

Project Phase 2

Kernel Panic



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1.1 Functional Modeling

FUNCTIONAL MODEL

Interact with Friendly NPC Scenario:

1. The player walks towards the NPC
2. A marker is shown above the NPC's head that shows to the player the NPC wants to talk
3. When the player is close enough to the NPC, the player hits a particular key on the keyboard
4. A speech bubble will appear on the screen representing the dialog between the NPC and the Player
5. A marker on the speech bubble will show to the player that there is more dialog
6. The player hits a particular key on the keyboard until dialog is finished.
7. The speech bubble disappears from screen
8. The player walks away from NPC

Interact with Friendly NPC Alternative Scenario:

1. The player walks towards the NPC
2. A marker is shown above the NPC's head that shows to the player the NPC wants to talk
3. The player walks past the NPC without hitting the particular key on the keyboard
No dialog occurs

Interact with Friendly NPC Exception Scenario:

1. The player walks towards the NPC
2. A marker is shown above the NPC's head that shows to the player the NPC wants to talk
3. When the player is close enough to the NPC, the player hits a particular key on the keyboard
4. A speech bubble will appear on the screen representing the dialog between the NPC and the Player
5. A marker on the speech bubble will show to the player that there is more dialog
6. An enemy NPC attacks the player
7. Interaction stops between player and friendly NPC

FUNCTIONAL MODEL

Interact with Enemy NPC Scenario:

Player sees enemy NPC on screen

1. The player runs toward the NPC
 2. Player hits key to use equipped melee weapon
 3. The player hits the NPC with weapon
 4. The NPC's HP is decreased
 5. The NPC hits the player
 6. The player's HP is decreased
 7. The player hits the NPC with weapon
 8. The NPC's HP is decreased
 9. The NPC dies
 10. The NPC disappears
- The player continues playing level

Interact with Enemy NPC Alternative Scenario:

Player sees enemy NPC on screen

1. The player runs toward the NPC
2. Player hits key to use equipped melee weapon
3. The player hits the NPC with weapon
4. The NPC's HP is decreased
5. The NPC hits the player
6. The player's HP is decreased
7. The NPC hits the player
8. The player's HP is decreased
9. The player dies
10. A player life is taken away
11. The level restarts

Interact with Enemy NPC Alternative Scenario:

Player sees enemy NPC on screen

1. The player avoids and runs away from the NPC
- The player continues playing level

FUNCTIONAL MODEL

Collect Item Scenario:

Player sees item

1. Player collides with item
2. The item is placed in inventory

Collect Item Exception Scenario:

Player sees item

1. Player collides with item
The player inventory is full
Player cannot pick up item

FUNCTIONAL MODEL

Use Item Scenario:

1. Player hits key to cycle through inventory
2. Player stops hitting key when desired item is found
3. The player hits key to cause item's effect
4. The item is removed from inventory

Use Item Alternative Scenario:

1. Player hits key to cycle through inventory
2. Player stops hitting key when desired item is found
3. The player hits key to cause item's effect
The item remains in inventory

Use Item Alternative Scenario:

- Player sees item
1. Player collides with item
 2. The item effect takes place immediately

FUNCTIONAL MODEL

Completes Level Scenario:

1. The player kills boss NPC
2. Level Completed displays on screen
3. Player advances to next level

Completes Level Exception Scenario

1. The player kills boss NPC
2. Game Completed displays on screen
3. The game credits roll
The game is completed
4. The game restarts to title screen

FUNCTIONAL MODEL

Fails to Complete Level Scenario:

1. The time left to complete level reaches zero
2. The player dies
3. A player life is lost
4. The player restarts level

Fails to Complete Level Alternative Scenario:

1. An enemy NPC attacks player
2. The player's HP is decreased to zero
3. The player dies
4. A player life is lost
5. The player restarts level

Fails to Complete Level Alternative Scenario:

1. The player, due to the environment's topography, falls out of the boundaries of the level
2. The player dies
3. A player life is lost
4. The player restarts level

Fails to Complete Level Exception Scenario:

1. The player dies
2. A player life is lost
3. Player's life count equals zero
4. The Game Over screen displays
The game is over, and the player must restart the game to try again
5. The game restarts to title screen

FUNCTIONAL MODEL

Controls the Character Scenario:

1. Player hits jump key
2. Player jumps
3. Player hits movement key
4. The player moves
5. Player hits use item key
6. Player uses item

Controls the Character Alternative Scenario:

1. Player hits jump and movement key
2. Player jumps and moves in the same direction as movement
3. Player hits jump and use item keys
4. Player jumps and uses items
5. Player hits move and use item keys
6. Player moves and uses item
7. Player hits move, use item, and jump keys
8. Player moves, uses item and jumps
9. Player hits down and jump keys
10. Player moves to a lower platform

Controls the Character Exception Scenario:

- There is no platform underneath the character
1. Player hits down and jump keys
The player does not move to a lower platform

Controls the Character Exception Scenario:

