Bin Agent

Data:

asked : Semaphore
cf : ConveyorFamily
doneCreate : Boolean
sensorRealeased : Boolean
timer : Timer
transducer : Transducer
wait : Boolean
waitList : List<Part>

Constructor:

BinAgent(String, Transducer, ConveyorFamily)

Transducer:

eventFired(TChannel, TEvent, Object[])

Messages:

msgBinConveyorReady()
msgBinConveyorStopping()
msgHereIsNewPart(Part, int)

Scheduler:

```
public boolean pickAndExecuteAnAction() {

        if(waitList.size()>0 && wait==true && doneCreate==true &&
sensorRealeased==true)
        {
                askConveyor();
                return true;
        }
        if(waitList.size()>0 && wait==false && doneCreate==true)
        {
                wait=true;
                sendPartToCutter();
                return true;
        }
        return false;
}
```

Actions:

askConveyor()
sendPartToCutter()
setCF(ConveyorFamily)

ConveyorFamilyGroup

Data:

bin : Bin
conveyor : ConveyorAgent
conveyorIndex : int
machine : MachineAgent
nextcf : ConveyorFamily
popUp : PopUpAgent
transducer : Transducer

Constructor:

ConveyorFamilyGroup(Transducer, ConveyorFamily, int, Bin)

Transducer:

eventFired(TChannel, TEvent, Object[])

Messages:

msgBinConveyorReady()
msgBinConveyorStopping()
msgBinHereIsNewPart(Part)
msgConveyorPartReceived(ConveyorFamily)
msgConveyorReady(ConveyorFamily)
msgConveyorStopping()
msgHereIsNewPart(ConveyorFamily, Part)
msgHereIsPartFromPopUp(Part)
msgHereIsPopUpPart(Robot, Part)
msgIReceivedPart()
msgIsConveyorReady()
msgLeadSensorDepressed()
msgLeadSensorReleased()
msgMachinePart(Robot, Part)
msgMachineReady()
msgPartDone(Robot)
msgPopUpUp(Robot)
msgRobotPartReceived(Robot)
msgRobotReady(Robot)
msgRobotReady(Robot, Integer)
setNextcf(ConveyorFamily)

ConveyorAgent:

Data:

askMachine : Semaphore
cf : ConveyorFamily
conveyorIndex : int
cStatus : ConveyorStatus
machine : Machine
machineReady : boolean
name : String
partList : List<PartTracker>
sensor1free : boolean
transducer : Transducer

Constructor:

ConveyorAgent(ConveyorFamily, String, Transducer, int)

Transducer:

eventFired(TChannel, TEvent, Object[])

Messages:

msgHereIsNewPart(Part)
msgIsConveyorReady()
msgMachineNotReady()
msgMachineReady()
msgPartBeginningConveyor(Part)
msgPartEndingConveyor()
msgPopUpNotReady()
msgPopUpReady()

Scheduler:

```
public boolean pickAndExecuteAnAction() {

        if(cStatus==ConveyorStatus.stop && partList.isEmpty())
        {
                return false;
        }


        if(cStatus==ConveyorStatus.run){

                for(PartTracker p:partList){
                if(p.status==PartStatus.passedSensorOne){
                                startConveyor();
                                return true;
```

```
                    for(PartTracker p:partList){
                    if(p.status==PartStatus.passedSensorTwo){
                            checkMachine(p)
                            return true;



                    for(PartTracker p:partList){
                    if(p.status==PartStatus.approved){

        sendPartToMachine(partList.get(0).part);
                                        return true;

                else if(cStatus==ConveyorStatus.stop && !partList.isEmpty() &&
machineReady==true)
                        startConveyor();
                        return true;}
                else if(partList.isEmpty() || machineReady==false)
                        stopConveyor();
                        return true;
                }
                return false;
```

Actions:

sendPartToMachine(Part)
setMachine(Machine)
setTransducer(Transducer)
startConveyor()
stopConveyor()
getName()
checkMachine(PartTracker)

MachineAgent

Data:

cf : ConveyorFamily
channel : TChannel
conveyor : Conveyor
name : String
nextReady : boolean
part : Part
status : MachineStatus
transducer : Transducer

Constructor:

MachineAgent(String, ConveyorFamily)

Transducer:

eventFired(TChannel, TEvent, Object[])

Messages:

msgConveyorPartReceived(ConveyorFamily)
msgConveyorReady(ConveyorFamily)
msgConveyorStopping()
msgHereIsPart(Part)
msgIsMachineEmpty()

Actions:

machinePart()
sendPart()
setCF(ConveyorFamily)
setConveyor(Conveyor)
setTransducer(Transducer, TChannel)

Scheduler:

```
public boolean pickAndExecuteAnAction() {
        if(status==MachineStatus.needsProcessing)
        {
                machinePart();
                return true;
        }

        if(nextReady == true)
        {
                if(status==MachineStatus.doneProcessing && part!=null)
                {
                        sendPart();
                        return true;
```

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PartTracker

part : Part
status : PartStatus
PartTracker(Part)