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Lab #2

Analyze the following code and explain what is missing. What would you add (be specific) and why?

```
struct sockaddr_in {  
  
    unsigned short sin_family;  
    unsigned short sin_port;  
  
}
```

The `sockaddr_in` struct is used in the creation of a socket to designate the addressing information for the socket. The `sin_family` field designates the type of address that is being used (eg. `AF_INET6`, `AF_INET`, etc.) and the `port` designates the port on the server or client for the connection. In the case of the struct defined above it is missing the ip address that the client or server is using for creating the connection. Further, it would be missing any padding that is required (Stevens, Fenner, & Rudoff., 2004)

If I was redesigning this structure, I would add information to allow for the optional designation of a local port number in the case of a client relationship, this to me would make the function more complete by making sure that it covered all information regarding addressing for the communication. This would also make the socket usable in directing information for ports that you wish to bind. One consideration for this though may be that a flag be added for signifying the direction of the port (sending or receiving).

References

Stevens, W. R., Fenner, B., & Rudoff, A. M. (2004). *Unix network programming* (3rd ed.). Boston, MA: Pearson Education.