

## CRC (Class-Responsibility-Collaboration card)

<b>Class name: GameObject</b>	<b>Subclasses:</b> UIElement, CameraController, Collectable, NPC, TileMap, Player, Printer, ExamPage, Screen related classes, Bob
<b>Responsibilities</b>	<b>Class Collaborations (other classes):</b>
<ul style="list-style-type: none"><li>• Store object's position</li><li>• Define update behaviour for game object</li><li>• Manage cleanup of game objects</li><li>• Check for supported component types</li></ul>	<ul style="list-style-type: none"><li>• BaseComponent</li><li>• Engine</li></ul>

<b>Class name: UIElement</b>	<b>Superclass:</b> GameObject
<b>Responsibilities</b>	<b>Class Collaborations (other classes):</b>
<ul style="list-style-type: none"><li>• Handle the position of UI elements on the screen</li></ul>	

<b>Class name: Achievements</b>	<b>Superclass:</b> UIElement
<b>Responsibilities</b>	<b>Class Collaborations (other classes):</b>
<ul style="list-style-type: none"><li>• Manage and track player achievements</li><li>• Display achievement information on the UI</li></ul>	<ul style="list-style-type: none"><li>• UIElement</li></ul>

<b>Class name: CameraController</b>	<b>Superclass:</b> GameObject
<b>Responsibilities</b>	<b>Class Collaborations (other classes):</b>
<ul style="list-style-type: none"><li>• Follow the game target by managing camera movement</li></ul>	<ul style="list-style-type: none"><li>• GameObject</li></ul>

<b>Class name: Collectable</b>	<b>Subclasses:</b> SpeedCollectable, Item, Beer <b>Superclass:</b> GameObject
<b>Responsibilities</b>	<b>Class Collaborations (other classes):</b>
<ul style="list-style-type: none"> <li>• Represent objects that the player can collect</li> </ul>	

<b>Class name: SpeedCollectable</b>	<b>Superclass:</b> Collectable
<b>Responsibilities</b>	<b>Class Collaborations (other classes):</b>
<ul style="list-style-type: none"> <li>• Increase player speed when collected</li> </ul>	<ul style="list-style-type: none"> <li>• Player</li> </ul>

<b>Class name: RaspberryPi</b>	<b>Superclass:</b> Collectable
<b>Responsibilities</b>	<b>Class Collaborations (other classes):</b>
<ul style="list-style-type: none"> <li>• Represent Raspberry PI as a collectable</li> <li>• Only visible and collectible after reveal() is called</li> <li>• On pickup, provide message and sound feedback</li> </ul>	<ul style="list-style-type: none"> <li>• Player</li> <li>• Assets</li> <li>• GameMessageHandler</li> <li>• Game</li> </ul>

<b>Class name: Item</b>	<b>Superclass:</b> Collectable
<b>Responsibilities</b>	<b>Class Collaborations (other classes):</b>
<ul style="list-style-type: none"> <li>• Differentiate between item type</li> </ul>	

<b>Class name: TileMap</b>	<b>Superclass:</b> GameObject
<b>Responsibilities</b>	<b>Class Collaborations (other classes):</b>
<ul style="list-style-type: none"> <li>• Generate collision data from the tile map</li> <li>• Render the game map using the camera</li> <li>• Create entities from the tile map</li> </ul>	<ul style="list-style-type: none"> <li>• Engine</li> <li>• Game</li> <li>• CameraComponent</li> </ul>

<b>Class name: NPC</b>	<b>Superclass:</b> GameObject
<b>Responsibilities</b>	<b>Class Collaborations (other classes):</b>
<ul style="list-style-type: none"> <li>• Check player interaction and required items</li> <li>• Trigger game progression based on player interaction</li> </ul>	<ul style="list-style-type: none"> <li>• Player</li> <li>• Game</li> </ul>

