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.

I believe so, I feel that it would be used well with induction day training, rather than in store. With editing and creating different scenarios it’ll enable individual stores to tailor it more specifically to their policies, for example Tesco’s will have different ways of doing things compared to The Co-operative.

I also feel that it would be a good idea to add a questions and answers section, such as multiple choice on situations such as a troublesome customer or enquiries that someone who is in training would be unsure of. This could be done by an exclamation mark appearing over the employees head to alert the user.

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.

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 believe that the AI in the program is great as a unfinished product, obviously there is much room for development as I’m sure you have already thought. For example the connection between the employee and the stock level is brilliant and the response of the cashier to an oncoming transaction is excellent. It works well with real life situations in retail where you are expected to respond to customers without hesitation to maintain customer satisfaction. This has been shown brilliantly with the way that the relationship can increase and decrease during the hour of gameplay.

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?

The AI seemed brilliant and had great interaction skills. Response time to situations in the shop was quick and seemed to flow incredibly well for a concept of the program.

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?

The game had excellent flow to it, sure you’re going to have the odd imperfection during the hours gameplay, however I didn’t notice any faults in staff or customers being stuck with any objects in the way.

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.

Employees made good decisions on tasks that needed to be completed and in a real life situation worked efficiently, which would be how employers would like to show trainees how to work. I also noticed that generally the relationship with the cashier and the customers seemed to increase upon every visit, which would be a message that employers would like to address to new staff members (great customer service.)

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?

I will be honest and didn’t notice that customers asked the staff to move. But as I’ve said before the way how the game flowed generally made me feel that customers were not inconvenienced by staff members, with helps this point.

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

Work on different or difficult situations for them. You could also add damage to stock and give a different alert that would make the staff member have to deal with this and then have to go back to the tasks that they were completing before.

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?

I did not notice this behaviour. However this would look realistic in any retail store, customers will often to waiting in the same place in real life.

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

Could have a running total of how much the customer is spending as they’re walking through the store. It’s far from necessary but could look smarter within the game.

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?

I was looking in particular at the relationship with the cashier and the customer, this is was impressed by as it gave me the everyday situation in find myself in with my current working role. I noticed that customers relationship seemed to grow with the odd transaction decreasing in points. This seemed realistic but there could be plenty of developments in it, especially when a finished product would be used in a real life situation.

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 would be a brilliant add on, however I feel that a simple icon would be enough with maybe an emoji like icon to see how the customer and staff members are fairing during gameplay.

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 feel the traits were obvious within the hour of gameplay however I don’t feel that they’re particularly that important if they were used to training in a real life situation. For example the employer wouldn’t want to promote a staff member as lazy as it’ll give of the wrong impression especially if they want them for work with great customer service and efficiency.

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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.

The customers seemed to take the quickest path but it make for a more realistic game if they don’t every time which was noticeable in the game. It was good because sometimes a customer will back track because they’ll have forgotten an item which they wanted to purchase. All in all the game and how the customers and staff walked around the game was good with great flow.

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 because customers in real life won’t necessarily know where an item is in the shop. This would be great cause an alert could come up and a staff member would have to react to that as quickly as possible. For example when I’m working stock that we always get asked to find is eggs which seems to always be in the most ridiculous of places in store.

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, because it would give the game much more room to develop and become more complex, also allowing personalisation of the game to suit the retailers that would be using this is training.

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.

I believe that I have given enough ideas throughout my feedback in these questions and don’t have much else to add. Overall I’m impressed by the concept and feel that it would work brilliantly in a real life situation.