CSC301: Project
Team Subpar's Game Report:
System Design Report

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CRC Cards
Class name: Game
Parent class (if any): N/A
Subclasses (if any): N/A
Responsibilities:
* It manipulates the states of the game
* Tells the game when and what to render
Collaborators:
* GameObjectHandlerView class
* MapMaker
Class name: GameObjectHandlerView
Parent class (if any): N/A
Subclasses (if any): N/A
Responsibilities:
* It contains all the elements that will be drawn.
* Can tick and render through all those elements, when appropriate.
Collaborators:
* GameObject class
*MovableObject class
* Player class

* Wall class

Class name: GameObject
Parent class (if any): N/A
Subclasses (if any): MovableObject, Player, Walls
Responsibilities:
• An arbitrary rectangle that should know how to draw itself and update itself as needed.
Collaborators:
* Player class
* Wall class
* MovableObject class
* GameObjectHandlerView class
Class name: MapMaker
Parent class (if any): N/A
Subclasses (if any): N/A
Responsibilities:
* Initialize given objects
* Add those objects to the game
Collaborators:
* PlayerBuilder class
* MapReader class
* GameObjectHandlerView class
Class name: MapReader

Parent class (if any): N/A
Subclasses (if any): N/A
Responsibilities:
*Ability to read and choose a random file from a given directory and interpret a file and create objects accordingly
Collaborators:
* MapMaker class
* Player class
* Wall Class
Class name: PlayerBuilder
Parent class (if any): N/A
Subclasses (if any): N/A
Responsibilities:
* Creates a player given specific parameters
Collaborators:
* Player class
Class name: MovableObject
Parent class (if any): GameObject
Subclasses (if any): Player
Responsibilities:
* A GameObject that can move and has velocity

Collaborators:
* Player class
* GameObject
Class name: Player class
Parent class (if any): MovableObject
Subclasses (if any): N/A
Responsibilities:
* notifies the GameObject interface when a game "tick" is updated such as when the player is moving.
* detects walls and other players.
* collides with other objects.
Collaborators: * GameObjectHandlerView class
* Wall class
* KeyHandler clas
Class name: Wall class
Parent class (if any): GameObject
Subclasses (if any): N/A
Responsibilities:
* walls follow a set number of rules, such as blocking a player or rebounding a shot.
* is used to create the map.

Collaborators:
* Player class
Class name: KeyHandler
Parent class (if any): N/A
Subclasses (if any): N/A
Responsibilities:
* Handles all the key presses and notifies all of it's observers that are looking for key strokes.
* Moves the player
Collaborators:
* Observable
* Player class
* MainMenu class
* Game Class
Class name: MenuMain
Parent class (if any): N/A
Subclasses (if any): EndScreen
Responsibilities:
* Guides the user to the game
* Moves the player
Collaborators:
* Observable

Class name: EndScreen
Parent class (if any): MainMenu
Subclasses (if any): N/A
Responsibilities:
* Is the end screen for after a completion of a round
* Allows the players to play again or quit
Collaborators:
* Observable
* Game Class
Class name: Health
Parent class (if any): N/A
Subclasses (if any): N/A
Responsibilities:
* Manages health
* Capable of rendering a health bar to the screen if so desired
Collaborators:
Class name: ProjectileObject
Parent class (if any): MovableObject
Subclasses (if any): ExpandingBullet Class, GhostBullet Class, SniperBullet Class, TrapBullet

Class

Responsibilities:
* Is a generic bullet, so it need to handle its basic functionality
* If it hits a wall, bounce
* If it hits a player kill
Collaborators:
* GameObjectHandlerView Class
Class name: AmmoBox
Parent class (if any): GameObject
Subclasses (if any): N/A
Responsibilities:
* Is a box that a player can pick up
* Grants a powerup when collected
Collaborators:
Class name: BulletFactory
Parent class (if any): N/A
Subclasses (if any): N/A
Responsibilities:
* Generates a bullet, based on what type of ammo the player has
Collaborators:
* Player class
* ProjectileObject Class

* GhostBullet Class
* SniperBullet Class
* TrapBullet Class
* ExpandingBullet Class
Class name: ExpandingBullet
Parent class (if any): ProjectileObject
Subclasses (if any): N/A
Responsibilities:
* A bullet that grows, needs to increase in size
Collaborators:
* GameObjectHandlerView Class
* Player Class
Class name: GhostBullet
Parent class (if any): ProjectileObject
Subclasses (if any): N/A
Responsibilities:
* A bullet that goes through walls
Collaborators:
* GameObjectHandlerView Class
* Player Class

Class name: ExpandingBullet
Parent class (if any): ProjectileObject
Subclasses (if any): N/A
Responsibilities:
* A bullet that goes through walls, bounces off the world edges
Collaborators:
* GameObjectHandlerView Class
* Player Class
Class name: SniperBullet
Parent class (if any): ProjectileObject
Subclasses (if any): N/A
Responsibilities:
* A bullet that goes through walls, does not bounce off boundaries of map
Collaborators:
* GameObjectHandlerView Class
* Player Class
Class name: TrapBullet
Parent class (if any): ProjectileObject
Subclasses (if any): N/A
Responsibilities:
* A bullet that sticks to surfaces hit

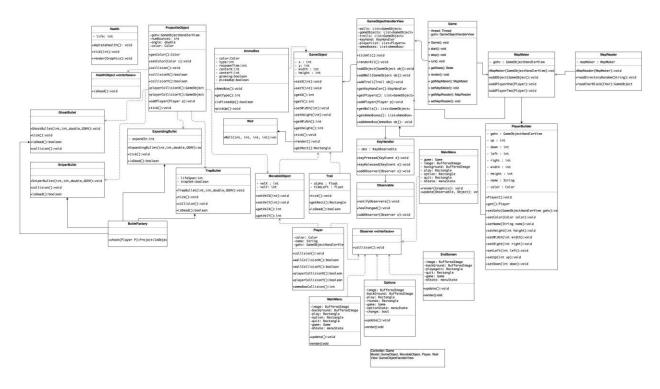
Collaborators:
* GameObjectHandlerView Class
* Player Class
Class name: Options
Parent class (if any): N/A
Subclasses (if any): N/A
Responsibilities:
* Manages game options
Collaborators:
* Observer Class
* Game Class
System Interaction
- The system should be able to run a .jar file, so they would need java of a version of

System Decomposition

8.0.1110.14 or greater

Since the user input is whitelisted, the program can only accept user keystrokes that move the player avatar. Therefore, no exception handling should be needed for failure testing.

System Architecture



+ item: attribute