

# Tomb Tactician - Use Case Specification (Plain Document Format)

## ***UC-1: Start Game & Load Map***

**Primary Actor:** Player

**Preconditions:** Game launched and assets available.

**Trigger:** Player selects 'Start Game'.

**Main Flow:**

1. Engine loads board (walls, rewards, punishments, enemies).
2. Player spawns at start cell; exit cell defined.
3. HUD displays score and time.

**Alternative Flow:**

Missing/invalid map → show error.

**Postconditions:** Game world initialized; ready for player input.

## ***UC-2: Move the Main Character***

**Primary Actor:** Player

**Preconditions:** Game running and player spawned.

**Trigger:** Player presses arrow key during tick.

**Main Flow:**

1. Engine checks target cell.
2. If not wall/barrier, move succeeds.
3. Else, stay in place.

**Alternative Flow:**

No input → stay idle; enemies still move.

**Postconditions:** Player position updated or unchanged.

## ***UC-3: Enemy Pursuit (A\* Pathfinding)***

**Primary Actor:** Game Engine

**Preconditions:** Enemies exist on map.

**Trigger:** Each tick.

**Main Flow:**

1. Compute A\* step toward player.
2. Move one cell if path open.
3. Skip walls/barriers.

**Alternative Flow:**

Enemy reaches player → triggers Game Over.

**Postconditions:** Enemy positions updated.

## ***UC-4: Collect Reward / Trap Interaction***

**Primary Actor:** Player

**Preconditions:** Player on cell with item (reward or trap).

**Trigger:** End-of-tick collision check.

**Main Flow:**

If reward → increase score and remove item.

If trap → decrease score; remove if applicable.

**Alternative Flow:**

Score below 0 → Game Over.

**Postconditions:** Score updated; item resolved.

## ***UC-5: Get Caught (Lose Condition)***

**Primary Actor:** Game Engine

**Preconditions:** Game running with enemies active.

**Trigger:** Enemy and player occupy same cell after movement resolves.

**Main Flow:**

1. Detect overlap between player and enemy.

2. Stop game loop; display 'Game Over' screen.

**Alternative Flow:**

None.

**Postconditions:** Game state set to 'Defeat'; score and time recorded.

## ***UC-6: Win Condition - Reach Exit***

**Primary Actor:** Player

**Preconditions:** All regular rewards collected; exit available.

**Trigger:** Player reaches exit cell.

**Main Flow:**

1. Detect zero regular rewards.

2. Player steps on exit.

3. Display victory screen with score/time.

**Alternative Flow:**

Player reaches exit before collecting all rewards → no win.

**Postconditions:** Game state set to 'Victory'; stats shown.

## ***UC-7: Pause and Resume Game***

**Primary Actor:** Player

**Preconditions:** Game in progress.

**Trigger:** Player presses 'P' key or clicks pause icon.

**Main Flow:**

1. Freeze all tick updates and enemy movement.

2. Display pause overlay.

3. Resume restores prior state.

**Alternative Flow:**

Unexpected input → ignored while paused.

**Postconditions:** Game state toggled between Running and Paused.