

SE116 Project: Hero of the Dungeon

1. Introduction

In our Dungeon Hero project we have a hero, townspeople and monsters as stated in the instructions. Our hero can travel between dungeons and corridors. Dungeons are randomly generated from 1 to 16. There are 3 corridors in each dungeon. For each dungeon, each corridor has the same number of rooms. However, some dungeons have 4 rooms in each corridor, while some dungeons have 5 rooms in each corridor. The hero can move from the randomly selected room for each dungeon in the third corridor to the next dungeon. With the same action, the hero can return to the previous dungeon from the room in the first corridor. In addition, there is no room with stairs in the first corridor in the first dungeon, and there is no room with stairs in the third corridor in the last dungeon.

There are townspeople and monsters randomly in each room. Townspeople have to be 1/3 of the monsters in the room based on the document given. In our Hero of the dungeon game, we grouped the townspeople as medic, blacksmith and ordinary people, according to this, the townspeople with the Medic class will be able to die if we save them. Townspeople who are Blacksmiths will be able to present a weapon to our hero by dropping it on the ground. We can only get points from the Ordinary townspeople, but we can also get points from both the medic townspeople and the blacksmith townspeople. This means that every townspeople will earn us points. Your hero will also have an inventory. As mentioned above, there is a monster in each room, and we have assigned a name to each of these mounts to keep the game interesting. Every monster moves to hit us back when we hit it, and when it dies, it explodes and disappears, then blends into the ground. The items in the inventory over the monster fall to the ground, so our hero can get these items. This inventory will act as a bag with a capacity of 60. All clothing and weapons can be carried in the inventory. Each outfit and weapon will have a certain weight and can be worn one by one on the hero. Also, each weapon will have a specific range and value. These weapons can be examined in three groups. These groups will be divided into swords, axes, bows. Separate values were assigned for each weapon group, and each swords, axes, bows group has its own weapon sets. These sets were made for all groups in the form of long sword and short sword etc. Likewise, each outfit will have its own block value, weight, and value. Clothing will also be divided into heavy, medium, light and will have different values, ranges and block value according to the groups they are divided into. value system

On the other hand, at the end of the game, the sum of the values of all the items we have accumulated and put in our inventory will be reflected to us as points. The points of townspeople we rescue from each dungeon will also be added to this Point system. When the game is over, if the player's score is one of the 5 highest scores, the user's score is saved.

2. Components of the Game

2.1 Items

2.1.1 Clothing

We decided to divide it into three classes as clothing. These classes were divided into Heavy , Medium and Light Clothing respectively. All Clothing items have a specific Block value, Value and Weight. Heavy Clothing with a weight of 18 has the highest Blockvalue of 11 and the item value is 15. Medium Clothing with a weight of 13 has the highest value of 17 and 8 blockcoast. Finally, Light Clothing has 8 weights, 13 values, and 5 blockcoasts, the lightest among them. Blockcoast reduces the amount of incoming damage by two percent, so it provides protection by blocking two percent of every single move attack on our hero.

2.1.2 Weapons

When we came to Weapons, we made the following decision: We divided the Weapons into three main groups as Sword, Axe and Bow, and we put three weapons specific to that group in each of these three main groups.

These weapons are Short sword, Long sword and dagger for the Sword group, respectively. It is the Long sword with the highest value, the longest range, the most damage and the most weight among the sword group. The lowest value is the dagger with the shortest range and the least weight.

For the axe group, this situation is as follows, it includes one handed axe, double headed axe and two headed axe, respectively. The highest value is the Double Headed Axe with the longest range, the most damage and the most weight. The lowest value, the shortest range, the lowest damage and the lowest weight are Two handed.

The Bow group, which is the last group of weapons, is also divided into Weapons as Short bow, Longbow, CrossBow. The highest value of these is the Longbow, which has the longest range, the most damage, and the most weight. CrossBow is the one with the lowest value, the shortest range and the lowest weight.

While our hero can actively use one weapon he finds, he can keep the others in his inventory and can change this weapon from his inventory at any time upon his request.

2.1.3 Inventory

Inventory can take all the items that fall on the ground in the game, and allow the inventory clothing and weapons to be carried with the hero. Each Weapon and clothing has its own specific weight and the total weight the hero will carry cannot exceed 60. The capacity of the inventory is 60. The hero can pull clothing and weapons from this inventory at any time and wear them. The hero can add or remove items from the inventory.

2.2 Characters

2.2.1 Hero

Hero is the main character of the game. The user first selects the gender of the hero and names it. Hero starts the game with 15000 hp. When the hero first starts the game, he wears a dagger and light clothing. He loses hp by attacking the monsters. After killing the monster, he can take the weapons and clothing dropped by the monster if he wants. Also he saves townspeople after killing monsters in the room. Townspeople that he saves give the hero different benefits. First, each townspeople gives 5 points to the hero. If townspeople medic gives 200 to 500 hp to the hero. If the townspeople is a blacksmith then he drops his weapon and the hero can take this weapon if he wants.

2.2.2 Monsters

The hero fights the monster. We created 10 monster names. Each monster initially has 100 hp. While fighting the hero, the monster's hp gradually decreases. When the monster's hp reaches 0, he dies and drops the clothings and weapons it has. If the hero wants he can get these clothings and weapons.

