

### Problem 1:

I am planning on creating a database that contains the information of a market in a game that I and my friends are currently playing. There are multiple servers to this game and each server has their respective markets. The intention of this database is so the users can easily query and look for items and whether they are currently being sold, out of stock, or potentially in a snapping period (This period is when the stock of the item is low and there are multiple buyers for the items). The reason for this proposal is because the market system that is supported in the game contains no query information and you can only search through specific categories and menus as well as being forced to go to a specific location to even view the market. As well as not including a way to look at the potential items being sold in other servers. There is no direct way to search for items as well as items that are not in stock whilst playing the game. This is because you are unable view the market without going directly to an NPC to showcase it. Some items are wearable and these items within the game can be modified by players and depending on the modification, it can potentially change the prices of the items as well as turn into a mini auction. If players sell a rare, modified item, the item will go up on the market for an x amount of time, where multiple people can bid on the item until the timer ends. This can also apply to material/items that are limited in stock and not necessarily unique or modified. Upon ending, the market decides to choose a random bidder from the pool of bidders to obtain the item or said items.

### ER MODEL

