<<enumerstion>>
SurfaceType

HARD
LIQUID
SAND
GRAVEL
ROCKS
BOULDERS

+ getSurfaceName():String

GridSquare

- x:Integer
- y:Integer
- altitude:Integer
- surfaceType:SurfaceType

+ getX():Integer
+ getY():Integer
+ setX(Integer):void
+ setY(Integer):void
+ getSurfaceType(): SurfaceType
+ getAltitude(): Integer

GridReference

- x:Integer
- y:Integer

+ getX():Integer
+ getY():Integer
# setX(Integer):void
# setY(Integer):void

Heading

- heading:Compass

+ getHeading(): Integer
# setHeading(Compass)
+ getHeadingName(): String
+ getHeadingLetter(): String
+ RotateLeft(): void
+ RotateRight(): void
+ peekMove(maxX, maxY): Heading

Capability

- id:Integer
- name:String
- description:String
- capability:CapabilityType

+ getId():Integer
+ getName():String
+ getDescription():String
+ getCapabilityType():CapabilityType
+ perfomCapabiltiy():void
+ sendResult(): String

<<enumerstion>>
CapabilityType

DRILL
COLLECTOR
SPECTROMETER
ARM
CAMERANIGHTVISION
CAMERAINFRARED
CAMERAVISIBLELIGHT
CAMERABLACKWHITE

<<enumeration>>
Compass

NORTH:0
EAST:90
SOUTH:180
WEST:270

+ rotateLeft(): void
+ rotateRight() void
+ getDegrees(): Integer
+ getCumpassName(): String
+ getCompassLetter(): String

PlanetSurface

- xSize:Integer
- ySize:Integer
- numberOfVehicles: Integer
- listOfVehicles: List Vechical
+ selectedVehicle: Vehicle
- surface[][]: GridSquare

+ getXSize():Integer
+ getYSize():Integer
+ isOccupied(Integer, Integer): Boolean
+ getSurfaceType(Integer, Integer): SurfaceType
+ getAltitude(Integer, Integer): Integer
+ selectVehicle(String): void
+ listVehicles(): String
+ displayMap(): String

PlanetSky

placeholder for 3D space for
drones

Vehicle

- transverses: List SurfaceType
- xMax:Integer
- yMax:Integer
- climbRate: Integer
- capabilities:List
- arms:List
- cameras:List
- drills:List
- collectors:List
- spectrometers:List
- selectedCapability:Capability
+ selectedArm:Arm
+ selectedCamera:Camera
+ selectedDrill:Drill
+ selectedCollector:Collector
+ selectedSpectrometer:Spectrometer

+ getLocation(): String
+ move(Interger,Integer): GridReference
+ canMove(GridSquare):Boolean
+ performCapability():void
+ sendResult():String
+ listCaspabilities(): String[]
+ selectArm(Integer):Boolean
+ selectCamera(Integer):Boolean
+ selectDrill(Integer):Boolean
+ selectCollector(Integer):Boolean
+ selectSpectrometer(Integer):Boolean

Spectrometer

- id:Integer
- name:String
- description:String
- capabilityType:CapabilityType

+ getId():Integer
+ getName():String
+ getDescription():String
+ getCapabilityType():CapabilityType
+ perfomCapabiltiy(): void
+ sendResult(): String

Collector

- id:Integer
- name:String
- description:String
- capabilityType:CapabilityType
- storageCapacity:float
- availableStorage:float

+ getId():Integer
+ getName():String
+ getDescription():String
+ getCapabilityType():CapabilityType
+ perfomCapabiltiy(): void
+ sendResult(): String
+ getAvailableStorage(): Integer
+ getStorageCapacity(): Integer

Drill

- id:Integer
- name:String
- description:String
- capabilityType:CapabilityType
- depth:Integer = MaxInteger
- minDepth:Integer
- maxDepth:Integer

+ getId():Integer
+ getName():String
+ getDescription():String
+ getCapabilityType():CapabilityType
+ perfomCapabiltiy(): void
+ sendResult(): void
+ setDepth(Integer): void
+ getIDepth(): Integer
+ getMinDepth(Integer): void
+ getMaxDepth(): Integer

Arm

- id:Integer
- name:String
- description:String
- capabilityType:CapabilityType
- height:Integer
- angle:Integer
- reach:Integer

+ getId():Integer
+ getName():String
+ getDescription():String
+ perfomCapabiltiy(): void
+ extenReach(Integer): void
+ reduceReach(Integer): void
+ moveRight(Integer): void
+ moveLeft(Integer): void
+ inreaseHeight(Integer): void
+ decreaseHeight(Integer): void
+ sendResult(): String

Camera

- id:Integer
- name:String
- description:String
- capabilityType:CapabilityType
- focalLength:Integer = MaxInteger
- apertureSize:double
- ISO:Integer
- minFocalLength:Integer
- maxFocalLength:Integer

+ getId():Integer
+ getName():String
+ getDescription():String
+ perfomCapabiltiy(): void
+ setISO(Integer): void
+ getISO(): Integer
+ setFocalLength(Integer): void
+ getFocalLength(): Integer
+ setApertureSize(Integer): void
+ getApertureSize(): Integer
+ getMinFocalLength(): Integer
+ getMaxFocalLength(): Integer
+ sendResult(): String

PlanetSunterranean

placeholder for 3D underground
space, example use:Elon's
hyperloop

Planet

- name:String
- distanceFromSun:Long
+ planetSurface:PlanetSurface
- planetSky:PlanetSky
- planetOrbit:PlanetOrbit
- planetSubterranean:planetSubterranean

+ RecievedCommand(String):String
+ getDistanceFromSun(): Long
+ getName():String

PlanetOrbit

placeholder for £D space,
example use: GPS, Comms,
Camers satalites

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made up of
1..*
has
1
has
has
rove's 0..*
1
has
has
has
has
has
1