1. Player hits an unassigned key on the keyboard
Game does nothing

FUNCTIONAL MODEL

Uses Menu Scenario

1. Player hits pause key
2. The gameplay pauses

Uses Menu Alternative Scenario

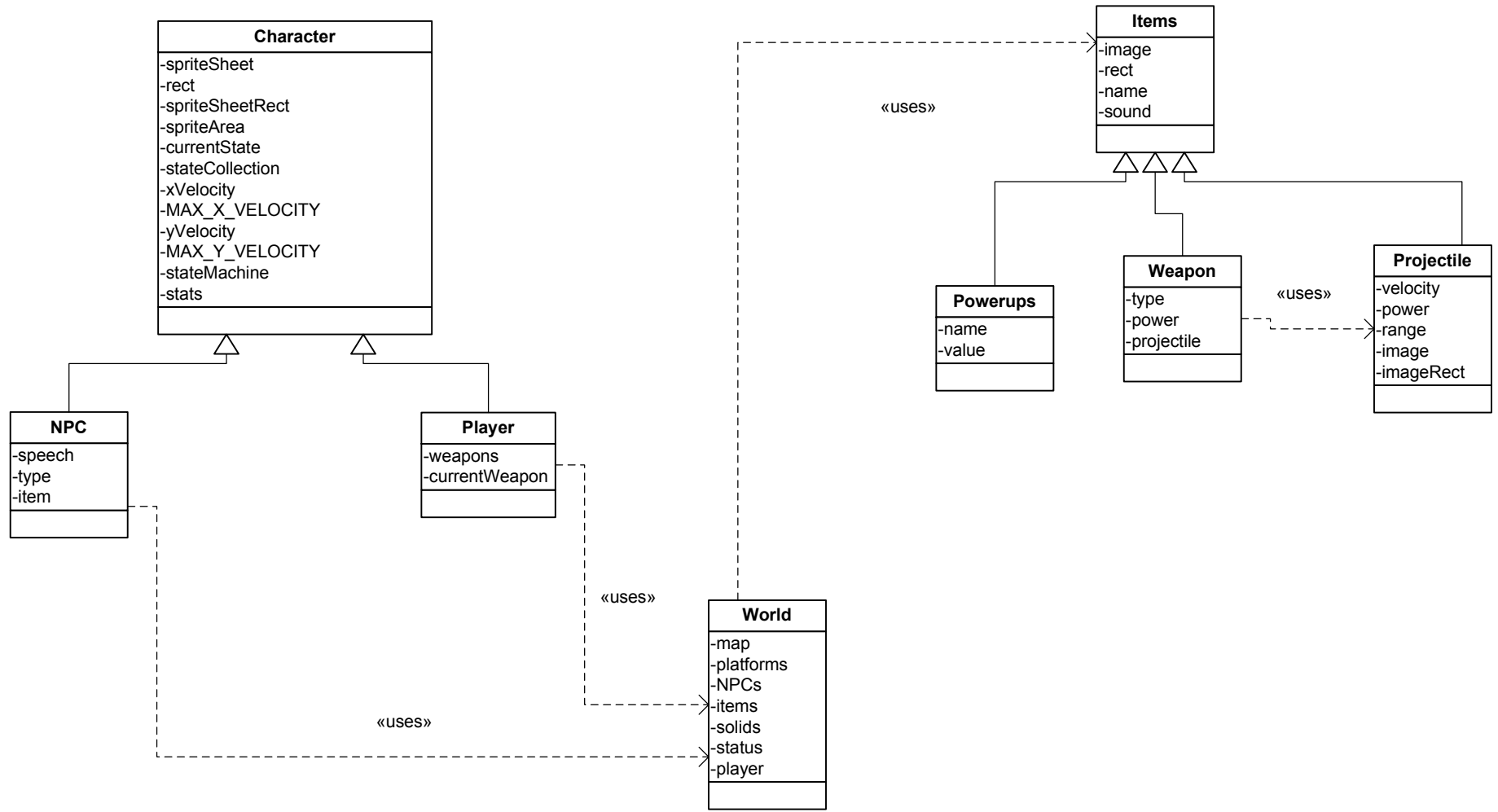
3. The player hits menu button
4. The gameplay pauses
5. Player hits the exit game button
6. The game restarts to title screen

