

















**Sprite**

- serialVersionUID : long
- rectangle : Rectangle2D
- image : Image
- image\_path : String
- + Sprite()
- + setImage(image : String, width : double, height : double)
- + setPosition(x : double, y : double)
- + getRect() : Rectangle2D
- + getX() : double
- + getY() : double
- + draw(g : Graphics)
- readObject(in : ObjectInputStream)

**Player**

- playerHeight : int
- defaultPlayerWdth : int
- sound : utils.MediaPlayer
- sprite : model.Sprite
- state : PlayerState
- dx : double
- boardWidth : int
- playerWidth : int
- + Player(x : double, y : double, boardWdth : int)
- + setLeftMotion()
- + setRightMotion()
- + stopMotion()
- + setState(state : PlayerState)
- + update()
- + draw(g : Graphics)
- + getRect() : Rectangle2D
- + hit()
- + getBounceModifier(x : double, y : double) : double
- + isIndestructible() : boolean
- + increasePlayer()
- + decreasePlayer()
- + normalizePlayer()

**«interface» Collidable**

- + hit()
- + getBounceModifier(x : double, y : double) : double
- + getRect() : Rectangle2D
- + isIndestructible() : boolean

**Powerup**

- sprite : model.Sprite
- state : PowerupState
- size : int
- player : player.Player
- balls : ArrayList<Ball>
- powerupStates : Class[]
- speed : int
- speedLevel : int
- used : boolean
- + Powerup(x : double, y : double, speedLevel : int, player : player.Player, balls : ArrayList<Ball>)
- + getRect() : Rectangle2D
- + draw(g : Graphics)
- setState(state : PowerupState)
- + update()
- + isUsed() : boolean
- + belowLine(y : double) : boolean

**«datatype» ArrayList<Ball>**

**«interface» ImageState**

- + getImage() : String

**FirePowerupState**

- image : String
- + getImage() : String
- + applyPowerup(player : player.Player, balls : ArrayList<Ball>, speedLevel : int)

**InvertPlayerPowerupState**

- image : String
- + applyPowerup(player : player.Player, balls : ArrayList<Ball>, speedLevel : int)
- + getImage() : String

**UnstablePlayerPowerupState**

- image : String
- + applyPowerup(player : player.Player, balls : ArrayList<Ball>, speedLevel : int)
- + getImage() : String

**PlayerDecreasePowerupState**

- image : String
- + getImage() : String
- + applyPowerup(player : player.Player, balls : ArrayList<Ball>, speedLevel : int)

**MoreBallsPowerupState**

- maxBalls : int
- image : String
- + getImage() : String
- + applyPowerup(player : player.Player, balls : ArrayList<Ball>, speedLevel : int)

**PlayerIncreasePowerupState**

- image : String
- + getImage() : String
- + applyPowerup(player : player.Player, balls : ArrayList<Ball>, speedLevel : int)

**NormalPlayerPowerupState**

- image : String
- + applyPowerup(player : player.Player, balls : ArrayList<Ball>, speedLevel : int)
- + getImage() : String

