

**OOP Project Part 3**

The community is so excited about the game and requested some additional functionality in order for us to be ready for the version 1.0. Here is the list:

1. Add the ability for the hero to heal. Currently, it doesn’t really matter how strong the hero is, he/she will always die at some point. Your first task is to add health potions to the Shop. The hero should be allowed to buy the potions and use them during or outside of the fight. Make sure that when using the potions, the hero’s health doesn’t go above the maximum health and that you remove the potion after the usage. You can use the suggestions below or come up with your own potions:

|  |  |  |
| --- | --- | --- |
| **Potion** | **Price** | **Health Restored** |
| Health Potion | 5 | 7 |
| Strong Health Potion | 10 | 11 |
| Great Health Potion | 15 | 16 |

1. Once the hero upgrades his/her items in the shop, the old ones are still standing around in the bag and they are of no use. Your second task is to add the ability for the hero to sell items in the shop. Make sure that:
2. You add a resell price to the item that is less than the price. We don’t want the players to exploit the game and become rich.
3. You remove the item from the hero.
4. You add the gold to the hero’s balance.
5. Your third task is to add the ability for the hero to run away from fights. The chance should be random based on the monster’s difficulty. If the hero fails to run away he should get the hit from the monster. You can use the suggestions below or come up with your own system.

|  |  |
| --- | --- |
| **Difficulty** | **Chance** |
| Easy | 50% |
| Medium | 25% |
| Hard | 5% |

1. What is a hero without a shield? Your fourth task is to add the ability for the hero to equip a shield. The shield’s defense should be taken into consideration when calculating the damage that the hero takes when fighting monsters. You can come up with your own items or use the ones below:

|  |  |  |
| --- | --- | --- |
| **Shield** | **Defense** | **Price** |
| Wooden Shield | 3 | 10 |
| Battle Shield | 4 | 12 |
| Dragon Shield | 7 | 15 |

1. Your final task is to add an achievement system for the game. Achievements are goals that can be accomplished while playing the game. We will start with 4 simple achievements but you can come up with more:

|  |  |
| --- | --- |
| **Achievement** | **Points** |
| Killing 1 monster | 1 |
| Killing 3 monsters | 2 |
| Killing 5 different monsters | 3 |
| Killing 10 monsters | 5 |

Every time a hero completes an achievement a message should be displayed on the screen. We also should add a new screen to display the completed achievements that can look like this:

Achievements (TOTAL\_POINTS points):

Achievement Name – Date when it was completed.

Example:

Achievements (3 points):

Killing 1 monster – February 24th at 11:00 am.

Killing 3 monsters – February 24th at 11:05 am.

After you implement all these functionalities the game will be ready to beta test and hopefully we can launch version 1.0! If you still have some extra time here are some ideas for you to think about (**these are optional and will not count towards your grade**):

1. Take a moment to look at the source code that you created, play your game and look what you have accomplished. Once you have done that, reflect on these questions/ideas:
2. Are you happy with the results? Write down a couple of other functionalities that you would like to implement.
3. How easy was to add new functionality? Do you have a lot of duplication on your code base? You can always talk to your instructor to discuss some possible solutions.
4. Try to balance the aspects of your game. Are your monsters too easy to kill? Does buying items justify their improvement? Are the potions overpowered?
5. We heard some players are complaining about only having 5 monsters a day. You might want to introduce new monsters or change how the logic to select monsters work. It is a great opportunity to refactor your code.
6. Have you ever thought about adding a save functionality to your game? It would be so cool allowing a player to come back to the state they left and keep improving their hero.
7. You can introduce some cheat codes! Maybe a hidden menu or some magic words that only developers would know.

**Due date: 28/02/2019 8:45**