**GantryAgent**

**Data:**

List<List<Bins>> binList;

List<PartType> requestedParts;

**Messages:**

HereIsBinConfig(List<Bin> bins) {

binList.add(bins);

stateChanged();}

INeedParts(PartType type) {

requestedParts.add(type);

stateChanged();}

receiveBinDone(bin) {

bin.state = OVER\_FEEDER;

stateChanged();}

dropBinDone(bin) {

bin.state = EMPTY;

stateChanged(); }

removeBinDone() {

binList.remove(bin);

stateChanged();}

**Scheduler:**

if there exists a "requested" in requestedParts

for(List<Bin> bin : binList)

if(bin.type == requested && bin.state == FULL)

moveToFeeder(bin);

if there exists a "requested" in requestedParts

for(List<Bin> bin : binList)

if(bin.type == requested && bin.state == OVER\_FEEDER)

fillFeeder(bin);

if there exists a "requested" in requestedParts

for(List<Bin> bin : binList)

if(bin.type == requested && bin.state == EMPTY)

discardBin(bin);

**Actions:**

moveToFeeder(bin) {

bin.state = MOVING;

GUIGantry.receiveBin(bin);

stateChanged();}

fillFeeder(bin) {

bin.state = FILLING\_FEEDER;

GUIGantry.dropBin(bin, bin.feeder);

stateChanged();}

discardBin(bin) {

bin.state = DISCARDING;

GUIGangry.removeBin(bin);

stateChanged();}

**FeederAgent**

**Data:**

**Messages:**

INeedPart(Part p)

HereAreParts(Part p)

**Scheduler:**

**Actions:**

**LaneAgent**

**Data:**

**Messages:**

INeedPart(Part p)

HereIsPart(Part p)

**Scheduler:**

**Actions:**

**NestAgent**

**Data:**

**Messages:**

HereIsPartType(PartType type)

HereIsPart(Part p)

TakingPart(Part p)

DoneTakingParts()

**Scheduler:**

**Actions:**