Sprints:

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| --- | --- | --- | --- | --- | --- | --- | --- |
| S. No | User Story index | Task | Date introduced | Date considered for implementation | Date completed | Developer responsible for | Status |
| 1 | 1 | Develop GUI portion for initializing the environment | 1/29/2017 | 2/1/2017 | 2/2/2017 | Weikang Wang | Completed |
| 2 | 1 | Test initializing environment | 1/29/2017 | 2/2/2017 | 2/2/2017 | Dezheng Wang | Completed |
| 3 | 9 | Develop data structure for regions and open places | 1/29/2017 | 2/1/2017 | 2/2/2017 | Dezheng Wang | Completed |
| 4 | 2 | Develop GUI for adding open spaces | 1/29/2017 | 2/2/2017 | 2/3/2017 | Weikang Wang | Completed |
| 5 | 2 | Test GUI for adding open spaces | 1/29/2017 | 2/3/2017 | 2/3/2017 | Dezheng Wang | Completed |
| 6 | 3 | Develop GUI for adding agents | 1/29/2017 | 2/3/2017 | 2/4/2017 | Weikang Wang | Completed |
| 7 | 3 | Test GUI for adding agents | 1/29/2017 | 2/4/2017 | 2/3/2017 | Dezheng Wang | Completed |
| 8 | 4 | Develop GUI for confirming regions and gents | 1/29/2017 | 2/4/2017 | 2/5/2017 | Weikang Wang | Completed |
| 9 | 4 | Test GUI for confirming regions and gents | 1/29/2017 | 2/5/2017 | 2/5/2017 | Dezheng Wang | Completed |
| 10 | 4 | Develop GUI for drawing agent trace | 1/29/2017 | 2/5/2017 | 2/6/2017 | Weikang Wang | Completed |
| 11 | 4 | Test GUI for drawing agent trace | 1/29/2017 | 2/6/2017 | 2/6/2017 | Dezheng Wang | Completed |
| 12 | 9.1 | Develop algorithm for moving one step | 2/10/2017 | 2/10/2017 | 2/12/2017 | Ying Jiang | Completed |
| 13 | 9.1 | Testing algorithm for moving one step | 2/10/2017 | 2/12/2017 | 2/12/2017 | WeiKang Wang | Completed |
| 14 | 9.2 | Develop algorithm for moving multiple steps | 2/10/2017 | 2/12/2017 | 2/14/2017 | Ying Jiang | Completed |
| 15 | 9.2 | Testing algorithm for moving multiple steps | 2/10/2017 | 2/14/2017 | 2/14/2017 | WeiKang Wang | Completed |
| 16 | 9.1 | Integrate block view and algorithm of moving one step | 2/10/2017 | 2/15/2017 | 2/16/2017 | WeiKang Wang | Completed |
| 17 | 9.1 | Testing after integrating block view and algorithm of moving one step | 2/10/2017 | 2/16/2017 | 2/16/2017 | Ying Jiang | Completed |
| 18 | 9.2 | Integrate block view and algorithm of moving multiple steps | 2/10/2017 | 2/17/2017 | 2/18/2017 | WeiKang Wang | Completed |
| 19 | 9.2 | Testing after integrating block view and algorithm of moving multiple steps | 2/10/2017 | 2/18/2017 | 2/18/2017 | Ying Jiang | Completed |
| 20 | 6.2 | Create nodes for open spaces | 2/10/2017 | 2/15/2017 | 2/16/2017 | Dezheng Wang | Completed |
| 21 | 6.2 | Draw lines based on adjacent open spaces | 2/10/2017 | 2/17/2017 | 2/18/2017 | Dezheng Wang | Completed |
| 22 | 6.2 | Testing GUI for graph view | 2/10/2017 | 2/18/2017 | 2/18/2017 | WeiKang Wang | Completed |
| 23 | 5 | Develop GUI to upload file | 2/24/2017 | 2/28/2017 | 3/1/2017 | WeiKang Wang | Completed |
| 24 | 5 | Parse the loaded file | 2/24/2017 | 2/28/2017 | 3/1/2017 | Ying Jiang | Completed |
