Group 1: Fitness and Nutrition Buddy
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The Fitness and Nutrition Buddy is a mobile application that gives users a variety of healthy, nutritional meals from restaurants of their choice. The program keeps track of the users macro data and helps users to reach their daily nutritional goals by performing macro calculations. These calculations involve counting the amount of calories, proteins, carbs, fats, etc that the user has consumed, calculating the remaining calories, proteins, etc needed, and then matching that data up with different restaurants to create unique meals for the user.

The focus of the application is for users to select a diet plan that works for them, then the app will recommend meal combinations from the restaurants around them at that moment. These meals that are recommended are presented in a list where the user can see what macros each possibility has and they can choose which fits best in their diet plan for the day. Meal data is pulled from various API and menu data and stored on a database for the server to use in calculations of meals. Users can also manually input macros so the counter can stay accurate throughout the day regardless of if they eat the app's recommendations.

The target audience for the Fitness and Nutrition Buddy is anyone who exercises and is conscious of their diet, regardless of the level of exercise and care for diet. Whether someone only runs a few times a week or they are a powerlifter they can fit into the target audience easily. Outside of the target audience is anyone who may want to start being more health conscious, or even just eats at restaurants a lot. Anyone who goes out can benefit from meal recommendations.

Fitness and Nutrition Buddy is expected to launch on both the iOS App Store and the google play store, and be available worldwide with full functionality and language support. Since the app is dealing with health data such as weight, users can also expect their data to be safely secured and backed up regularly.

In terms of clients and stakeholders, the clients plan is to eventually sell the Fitness and Nutrition buddy to a fitness brand. Similar to how Under Armor acquired myFitnessPal, the app would seek purchase from names such as Nike, GymShark, Weight Watchers, GNC and more.

Designwise the app is split into three sections, The food and the calculations that go along with it, the user and the actions they take through the app, and the Server/Database and how it moves the data from the API and menus to the user for calculations. Food and calculations includes the Macro Calculator, Nutrition Info, and Exercise class. These three are responsible for taking in a meal from the server, and calculating how it fits in a user's meal plan, as well as subtracting calories for exercising. User actions include changing any data on their profile, requesting a meal, inputting food and macros, and any other GUI initiated actions. The Server and Database are responsible for the collection of restaurant data, which is then taken from the database by the server, then filtered for the meals that fit the user, then sent to the user by the server.

Testing is done through a system of tests and acceptance tests which cover each aspect of the application. Some of the test areas are: current location functionality, correct meal calculations, performance and time tests, data access tests, GUI responsiveness test, GUI design tests, macro calculation test, offline mode test, and more. Each test is designed to be paired with one or more acceptance tests. This allows for separate tests to overlap on some acceptance criteria which results in tests building off others and regression testing.

In terms of requirements the server and database uptime must be at least 99%, with any maintenance taking place between the hours of 1:00am and 6:00am. This so users experience the least interruptions of service possible. Fitness and Nutrition Buddy also needs to complete a meal request in less than a minute, people are out and about during the use of this app and generally do not want to wait around for more than a few minutes to even get to see what they want to eat. Weekly backups are also mandatory, users are expected to lose weight when using the app and experiencing a major setback can be very discouraging. There is also the responsibility to warn users of any relevant local health data in the area, such as a mask mandate or an e.coli outbreak at certain restaurants.

Future plans for the Fitness and Nutrition Buddy include an addition of a social media aspect. Users could have profiles with progress posts and a feed where people can share their experiences and also have other conversations such as meals that go

well with the diet they are on and more. This addition would change the app from a single user experience to a group/community based experience, which could result in massive growth once a strong user base is established.