Thank you for taking part in the testing process. DISCLAIMER: Please be aware while you answer these questions:

The program is in Beta Testing. Bugs are present and are known. Please try to ignore obvious bugs as much as you can. There are a few graphical bugs/glitches which would be solved with the addition of animation, for example.

The focus on this project is the artificial intelligence (AI) systems. The program’s UI, art work, and other general program systems such as lack of animations are immensely underdeveloped. Please answer these questions with thought only on the AI and not on the artwork, or lack of other engaging systems which would otherwise be in place in a fully developed program.

1. General Concept Feedback

1.1) Imagining a fully developed, intelligent program which allows users to create very complex and fully customizable maps and scenarios, do you think that with enough development this program can be used as a good tool to train shop employees to allows them to experience unique scenarios and optimize their customer service skills? Please explain reasons for your response.

Perhaps. Immersing employees in real life tasks is better to gain confidence and skills. For example, if a new employee is shy and not good with conversation starters, training already covers ways to greet and start small talk. I found that the program gave an idea of how a shop runs but the trainer can easily say it was well. It also feels like it does not add much to service skills as you do not see the dialogue between the staff and customer, just them walking around and their level of relationship.

1.2) If you and think that both the concept is good, and this program can be used a good baseline, and you did not cover it above, please describe why.

1.3) If you think that the concept is good, but this program is not a good baseline for further development, and you didn’t cover it above, please describe why.

It has potential if customizable for example retail versus a grocery store.

1.4) If you think that the main concept of this program is bad, and that this idea couldn’t be developed well, and you didn’t cover it above, please describe why.

1. General Artificial Intelligence (AI) Feedback

2.1) Please describe your thoughts on the general AI used in the program? Please think about the decisions they made, and compare their decision to ones you would typically see in real life.

I personally found it a little confusing and did not understand decisions made, just the avatars walking around and checking out.

2.2) Did the AI seem simple, and not very smart? If so, please describe how you came to that conclusion, and maybe some suggestions for making the AI seem more realistic. If you think the AI was smart, and it did seem to make some good decisions, can you pin point why it seemed smart, and if there is anything that can improve it even more?

I did find it simple, knowledge gained from it is already known if you go shopping. Eg. Customer walks around, walks past staff, perhaps some small talk, checks out.

Positive- it showed what not to do. James character was in the back standing and doing nothing for the majority of the simulation, and Michael character never left the cash desk. In retail that I have experienced you are not meant to stay in one spot for too long and greet people as they enter.

2.3) If a trolley was in a character’s way, they were programmed to find the nearest free tile from the trolley that wasn’t in their way and then move the trolley there. Did you notice this behaviour? If you did, did you think it looked realistic?

Yes I saw this occur. In terms of realism they took too long to move, usually its subconscious and people move within seconds.

1. Employee AI Feedback

3.1) Do you think that the employees made good, and realistic decisions? Please describe how you came to your conclusion.

Cashier made relationships with those checking out which would occur in real life.

Stock person (James) not that good considering he stayed out back for a long period of time and it had gotten busy in the shop, in real life he would have been called out front due to only two members of staff.

3.2) The employees were programmed to get out of the way of a customer if they were asked to move. Did you notice this? If you did, did you think it looked realistic?

Yes this was noticed. And not really, staff usually move for customers quickly and found it took too long.

3.3) Could you describe any ways that the employee could be made more intelligent?

1. Customer AI Feedback

4.1) The customers were programmed to pick up the items they needed and then head to the checkout. If another character was in their way, they would wait 5 seconds, and then try and find a way around the character, if both of those failed, they would ask the character to move. Did you notice this behaviour? If you did, did you feel that it looked realistic?

No I did not notice.

4.2) Could you describe any ways that the customers could be made more intelligent?

1. Relationship AI Feedback

Subtle relationship behaviour was programmed into the characters. If they found themselves next to another character they had a good enough relationship with they would say help to them, then they would choose to have a conversation with that character. Depending upon what they talk about, and the traits of the characters that are talking, the characters’ relationship with each other would either increase or decrease.

5.1) Did you notice any conversations taking place? If you did, did they look realistic? Is there anything that would make it look more realistic?

Maybe put a speech bubble to make it more obvious this was happening. In terms of realism not really, however it is over simplified.

5.2) Can you think of anyways to make it more clear when characters are conversing? Such as speech bubbles above their heads, or happy and sad faces appearing when they gain or lose relationship.

Speech bubbles and emotions would make it clearer.

1. Traits AI Feedback

6.1) All the characters have their own personal traits such as friendly, and lazy. These traits were used to affect how characters interacted with each other, as well as certain attributes associated with the characters such as their maximum speed etc. Did you notice these traits? If you did, did you feel like they were used in a realistic way? Is there anything that could be further developed with the traits to make the character more realistic and interact with each other in a more realistic way?

I noticed the traits when I clicked on characters. Not realistic as in a shop environment you do not have access to that information. Sometimes you do not know how a person will react and how to deal with difficult customers until you observe it for yourself.

1. Pathfinding Feedback

The pathfinding is the first step in any advanced AI system. The system in this program uses the A\* pathfinding algorithm which is the fastest and more optimal algorithm currently developed.

7.1) Do you think that the characters took realistic paths to their destinations? Sometimes if the AI takes the most optimal path, it may look unrealistic so keep that in mind. Please explain your answer with examples of why or why not you agree.

Yes; Customers seemed to be realistic starting at the front and working their way around.

1. Additions added to AI in possible further development

There were a few systems that could have been added into this program given more time to fully develop them. After describing them, please give your feedback on whether these systems would advance the AI and make the character more realistic.

8.1) Line-Of-Sight was the first thing to be implemented given more time. Currently all the characters have a full awareness of the entire world, they can find any item on any shelf, and find any character in the world even if they are very far away. With line-of-sight, systems could be developed and added which allows characters to need to walk tile by tile and search for their needs. They would also be able to ‘see’ other character that are not next to them and engage with them in a more realistic way. Do you agree that line-of-sight would advance the realism and intelligence of the AI considerable? If you do not agree, please explain why, and perhaps suggest your own ways the AI could become more realistic in terms of knowing things about their environment.

Yes that would improve the simulations as most people do not know where a specific item they are looking for is located.

8.2) Linked closely with line-of-sight; partially explored pathfinding algorithms could be developed. The idea behind this is that currently, a character can make a perfect path from any tile to any other tile, even if it is 100s of tile away. This is because they can ‘see’ the entire map. Partially explored pathfinding would mean that characters would have a blank view of the map and only know about other characters and furniture if they see them using their line-of-sight. This would create a realistic looking pathfinding system which could take characters down dead-ends and non-optimal paths, which is impossible with full map awareness. Do you agree that partially explored pathfinding algorithms would create a more realistic looking pathfinding AI? If not, why do you disagree, and can you think of any ways to create a more realistic pathfinding system?

Yes not having perfect pathways would be more realistic as dead ends occur in shops and you never know what other people are going to turn a corner and block you.

8.3) Please think about other ideas and concepts that could be added into the program to create a more realistic AI. Maybe talk about it at a general level and if you can, go into details about possible ways to implement the ideas. The box is a lot larger than the other. Please do not feel like you must fill the entire box. Any amount of feedback here is fine.

Not sure as I personally would not want to learn skills in this way. Perhaps having the different work places (eg retail and shop) options would better suit the trainee. Seeing the characters walk around and gain ‘relationship’ is seen in everyday life through observation so I do not feel this added to a skill set. Perhaps scenarios would be better to represent some instances that may be encountered such as Customer A asks where is X item and Employee B escorts them to where the item can be found.