Uses Menu Alternative Scenario

1. The player hits menu button
2. The gameplay pauses
3. The player hits menu button
4. Gameplay resumes

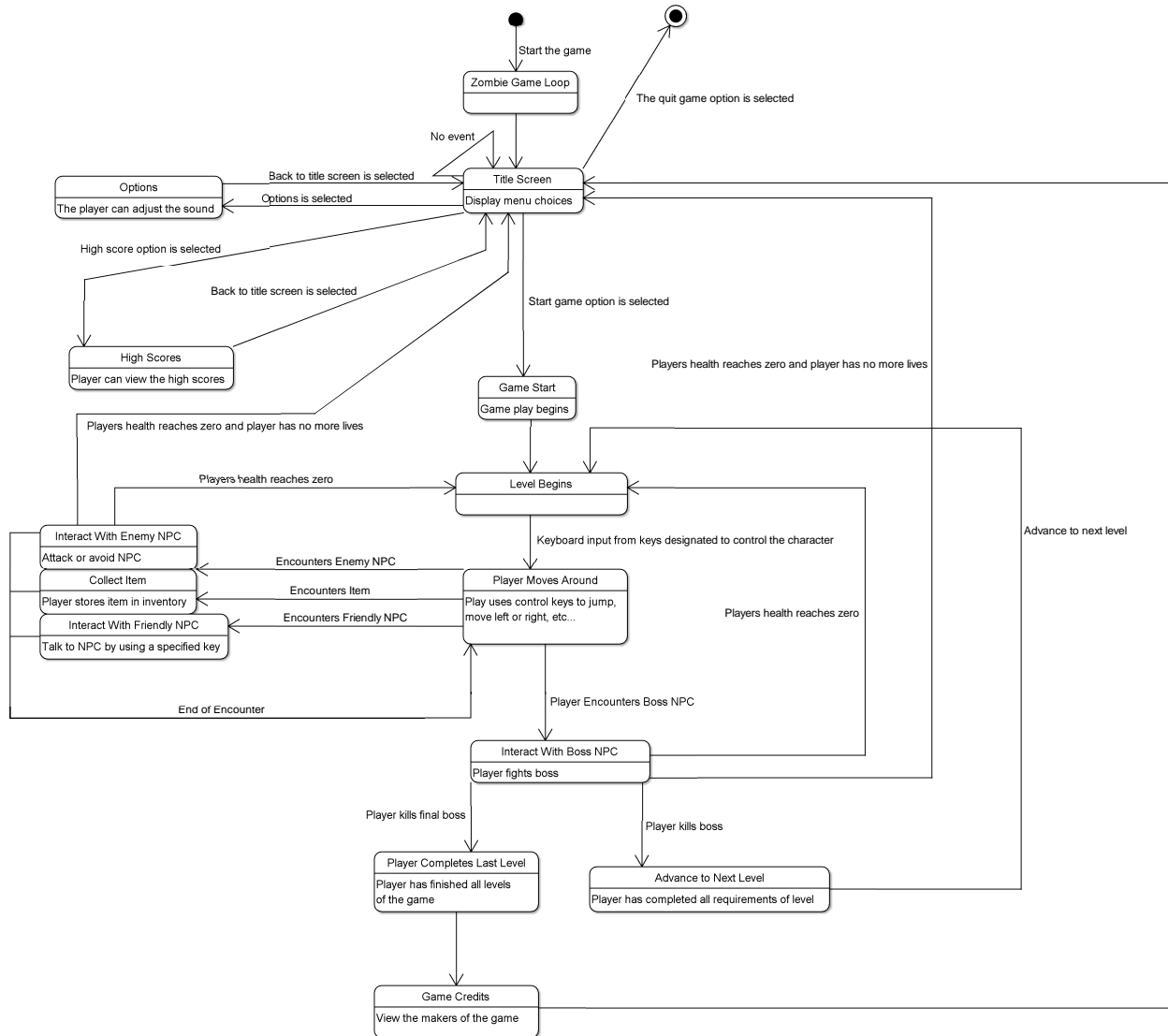
1.2 Entity Class Modeling

