c CollisionsEngine

- uniqueInstance: CollisionsEngine
- chunks: List<List<Collider>>
- toUpdate: Set<Collider>
- CollisionsEngine()
- instance(): CollisionsEngine
- checkCollision(c1: Collider, c2: Collider, axis: Axis)
- update()
- checkCollisions(collidersToCheck: Iterable<Collider>, axis: Axis)
- calculateChunk(minX: int, maxX: int): int[]
- calculateChunk(collider: Collider): int[]
- add(collider: Collider)
- remove(item: Collider)
- getCollidersInRange(lowerBound: int, higherBound: int): Iterable<Collider>
- addToUpdate(c: Collider)



- SECOND: int
- ♦ FPS: int
- uniqueInstance: Game
- toUpdateRegistry: Set<UpdatableEntity>
- keysStatus: Map<Integer, KeyStatus>
- currLevel: Level
- mario: Mario
- run: boolean
- pause: boolean
- boolean pauseKeyAlreadyPressed = false
- Game()
- instance(): Game
- registerToUpdate(e: UpdatableEntity)
- unregisterToUpdate(e: UpdatableEntity)
- getKeyStatus(key: int): KeyStatus
- loop()
- main(args: String[])
- windowActivated(e: WindowEvent)
- windowClosed(e: WindowEvent)
- windowClosing(e: WindowEvent)
- windowDeactivated(e: WindowEvent)
- windowDeiconified(e: WindowEvent)
- windowIconified(e: WindowEvent)
- windowOpened(e: WindowEvent)
- keyPressed(arg0: KeyEvent)
- keyReleased(arg0: KeyEvent)
- keyTyped(arg0: KeyEvent)
- checkPause()

GraphicEngine

- uniqueInstance: GraphicEngine
- ♦ frame: IFrame
- panel: JPanel
- onScreen: Set<GraphicElement>
- position: int
- getPosition(): int
- setPosition(x: int)
- translate(dx: int)
- GraphicEngine()
- instance(): GraphicEngine
- drawFrame()
- addGraphicElement(e: GraphicElement)
- removeGraphicElement(e: GraphicElement)
- getPanelSize(): Dimension
- scrollScreen(velocity: int) {



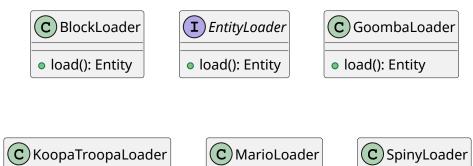


- time: Duration
- points: int
- ♦ background: Image
- Level(t: Duration)
- getPoints(): int
- addPoints(p: int)
- substractPoints(p: int)



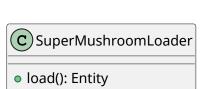
LevelReader

- ♦ CHUNK: int
- uniqueInstance: LevelReader
- loaders: Map<Character, EntityLoader>
- LevelReader()
- instance(): LevelReader
- createLevel(file: String): Level
- loadScreen()
- loadEntities(br: BufferedReader)

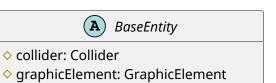


load(): Entity

load(): Entity



load(): Entity



- graphicElement: GraphicElement
- getCollider(): Collider
- getGraphicElement(): GraphicElement



- loaded: boolean
- load()
- unload()
- loaded(): boolean



- Block()
- getDamage()

(I) Enemy

- getPoints(): int clone(): Entity
- update()



- getGraphicElement(): GraphicElement
- getCollider(): Collider

Goomba

- □ movingRight: boolean
- □ int speedX = 1 // Velocidad horizontal
- Goomba()
- clone(): Entity
- getDamage()
- getPoints(): int
- switchDirection()
- update()

(c)KoopaTroopa

- movingRight: boolean
- KoopaTroopa()
- getDamage()
- getPoints(): int
- clone(): Entity
- switchDirection()
- update()

