Scenario 1: Player Interacting with the Weapon to Fight the Monster

The player named “Donald” enters a room. Donald will ask the Controller to “look around the room”. From here, the Controller will go to the Room class and ask it for a “summary”. The Room class will look at its attributes and see what it has inside. In this case, the Room class will interact with the Monster class and Item class. It turns out that the room has a Dragon and a Sword. The Dragon has a base health value of 20 and a base damage value of 18. The Sword weighs 2 pounds and has a value of 15. The player will need to pick up the Sword to fight the Dragon. This is where the Inventory class comes in. Through the Controller, he will communicate with his Inventory. It turns out that his Inventory can carry up to 4 pounds, and it currently holds 2 keys. Each key weighs 1 pound, so he has 2 pounds available. Since the Sword will not exceed the Inventory weight, the player can add it to his Inventory. The Inventory class and Item class will exchange weights to make sure the math adds up. Now that the Inventory is loaded, we can fight the Dragon. However, the player is notified of an imminent attack from the Dragon via the Controller. Oh no! The player’s left leg looks like a barbequed turkey leg. Through the Controller, the player initiates an attack. The Player class gets his weapons from the Inventory and uses the Item class to fight the Dragon. Basically, they fight until someone wins.

Scenario 2: Player Interacting with a Puzzle

The player is now in a room, and through communication via the Controller, we find out that there is a puzzle. The Player first receives the puzzle description and decides whether it can be solved by using an item or by answering a riddle. If the puzzle requires an item, the Player selects an item from their Inventory. The Controller sends a command to the Engine to check if the chosen item is the correct one to solve the puzzle. If the Player selects the wrong item, the Engine responds with a failure message, and the Player is prompted to choose another item. Once the correct item is chosen, the Controller receives a success message, and the Room's attributes are updated, unlocking movement within the room. If the puzzle involves a riddle, the Player answers the riddle, and the Controller sends the answer to the Engine. Similar to the item-based puzzle, if the answer is incorrect, a failure message is returned, and the Player must try again. Upon providing the correct answer, the Controller receives a success message, and the Room's attributes are updated to allow progress. In either case, the puzzle is solved, and the Player can continue exploring the game world.