

Find Your Food Project Reflection Report

I. Please list out changes in directions of your project if the final project is different from your original proposal (based on your stage 1 proposal submission).

We followed our project proposal when constructing our application. Our application provides users with the best dining options available on campus using their dietary restrictions. We also added additional features that provide students with the directions to these dining halls based on their mode of transportation and current location. In our original proposal we differentiated dietary preferences (cuisines they want to eat) and restrictions (ingredients they *can't* eat). Our current MVP only accounts for dietary restrictions, and similarly doesn't track the cuisine of menus.

II. Discuss what you think your application achieved or failed to achieve regarding its usefulness.

Our database successfully stores information in an accurate and concise manner. Each student has information about their preferences (restrictions). In addition, every dining hall contains menus that store meals, which store ingredients that correspond to the restrictions of students. Our application allows students to enter, delete, or update information about themselves. The database also contains functionality that matches students to the dining hall that serves meals that accommodate their restrictions. In addition, we also have an extra credit feature that provides students with the directions to these dining halls based on their preferred mode of transportation and current location.

In terms of usefulness, our application contains fixed data - it doesn't accommodate for the daily changing menus and meals provided by the dining halls. Therefore, this application's limitations lie in its exact applicability to students. Rather, it simulates an effective solution for a single day of options.

III. Discuss if you changed the schema or source of the data for your application

We did not change the schema of our application. Our project contains 5 different tables - Students, Dining Halls, Restrictions, Meals, Menus, and Ingredients - that each interact with each other as stated in our proposal. However, we did change our source of data; we generated menu and meal information to mimic the daily menus of the UIUC dining halls.

IV. Discuss what you change to your ER diagram and/or your table implementations. What are some differences between the original design and the final design? Why?

What do you think is a more suitable design?

We didn't make any changes to our original database schemas as detailed in our ER diagrams.

V. Discuss what functionalities you added or removed. Why?

As mentioned previously, our original proposal included the ability for users to input their preferred cuisines, and the dining hall/menu relations would store information about the cuisines they served. We decided to not include this functionality in our MVP for the sake of simplicity. Since it's anyway very similar to matching users to dining halls based on their dietary restrictions, mimicking that logic for cuisine preferences would be an easy feature to add in the future.

We also added the ability to get directions to a desired dining hall right into the app. This would be more useful to a user than picking a dining hall from the site and having to input it into an app like Google Maps separately.

VI. Explain how you think your advanced database programs complement your application.

Our two advanced database queries were one that finds dining halls with similar meals, and one that finds restrictions that apply to at least one student. These queries would be useful to the dining services administration more so than the students. The former would help a dining hall determine whether the menus need to be changed to provide a more diverse range of options to students. The second would be useful if a dining hall was considering removing a meal - knowing which meals are inaccessible to the greatest number of students would help determine that decision.

VII. Each team member should describe one technical challenge that the team encountered. This should be sufficiently detailed such that another future team could use this as helpful advice if they were to start a similar project or where to maintain your project.

One technical challenge we faced was running the trigger and stored procedure commands on our database. Because our database was incredibly extensive and large, the application kept crashing. In an effort to combat this, for the sake of simplicity, we created a smaller database that extracted information from our original database to run the commands on. We also simplified our stored procedure over several iterations to make it more efficient until it could run on our database.

Another technical challenge we faced was collaborating on the GitHub repository that was managed by the course and used SAML single sign-on. Those of us who use SSH to authenticate our machines to our personal GitHub accounts initially had trouble connecting to this repository until we found [this](#) GitHub docs article.

We also had trouble completing the connecting the frontend of the creative component in time for Stage 5, because only one of us was directly working with the GCP dashboard. Thus the backend was functional, but we had trouble testing the connection to the frontend to display the results on the web page. Luckily we were able to get it working for Stage 6.

There were also problems with setting up our project on Google Cloud Platform during the Project Workshop in class. However, we were able to solve this eventually.

VIII. Are there other things that changed comparing the final application with the original proposal?

A few things that are different between the final application and the original proposal is that instead of , we made a smaller database which took in information from the original database, which we used to run our commands on. We changed up the stored procedure to make it more compatible for our database. We also have an added feature which we did not mention in the proposal which is part of our creative component. Upon inputting a current location, a dorm destination of choice, and a mode of travel, our application returns a visual navigation to the dorm, similar to Google Maps. The overall UI design of our application is also different from what was proposed in the original proposal.

IX. Describe future work that you think, other than the interface, that the application can improve on

In regards to future work, our application would be more useful to students if its data was regularly updated with current menus and meals provided in dining halls. This way, students can use the application on a daily basis. A way to solve this problem is to create an interface that allows for dining hall providers themselves to enter in their meals, menus, and ingredients. This end to end solution would connect dining halls and students directly without a third party interference. In addition, we could also provide a more customized database for students that store not only what their restrictions are, but what their preferences are, the dining halls they recently visited, the meals they liked the most in an effort to provide a more accurate suggestion to them.

X. Describe the final division of labor and how well you managed teamwork.

In our project, Keerthana constructed the database and connected it to GCP. In addition, she helped test and run all the code written and demonstrated the functionality of the application in

all the checkpoints. Eesha and Liza worked on various tasks associated with each stage including the user interface, the stored procedure and trigger, the queries, and initial diagram design. Prathamesh worked on developing the extra feature and helped create an advanced query for the team.