(C

Mario

- speedX: int
- ♦ speedY: int
- ♦ lifes: int
- ♦ loaded: boolean
- jumping: boolean
- direction: Direction
- qravity: float
- jumpForce: int
- Mario()
- clone(): Entity
- getJumping(): boolean
- setJumping(j: boolean)
- update()
- land()
- startJump()
- handleVerticalMovement()
- handleHorizontalMovement()

Spiny

- movingRight: boolean
- ♦ speedX: int
- Spiny()
- getDamage()
- getPoints(): int
- clone(): Entity
- switchDirection()
- update()



(C) SuperMushroom

- points: int
- movingRight: boolean
- ♦ speedX: int
- SuperMushroom()
- clone(): Entity
- switchDirection()
- update()



(I) UpdatableEntity

- update()
- loaded(): boolean
- load()
- unload()

GameGraphicElement

- entity: Entity ♦ label: JLabel
- sprite: ImageIcon ♦ bounds: Rectangle ♦ toUpdate: boolean
- GameGraphicElement(e: Entity)
- GameGraphicElement(e: Entity, s: ImageIcon)
- getEntity(): Entity
- translate(dx: int, dy: int)
- getPosition(): Point
- setPosition(x: int, y: int)
- getSprite(): ImageIcon
- setSprite(s: ImageIcon)
- draw()
- getLabel(): JLabel



I GraphicElement

- getEntity(): Entity
- translate(dx: int, dy: int)
- getPosition(): Point
- setPosition(x: int, y: int)
- getSprite(): ImageIcon
- setSprite(s: ImageIcon)
- getLabel(): JLabel
- draw()



- BlockCollision(c: BlockCollider)
- getCollider(): BlockCollider
- collide(c: MarioCollider, a: Axis)
- collide(c: BlockCollider, a: Axis)
- collide(c: ScreenDisplacementCollider, a: Axis)

(C) BlockCollision

- collide(c: ScreenBorderCollider, a: Axis)
- collide(c: SpinyCollider, a: Axis)
- collide(c: GoombaCollider, a: Axis)
- collide(c: KoopaTroopaCollider, a: Axis)
- collide(c: SuperMushroomCollider, a: Axis)
- collide(c: LoaderCollider, a: Axis)

(I) Collision

- getCollider(): Collider
- collide(c: MarioCollider, a: Axis)
- collide(c: BlockCollider, a: Axis)
- collide(c: ScreenDisplacementCollider, a: Axis)
- collide(c: ScreenBorderCollider, a: Axis)
- collide(c: GoombaCollider, a: Axis)
- collide(c: SpinyCollider, a: Axis)
- collide(c: KoopaTroopaCollider, a: Axis)
- collide(c: SuperMushroomCollider, a: Axis)
- collide(c: LoaderCollider, a: Axis)



- collider: GoombaCollider
- GoombaCollision(c: GoombaCollider)
- getCollider(): GoombaCollider
- collide(c: MarioCollider, a: Axis)
- collide(c: BlockCollider, a: Axis)
- collide(c: ScreenDisplacementCollider, a: Axis)
- collide(c: ScreenBorderCollider, a: Axis)
- collide(c: SpinyCollider, a: Axis)
- collide(c: KoopaTroopaCollider, a: Axis)
- collide(c: SuperMushroomCollider, a: Axis)
- collide(c: GoombaCollider, a: Axis)
- collide(c: LoaderCollider, a: Axis)

(C) KoopaTroopaCollision

E)Axis

♦ collider: KoopaTroopaCollider

- KoopaTroopaCollision(k: KoopaTroopaCollider)
- getCollider(): KoopaTroopaCollider
- collide(c: MarioCollider, a: Axis)
- collide(c: BlockCollider, a: Axis)
- collide(c: ScreenDisplacementCollider, a: Axis)
- collide(c: ScreenBorderCollider, a: Axis)
- collide(c: SpinvCollider, a: Axis)
- collide(c: KoopaTroopaCollider, a: Axis)
- collide(c: SuperMushroomCollider, a: Axis)
- collide(c: GoombaCollider, a: Axis)
- collide(c: LoaderCollider, a: Axis)

