Design Class Diagram

OreSim

- grid: MapGrid
- **+ BORDER_COLOR: Color**
- ores: Ore[]
- targets: Target[]
- pusher: Pusher
- bulldozer: Bulldozer
- excavator: Excavator
- isFinished: boolean
- isAutoMode: boolean
- properties: Properties
- gameDuration: double
- controls: List<String>
- movementIndex: int

- + OreSim(properties: Properties, grid: MapGrid)
- checkOresDone(): int
- + runApp(isDisplayingUI: boolean): String
- actorLocations(actors: List<Actor>): String
- updateStatistics(): void
- drawActors(): void
- drawBoard(): void
- + keyPressed(): boolean
- + keyReleased(): boolean
- updateLogResult(): void

Actor

- + act(): void
- + getDirection(): Location
- + setDirection(direction: Double): void
- + setLocation(location: Location): void

Location

- + getNeighbourLocation (compassDir: Location.CompassDirection) Location

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<<Abstract>> OreSimObject

- + OreSimObject (isRotatable: boolean, filename: String, nbSprites: int)
- + OreSimObject(filename: String, nbSprites: int)
- + OreSimObject(filename: String)
- # getOreSimObjectsAt (location: Location): ArrayList<OreSimObject>
- # getOneOreSimObjectAt (location: Location, clazz: Class): OreSimObject

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Rock

Clay

Target

Ore

- + moveOre(ore: Ore, BORDER_COLOR: Color): boolean

<<enumeration>> ElementType

- + OUTSIDE
- + EMPTY
- + BORDER
- + PUSHER
- + BULLDOZER
- + EXCAVATOR
- + ORE
- + ROCK
- + CLAY
- + TARGET

- + ElementType (shortType: String)
- + getShortType(): String
- **+ getElementByShortType (shortType: String): ElementType**

<<Abstract>> OreSimMachine

- + autoMovementIndex: int
- + machineMoves: int
- + objectRemoved: int
- # controls: List<String>

- + OreSimMachine (isRotatable: boolean, filename: String, nbSprites: int)
- + setupMachine(controls: List<String>): void
- *+ autoMoveNext(): void*
- *+ canMove(location: Location): boolean*
- + clearObject(object: OreSimObject): boolean
- + moveMachine(machine: OreSimMachine, move: String): Location

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Pusher

- + autoMoveNext(): void
- + canMove(location: Location): boolean

Bulldozer

- + autoMoveNext(): void
- + canMove(location: Location): boolean

Excavator

- + autoMoveNext(): void
- + canMove(location: Location): boolean

MapGrid

- nbHorzCells: int
- nbVertCells: int
- mapElements: int[][]

- + MapGrid(model: int)
- + getNbHorzCells(): int
- + getNbVertCells(): int
- + getNbOres(): int
- + getCall (location: Location): ElementType

Driver

- **+ DEFAULT PROPERTIES PATH: String**
- **+ main(args: String[]): void**

PropertiesLoader

- **+ loadPropertiesFile (propertiesFile: String): Properties**

Relationships:
- OreSim 1 — draws — * Actor
- Actor 1 — moves to — 1 Location
- OreSim << uses >> Location
- Actor << moves to >> Location
- OreSim 1 — uses — * OreSimObject
- OreSim << uses >> ElementType
- OreSim 1 — uses — 1 MapGrid
- Driver << runs >> OreSim
- Driver 1 — creates — 1 MapGrid
- Driver << uses >> PropertiesLoader