

Fitness and Nutrition Buddy Coding Project Summary

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The Fitness and Nutrition Buddy project aims to help people track their nutritional goals while making it easier for them to find restaurants that match their dietary needs around them. It also originally focused on the calorie burn and steps taken throughout the day, but in reference to the prototype created, the nutrition side of the project was the main domain. The project is very similar to the one described and documented in the project description, requirements, design, and project issues documents.

There were two releases for this project that contained the vast majority of its functionality and fulfilled the requirements set out for it. The final prototype of the Fitness and Nutrition Buddy contained all the options listed for it in the project design documents. This included: macros tracking, nutrition tracking, meal plan creation, goal setting, restaurant search, and map display. These options contained the functionality of the application which allows it to present the users with healthy food options and control their dietary and nutritional goals.

The first release of the Fitness and Nutrition Buddy consisted of the extensive GUI for the application and the gathering of data and formation of databases that would be used to create the program's functionality. At this point, the program had basic functionality: the main menu was fully functional and interactive, the macro tracking option and the goal set/change option were fully functional, and the meal plan, nutrition tracking, restaurant search, and map display options were partially functional. The second release of the Fitness and Nutrition Buddy consisted of the full functionality of the app. It would lead the user through creating/signing into their account and present them with the various options. The macros tracking, goal set/change, and nutrition tracking options were all fully integrated to work together in painting a full picture of the user's nutritional intake. The restaurant search and meal plan options worked together to offer the user an easy way to have a healthy diet. The frontend and backend was fully integrated, and the entire app was working as intended.

There are six tests to evaluate the functionality of the application. The Nutrition Tracking Tests tests whether users can track their calorie and nutrition data on a daily basis, including the ability to reset them. The Meal Generation Test assesses whether users can generate custom meal plans based on their calorie goals and dietary restrictions. The Restaurant Search Test and Restaurant Map Test evaluate whether users can search for and display restaurants based on their preferred location. The Change Goal Test tests whether changes made by the user to their nutritional goals are accurately reflected in other features of the application. Finally, the Sign-In/Sign-Up Test verifies whether users are able to sign-in or sign-up to use the application.

The inspection of the application consisted of the analysis and review of several pieces of code by the team. The items reviewed were as follows: the meal plan screen, the restaurant search screen, the signup screen, and the welcome/options screen. These items were reviewed by all members of the team through simulating a new user's use of the app to ensure that it was

appropriate. The results of the inspection allowed the team to make necessary improvements and benefitted the app as a whole.

There are no intercase dependencies for the tests. The input specifications for the tests include integer and string values, and output specifications vary from daily calorie and macronutrient totals to custom meal plans, list of restaurants, and the ability to sign-in or sign-up to the application. The pass/fail criteria for the tests are based on whether the screen is functional and accurate in tracking, generating, displaying, or recording the user's inputs and whether it allows users to sign-in or sign-up to use the application. All six tests were executed on April 9, 2023 by staff members assigned to each test, and all passed their respective pass/fail criteria. No regression testing was performed.

The current situation that can cause issues to our product in the future is how fast restaurants and meals change. We don't have the optimal solution for restaurants to update their meals on our database. The more restaurants we have in the database, the more inaccuracy it will create. One of the possible solutions for the restaurants and meals update issue is creating another feature that allows only restaurants to modify their menus. Another solution for this problem is to allow users to report menu errors. They will all be able to receive rewards for accurate updates. These solutions can help increase the accuracy of the output from the product. The possible features that can be added in the future are connecting to social media, competition and rewards, linked with a map application, and displaying recipes for certain meals. These features are designed to potentially provide a better service for the users.

Our group works well in terms of communication with each other. We were able to keep track of the progress by meeting every week. We brainstormed and broke down problems into small tasks in order to work more efficiently. However, dividing the work among members, in some way, defeats the purpose of collaboration. Furthermore, consistency in coding style for our tasks is also a problem. Everyone has their own coding style which creates a few misunderstandings.