(C) LoaderCollision

loader: LoaderCollider

- LoaderCollision(I: LoaderCollider)
- getCollider(): Collider
- collide(c: MarioCollider, a: Axis)
- collide(c: BlockCollider, a: Axis)
- collide(c: ScreenDisplacementCollider, a: Axis)
- collide(c: ScreenBorderCollider, a: Axis)
- collide(c: GoombaCollider, a: Axis)
- collide(c: SpinyCollider, a: Axis)
- collide(c: KoopaTroopaCollider, a: Axis)
- collide(c: SuperMushroomCollider, a: Axis)
- collide(c: LoaderCollider, a: Axis)

(C) MarioCollision

collider: MarioCollider

- MarioCollision(m: MarioCollider)
- getCollider(): MarioCollider
- collide(c: MarioCollider, a: Axis)
- collide(c: BlockCollider, a: Axis)
- collide(c: ScreenDisplacementCollider, a: Axis)
- collide(c: ScreenBorderCollider, a: Axis)
- collide(c: SpinyCollider, a: Axis)
- collide(c: SuperMushroomCollider, a: Axis)
- collide(c: GoombaCollider, a: Axis)
- collide(c: KoopaTroopaCollider, a: Axis)
- collide(c: LoaderCollider, a: Axis)

(C) ScreenBorderCollision

collider: ScreenBorderCollider

- ScreenBorderCollision(c: ScreenBorderCollider)
- getCollider(): ScreenBorderCollider
- collide(c: MarioCollider, a: Axis)
- collide(c: BlockCollider, a: Axis)
- collide(c: ScreenDisplacementCollider, a: Axis)
- collide(c: ScreenBorderCollider, a: Axis)
- collide(c: SpinyCollider, a: Axis)
- collide(c: SuperMushroomCollider, a: Axis)
- collide(c: GoombaCollider, a: Axis)
- collide(c: KoopaTroopaCollider, a: Axis)
- collide(c: LoaderCollider, a: Axis)

© ScreenDisplacementCollision

collider: ScreenDisplacementCollider

- ScreenDisplacementCollision(c: ScreenDisplacementCollider)
- getCollider(): ScreenDisplacementCollider
- collide(c: MarioCollider, a: Axis)
- collide(c: BlockCollider, a: Axis)
- collide(c: ScreenDisplacementCollider, a: Axis)
- collide(c: ScreenBorderCollider, a: Axis)
- collide(c: SpinyCollider, a: Axis)
- collide(c: SuperMushroomCollider, a: Axis)
- collide(c: GoombaCollider, a: Axis)
- collide(c: KoopaTroopaCollider, a: Axis)
- collide(c: LoaderCollider, a: Axis)

(C) SpinyCollision

- collider: SpinyCollider
- SpinyCollision(c: SpinyCollider)
- getCollider(): SpinyCollider
- collide(c: MarioCollider, a: Axis)
- collide(c: BlockCollider, a: Axis)
- collide(c: ScreenDisplacementCollider, a: Axis)
- collide(c: ScreenBorderCollider, a: Axis)
- collide(c: SpinyCollider, a: Axis)
- collide(c: SuperMushroomCollider, a: Axis)
- collide(c: GoombaCollider, a: Axis)
- collide(c: KoopaTroopaCollider, a: Axis)
- collide(c: LoaderCollider, a: Axis)

(C) SuperMushroomCollision

- collider: SuperMushroomCollider
- SuperMushroomCollision(c: SuperMushroomCollider) getCollider(): SuperMushroomCollider
- collide(c: MarioCollider, a: Axis)
- collide(c: BlockCollider, a: Axis)
- collide(c: ScreenDisplacementCollider, a: Axis)
- collide(c: ScreenBorderCollider, a: Axis)
- collide(c: GoombaCollider, a: Axis)
- collide(c: SpinyCollider, a: Axis)
- collide(c: KoopaTroopaCollider, a: Axis)
- collide(c: SuperMushroomCollider, a: Axis)
- collide(c: LoaderCollider, a: Axis)



getCollider(): UpdateableEntityCollider