Level

-DEFAULT_NROWS: int
-DEFAULT_NCOLS: int
-tickNum: Integer
-map: Tile[][]
-player: PlayerMobilEntity
-winSystem: winSystem

<<constructor>> +Level()
<<constructor>> +Level(int, int)
+addEntity(Entity, Coord): boolean
+tick(): void
+getPlayer(): PlayerMobileEntity
-getTile(Coord): Tile
-getTile(Coord, Direction):Tile
+toString(): String
+movePlayer(Direction): void
+playerDo(Action, Direction): void
+hasWon(): boolean
+hasLost(): boolean
+placeSwitch(Coord): boolean
+inventoryString(): String
+placeWall(Coord): void
+placePit(Coord): void
+placeExit(Coord): void
+placeDoor(Coord): void
+moveEntity(MobileEntity, Direction): Collision
+removeEntity(Entity, Coord): void
+moveEntity(MobileEntity, Direction): Collision
+enableWinCondition(WinType): void
+placeEntity(Entity, Coord): void
+killEnemyEntities(Coord): boolean
+checkSpecialTile(Coord, Object): boolean

GameController

<<constructor>> +GameController()
-strToDirection(String): Direction
-performAction(Level, String): void
-action(String): Action
-isAction(String): Direction
+main(String[]): void

<<Enumeration>> Action

ARROW
SWORD
BOMB
CONSUME

<<constructor>> +Action()

<<Enumeration>> Collision

MOVE
NOMOVE

<<constructor>> +Collision()

<<Interface>> EntityMover

+moveEntity(MobileEntity, Direction): Collision
+removeEntity(Entity, Coord): void
+moveEntity(MobileEntity, Coord): Collision
+placeEntity(Entity, Coord): void
+killEnemyEntities(Coord): boolean
+checkSpecialTile(Coord, Object): boolean

<<Interface>> Collidable

+collide(MobileEntity): Collision

Entity

-coord: Coord
#entityMover: entityMover

<<constructor>> +Entity(Coord)
+getCoord(): Coord
+getCoord(Direction): Coord
+tick(Integer): void
+removeFromTile(): void
+setCoord(Coord): void
+equals(ObjectO: boolean
+setEntityMover(EntityMover): void
+getSprite(): String

WinSystem

-winConditions: List<WinCondition>
-winEnabled: Set<WinType>

- winConditions : List<WinCondition>
<<constructor>> +WinSystem()+getType(): WinType
+setType(WinType): void
+newWinCondition(WinType): WinCondition
-addWinCondition(WinCondition): void
+enableWinCondition(WinType): void
+disableWinConditon

Tile

- coord: Coord
-entities: ArrayList<Entity>
-enemyCondition: WinCondition

<<constructor>> +Tile(Coord)
+tick(int): void
+containsEntity(Entity): boolean
+addEntity(Entity): boolean
+removeEntity(Entity): void
+collide(MobileEntity): Collision
+collideExt(MobileEntity, Collision): Collision
#updateWinCondition(): void
+getCoord(): Coord
+getSprite(): String
+killEnemyEntities(): boolean
-getEntities(): List<Entity>

Coord

-x: Integer
-y: Integer

<<constructor>> +Coord(Integer, Integer)
+getX(): Integer
+setX(Integer): void
+getY(): Integer
+setY(Integer): void
+add(Direction): Coord
+minusX(Coord): Direction
+minusY(Coord): Direction
+toString(): String
+equals(Object): boolean

Entity

MobileEntity

-movement: Movement
-lastTick: Integer

<<constructor>> +MobileEntity(Coord)
<<constructor>> +MobileEntity(Coord, Movement)
+tick(Integer): void
+move(): void
+move(Coord): void
+getDirection(): Direction
+setDirection(Direction): void
+canFly(): boolean
+pushEntity(): boolean
+setKeyCode(int): void
+getKeyCode(): int
+nextCoord(): Coord
+setMovement(Movement): void
+getMovement(): Movement

