

# CMPT 276 Group 2 | Project Phase 1

**Concept Summary:** Our plan is to create ‘Relic Raider,’ an arcade-style 2D game in Java where the player acts as an Indiana Jones character exploring a temple maze in search of a golden totem. The player begins at a temple entrance and must navigate to a final room containing the golden totem, collecting rewards and avoiding enemies along the way. The game ends when the player reaches the golden totem after collecting all regular rewards, or when they are defeated by an enemy or penalty. The game components will be as follows:

**Main character:** An Indiana Jones character that the player controls using arrow keys to move through a temple, where movement is only possible to unblocked cells. The main objective of the player is to avoid enemies throughout the temple while collecting all static rewards to reach the final cell.

**Enemies:** The game will feature two types of moving enemies and one type of punishment.

- Boulders and skeletons will move throughout the temple in an attempt to attack the player.
  - Both types of moving enemies will use an A\* algorithm to choose the path that minimizes their distance from the player.
  - Collision with either of these enemies results in an immediate game loss.
- A fixed number of stationary spikes throughout the board will be initialized when the game starts that reduce the player’s score by 20 points when in contact.
  - If the player’s score becomes negative, the player loses.

**Rewards:** Treasure will be scattered throughout the temple in two forms.

- A fixed number of golden coins will act as our regular rewards. The player’s score will go up by 10 points each time they are collected, and the player needs to collect all of them in order to win.
  - Once all of the regular rewards are collected, a key will appear at a random location on the board that the player needs to collect in order to reach the final cell.
- The game will have special treasure chests that appear randomly during the game and disappear after 10 ticks. The player’s score goes up by 50 points each time they are collected, acting as our bonus rewards.

**Barriers & Board Design:** The game board will be the temple interior the player is moving through. Walls within the temple will be placed on board cells to act as stationary borders restricting the player’s movement. The exit point is a final room containing the goal golden totem (end point to win the game).

**Packages to Use - How we will organize our code**

**game.core:** contains the main logic and control classes for the game.

**game.map:** handles the board map and structure.

**game.entity:** contains all of our entities (player, enemies, rewards, etc.) that exist on the board and interact with others.

**game.behaviour:** handles the movement and interactions of our (moving) entities.