StartScreen

- initInput()
+ draw()

HowToPlayScreen

+draw()

GameController

- level: Level
- player: Player:
- levelFactory: LevelFactory
- collisionDetection: CollisionDetection
- score: number
- highscore: number
- levelNumber : number
- isStartingNextLevel: boolean
- countDown: number
- isStartGame: boolean
- isGameOver: boolean
- scoreboard: Scoreboard
- startScreen: StartScreen I undefined
- gameOverScreen: GameOverScreen I undefined

+ GameController(showStartScreen: boolean)
+ update()
+ draw()
- saveHighscore()
- isPlayerDead(): boolean
- startNextLevel()
- displayCountDown()
- updateScore(itemscore: number)

Player

- position: Position
- xVelocity: number;
- yVelocity: number;
- speed: number;
- diameter: number;
- bouncePower: number;
- maxSpeed: number;
- color: p5.Color;
- borderColor: p5.Color;
- history: p5.Vector[]

+ Player(x: number, y: number,
          xVelocity: number, yVelocity: number,
          speed: number, diameter: number)
+ move();
+ bounceOnBlock(pos: Position): boolean
+ drawPlayer();
+ changeColor(color: p5.Color, borderColor: p5.Color)'
- gravity();

CollisionDetection

+ playerCollidedWithBlock(Player, Block): boolean
+ playerCollidedWithItem(Player, Block): boolean

Scoreboard

+ Scoreboard(score: Number, highscore: Number, lev

+ draw()
- drawText()
- drawPoints(score: Number, highscore: Number, leve
- drawBoard()

Position

- x : number
- y : number

+ Position(x: number,
          y: number)
+ getX() : number
+ getY() : number

Level

- levelObjects: GameObject[]
- levelProgress: number
- pointsAnimation: PointsAnimation[]
- speed: number
- startColor: p5.Color
- endColor: p5.Color
- isLevelDone: boolean

+ Level(gameObjects: GameObject[], startColor: p5.Color, endColor: p5.Color)
+ updateLevel()
+ updatePointsAnimation()
+ drawLevel()
+ pickUpItem(objectToRemove: Item)
- createCloud(y: number)
- checkIfLevelIsDone(): boolean

LevelFactory

+ createLevel(level: number)
- createLevelObject(levelMap: LevelMap) : GameObject[]
- levelOne()
- levelTwo()
- levelThree()
- levelFour()

pointsAnimation

- position: Position
- points: number
- gravity: number
- velocity: p5.Color

GameObject

- position: Position
- width: number

GameOverScreen

+ GameOverScreen(playerScore: Number)
- playButton: p5.Element
- quitButton: p5.Element
- playerScore
- highscoreList: Highscore[]

- getTop5Scores(): Highscore[]
- displayHighscoreList()
- restartGame()
- quitGame()
+ draw()

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el: Number)

l: Number)

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```
+ PointsAnimation(pos: Position,
                  points: number)
+ draw()
+ move()
```

```
- height : number
- image : p5.Image
```

$\underset{1}{\cdot}$ draw()

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Extends

child

child

child

FragileBlock

- isDestroyed: boolean

```
+ FragileBlock(
        x: number,
        y: number,
        width: number,
        height: number,
        image: p5.Image)
+ destroy()
+ isDestroyed() : boolean
```

Block

-

```
+ Block(x: number,
        y: number,
        width: number,
        height: number,
        image: p5.Image)
```

Item

- points: number

```
+ Item(x: number,
       y: number,
       width: number,
       height: number,
       image: p5.Image)
+ getPosition(): Position
```

Extends

SpeedBoost

- speed: number
- maxSpeed: number
- duration: number

```
+ SpeedBoost(x: number,  y: number,
        width: number, height: number,
        image: p5.Image)
+ applySpeedBoost(player: Player)
```