Entity Classes



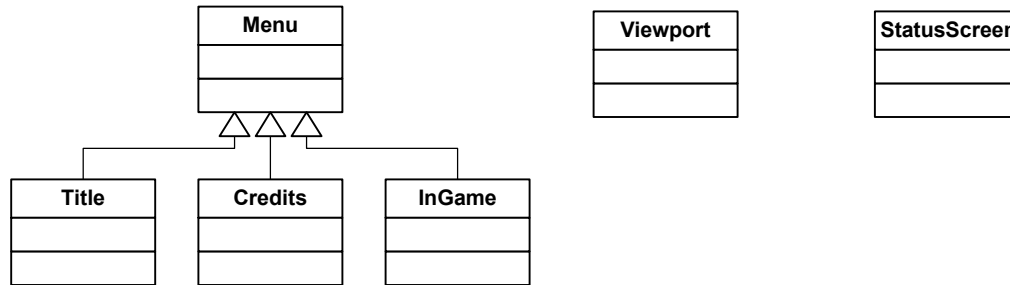
1.3 Dynamic Modeling

Dynamic Model



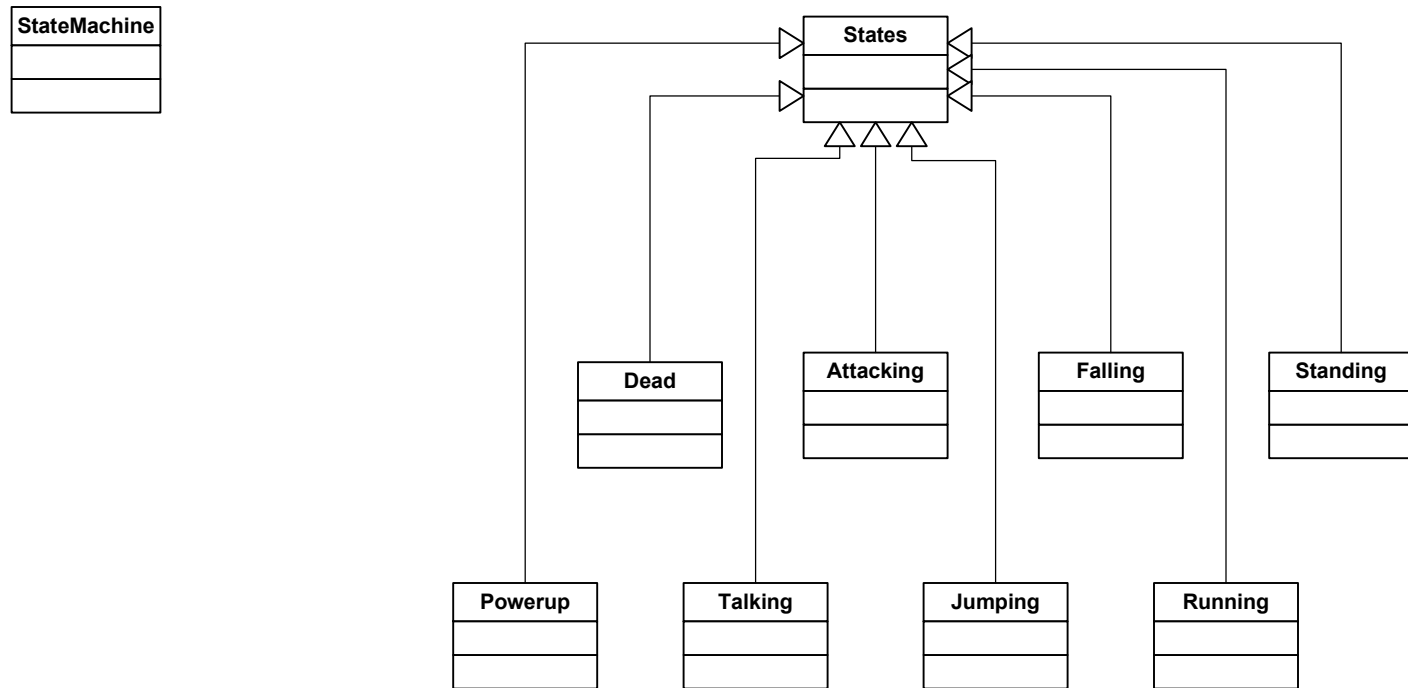
2. Boundary Classes

Boundary Classes