2.2.3 Townspeople

Townspeople never attack the hero. Townspeople are waiting to be rescued by the hero. Each saved townspeople adds 5 points to the hero. There are three types of townspeople.

2.2.3.1 Medic

Medics are townspeople. Medics never attack the hero. When Medic is rescued, he gives to the hero between 200-500 hp. Also, each medic gives 5 points to the hero.

2.2.3.2 Blacksmith

Blacksmiths are townspeople. Blacksmiths never attack the hero. When Blacksmith is rescued, he gives the weapon in her inventory to the hero. The hero can take this weapon if the user wants. Also each blacksmith gives 5 points to the hero.

2.2.3.3 Ordinary People

Ordinary people are townspeople. Ordinary people never attack the hero. After being rescued, each ordinary people gives 5 points to the hero.

2.3 Levels

2.3.1 Dungeon

There are 16 dungeons in the game. The further explanation is in the level generation part.

2.3.2 Rooms

In dungeons, there are 3 corridors and each corridor has the same number of rooms. In dungeons, the number of rooms per corridor is randomly chosen as 4 or 5. The further explanation is in the room generation part.

3. Interactions

3.1 Movement

Hero can move between rooms. After going to 12 or 15 rooms then the hero enters a new dungeon. This way the hero can move between 16 dungeons and also can enter 12 or 15 rooms in each dungeon.

3.2 Fighting

The hero can attack monsters. Every time the hero attacks the monster, the monster responds to it. Therefore, the monster attacks the hero even when he dies. The hero initially has 15000 hp and he loses hp each time it attacks the monster. The monster has 100 hp and he also loses hp every time the hero attacks. When the monster's hp reaches 0, he dies and drops his weapons and clothes.

3.3 Rescue

When the hero kills all the monsters in a room, the hero saves the townspeople. If rescued townspeople are blacksmith, it gives any weapon in their inventory to the hero. Hero can take the weapon left by the blacksmith if it wants. Also rescued blacksmith adds 5 points to the hero's score. If the rescued townspeople are medic, it adds 200 to 500 health to the hero and it adds 5 points to the hero's score. if the rescued townspeople are ordinary people, it only adds 5 points to the hero's score.

3.4 Picking up Items

The hero has 60 kg inventory. When each monster dies it drops the weapons and clothings it has. The hero can get any item within weight limits. The hero can also drop an item in her inventory and pick up the item dropped by the monster and the blacksmith. In addition, the hero can also wear clothing in its inventory and pick up the clothings dropped by the monster and the blacksmith

4. Level Generation

Each dungeon denotes each level. The game has a total of 16 dungeons by default. Dungeon count can be changed dynamically from the static variable "dungeonCount" to the integer value contained within the "Dungeon" class. There are 3 corridors inside each dungeon. The number of rooms per corridor in each dungeon is the same. In some dungeons, the number of rooms per corridor is 4, while in some dungeons it is 5. Dungeons are created individually based on the number of dungeons. Doors are added to rooms when creating dungeons. The rooms to be passed through the corridor are randomly selected and an extra door is placed in these rooms. For corridor 1, a random room is selected where the transition from corridor 1 to corridor 2 will take place. For corridor 2, one room to be transferred from corridor 2 to corridor 1 and one room to be transferred from corridor 2 to corridor 3 are randomly selected. In corridor 2, the room that can be entered in corridor 1 and corridor 3 can correspond to the same room or different rooms in corridor 2. For corridor 3, a random room is chosen from corridor 3 for transfer to corridor 2. Additionally, when dungeons are created, the total number of monsters that will be in the dungeon for each dungeon is randomly determined as a multiple of 3 from 9 to 29. The number of townspeople becomes 1/3 of the number of monsters. Townspeople are randomly made up of "Medic", "Blacksmith" or "Ordinary People" types. Each monster and townspeople will equip a random outfit, and a random weapon and outfit will be added to their inventory. Monsters also equip a random weapon. Finally, monsters and townspeople are randomly distributed in the rooms. Dungeons are sorted by the number of monsters. Transitions between dungeons are created by placing stairs in designated rooms. When all monsters in a dungeon are killed, that level is completed. Hero earns points and, if any, rewards and HP from townspeople in the dungeon. Hero can exit or come back from the dungeon at any time. Items dropped in rooms always stay there. Hero can come and take what he wants from them or look at them whenever he wants. The Hero can reach any room in any dungeon by following doors and stairs from any room in any dungeon. The game ends when all dungeons are cleared or the hero dies. If the hero clears all dungeons, he wins the game.

5. Room Generation

There are 3 corridors in each dungeon. The number of rooms per corridor in dungeons is 4 or 5 randomly. There are doors inside the rooms to refer to the rooms. When the doors open, a new room is returned. For each corridor, the rooms at the beginning and end of the corridor normally have only 1 door, and the rooms in the middle have 2 doors opening to the next and previous rooms. An extra door opens to the rooms that can be passed between the corridors. These doors opened to the connecting room of the corridor through which it is passed to the previous corridor. From the first corridors of the dungeons, a stairs placed in a random room and this ladder leads to the previous dungeon. When passing from a sub-dungeon to this