Project title: Developing a Tool to Visualize Multi-Agent Patrolling

Group name/number: FALCONS  
Meeting #: 1  
Held on: JAN 26, 2017 at 3:55 A.M.

Location: Wing Tech classroom  
Members of the group: Chaohui Xu, Yifan Gu, Sheng Zhang  
Topic(s) for discussion: tools, technology, functionalities and user stories  
Report writer: Yifan Gu

All members came on time and the meeting started on time.

Yifan suggested we started with reading description of the project carefully and extracting all the functionalities mentioned in the description, because each functionality may bring on one or several user stories. “The user must be able to select any run of the algorithm to…separately” – this is a functionality that we need to take care, Yifan said. Sheng agrees this is an important functionality and indicates that we need to build a database to store information of each run and we also need to consider the format of the information. “There must be two buttons…of times/steps” – it’s also an important functionality, Chaohui said. He also said this can bring on two user stories “execute the algorithm step by step” and “execute the algorithm for a fixed number of times/steps”. After that, we found two more functionalities in the description – “If a node is double-clicked… that node” and “Like in block view, there must be two buttons…”.

Sheng said the user should be able to decide the size of the block and click on the squares of the block to structure the open spaces and emplace agents. He went on to say that it would be fancy if user can drag the mouse to “draw” the block but this may be hard to implement. Yifan said he can implement this if spending a little more time.

Before going on next step, Chaohui indicated the prerequisite of termination -- every open space is visited at least once or after a fixed number of steps whichever occurs first. Sheng said he has omitted this when reading the description and he agrees this part is important.

Next, the team discussed the techniques and tools to be used. Sheng suggested to use linux to deploy our project and Chaohui suggested to use node.js to build the server and use mongoDB as database. The whole team had no disagreements about using these technologies. For the front-end, Yifan suggested to use ECMAScript 2015 (ES6) which has many better features than the old version of ECMAScript and he also suggested to use JSON as our data-interchange format since we write JavaScript both font-end and back-end. Sheng mentioned that ES6 may not be supported by some old browsers. Yifan said that Babel can transform ES6 to the old version which is supported by most browsers. Then, the team agrees to write ES6. For the developing tool, the team decided to use Visual Studio Code to write all the code. Because from Yifan and Chaohui’s experience, Visual Studio Code is very suitable for writing HTML, CSS and JavaScript. It can also debug Node.js easily which is not supported by most text editors and IDEs.

At last, the team discussed the responsibilities for each individual. Main functionalities will be implemented at the front-end, written in JavaScript (ES6) and runs in browser. Sheng said he need to learn ES6 and he will take the responsibility of data structures and algorithms. Yifan will take the responsibility of displaying (including visualization) and user interaction. Chaohui will write the server side code and design the database.

Next meeting and its agenda:

The next meeting was planned to be on JAN 31, 2017 at 3:45 PM in Wing Tech classroom. The meeting will focus on developing the functionalities for the first prototype demo and dividing the work in detail.