dislike	<input type="radio"/> Hate	Oolong	<input type="radio"/> Love	<input type="radio"/> Like	<input checked="" type="radio"/> Not Sure	<input type="radio"/> Dislike	<input type="radio"/> Hate
Rooibos	<input type="radio"/> Love	<input type="radio"/> Like	<input checked="" type="radio"/> Not Sure	<input type="radio"/> Dislike	<input type="radio"/> Hate						

Next

Once the survey is completed you are directed to the results page where there are animated cards that can be flipped over to reveal your recommended teas, this is done to add a bit of surprise factor to make the user feel like they are opening a present. This can be seen in the following screenshot.



Calculating Similarity Score

The process used to find a user's recommended tea is a fairly simple one, but one that works quite well with a fairly small sample of data. In our current MVP (MVP 1) each tea in our database has three main sections used to create matches with the users preferences. These are category, flavour and caffeine level. When a user fills out the survey they rate every category, flavour and caffeine level on a scale a five point scale that serves as an integer to represent the score of their tea (0-4) The way our algorithm calculates similarity score is by iterating through each tea and finding the matching survey data and its score, this operation can be seen in the figure below and is done for every tea in the database.

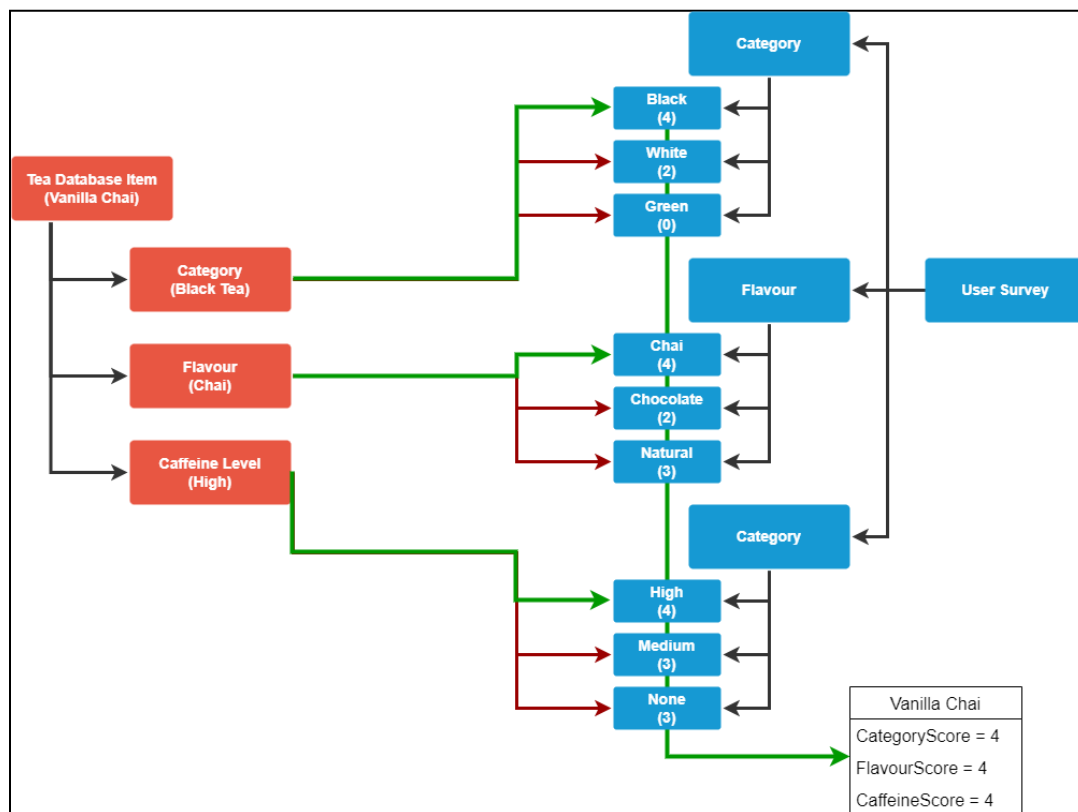


Figure 1

The Algorithm then takes the CategoryScore, FlavourScore, and CaffeineScore and combines them together to create an overall similarity score. You can think of this like a pie chart that can be adjusted in the future if you want more emphasis on flavour for example; the current distribution is outlined in the following chart.