| 25 | 5 | Use data structure store environment information | 2/24/2017 | 3/1/2017 | 3/2/2017 | Ying Jiang | Completed |
| 26 | 5 | Test loading file process | 2/24/2017 | 3/2/2017 | 3/2/2017 | Dezheng Wang | Completed |
| 27 | 10 | Get all the information of each run and write it into file | 2/24/2017 | 3/2/2017 | 3/3/2017 | Ying Jiang | Completed |
| 28 | 9 | Choose target | 2/24/2017 | 3/3/2017 | 3/4/2017 | Ying Jiang | Completed |
| 29 | 9 | Find the shortest path between start position and target | 2/24/2017 | 3/4/2017 | 3/5/2017 | Ying Jiang | Completed |
| 30 | 9 | Test algorithm of both moving one step and multiple steps | 2/24/2017 | 3/5/2017 | 3/5/2017 | Weikang Wang | Completed |
| 31 | 9 | Integrate block view and algorithm | 2/24/2017 | 3/5/2017 | 3/6/2017 | Weikang Wang | Completed |
| 32 | 9 | Test after integrating algorithm and block view | 2/24/2017 | 3/6/2017 | 3/6/2017 | Ying Jiang | Completed |
| 33 | 7 | Identify the region and develop GUI for the region | 2/24/2017 | 2/28/2017 | 3/1/2017 | Dezheng Wang | Completed |
| 34 | 8 | Identify the node of specific region | 2/24/2017 | 3/1/2017 | 3/2/2017 | Dezheng Wang | Completed |
| 35 | 8 | Develop GUI for showing agent details for the node | 2/24/2017 | 3/2/2017 | 3/3/2017 | Dezheng Wang | Completed |
| 36 | 9 | Integrate graphical view and algorithm | 2/24/2017 | 3/5/2017 | 3/6/2017 | Dezheng Wang | Completed |
| 37 | 9 | Test after integrating algorithm and graphical view | 2/24/2017 | 3/6/2017 | 3/6/2017 | Dezheng Wang | Completed |
| 38 | 11 | Retrieve data structure and build MySQL database | 3/13/2017 | 3/13/2017 | 3/14/2017 | Dezheng Wang | Completed |
| 39 | 11 | Use node.js to implement connecting to MySQL database | 3/13/2017 | 3/14/2017 | 3/15/2017 | Dezheng Wang | Completed |
| 40 | 11 | Save run information in front-end and send it to back-end | 3/13/2017 | 3/15/2017 | 3/16/2017 | Dezheng Wang | Completed |
| 41 | 11 | Receive request from front-end and save run information in database | 3/13/2017 | 3/16/2017 | 3/17/2017 | Dezheng Wang | Completed |
| 42 | 12 | Build screen for searching run information | 3/13/2017 | 3/17/2017 | 3/18/2017 | Dezheng Wang | Completed |
| 43 | 12 | Choose date or id in front-end and send it to back-end | 3/13/2017 | 3/18/2017 | 3/19/2017 | Dezheng Wang | Completed |
| 44 | 12 | Receive request from front-end and search run information based on supported keys and send them to front-end | 3/13/2017 | 3/18/2017 | 3/19/2017 | Dezheng Wang | Completed |
| 45 | 12 | Display return results properly in front-end | 3/13/2017 | 3/19/2017 | 3/20/2017 | Dezheng Wang | Completed |
| 46 | 12 | Testing searching information based on multiple keys | 3/13/2017 | 3/20/2017 | 3/21/2017 | Weikang Wang | Completed |
| 47 | 11 | Testing saving run information in database | 3/13/2017 | 3/20/2017 | 3/21/2017 | Ying Jiang | Completed |
| 48 | 13 | Choose target list for Constrained-3 algorithm | 3/13/2017 | 3/14/2017 | 3/16/2017 | Ying Jiang | Completed |