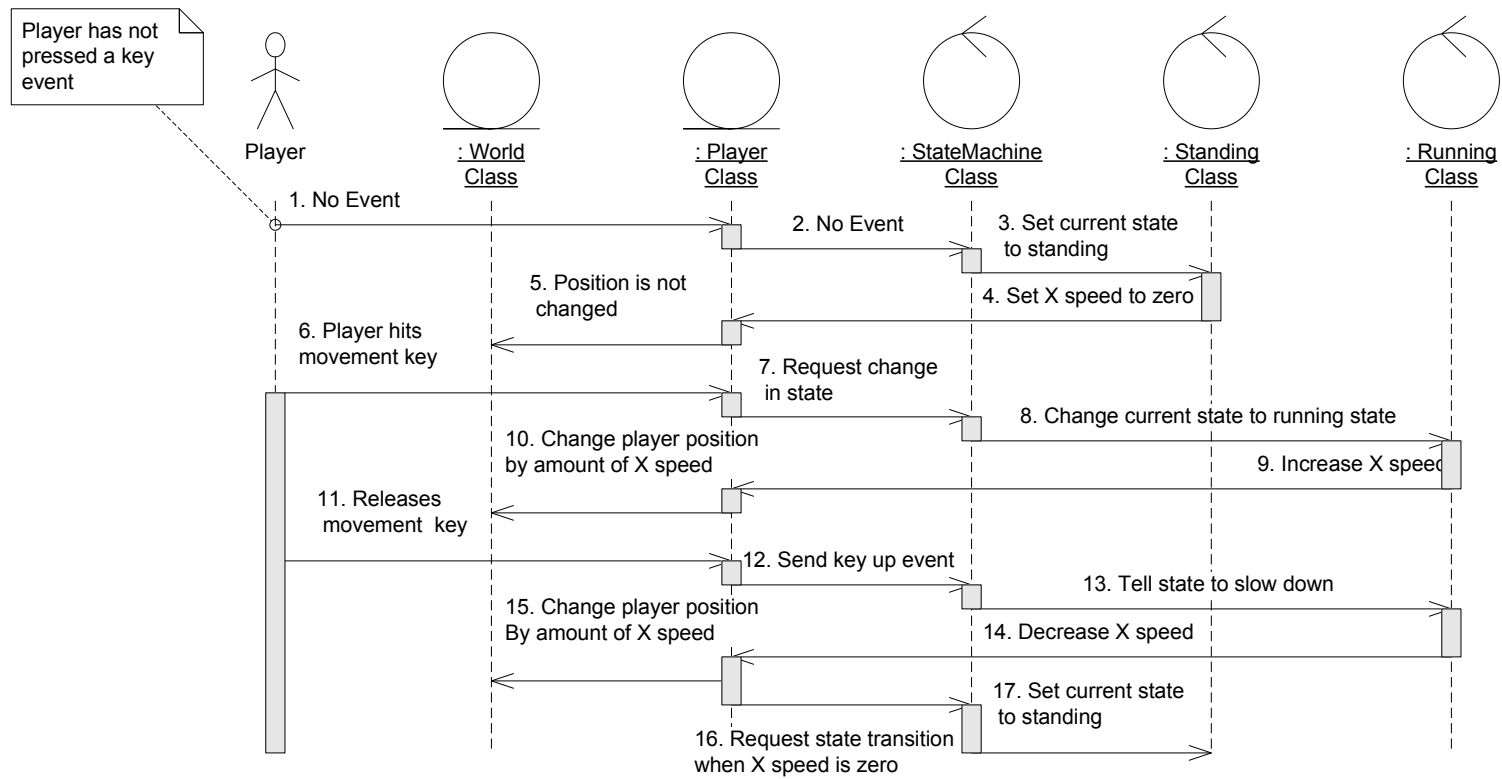
3. Control Classes

Control Classes

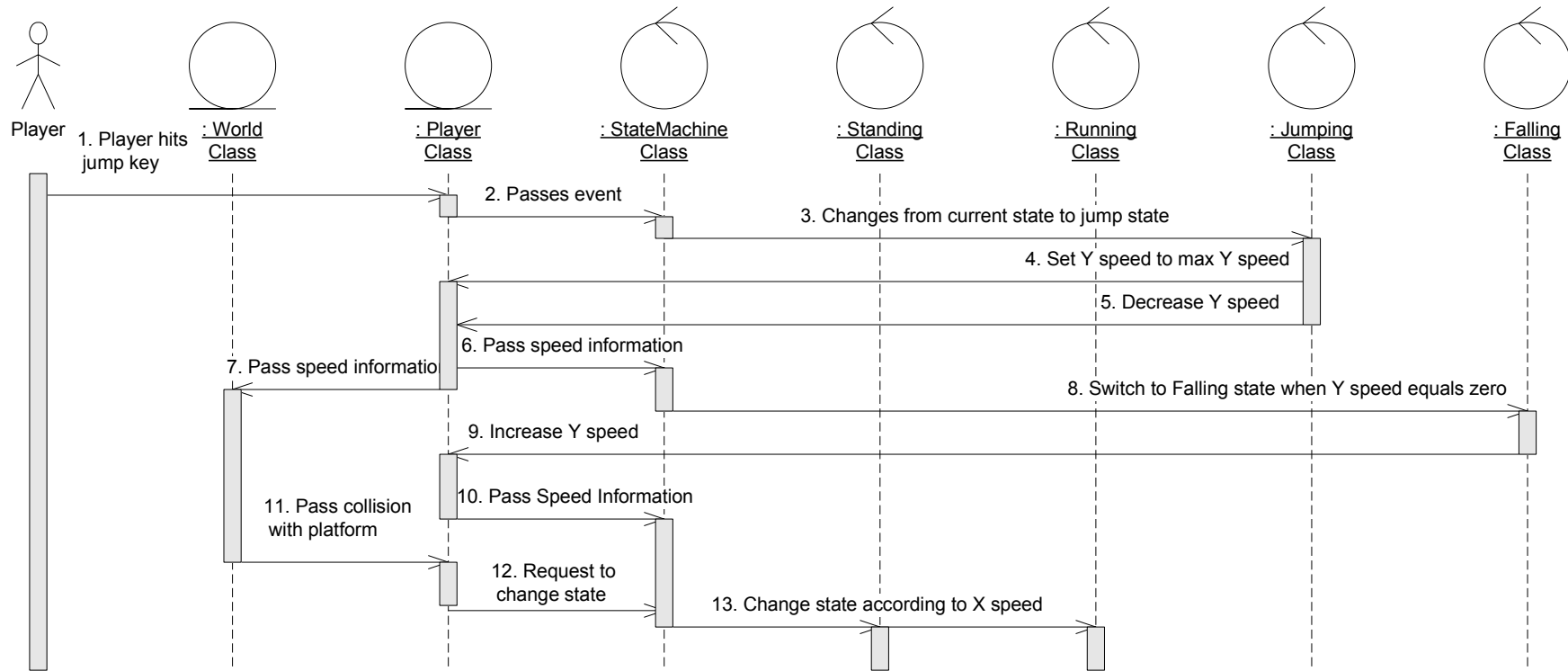


4. Use Case Realizations

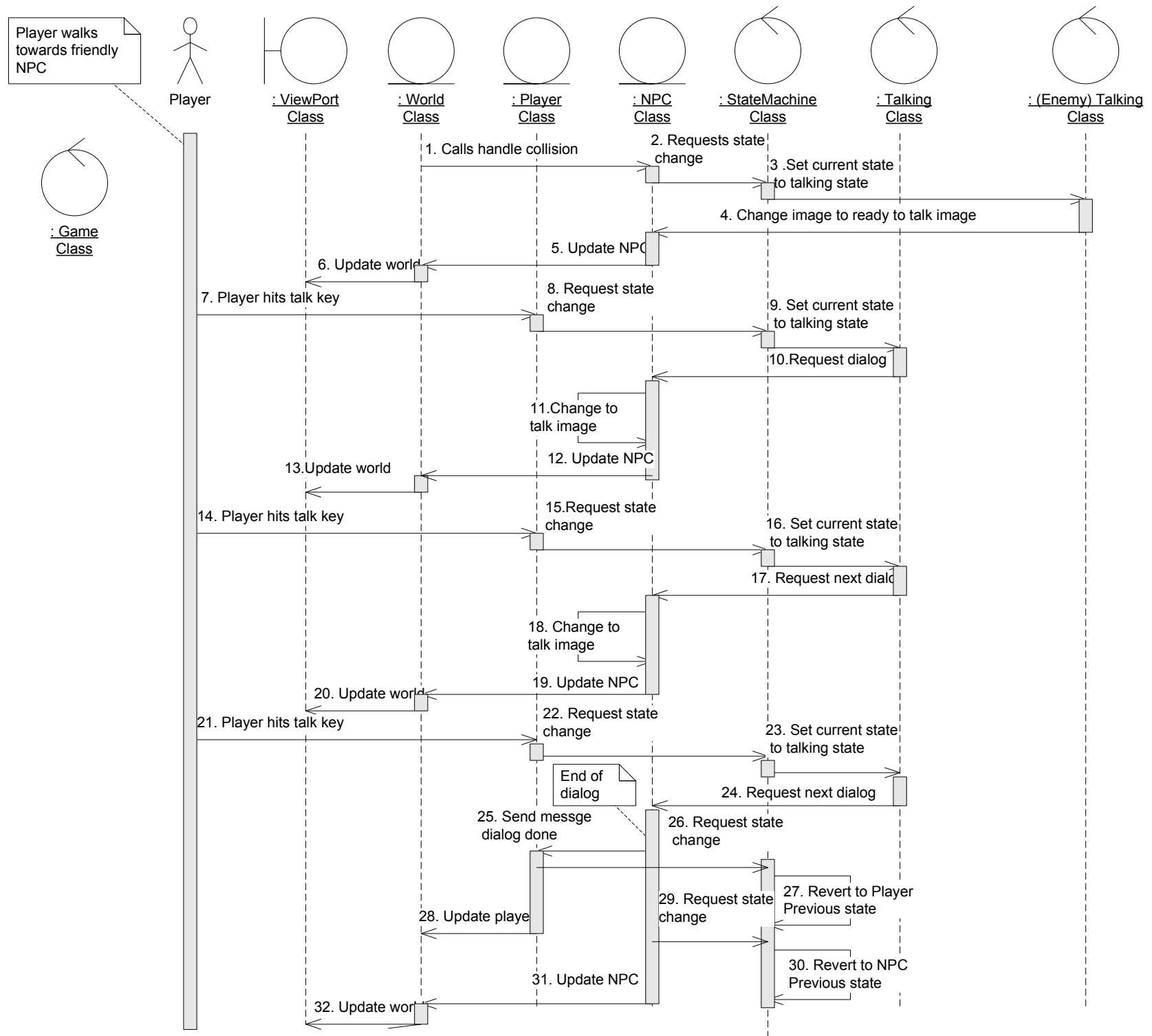
