Design Rational

Door

4 new classes will be introduced:

1. LockedDoor, which a player can't pass through (extends Ground)
1. UnlockedDoor which a player can pass through (extends Ground
2. UnlockDoorAction (extends Action)
3. Key (extends Item)

The key will be added to enemies inventories and they will drop it upon death. The player can then pick the key up which will add the UnlockDoorAction to their possible actions. Once the Player is next to a LockedDoor and choses to unlock it, it will remove the key from its inventory and transform the LockedDoor into an UnlockedDoor.

The reason behind implementing an unlocked door instead of transforming the Locked Door into a ground object once unlocked is to allow for future functionality such as re-locking a door.

Goon

3 new classes will be created:

1. ShoutBehaviour (extends ActionFactory)
2. ShoutAction (extends Action)
3. Goon (extends Actor)

The goon will have the follow and shout behaviours, the shout behaviour will come first. The reason the shouting functionality to be implemented as an action factory and not a normal action is to allow the ShoutBehaviour to have a 10% chance of returning the shoutAction and a 90% chance of returning null. If it returns null, the game then tries the follow behaviour.

Ninja

4 new classes will be created:

1. Ninja (extends Actor)
2. ThrowBehaviour (extends ActionFactory)
3. ThrowAction (extends Action)
4. StunnedBehavior (extends ActionFactory)

The Ninjas playTurn will consist of calling the ThrowBehavior action factory which will check if the player is at least 5 blocks away. The throwing functionality is implemented as an Action factory for it to return null if player is too far away, leaving a SkipTurn action as the Ninja's only option.

If the player is close enough, the factory will return a Throw Action, which has a 50% chance of adding the stunned behaviour to the player. (if the player already has the stunned behaviour this will be skipped). The throw Action will also create and execute a moveActor action to move the ninja 1 block away and will append the resulting display text to its own display text (eg "The Ninja throws

stun powder which stuns the player for 2 turn, and moves 1 block to the east"). The throw action executing another action is the simplest way to implement an actor performing 2 actions in a turn using the current game engine.

The stunned behaviour is implemented as an actionFactory so that when called it returns a skipturn Action and increase its counter by 1 and remove itself from the player after 2 counts.

Q

5 new classes will be created:

1. Q (extends Actor)
2. TalkAction (extends Action)
3. GivePlansAction (extends Action)
4. Plans (extends Item)
5. RocketBody (extends Item)

Q will be an actor who's only possible move will be to move 1 block away. When the player is next to Q it will be able to chose the TalkAction which will display a message from Q depending on whether the player has the rocket plans or not.

If the player is next to Q and has the plans, It will be able to chose the GivePlans action, which will remove the plans from the players inventory, remove Q from the map and add the RocketBody to the players inventory.

Doctor Maybe

2 new classes will be created:

1. Doctor Maybe (extends Actor)
2. RocketEngine (extends Item)

Doctor Maybe's only allowable move will be to attack the player if it is next to it. Once the Player kills Dr Maybe, he will be removed from the map and a Rocket Engine will be dropped in his place.

Rocket Pad

1 new class will be created:

1. Rocket (extends Item)

The Rocked pad will be an empty room full of walls. the player will be able to drop the engine and body anywhere in the room and both items will be removed and a Rocket will be dropped in the centre of the room.