MechMania 26 Initial Design Document (MechMania Online)

MechMania 26 is a multiplayer RPG. Each bot controls a persistent character in a fantasy world that battles foes and completes quests to level up and acquire equipment. The most lucrative quests and the best equipment can only be found in a multiplayer area where characters can attack each other. The world will persist for the entire competition.

Win conditions:

1. Last three characters left alive in the endgame are winners
2. If two or more characters are killed at the same time, higher kill count is used to break ties
3. If kill count is tied, lower death count is used to break ties
4. If death count is tied, gold total is used to break ties
5. If gold total is tied, level is used to break ties
6. If level is tied, score is used to break ties
7. If level is tied, program size is used to break ties
8. Shit man I dunno buy more prizes if you get this far I guess

Consider: multiple very different win conditions

Loot

Loot and rewards in the single player area are static and predictable. Completing quests awards a known amount of gold and experience points. Gold can be spent on new equipment in a shop.

Loot in the multiplayer area are generated randomly. When a new quest spawns, its reward is generated randomly.

Examples of Item effects

* Increase speed by x
* Reduce carried weight by x
* Increase magic/physical damage dealt by x
* Reduce magic/physical damage taken by x
* Restore x hit points at the end of every turn

Quest Spawns

A quest has two components: the monster that must be defeated to complete the quest, and the reward for completing the quest (experience, gold, and equipment). The experience reward is divided evenly between all the characters who damaged the monster, while the gold and equipment is dropped on the ground where the monster was defeated.

Starter Kits

Robust starter kits are crucial for a game with this level of complexity. Pathfinding, navigating to quests, and basic combat should be included. The basic AI should identify a quest in the starting area, move to it, and complete it. When it has enough gold, it should go to the shop and upgrade its equipment. When it is low on health, it should go heal.

Map

There are two general zones in the map: the single player (SP) zone and the multiplayer (MP) zone. Each bot has its own instance of the SP zone. Characters cannot view or enter another character’s SP zone. SP contains quests, a shop that sells equipment, and an inn that can be visited to heal.

There is a single instance of the MP zone that any character can enter from their SP zone. Each SP zone has multiple entrances to MP in the form of portals that lead to different locations in the MP zone. This allows characters to avoid foes or faster travel to specific destinations in MP. All characters have complete vision of the MP zone. Critically, characters can attack each other in MP.

Enemies

Monsters on the map move and attack just like player characters do. Monster AI is simple- a monster will move towards and attempt to attack the player that has dealt the most damage to it. If a player dies, the “damage dealt” counter is reset. In other words, each monster carries an aggro table that maps player IDs to damage dealt and pursues the player with the highest damage dealt.

When a monster is defeated, experience points are divided evenly between each player who had a non-zero value on the monster’s aggro table. Any remainder is discarded, so all of the participating characters will receive the same amount of experience points. The monster’s gold reward is dropped on the ground. Additionally, a reward from the monster’s loot table is dropped on the ground as well.