State Transistions



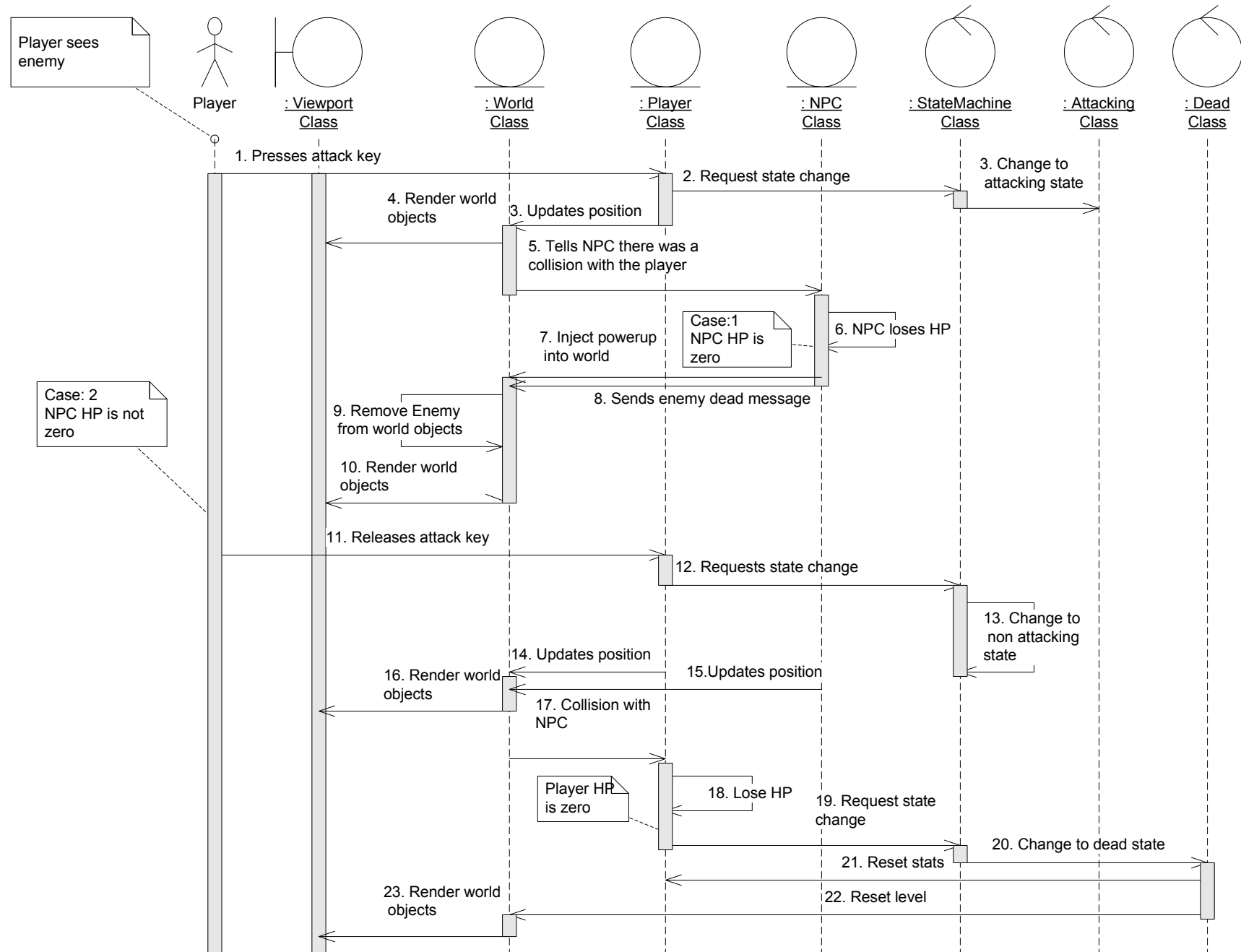
State Transitions



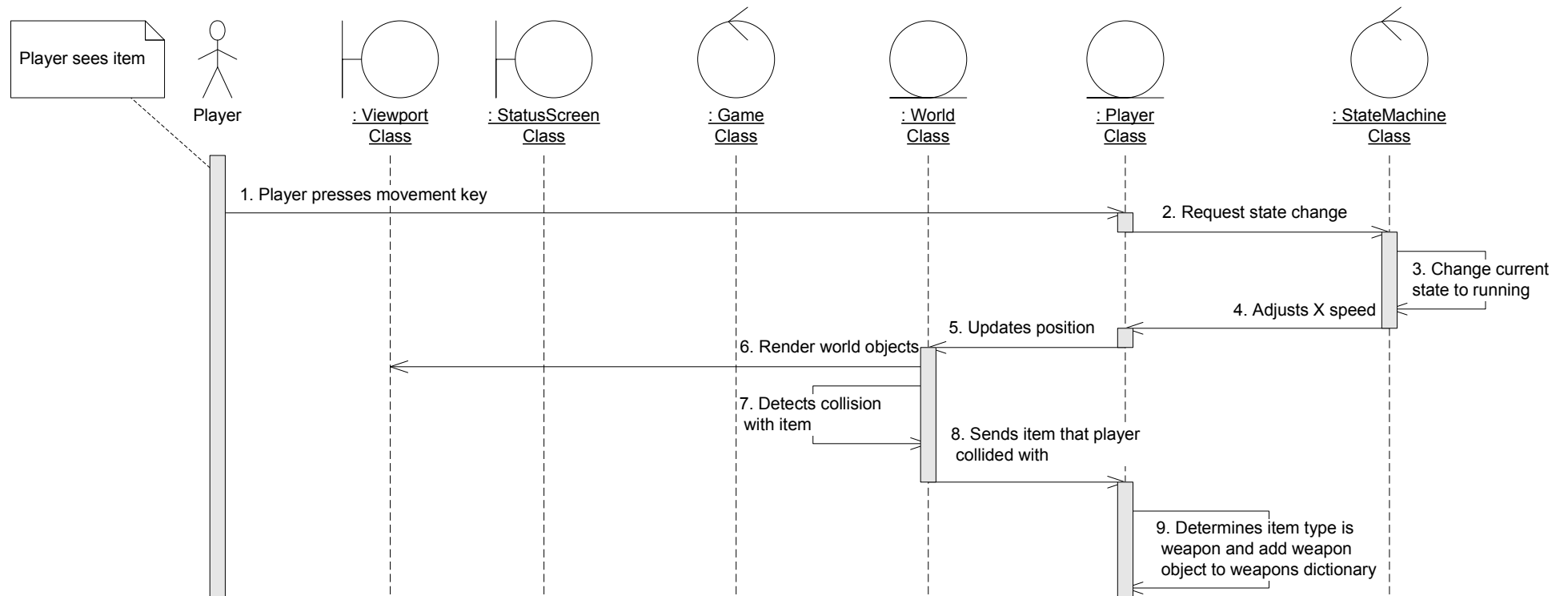
Interact with Friendly NPC



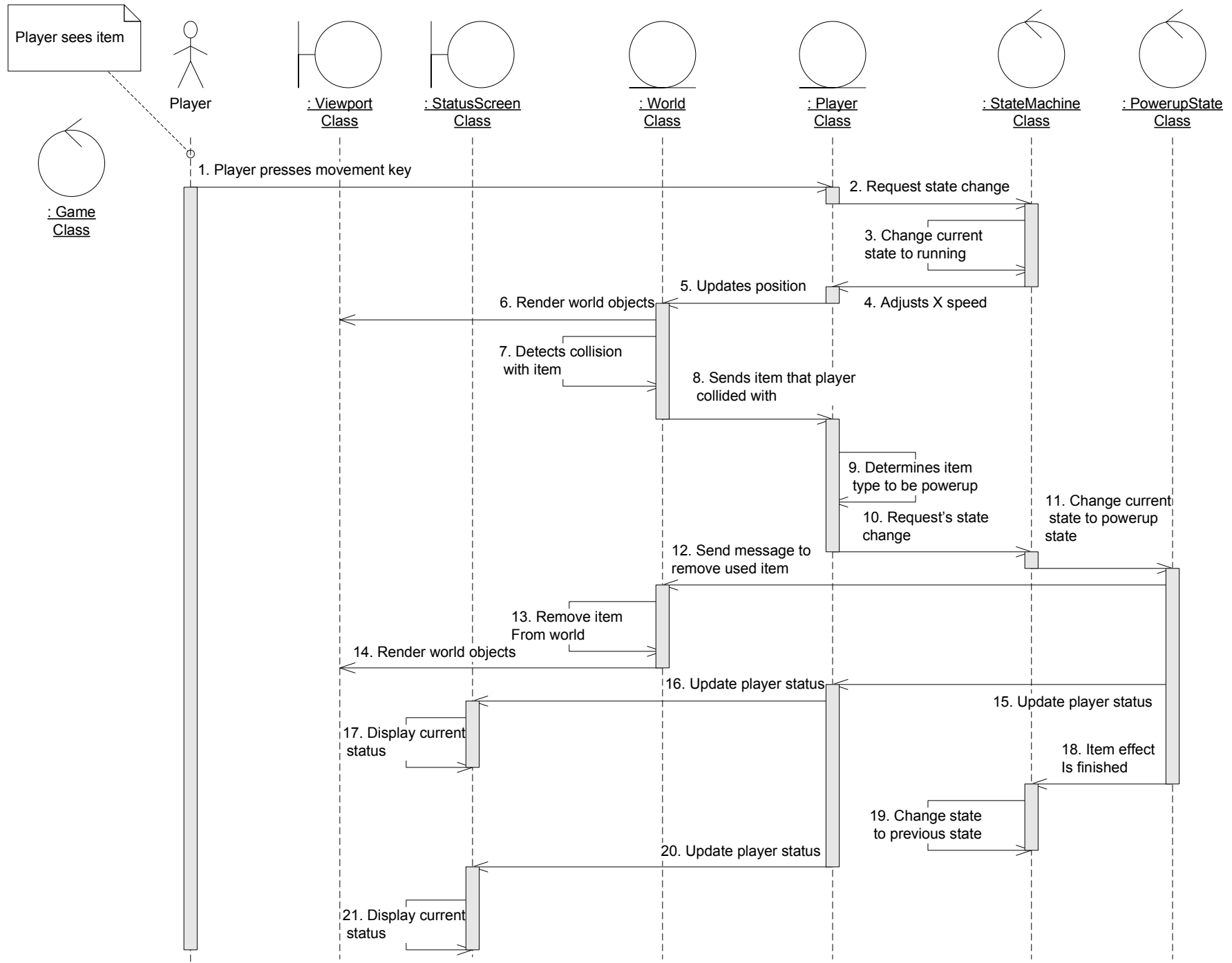