<b>Class name: Bob</b>	<b>Superclass:</b> GameObject
<b>Responsibilities</b>	<b>Class Collaborations (other classes):</b>
<ul style="list-style-type: none"> <li>• Represent the Bob enemy character</li> <li>• Handle Bob movement and behaviour</li> </ul>	<ul style="list-style-type: none"> <li>• Player</li> <li>• BobManager</li> </ul>

<b>Class name: KingBob</b>	<b>Superclass:</b> Enemy
<b>Responsibilities</b>	<b>Class Collaborations (other classes):</b>
<ul style="list-style-type: none"> <li>• Represent the King Bob enemy (Assessment 2 negative event/UR_Events)</li> <li>• Store deposit location and waypoint route</li> </ul>	<ul style="list-style-type: none"> <li>• Player</li> <li>• MoveBetweenWaypointsState</li> <li>• Assets</li> </ul>

<b>Class name: Player</b>	<b>Superclass:</b> GameObject
<b>Responsibilities</b>	<b>Class Collaborations (other classes):</b>
<ul style="list-style-type: none"> <li>• Handle player movement and input</li> <li>• Interact with the game world</li> <li>• Pick up items</li> </ul>	<ul style="list-style-type: none"> <li>• Item</li> <li>• Collectable</li> <li>• EventCounter</li> </ul>

<b>Class name: Beer</b>	<b>Superclass:</b> Collectable
<b>Responsibilities</b>	<b>Class Collaborations (other classes):</b>
<ul style="list-style-type: none"> <li>• Cause player confusion when collected</li> </ul>	<ul style="list-style-type: none"> <li>•Player</li> <li>•GameMessageHandler</li> </ul>

<b>Class name: ExamPage</b>	<b>Superclass:</b> GameObject
<b>Responsibilities</b>	<b>Class Collaborations (other classes):</b>
<ul style="list-style-type: none"> <li>•Move and interact with the player as a projectile</li> </ul>	<ul style="list-style-type: none"> <li>•Player</li> <li>•Engine</li> </ul>

<b>Class name: Printer</b>	<b>Superclass:</b> GameObject
<b>Responsibilities</b>	<b>Class Collaborations (other classes):</b>
<ul style="list-style-type: none"> <li>•Shoot exam pages at regular intervals</li> </ul>	<ul style="list-style-type: none"> <li>•ExamPage</li> <li>•Engine</li> </ul>

<b>Class name: MenuScreen</b>	<b>Superclass:</b> BaseMenuScreen
<b>Responsibilities</b>	<b>Class Collaborations (other classes):</b>
<ul style="list-style-type: none"> <li>•Display the main menu interface</li> <li>•Handle user actions on the main menu</li> </ul>	<ul style="list-style-type: none"> <li>•Game</li> <li>•LevelScreen</li> </ul>

<b>Class name: PauseScreen</b>	<b>Superclass:</b> BaseMenuScreen
<b>Responsibilities</b>	<b>Class Collaborations (other classes):</b>
<ul style="list-style-type: none"> <li>•Display the pause menu</li> <li>•Allow the player to resume, restart, or quit the game</li> </ul>	<ul style="list-style-type: none"> <li>•Game</li> <li>•LevelScreen</li> </ul>

<b>Class name: LevelScreen</b>	<b>Superclass:</b> Screen
<b>Responsibilities</b>	<b>Class Collaborations (other classes):</b>
<ul style="list-style-type: none"> <li>•Set up and manage the main game level</li> </ul>	<ul style="list-style-type: none"> <li>•Game</li> <li>•Engine</li> <li>•TileMap</li> <li>•Player</li> </ul>

<b>Class name: WinScreen</b>	<b>Superclass:</b> BaseMenuScreen
<b>Responsibilities</b>	<b>Class Collaborations (other classes):</b>
<ul style="list-style-type: none"> <li>• Display the win screen and final game results</li> </ul>	<ul style="list-style-type: none"> <li>•Game</li> <li>•LevelScreen</li> <li>•MenuScreen</li> <li>•EventCounter</li> </ul>