ID2209 – Distributed Artificial Intelligence and Intelligent Agents

Assignment Y – Agents & stuff

Course Coordinator
Mihhail Matskin

Course Assistants
Mehdi Satei
Óttar Guðmundsson
Shatha Jaradat

Group 5
Mukesh Kottiliyil Muralidharan
Rui Qu

2018/11/21

<Festival Peace&Love Auction>

In Assignment 2, we were tasked with creating new angents in GAMA based on Assignment 1, and implement FIPA communication skills to simulate Dutch Auction.

How to run

<Include a simple description for future readers who might want to run your code example, including some parameter tweaking if necessary>

Run GAMA 1.8 and import ID2209_DAIIA_Lab as a new project. Open AI_Festival_Auction.gaml and press main to run the simulation.

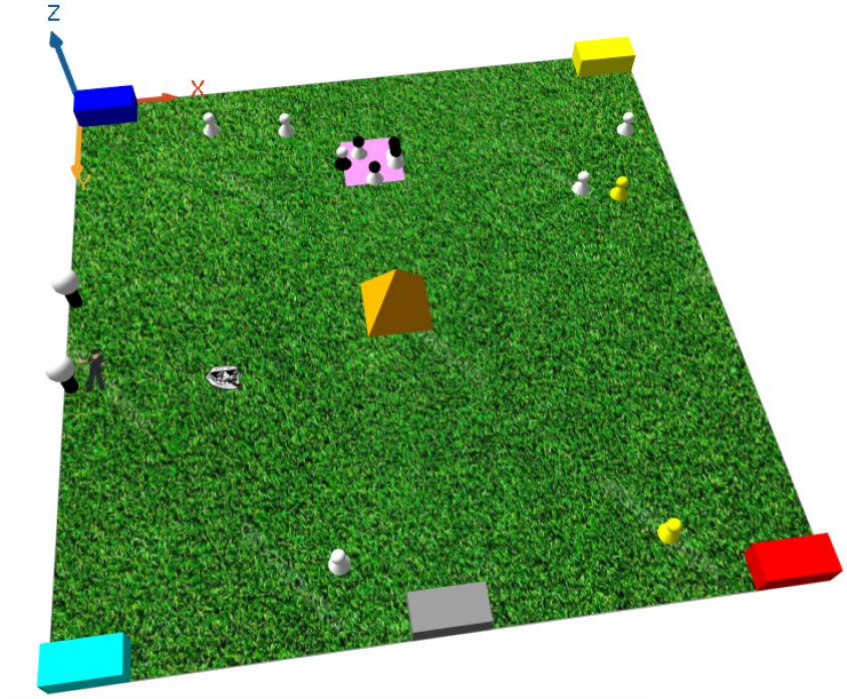

Figure 1: A screenshot of the solution.

Species

Agent A AuctionCentre

<The pink area in the festival where the Auction happens>

This agent was responsible with clarifying boundary of the auction location

Agent B Merchant

<On pink area with black body and white head hosting the auctions >

Start conversation with customers to call for a proposal with start price 999kr and read each of their offer prices. If no customer offers a price higher than the proposal, the price will reduce 100kr until the base price 500kr.

Agent C Customer

<On pink area with white head and black body buying items in the auction. >

Offer price to Merchant and will get item if the price meets the requirement.

Implementation

We started designing the whole structure of the festival with 5 buildings, 10 guests and 1 security guard inside. Besides we added a background as shown, like the festival is held on outdoor grass. We tried to implement different clusterings thus, we divided the 10 guests in to a couple of 2, a single group with/without memory and 1 baddy. Each of the cluster has different functions or logics.

For the auction, the buyers, who were roaming around in the festival field till then would get the information about the auction from the merchant and they gather to the auction centre. The buyer who wins the auction will leave the festival (go home) because he is so happy. Of the buyers who lose the auction, some will get mad and the security guard will take them out of the festival.

Results

As you can see in the following log of Dutch Auction

```
Merchant0: INFORM
Merchant0: CALL FOR PROPOSAL
Merchant0: Selling for the price: 999.0 Kr.
Consumer00: Information recieved: ['Auction is starting now.']
Consumer00: Cfp recieved: ['Selling for the price: 999.0 Kr.']
Consumer00: I am willing to buy for 399.0 Kr.
Merchant0: Proposal recieved: ['399.0']
Merchant0: No deal
Consumer00: Rejection recieved: ['No deal.']
Consumer00: OK.

Merchant0: CALL FOR PROPOSAL
Merchant0: Selling for the price: 799.0 Kr.
Consumer40: Cfp recieved: ['Selling for the price: 799.0 Kr.']
Consumer40: I am willing to buy for 799.0 Kr.
Merchant0: Proposal recieved: ['799.0']
Merchant0: Its a deal
Consumer40: Acceptance recieved: ['Its a deal.']
Consumer40: OK.
```

Challenge 1

Customers walk around in the festival when they hear the goods they're interested in then they get into the Auction Centre

Challenge 2

Implement English auction and sealed auction like what is done in Dutch auction

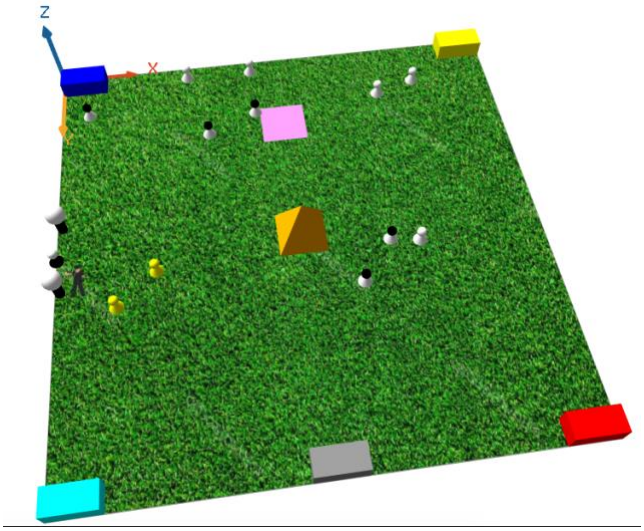

Figure 1: A screenshot of the final solution.

Creative

Also on the creative part, I implemented the merchant/auctioner coming from the entrance and starts the auction when he reaches auction centre.

The buyers, who were roaming around in the festival field till then would get the information about the auction from the merchant and they gather to the auction centre. The buyer who wins the auction will leave the festival (go home) because he is so happy. Of the buyers who lose the auction, some will get mad and the security guard will take them out of the festival.

<If you implemented the creative part, please fill this table with the relevant information>

Qualitative/Quantitative questions	*Answer*
Time spent on finding and developing the creative part	*10hours in total*
In what area is your idea mostly related to…	*Reproduce real life scene*
On the scale of 1-5, how much did the extra feature add to the assignment?	*5*
On the scale of 1-5, how much did you learn from implementing your feature?	*4*

Discussion / Conclusion

Overall, all the logics runs well but still need improvements in visual part ,like to use 3D models. A good assignment, can‘t wait to create a new version when I get back home to show my friends and family!