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System Explanation

The first major software component that we will need to create in order to implement our fish game will be an account creation, registration, and handling service which will store users: username, tournament history, and payment information. Systems like registration can be accessed by users through the game's website. This will be housed in the data layer of the game's architecture

The next major software component will be the game itself. Its purpose is to allow users to play the fish game. This is made up of a game board(made up of tiles), the players, fish, referee. The referee is responsible for assigning turns to users, they are also responsible for assuring that players can only act in their turn and adhere to player protocol. These components are part of our game's domain layer in our game's architecture.

The third major system is responsible for displaying the game to users. For this we will utilize a gui library, such as, PyQt. This will be located in the presentation layer of our game's architecture. This view can be displayed to the client on a user's computer or on the website. The view will draw the game board tiles, fish objects, and player representations. It will update the positions of each of these components after each turn a player takes.

The fourth system is responsible for handling the interactions between a player and the game. One way a player's bot may communicate with the program is by sending JSON data to the program, containing the list of legal moves it wishes to make. This system comprises the Domain layer in our game's architecture .

We also need a system that allows users and the game servers to communicate. A user must send their bot to the server. The server in turn sends the state of the game to the user's computer, where it will be drawn by the GUI library. This communication can take place over a TCP connection, which can be created using python's socket library or netcat. This will be housed in our game's presentation layer.

Finally, our users account and payment information on a database and the passwords will be hash for the users security. Account and payment information storage for users will be located in the data layer of the game's architecture.