<<interface>>
IGraphic

+*setSprite(sprite:PImage): void*

+*draw(app:PApplet): void*

+*getX(): int*

+*getY(): int*

Figure

#x: int

#y: int

#spriteTimer: int

#replaceX int

#replaceY: int

-sprite: PImage

#downSprite1: boolean

#downSprite2: boolean

#downSprite3: boolean

#downSprite4: boolean

#rightSprite1: boolean

#rightSprite2: boolean

#rightSprite3: boolean

#rightSprite4: boolean

#upSprite1: boolean

#upSprite2: boolean

#upSprite3: boolean

#upSprite4: boolean

#leftSprite1: boolean

#leftSprite2: boolean

#leftSprite3: boolean

#leftSprite4: boolean

#moveDown: boolean

#moveLeft: boolean

#moveUp: boolean

#moveRight: boolean

#replace: boolean

#reset: boolean

+RENDER_SPRITE: int = 0.2 {readOnly}

+*tick(): void*

+setSprite(sprite:PImage): void

+draw(app:PApplet): void

+getX(): int

+getY(): int

Icons

#x: int

#y: int

-sprite: PImage

+setSprite(sprite:PImage): void

+draw(app:PApplet): void

+getX(): int

+getY(): int

Clock

Player

BrokenWall

EmptyTile

Wall

Explosion

-sprite:PImage

+setSprite(sprite:PImage): void

+draw(app:PApplet, x:int, y:int):

```
+getDownSprite1(): boolean
+getDownSprite2(): boolean
+getDownSprite3(): boolean
+getDownSprite4(): boolean
+getRightSprite1(): boolean
+getRightSprite2(): boolean
+getRightSprite3(): boolean
+getRightSprite4(): boolean
+getUpSprite1(): boolean
+getUpSprite2(): boolean
+getUpSprite3(): boolean
+getUpSprite4(): boolean
+getLeftSprite1(): boolean
+getLeftSprite2(): boolean
+getLeftSprite3(): boolean
+getLeftSprite4(): boolean
+resetSpriteTimer(): void
+spriteTick(): void
+wallReplace(): void
+gameReset(): void
+resetReplace(): void
```

<<interface>>
IUserControllable

```
+tick(): void
+pressLeft(): void
+pressRight(): void
+pressUp(): void
+pressDown(): void
+pressSpace(): void
+bombReady(): boolean
+bombDeployed(): void
+nextLevel(): void
```

Enemy

```
+SECONDS_BETWEEN_MOVES: int = 1 {readOnly}
#enemyRemoved: boolean
```
```
+remove(): void
+isRemoved(): boolean
```

BombGuy

```
-levels: DynamicMatrix
-level1: ArrayList<String>
-level2: ArrayList<String>
-individualRow: ArrayList<String>
-deployBomb: boolean
-setLevel1: boolean
-bombGuyRow: int
-bombGuyColumn: int
-currentRow: String
-sprite: PImage
```
```
+tick(): void
+pressLeft(): void
+pressRight(): void
+pressUp(): void
+pressDown(): void
+pressSpace(): Bomb
+bombReady(): boolean
+bombDeployed(): void
+nextLevel(): void
+getSetLevel1(): boolean
+getSetLevel2(): boolean
```

YellowEnemy

```
-timer: int
-yellowEnemyRow: int
-yellowEnemyColumn: int
-levels: DynamicMatrix
-level1: ArrayList<String>
-individualRow: ArrayList<String>
-currentRow: String
-sprite: PImage
```
```
+tick(): void
+timerUndo(): void
```

RedEnemy

```
-timer: int
-redEnemyRow: int
-redEnemyColumn: int
-levels: DynamicMatrix
-level1: ArrayList<String>
-individualRow: ArrayList<String>
-currentRow: String
-sprite: PImage
```
```
+tick(): void
+timerUndo(): void
+setMoveRight(): void
+setMoveLeft(): void
+setMoveUp(): void
+setMoveDown(): void
```

TextDisplay

#x: int

#y: int

#colourOne: float

#colourTwo: float

#colourThree: float

#font: PFont

#size: float

#charSet: char[]

+*text(app:PApplett): void*

+fill(app:PApplet): void

+createFont(app:PApplet, fontName:String)