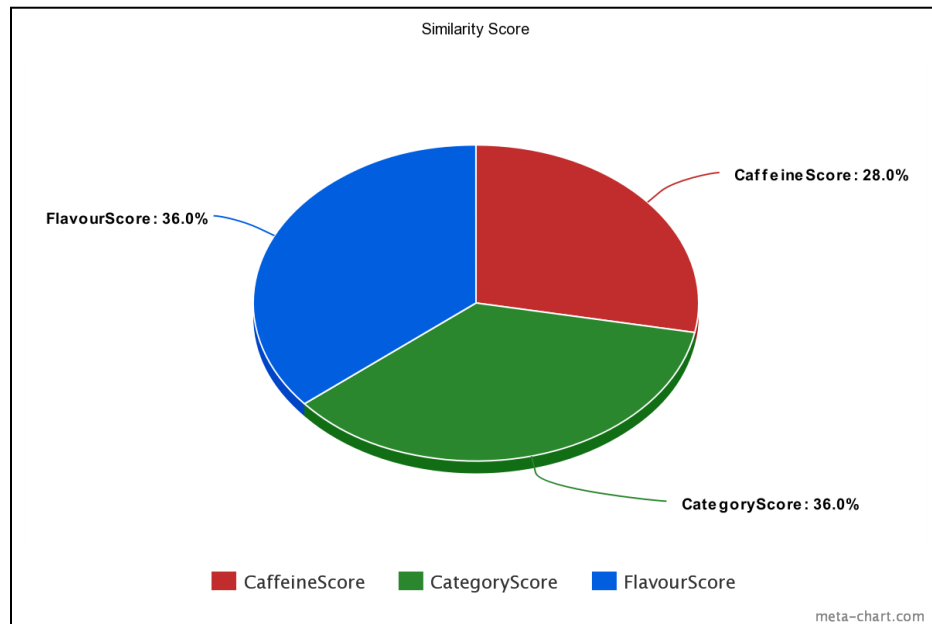


Figure 2

Improvements to Our System

Looking back on the design and the basic schema of our teas in the database there are a few things that could be done to ensure a more detailed result for our users. Currently the data for our flavour is brought in as a single string, this could be modified to be an array of flavours. This would improve our system by allowing each tea to have multiple flavour profiles, this could be accounted for by dividing the flavour 'slice' into multiple sections based on the size of the

array, the primary flavour accounting for the majority of the slice and the following flavours accounting for a smaller portion. This would allow teas like “Vanilla Chai” to be better represented and would fix the issue of users being recommended Vanilla Chai even if they hate vanilla, this is because the tea can only be categorized as chai or vanilla in its flavour profile. Another good change would be to allow the user to choose the weighting of each category so if they care more about flavour then the weighting would be more geared towards the flavour of the tea, this would add another cool visual element as well to help the user understand the working of the algorithm and would break up from the repetitive checkbox type options of the survey

User interactions with MVP(s)

Accomplished MVP use cases:

- Take the survey (1st MVP)
- Choose the Teas (1st MVP)
- Choose Flavours (1st MVP)
- Choose Caffeine level (1st MVP)
- View Recommended teas (1st MVP)
- Read description of the tea (2nd MVP)
- Buy the tea to try out (2nd MVP)

Future MVP use cases:

2nd MVP :

- User Profiles and Sign Up
- Browse Tea List
- Favourite Page

3rd MVP :

- Rate recommended teas on Favorite Page
- Public Profiles for all users and public Profile Database
- Friends System
- Algorithm to suggest new tea's based on their ratings and their friends ratings (your friend Susie matched 98% with this tea, you should try it)

Team Reflections

Overall, we feel like we were successful with our project, and enjoyed having such a large scope and lots of freedom with our project. Lots of other classes make you do a specific web app or tech stack. We would have loved to have more time to spend on the coding portion of our project although we understand that the focus of the class was more on the project management side of things. We feel most proud of the uniqueness of our project and the polished design that we ended up with.

In the future, we would focus more on managing our tasks through our kanban board, not just adding what we did after the fact. We will definitely be using Github moving forward and the kanban board for project tracking remotely and we also enjoyed the tech stack taught to us in the lab and would love to work with it more in the future.

Besides all of that, we have also overcome many difficulties throughout the whole project, the most challenging difficulty was time management and effective team management. On Nov. 16th we were doing the virtual-scrum progress check-in, but when it came to us, we had literally nothing to show, and this reminds us that we were running out of time and we were falling behind the other groups. This had absolutely built a lot of pressure on every one of us. We decided to work parallel on all the “model” “view” and “control” parts of the project in order to keep all of us busy and thereby to accelerate our speed as much as possible. This process was not easy as every single one of us must be able to understand the business logic behind the project, and the interfaces that we were going to create must be usable for other teammates. Therefore, we arranged many group meetings during those weeks and used the documentations created in previous activities as a guide to build our project. The outcome of TeaStir was fruitful, we have not only built a meaningful project but have also learned a lot of team management and software building techniques from one another.

Credit

- https://www.davidstea.com/ca_en/home/