Group 7

Assignment 2

Authors:
Matthijs Verzijl - 4282604
Emilie de Bree - 4247558
Jim Hommes - 4306090
Toine Hartman - 4305655
Jeffrey Helgers - 4318749

Supervisor:
Alberto Bacchelli

Teaching Assistant:
Aaron Ang

TU Delft Delft University of Technology

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Contents

1. Resonsibility Driven Design

Here the features of Respsonsibility Driven Design will be explained per feature we added this sprint.

1.1 Jumping on Bubbles

Player

Responsibility:
The player class will handle the movement of the player.
Collaborations:
It will be communicating with SpriteBase for collisions.

SpriteBase

Responsibility:
SpriteBase will be responsible for detecting collisions with BubbleSprites.
Collaborations:
It will be communicating with Player.

1.2 Warping

Level

Responsibility:
When loading the map, it should be clear where the player is able to warp.
Collaborations:
When the player collides with a warpable area, Level should communicate with Player to tell him where he warped to.

Player

Responsibility:
This class will be moving the player and spawning it after the warp.
Collaborations:
When the player warped, it communicates with ScreenController to be redrawn.

1.3 Refactoring Controllers for Testing

LevelController

Responsibility:
The responsibility for this class will *only* include creating levels and all communication between the objects in the game.
Collaborations:

It will communicate with the objects in de game (Model package) and with the MainController. It will also be the bridge to ScreenController for the SpriteBases.

MainController

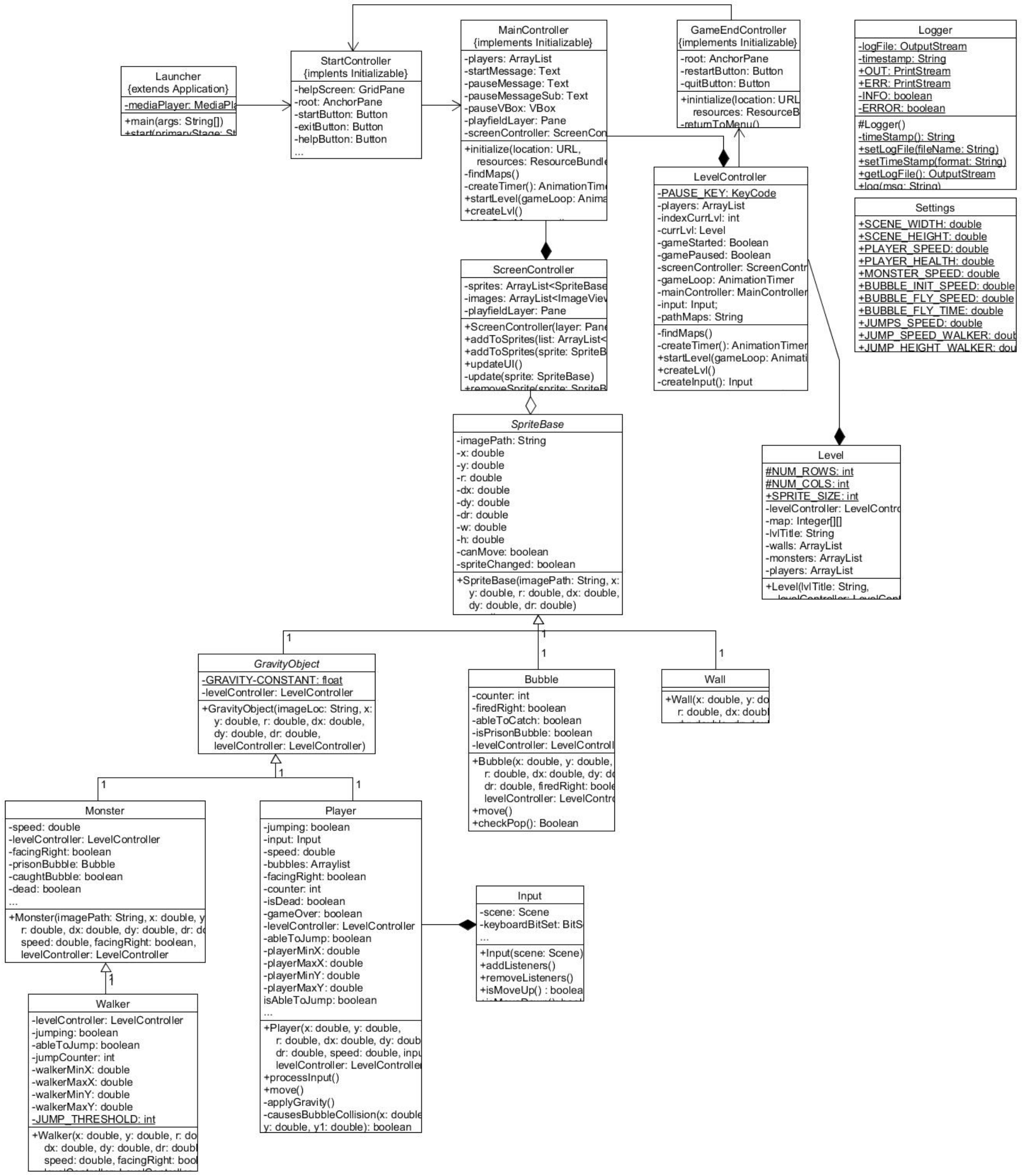
Responsibility:
MainController will be the controller that is loaded by the FXML. It will have all untestable objects and will seperate the GUI from the LevelController.
Collaborations:
LevelController and ScreenController will communicate via MainController.