+textFont(font:PFont, size:float): void

+textSize(app:PApplet): void

+getX(): int

+getY(): int

Time

-timeCount: int

-timer: int

+SECONDS_BETWEEN_TIME: int = 1 {readOnly}

+*text(app:PApplet): void*

+tick(): void

+getTimeCount(): int

+timerReset(): void

EndScreen

-line: String

+*text(app:PApplet): void*

Lives

-numberLives: int

-sprite: PImage

+*text(app:PApplet): void*

+getNumberLives(): int

+loseLife(): void

+resetLives(): void

DynamicMatrix

-level1: ArrayList<String>

-level2: ArrayList<String>

+getLevel1(): ArrayList<String>

+replaceBrokenWall(level:ArrayList<String>, x:int, y:int): ArrayList<String>

+resetLevel1(level1:ArrayList<String>): void

+getLevel2(): ArrayList<String>

+resetLevel2(level2:ArrayList<String>): void

Runner

-levels: DynamicMatrix

-level1: ArrayList<String>

-level2: ArrayList<String>

-clock: Clock

-player: Player

-bombGuy: BombGuy

-yellowEnemy: YellowEnemy

-redEnemy: RedEnemy

-bombMade: boolean

-resetLevel: boolean

-setLevel1: boolean

-setLevel2: boolean

-gameOver: boolean

-winGame: boolean

-explosionStart:boolean

-lives: Lives

-time: Time

-endScreen: EndScreen

-bomb: Bomb

-lastXCoord: int

-lastYCoord: int

-explosionTimer: int

-explosion: Explosion

+EXPLOSION_COUNTDOWN: double = 0.5 {readOnly}

+run(): void

+getBombMade(): boolean

+getResetLevel(): boolean

+getSetLevel1(): boolean

+getSetLevel2(): boolean

+getGameOver(): boolean

+getWinGame(): boolean

+getLevels(): DynamicMatrix

+getFirstLevel(): ArrayList<String>

+getSecondLevel(): ArrayList<String>

+getClock(): Clock

+getPlayer(): Player

+getBombGuy(): BombGuy

+getYellowEnemy(): YellowEnemy

+getRedEnemy(): RedEnemy

+getLives(): Lives

+getTime(): Time

+getBomb(): Bomb

App

+WIDTH: int = 480 {readOnly}

+HEIGHT: int = 480 {readOnly}

+FPS: int = 60 {readOnly}

-wall: Wall

-xTracker: int

-font: PFont

-runner: Runner

-clock: Clock

-player: Player

-yellowEnemy: YellowEnemy

-redEnemy: RedEnemy

-bombGuy: BombGuy

-lives: Lives

-bomb: Bomb

-time: Time

-levels: DynamicMatrix

-endScreen: EndScreen

-explosion: Explosion

+settings(): void

+setup(): void

+draw(): void

+keyPressed(): void

+getExplosion(): Explosion

+getExplosionStart(): boolean

+keyLeft(): void

+keyRight(): void

+keyUp(): void

+keyDown(): void

+keySpace(): void

+setSecondLevel(): void

+bombSetBrokenWallDown2(): void

+bombSetBrokenWallUp2(): void

+bombSetBrokenWallLeft2(): void

+bombSetBrokenWallRight2(): void

+setBombGuy(bombGuy:BombGuy): void

Bomb
-x: int
-y: int
-timer: int
-bombRow: int
-bombColumn: int
-spriteTimer: int
-sprite: PImage
+COUNTDOWN: int = 2 {readOnly}
-exploded: boolean
-blockedUp: boolean
-blockedDown: boolean
-blockedLeft: boolean
-blockedRight: boolean
-setLevel1: boolean
-blockedUp2: boolean
-blockedDown2: boolean
-blockedLeft2: boolean
-blockedRight2: boolean
-levels: DynamicMatrix
-level: ArrayList<String>
-individualRow: ArrayList<String>
-brokenWallUp1: boolean
-brokenWallDown1: boolean
-brokenWallLeft1: boolean
-brokenWallRight1: boolean
-brokenWallUp2: boolean
-brokenWallDown2: boolean
-brokenWallLeft2: boolean
-brokenWallRight2: boolean
-bombSprite1: boolean
-bombSprite2: boolean
-bombSprite3: boolean
-bombSprite4: boolean
-bombSprite5: boolean
-bombSprite6: boolean
-bombSprite7: boolean
-bombSprite8: boolean

+tick(): void

+spriteTick(): void

+setSprite(sprite:PImage): void

+draw(app:PApplet): void

+isExploded(): boolean

+detonate(): void

+getX(): int

+getY(): int

+getBlockedLeft(): boolean

+getBlockedRight(): boolean

+getBlockedUp(): boolean

+getBlockedDown(): boolean

+getBlockedLeft2(): boolean

+getBlockedRight2(): boolean

+getBlockedUp2(): boolean

+getBlockedDown2(): boolean

+getBrokenWallUp1(): boolean

+getBrokenWallDown1(): boolean

+getBrokenWallLeft1(): boolean

+getBrokenWallRight1(): boolean

+getBrokenWallUp2(): boolean

+getBrokenWallDown2(): boolean

+getBrokenWallLeft2(): boolean

+getBrokenWallRight2(): boolean

+getBombSprite1(): boolean

+getBombSprite2(): boolean

+getBombSprite3(): boolean

+getBombSprite4(): boolean

+getBombSprite5(): boolean

+getBombSprite6(): boolean

+getBombSprite7(): boolean

+getBombSprite8(): boolean

+nextLevel(): void

+updateMap(x:int, y:int): void

+resetMap(): void

+setBrokenWallDown2(): void

+setBrokenWallUp2(): void

+setBrokenWallLeft2()(): void

+setBrokenWallRight2(): void