Interact with Enemy NPC



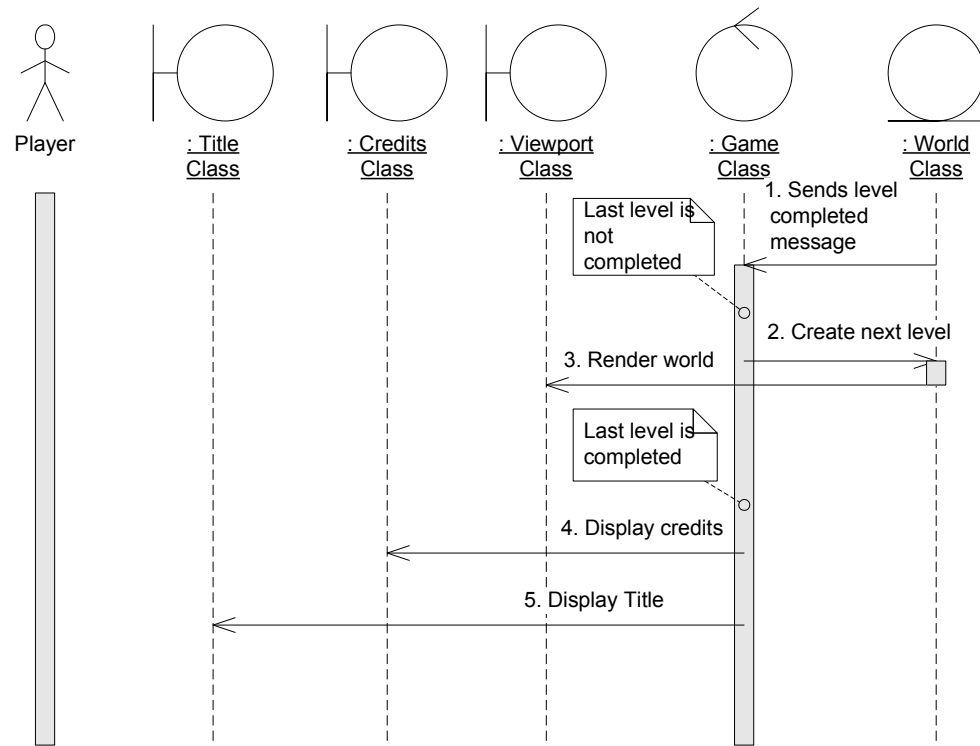
Collect Item



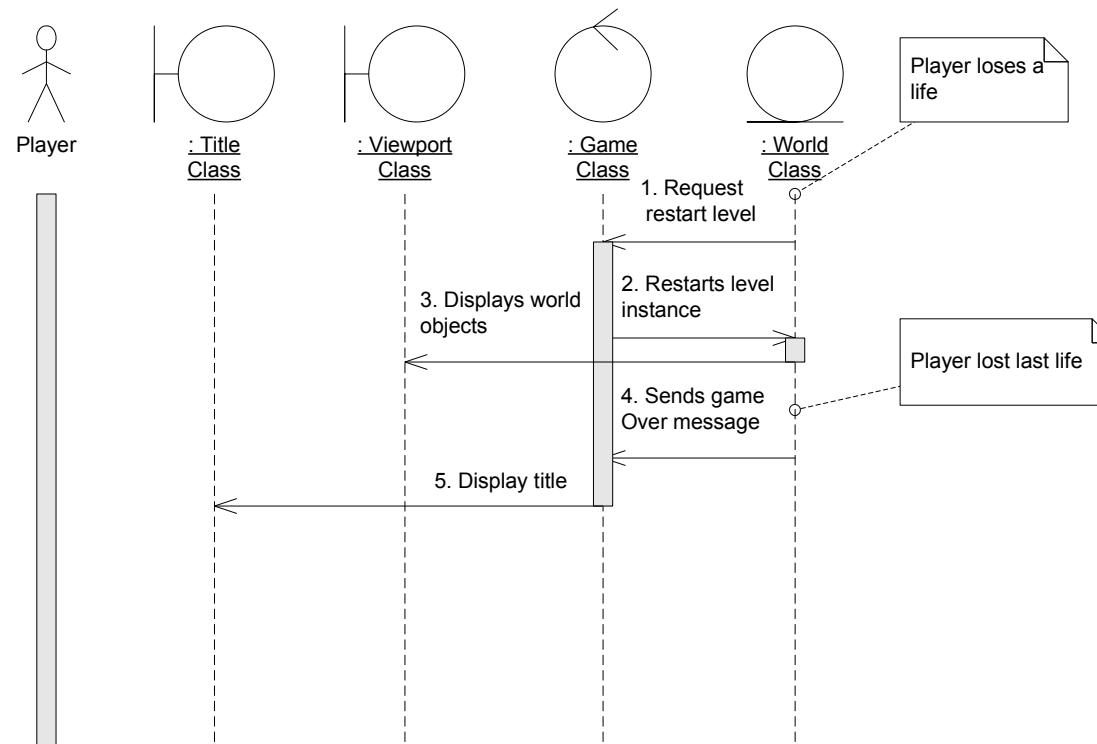
Use Item



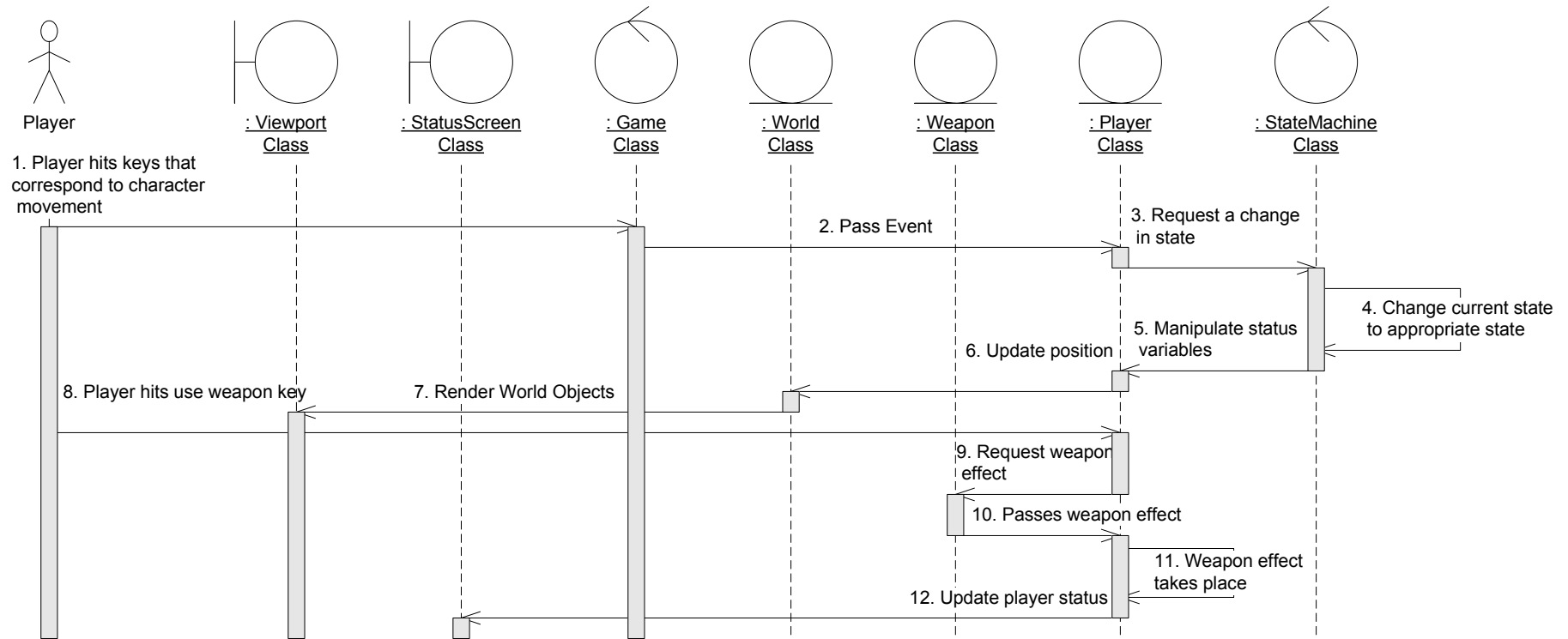
Completes Level