+pickup(UsableEntity): boolean
+killPlayer(): boolean
+killEnemy(): boolean

<<Interface>>
Movement

+nextCoord(): Coord
+canFly(): boolean
+pushEntity(): boolean
+canDie(): boolean
+getDirection(): Direction
+setDirection(Direction): void
+getCoord(): Coord
+getCoord(Direction): Coord

EntityTrackingMovement

-direction: Direction
-entity: MobileEntity

<<constructor>> +EntityTrackingMovement(MobileEntity)
+nextCoord(): Coord
+getDirection():Direction
+setDirection(Direction): void
+getCoord(): Coord
+getCoord(Direction):Coord

BoulderMovement

<<constructor>> +BoulderMovement(MobileEntity
+nextCoord(): Coord

PlayerMovement

<<constructor>> +PlayerMovement(MobileEntity)
+pushEntity(): boolean
+nextCoord(): Coord

InvincibilityBonusAction

-time: LocalTime

<<constructor>> +InvincibilityBonusAction(Movement)
+canDie(): boolean

MovementBonus

-baseMovement: Movement

- baseMovement: Movement

<<constructor>> +MovementBonus(Movement)+
+canFly(): boolean
+pushEntity(): boolean
+canDie(): boolean
+getDirection(): Direction
+setDirection(Direction): void
+getCoord(): Coord
+getCoord(Direction): Coord

HoverBonusMovement

<<constructor>> +HoverBonusMovement(Movement)
+canFly(): boolean

<<Enumeration>>
Direction

UP
DOWN
LEFT
RIGHT
CENTRE

<<constructor>> +Direction()

1
1
1

MobileEntity

BoulderMobileEntity

<<constructor>> +BoulderMobileEntity(Coord)
+collide(MobileEntity): Collision
+pickup(UsableEntity): boolean
+killPlayer(): boolean
+killEnemy(): boolean
+getSprite(): String

PlayerMobileEntity

-inventory: ArrayList<UsableEntity>
-alive: boolean
-keyCode: int

<<constructor>> +PlayerMobileEntity(Coord)
<<constructor>> +PlayerMobileEntity(Coord, Movement)
+setCoord(Coord): void
+useItem(UsableEntity): boolean
+noTreasure(): int
+collide(MobileEntity): Collision
+nextCoord(): Coord
+getSprite(): String
+pickup(UsableEntity): boolean
+inventoryString(): String
+killPlayer(): boolean
+killEnemy(): boolean
+isAlive(): boolean
+getKeyCode(): int
+setKeyCode(int): void

EnemyMobileEntity

-level: Level

<<constructor>> +EnemyMobileEntity(Coord)
+collide(MobileEntity): Collision
+pickup(UsableEntity): boolean
+killPlayer(): boolean
+getSprite(): String

ShootingArrowMobileEntity

<<constructor>> +ShootingArrowEntity(Coord)
+collide(MobileEntity): Collision
+pickup(UsableEntity): boolean
+killPlayer(): boolean
+killEnemy(): boolean
+getSprite(): String

HoverPotion

<<constructor>> +InvincibilityEntity(Coord)
+collide(MobileEntity): Collision
+use(Direction): Boolean
+getSprite(): String

ArrowUsableEntity

<<constructor>> +ArrowUsableEntity(Coord)
+use(Direction): Boolean
+getSprite(): String

SwordUsableEntity

-noOfUses: int

<<constructor>> SwordUsableEntity(Coord)
+use(Direction): Boolean
+getSprite(): String

KeyUsableEntity

-keyCode: int

-keyCodeGenerator: int

<<constructor>> +KeyUsableEntity(Coord)
+collide(MobileEntity): Collision
+getSprite(): String
-generateKeyCode(): int

UnlitBombUsableEntity

<<constructor>> +UnlitBombUsableEntity(Coord)
+use(Direction): Boolean
+getSprite(): String

Entity

UsableEntity

<<constructor>> +UsableEntitu(Coord)
+collide(MobileEntity): Collision
+use(Direction): Boolean

TreasureEntity

<<constructor>> +TreasureEntity(Coord)
+use(Direction): Boolean
+getSprite(): String

InvincibilityEntity

<<constructor>> +InvincibilityEntity(Coord)
+collide(MobileEntity): Collision
+use(Direction): Boolean
+getSprite(): String