| 49 | 13 | Move the agent towards its target | 3/13/2017 | 3/17/2017 | 3/19/2017 | Ying Jiang | Completed |
| 50 | 13 | Test Constrained-3 algorithm | 3/13/2017 | 3/20/2017 | 3/21/2017 | Dezheng Wang | Completed |
| 51 | 14 | Choose target list for Constrained-4 algorithm | 3/13/2017 | 3/24/2017 | 3/26/2017 | Ying Jiang | Completed |
| 52 | 14 | Move the agent towards its target | 3/13/2017 | 3/26/2017 | 3/28/2017 | Ying Jiang | Completed |
| 53 | 14 | Test Constrained-4 algorithm | 3/13/2017 | 3/28/2017 | 3/29/2017 | Weikang Wang | Completed |
| 54 | 13 | Build GUI to select algorithm | 3/23/2017 | 3/29/2017 | 3/30/2017 | Weikang Wang | Completed |
| 55 | 13 | File validation of Constrained-3 algorithm | 3/13/2017 | 4/10/2017 | 4/15 | Ying Jiang | Completed |
| 56 | 13 | Test file validation of Constrained-3 algorithm | 3/13/2017 | 4/10/2017 | 4/15 | Weikang Wang | Completed |
| 57 | 14 | File validation of Constrained-4 algorithm | 3/23/2017 | 4/10/2017 | 4/16 | Weikang Wang | Completed |
| 58 | 14 | Test file validation of Constrained-4 algorithm | 3/23/2017 | 4/10/2017 | 4/16 | Ying Jiang | Completed |
| 59 | 13 | Get run information based on selected algorithm | 3/23/2017 | 3/30/2017 | 3/31/2017 | Weikang Wang | Completed |
| 60 | 13 | Test Constrained-3 algorithm and Constrained-4 algorithm in block view | 3/23/2017 | 4/1/2017 | 4/2/2017 | Ying Jiang | Completed |
| 61 | 9 | Improved color used in block view | 3/23/2017 | 4/1/2017 | 4/2/2017 | Weikang Wang | Completed |
| 62 | 6 | Improved the ways of switch between two views | 3/23/2017 | 4/2/2017 | 4/3/2017 | Weikang Wang | Completed |
| 63 | 15 | Get run information based on selected algorithm | 3/23/2017 | 3/29/2017 | 3/30/2017 | Dezheng Wang | Completed |
| 64 | 15 | Get target list of the selected algorithm and display it in graph view | 3/23/2017 | 3/30/2017 | 3/31/2017 | Dezheng Wang | Completed |
| 65 | 15 | Get each agent’s target and display it in graph view | 3/23/2017 | 4/1/2017 | 4/2/2017 | Dezheng Wang | Completed |
| 66 | 13 | Test Constrained-3 algorithm and Constrained-4 in graph view | 3/23/2017 | 4/2/2017 | 4/3/2017 | Ying Jiang | Completed |
| 67 | 13 | Generate more specific error information | 4/20/2017 | 4/20/2017 | 4/20/2017 | Ying Jiang | Completed |
| 68 | 12 | Change the GUI of search, let user choose time by time picker | 4/20/2017 | 4/21/2017 | 4/22/2017 | Dezheng Wang | Completed |
| 69 | 9 | Change the GUI, generate a message to inform the user when algorithm complete | 4/20/2017 | 4/20/2017 | 4/21/2017 | Weikang Wang | Completed |
| 70 | 5 | Integration testing of free-form algorithm | 4/20/2017 | 4/25/2017 | 4/26/2017 | Dezheng Wang | Completed |
| 71 | 13 | Integration testing of constrained-3 algorithm | 4/20/2017 | 4/22/2017 | 4/23/2017 | Ying Jiang | Completed |
| 72 | 14 | Integration testing of constrained-4 algorithm | 4/20/2017 | 4/25/2017 | 4/26/2017 | Weikang Wang | Completed |
| 73 | 12 | Testing of searching run information | 4/20/2017 | 4/26/2017 | 4/27/2017 | Dezheng Wang | Completed |