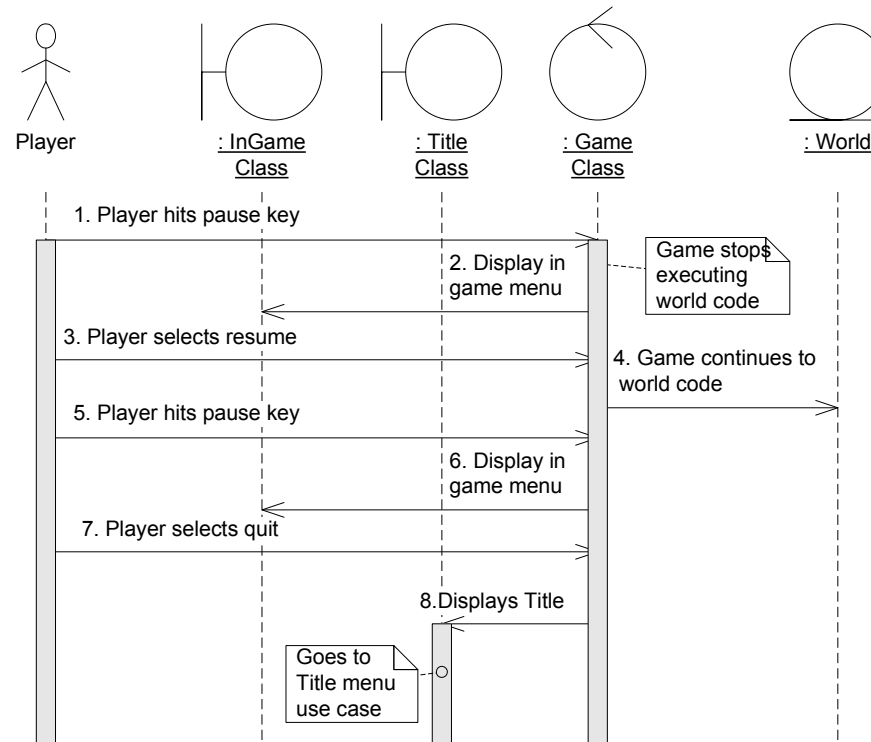
Fails to Complete Level



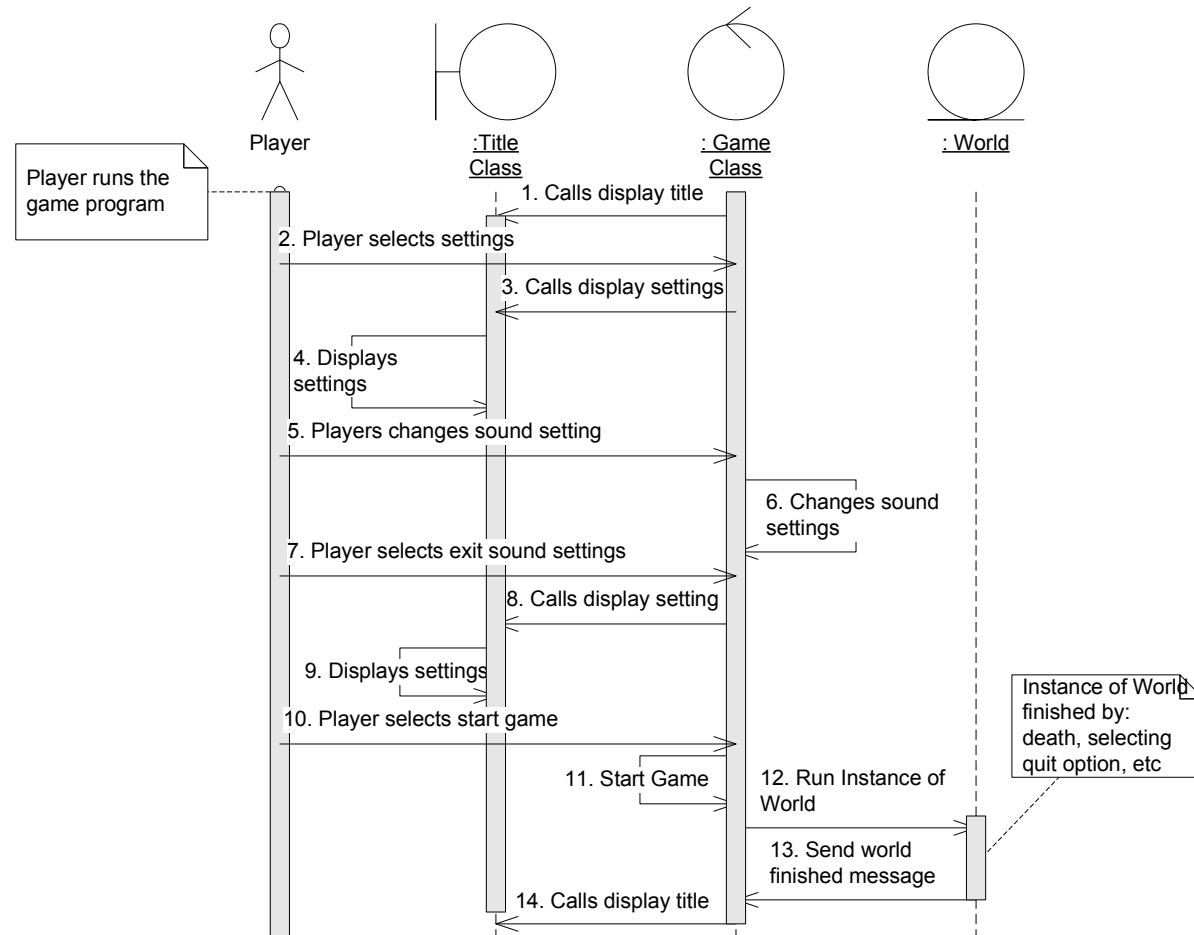
Control Character



Uses Menu



Use Menu



5. Final Class Diagram

Class Diagram

