CS 342: Team 4

Section: 12:30 PM

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**Game Being Implemented:**

The game that will be implemented is a four-player free for all fighting game. The game will start when four people connect to the server. Each player will roll a die (tentative) and the player with the highest roll will choose from the items first and it will rotate until everyone has their items.

There will be five (tentative) sets of items to choose from; weapons, usable items, helmets, chest armor, and leg armor. All items will be able to be chosen any time during the choosing of items, but each player may only choose one of each item. The items will decide the stats of each player; strength and armor.

After all items have been chosen by the players the fighting rounds will occur. Each round each player may choose from a set of moves; attack a player, defend themselves or use their usable item. Strength of the attack will be based on the weapon the attacker has and the damage taken will be based on the strength of the attack and the persons defense being attacked. Defending will block most incoming damage (tentative) from the first attack, if attacked twice in a round will take damage from the second attack. The rounds will continue until everyone is dead or one player is left alive.

**Languages and Frameworks:**

Node.js will be the language used for project 5. No one in the group has experience using node.js but we would like to gain experience in it and will challenge ourselves by using it on this project. The framework that we may use is Express.js or Socket.IO. A decision will be made as a group when we gain more knowledge on these frameworks through research.

**Client/Server Relationship:**

The client and server will communicate game state knowledge to each other. The server will be told via the client what items were chosen and communicate that to all other clients and then the server will be told what moves the clients are make and will then forward those moves on to the other clients so all clients can be up to date on the state of the game.

**Server GUI:**

The server GUI will be simple and will show the client connected (possibly the user names of these clients). The server might also keep track of the information for each player in the game such as their inventory, stats, and health, and display them on the server GUI.

**Client GUI:**

The client GUI will first have a scene for selecting the items. This scene will have buttons for the items that would become disabled when chosen by a player. After the selecting is over the game will switch to a gameplay screen where the players can fight one another. This scene will show the user’s stats and items as well as some information about the other players. There will be two sets of buttons. One set of buttons will be for the action the user wants to take: attack, defend, or use an item. The second set of buttons will be a selection of opponents for when the action involves another player such as attacking.