

We have decided to use the 3-tier software architecture for our project, after determining what the user interface would be and how we would utilize the backend as follows:

The presentation tier is the user interface that they see and interact with. It is composed of three main pages: the login page where the user is taken to the Google sign in page, after which if the login is successful, they are taken to the home page where they can view the servers/courses they are in, and have access to their personal calendar as well as a to-do list which are both editable and user-specific. If the user clicks on a server/course icon, they are taken to the third page where they can view the different chatrooms inside of said server, and the actual chat window where they can interact with other users.

The logic tier is represented by the functions that dictate the functionality of the program. The action of signing in happens externally in the Google sign in API, but after that is done, all the actions the user takes correspond to an internal function. Examples of such actions are adding or deleting a server or a chatroom within a server, sending a message to a specific chatroom, or editing the personal to-do list.

The data tier is represented by the different classes we wrote that correspond to the following components: users, servers/courses, chatrooms, and messages. Instances of these classes are created by the functions and stored in our backend server, and deleted as necessary.