

CRC (Class-Responsibility-Collaboration card)

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

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

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

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

Class name: Collectable	Subclasses: SpeedCollectable, Item, Beer Superclass: GameObject
Responsibilities	Class Collaborations (other classes):
• Represent objects that the player can collect	

Class name: SpeedCollectable	Superclass: Collectable
Responsibilities	Class Collaborations (other classes):
• Increase player speed when collected	• Player

Class name: Item	Superclass: Collectable Subclasses: Key
Responsibilities	Class Collaborations (other classes):
• Differentiate between item type	

Class name: Key	Superclass: Item
Responsibilities	Class Collaborations (other classes):
• Give the key to the player when collected	• Player

Class name: GameTimer	Superclass: UIElement
Responsibilities	Class Collaborations (other classes):

<ul style="list-style-type: none"> • Keep track of play time • Trigger lose screen if timer runs out • Pause/Resume time when game is paused/resumed 	<ul style="list-style-type: none"> • Game • EventCounter
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Class name: TileMap	Superclass: GameObject
Responsibilities	Class Collaborations (other classes):
<ul style="list-style-type: none"> • Generate collision data from the tile map • Render the game map using the camera • Create entities from the tile map 	<ul style="list-style-type: none"> • Engine • Game • CameraComponent

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

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

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

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

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

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

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

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

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

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