Bonus Features

Coins and Coin Pouch

The shop sells wheat, bombs, infinity gauntlet, shotgun ammo and sniper rifles ammo where each of them will have their own price. After the Player is created, a coin pouch is added to the Player's inventory. Since the coin pouch inherits ImmovableItem with canDrop initialised to false, the pouch cannot be dropped by the Player. Every zombie will drop 5-8 coins to the ground when it is killed by the Player. The Player can pick the coins up and keep them in its coin pouch so the coin pouch will essentially store how many coins the Player currently has. The coins are type ImmovableItem with canDrop initialised to true so that it can be dropped by the zombie when the zombie is dead, and prevents other actors from picking it up.

Shop

The shop is created as an object of type immovable item, so it can't be picked up by any actors. When the Player steps on the shop, the Player can choose to interact with the shop via VisitShopAction which will print a submenu that will first print the amount of coins the Player currently has, then lists all the products sold in the shop with their corresponding price. The Player can enter a valid character to choose the item the Player wants to buy, the Player also has the option to leave the shop without buying anything. If the Player has enough money to buy the chosen item, VisitShopAction will deduct the price of the item from the coin pouch and add the item to the Player's inventory.

Helicopter keys

The key which is a PortableItem is instantiated in GameSettings class and the reference is passed to the helipad and stored as a private attribute in the Helipad class. Then the key is randomly put in the inventory of one of the zombies in the compound map. Multiple keys are allowed and they will follow the same procedure as one single key.

Each helipad will have an EnterVehicleAction as its allowable action. Helipad inherits Ground class so the Player can interact with it when the Player is at the location adjacent to the helipad. When the Player chooses to unlock to helicopter, EnterVehicleAction will first check if the Player has the required key or keys in its inventory, if the Player has the required key to unlock the helicopter, it will return a new MoveActorAction in order to move the actor from the actor's current location to the location of the helipad. Since there's a helicopter object on top of the helipad that has MoveActorAction in its allowable actions, the Player now has the option to travel to and from town map. On the other hand, if the Player doesn't have the required keys, the Player can't move to the location of the helipad and will remain on its original location.