

Operation Contracts:

**Contract CO1: startNewGame()**

**Operation: startNewGame()**

**Cross References:** Use Case : Start New Game

**Preconditions:** Game resources are available

**Postconditions:**

A new Game instance was created (instance created)

A new BuildMode instance was created (instance created)

Mode of the system was set to BuildMode (attribute modified)

Game was associated with the BuildMode (association formed)

**Contract CO2: BuildModePlace (Position: Position, object: Object)**

**Operation:**

BuildModePlace(Position: Position, object: Object)

**Cross References:** Use Case: Build Mode

**Preconditions:** The system is in Build Mode

**Postconditions:**

Object instances were created for the placed objects (instance created)

Objects were associated with the positions (association formed)

Position was changed to the object position (attribute modification)

Hall was updated with new object placements (attribute modified)

**Contract CO3: NavigateHall (position: Position)**

**Operation: NavigateHall (position: Position)**

Cross References: Use Case: Navigate Hall

**Preconditions:**

Game is in Play Mode

Hero instance exists

**Postconditions:**

Position of the hero was modified to the new coordinates (attribute modified)

Hero was associated with the new position (association formed)

Hero was disassociated with the previous position (association removed)

**Contract CO4: FindRune (object: Object)**

**Operation: FindRune (object: Object)**

**Cross References: Use Case: Find Rune**

**Preconditions:**

Game is in Play Mode

Hero is adjacent to the target object

**Postconditions:**

The Status of the rune was modified. (attribute modified)

The Status of the rune use was modified (attribute modified)

Exit instance was created (instance created)

**Contract CO5: collectEnchantment(enchantment: Enchantment)**

**Operation: collectEnchantment(enchantment: Enchantment)**

**Cross References: Use Case : Interact with Enchantment**

**Preconditions:**

Hero's bag has space

Game is in Play Mode

Enchantment is active

**Postconditions:**

New Enchantment instance was created (instance created)

Enchantment was associated with the Hero's bag (association formed)

Hero's bag status was updated (attribute modified)

Enchantment instance was removed from the game (instance destroyed)

**Contract CO6: avoidMonster(monster: Monster)**

**Operation: avoidMonster(monster: Monster)**

**Cross References: Use Case : Avoid Monster**

**Preconditions:**

Game is in Play Mode

Monster is active

Hero is within monster's attack range

**Postconditions:**

The hero's life was decreased when hit by a monster (attribute modified)

Status attribute of the hero was modified if enchantment was used (attribute modified)

Position of the hero was changed (association formed)

**Contract CO7: pauseGame()**

**Operation: pauseGame()**

**Cross References: Use Case : Pause Game**

**Preconditions:**

Game is in active play state

**Postconditions:**

New PauseMenu instance was created (instance created)

Game status was changed to paused(attribute modified)

PauseMenu was associated with Game (association formed)

**Contract CO8: resumeGame()**

**Operation: resumeGame()**

**Cross References: Use Case : Resume Game**

**Precondistions:**

Game is in paused state

**Postconditions:**

PauseMenu instance was destroyed (instance destroyed)

Game status was changed to “continue” (attribute modified)

PauseMenu was disassociated from the Game (association removed)