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Week 4 Assignment 4 Journal

**Client-Server Pattern:**

The client-server pattern can be used to satisfy software requirements and effectively solve problems due to the way the pattern is designed. The problem in this case is having the web-based game application able to run on multiple operating platforms. Having the server host most of the program (the game part) allows for all platform versions to access assets. It allows the client side to focus on the functionality to be to access and send information to the server.

**Server Side:**

The REST API’s communication with the server using a few core principles. The first principle is that the server has a uniform interface. There are constraints that help achieve a uniform interface. The interface must recognize each resource that is in the interaction between the client and server. The resources need to have uniform representations in the response of the server. Resources must come with instructions for the server to process. The program must have statelessness. This means that each request from the client to the server contains all the information to be able to understand and complete the request. A response should implicitly or clearly label itself as cacheable.

Resources are crucial for server operations. REST uses resource identifiers so the server can recognize and use the resources. Resource representations comprise of data itself, the metadata which is the description of the data, and the hypermedia links that help the clients transition to the next desired state. REST uses resource identifiers to identify each resource that is involved in the communication between the server and client. The data format of a representation is a media type. Media types identify a specification that shows how the representation is to be processed. Resource methods are important for communication between client and server. This is because resource methods are used to do the wanted transition between two states of any resource.

**Client Side:**

The application must have certain functionalities to that the different versions of the application can be used on the website. Once functionality is the ability to be have a unique user ID. The application also must send requests to the server. And the application must receive and take instructions from the server. The client must be able to create a new user account to the database. Letting the user sign in and out of the application would also be a good addition to the application. Account customization would also be nice for the game, as users could change their name is wanted instead of making a new account. The gaming room could be available on Xbox or PS4. Although it would require me to get a pay increase, it would be possible.