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## Nutrition and Fitness tracking with Test and Software Engineers

The role of the software engineer is to identify the components of the application. These include the front-end and back-end components, interface services, server, and database. These help the system work with the scripts from the Test Engineer to work properly so they can appear in the UI of the application. The Front-End component is the user interface which shows the image for all of the scripts and visual representations of the actions like the Login/Sign section, the Dashboard, the Meal Logging Interface, Progress Charts, and Goal Management. Input validation is also essential to the front-end components for the login/signup section the second major component is the Interface services will is the path between front-end and back components and how they can communicate with each other and the server. The services allow for the front to ask for tasks from the database and server so it can send the information back to the user. The third major component is the server component which takes the user's requests, retrieves the data within the database, and sends the information back to the front end to be updated within the UI and dashboard. It is also responsible for the authentication of the user, meal tracking, and progress monitoring. The final major component of Software Engineering is the Database component which stores all persistent data such as user profiles, meal logs, progress tracking goals, and the food database. Without this component, the user would not be able to log in and track their progress because there would be nothing within the system to be tracked. The purpose of the connection between these components is how the structure of the project is created. We can create a UML diagram to help represent the connection between all of the high components to show the key factors of the project. Then, we can import the low-level components to show how they connect to the high-level components. Having a diagram of the project helps speed up the Project life cycle and start working on the software development life cycle. A Food database that contains all information on food items including their average calorie intake per serving, fats, protein, carbs, and more. The user can enter their food items to have an accurate tracking system. There will be a user profile system like their goals, and preferences, and a login system to help keep an accurate preference for oneself. A tracking system that keeps track of the user's stats throughout the day.

With the help of both the Software Engineers and Software Engineers the application can achieve its main purpose which is to provide a nutrition track app that allows the user to have an intuitive experience. With these two roles, the project will be functional, reliable, efficient, and user-friendly for society.