1.4 Better Physics

Player

Responsibility:
Player is responsible for the movement of the player itself.
Collaborations:
Player will be communicating with LevelController for the set of walls it could collide with. This all affects the physics.

2. Updated UML


Launcher
{extends Application}
-mediaPlayer: MediaPla
+main(args: String[])
StartController
{implents Initializable}
-helpScreen: GridPane
-root: AnchorPane
-startButton: Button
-exitButton: Button
-helpButton: Button
...
MainController
{implements Initializable}
-players: ArrayList
-startMessage: Text
-pauseMessage: Text
-pauseMessageSub: Text
-pauseVBox: VBox
-playfieldLayer: Pane
-screenController: ScreenCon
+initialize(location: URL,
resources: ResourceBundl
-findMaps()
-createTimer(): AnimationTim
+startLevel(gameLoop: Anima
+createLvl()
GameEndController
{implements Initializable}
-root: AnchorPane
-restartButton: Button
-quitButton: Button
+inintialize(location: URL
resources: ResourceB
Logger
-logFile: OutputStream
-timestamp: String
+OUT: PrintStream
+ERR: PrintStream
-INFO: boolean
-ERROR: boolean
#Logger()
-timeStamp(): String
+setLogFile(fileName: String)
+setTimeStamp(format: String)
+getLogFile(): OutputStream
Settings
+SCENE_WIDTH: double
+SCENE_HEIGHT: double
+PLAYER_SPEED: double
+PLAYER_HEALTH: double
+MONSTER_SPEED: double
+BUBBLE_INIT_SPEED: double
+BUBBLE_FLY_SPEED: double
+BUBBLE_FLY_TIME: double
+JUMPS_SPEED: double
+JUMP_SPEED_WALKER: doub
+JUMP_HEIGHT_WALKER: dou
LevelController
-PAUSE_KEY: KeyCode
-players: ArrayList
-indexCurrLvl: int
-currLvl: Level
-gameStarted: Boolean
-gamePaused: Boolean
-screenController: ScreenContr
-gameLoop: AnimationTimer
-mainController: MainController
-input: Input;
-pathMaps: String
-findMaps()
-createTimer(): AnimationTimer
+startLevel(gameLoop: Animati
+createLvl()
-createInput(): Input
ScreenController
-sprites: ArrayList<SpriteBase
-images: ArrayList<ImageView
-playfieldLayer: Pane
+ScreenController(layer: Pane
+addToSprites(list: ArrayList&lt;
+addToSprites(sprite: SpriteB
+updateUI()
-update(sprite: SpriteBase)
SpriteBase
-imagePath: String
-x: double
-y: double
-r: double
-dx: double
-dy: double
-dr: double
-w: double
-h: double
-canMove: boolean
-spriteChanged: boolean
+SpriteBase(imagePath: String, x:
y: double, r: double, dx: double,
dy: double, dr: double)
Level
#NUM_ROWS: int
#NUM_COLS: int
+SPRITE_SIZE: int
-levelController: LevelContro
-map: Integer[][]
-lvlTitle: String
-walls: ArrayList
-monsters: ArrayList
-players: ArrayList
+Level(lvlTitle: String,
1
1
1
1
GravityObject
-GRAVITY-CONSTANT: float
-levelController: LevelController
+GravityObject(imageLoc: String, x:
y: double, r: double, dx: double,
dy: double, dr: double,
levelController: LevelController)
Bubble
-counter: int
-firedRight: boolean
-ableToCatch: boolean
-isPrisonBubble: boolean
-levelController: LevelControll
+Bubble(x: double, y: double,
r: double, dx: double, dy: d
dr: double, firedRight: boole
levelController: LevelContro
+move()
+checkPop(): Boolean
Wall
+Wall(x: double, y: do
r: double, dx: doub
1
1
1
Monster
-speed: double
-levelController: LevelController
-facingRight: boolean
-prisonBubble: Bubble
-caughtBubble: boolean
-dead: boolean
...
+Monster(imagePath: String, x: double, y
r: double, dx: double, dy: double, dr: d
speed: double, facingRight: boolean,
levelController: LevelController
Player
-jumping: boolean
-input: Input
-speed: double
-bubbles: Arraylist
-facingRight: boolean
-counter: int
-isDead: boolean
-gameOver: boolean
-levelController: LevelController
-ableToJump: boolean
-playerMinX: double
-playerMaxX: double
-playerMinY: double
-playerMaxY: double
isAbleToJump: boolean
...
+Player(x: double, y: double,
r: double, dx: double, dy: doub
dr: double, speed: double, inpu
levelController: LevelControlle
+processInput()
+move()
-applyGravity()
-causesBubbleCollision(x: double
y: double, y1: double): boolean
Input
-scene: Scene
-keyboardBitSet: BitS
...
+Input(scene: Scene)
+addListeners()
+removeListeners()
+isMoveUp() : boolea
1
Walker
-levelController: LevelController
-jumping: boolean
-ableToJump: boolean
-jumpCounter: int
-walkerMinX: double
-walkerMaxX: double
-walkerMinY: double
-walkerMaxY: double
-JUMP_THRESHOLD: int
+Walker(x: double, y: double, r: do
dx: double, dy: double, dr: doub
speed: double, facingRight: boo