**Team H:** NoCom

**Architecture Design:**

For designing the architecture of NoCom we designed a layered architecture. The primary reason for using this architecture is due to the fact that a layered architecture is easy to understand, easy to change, and highly flexible. Having the ability to add and remove key items from each layer will be very useful so we are able to focus on the most important items rather than getting stuck on implementing a feature that is a low priority. This will provide our team with an easy to understand architecture design so we all know what needs to be completed and what is the team's top priority.

**Architecture Design Diagram**:

| **Class** | **Associations** |
| --- | --- |
| **Top Tier:** | NoCom user interface  NoCom interaction with ChatGPT API  Explain codes functionality |
| **Middle Tier:** | Login  Logout  Input context  Input formatting  Create account  Delete account  User/Guest settings  Explain syntax errors  Generate feedback  Save session |
| **Bottom Tier:** | View profile  Edit profile  Change language  Scenarios (Create, Manage, Find, Open)  Adjust explanation detail/scope  Comment  Link to relevant documentation |

**Design Description:**

The architectural pattern consists of three layers: the top, middle, and bottom.

The top tier of the architecture design includes the user interface of NoCom and interaction of our application with the ChatGPT API, specifically how we will be using this API to generate responses for our users so they can understand their code.

The middle layer contains the majority of the functionality of our application. This includes all major components that the application needs in order to function properly such as login, logout, create account, and delete account. This middle tier also contains the settings feature which will contain many of these functionalities such as delete account and change language. This is where we have included the main features of the application which is the part that explains the functionality of the code as well as reports the syntax errors in the code entered by the user.

The bottom tier is where we have put certain features that are necessary for the application but they are not the top priority. This includes allowing users to view and edit their profile. We have put the change language feature in the bottom tier although the settings feature is located in the middle tier the change language feature is low priority which is why it is in the bottom tier. We have put our scenarios feature in this bottom tier as well which is pre-made snippets of code that already contain details on the functionality of the code and the NoCom application will allow the user to create, find, open, and manage these scenarios to better their understanding of the code. The bottom tier also includes the adjust explanation detail/scope feature which will allow the user to define as to what degree they would like the feedback to be this could be in more or less detail than the feedback they previously received on their code.