

cd # Diary of project

FrameWork for: Evolutionary Algorithms for the Control of Heterogeneous Robotic Swarm

TODO:

REFACTOR WHOLE PROJECT
Add consuming fuel to effectors

Q&A:

Implementation:

- How long should be GetString();
- How to log?

Evolution:

- Radio sensor, what should it return?
- Added memory, does it make sense?

Scenary

Mineral refactoring

- Scout Robot
 - container size: 0
 - 3x FuelLineSensor
 - 3x LineTypeSensor
 - LocatorSensor
 - TypeCircleSensor
 - 3x TouchSensor
 - TwoWheelMotor
 - RadioTransmitter
 - RadioSensor
- Worker Robot
 - container size: 5
 - TwoWheelMotor
 - Picker
 - 3x FuelLineSensor
 - 3x LineTypeSensor
 - TouchSensor
 - LocatorSensor
 - RadioSensor
 - RadioTransmitter
- Refactor Robot
 - container size: 10
 - 1 LineTypeSensor
 - 1 FuelLineSensor
 - 3 TouchSensor
 - Picker
 - MineralRefactor
 - RadioSensor

Wood Cutting

- Scout Cutter
 - container size: 0
 - 3x FuelLineSensor
 - 3x LineTypeSensor
 - LocatorSensor
 - TypeCircleSensor
 - 3x TouchSensor
 - TwoWheelMotor
 - RadioTransmitter
 - RadioSensor
 - WoodRefactor
- Worker Robot
 - container size: 5
 - TwoWheelMotor
 - Picker
 - 3x FuelLineSensor
 - 3x LineTypeSensor
 - 3x TouchSensor
 - LocatorSensor
 - RadioSensor
 - RadioTransmitter

Competitive

- Light scout unit
 - container size: 0
 - 3xFuelLineSensor
 - 3xLineTypeSensor
 - LocatorSensor
 - TypeCircleSensor
 - 3x TouchSensor
 - TwoWheelMotor
 - RadioTransmitter
 - RadioSensor
 - 1x Weapon
- Heavy robot unit
 - container size: 5
 - TwoWheelMotor
 - 3xFuelLineSensor
 - 3xLineTypeSensor
 - 3x TouchSensor
 - LocatorSensor
 - RadioSensor
 - RadioTransmitter
 - 3 Weapon high damage

Days of actual sollution

- 05.05.2017 -
 - refactoring old solutions
 - object design(Entity was not created due to many abstract classes, no way to avoid virtual call)
 - sensor -> child of entity & inherit ISensor interface

- use more asserts
- brain serializer/deserializer
- 06.05.2017 -
 - refactoring Map => Constructor, Reset, MakeStep
 - partial project Intersection2D
- 07.05.2017
 - Intersection2D finished, tested
 - map implementation finished
 - add new method MoveTo to Entity
 - Circle Entity & Line Entity refactored prepared for testing
- 08.05.2017
 - LineEntity tests created
 - LineEntity squashed bugs
 - CircleEntity tests created
 - CircleEntity bug squashed
 - added new method to Circle move entity for given length
- 09.05.2017
 - Line & Circle collision in the map environment tested, fixed (wrong ordering of border points)
 - Intersection2D CircleLinesegmentCollision() - Linesegment border check fixed
 - ISensor & IEffector - added new methods Clone, Connect(set same normalize values as robot)
 - Robot - implementation refactored, not tested
 - Fuel - entity added
- 10.05.2017
 - Line sensor added
 - Touch sensor added
- 11.05.2017
 - Circle Entity MoveTo method = direction of move is set from RotationMiddle
 - Circle Entity RotateRadians method = take GetRotation Middle when rotate
 - Collision with types added to map
 - TypeLineSensor added
 - Entity rotationMiddle added to the Entity
- 12.05.2017
 - Touch Sensor tested
 - bounds struct created
 - NormalizeFunc struct created
 - TypeLineSensor implemented
- 13.05.2017
 - LineTypeSensor tested
 - Map RadioCollision refactor
 - RadioEntity implemented
 - static variable(RadioEntity) set bounds of used signal values (-100,100)
 - RadioSensor implemented
 - RadioSensor tested
 - FuelLineSensor implemented
 - FuelLineSensor tested
 - LocatorSensor implemented
- 15.05.2017
 - LocatorSensor tested
 - ColorIntersection definition
 - ColorCollision added to Map
 - TypeCircleSensor implemented & tested
 - TwoWheelMotor implemented & tested, change dir. of rotation
- 16.05.2017
 - RadioTransmitter implemented & tested
 - Add container stack to RobotEntity
 - Picker implemented & tested (3 modes, Pick Up, Put, Idle), pick up objects of max picker length
 - Mineral Refactor implemented
 - Mineral Entity (with capacity of created Fuel, and cycles to refactor)
 - Mineral Refactor tested
 - mortality and health of RobotEntity
 - map have to check Alive of robot
 - WeaponEffector implemented & tested
- 17.05.2017
 - IRobotBrain interface declared
 - WeightMeanBrain added
 - WeightMeanBrain tested