Soft Assignment Snake

AA4

https://youtu.be/q9ZG0XfqORM

AA5

A* pathfinding algorithm works by calculating the entire grid graph and try's to find the quickest route to the target while avoiding obstacles. It can rescan the grid to note any changes i.e moving obstacles to generate a new path always trying to find the quickest route to the target .Meanwhile vector 3 distance uses a straight line to calculate the distance between the two objects you have set. You can use the distance measured as a trigger to active other sections of your code i.e if you have a player moving towards food you can take the distance between the player and the food and activate code once the two objects are close enough.

SE1

The storyboard sequence in task 2 is essential as multiple variables have to stack up for the game to work correctly. For instance if the game starts on a different scene from the home screen this will cause several errors as the game manager would not be loaded. It is important to plan out the scene and the player interaction before proceeding with programming them as it helps you understand the sequence of the game and where you have to start and finish.

SE3

Before the game started I explained the basics of the game such as if the snake hits the maze walls the player will lose and even if he hits his tails. I also explained that if the ai catches up to the snake head you would also lose the game. I explained the score of the game which is the time it will take

the player to complete the game the player which finishes the quickest will get the best score.

Player 1

I tested the game on my 27 year old brother (player 1) who has experience playing games on console:

a) Level 1 is very easy to complete (complex maze?)
b) Level 2 having trouble to complete level 2
c) Level 2 obstacle positions (more space)
d) Level 2 AI Is well placed as player has to find alternative root (Quite difficult)
e) Level 2 Make the size of the AI smaller as it is hard for player to pass by
f) Level 3 Crowded
g) Level 3 Snake too large for the screen size (decrease food on lvl 2)
h) Level 3 Ai is not as effective as Level 2

Improvements general notes : check points , score for length & Multiple AI.

Player 2

I tested the game on my 13 year old sister (player 2) who has experience playing computer games:

a) Level 1 Easy to complete increase obstacles / don't spawn food at once
b) Level 2 Difficult to complete hitting obstacles
c) Level 2 Increase the size of the playing area
d) Level 2 AI is well placed (as player is forced to go around him)
e) Level 2 Snake is too large
f) Level 2 S shaped obstacle (Change position slightly higher)
g) Level 3 Spawn ai enemy at different position(player has time to move away / no element of surprise)
h) Level 3 AI speed is slow which makes it easier for player to get away (increase speed)
i) Level 3 Easier to complete than level 2 (increase the amount of moving objects)

Improvements general notes: difficulty levels (according to snake length) & Add more colours (UI)

Player 3

I tested the game on my 11 year old sister (player 3) who has no experience playing computer games:

a) Level 1 Easy to complete (create dangerous food / time limit)
b) Level 2 Reduce speed of AI (consider size also)
c) Level 2 Hitting obstacles (give the player snake more space to move around)
d) Level 2 Spawn AI at different position
e) Level 2 If snake AI spawns on food close to player its very easy for player to lose
f) Level 3 If player presses down arrow loses (as hits tail / future improvement adjust movement or drawing tail)
g) Level 3 Player snake is too larger barley fits in the screen increase screen size or reduce player size
h) Level 3 Maze re design make it harder for the player snake to get out of the initial position
i) Levle 3 Easy to complete (Increase the speed of the moving obstacles and AI speed)

Improvements general notes : power ups & snake customisation

Report

The first improvement I would carry out is that I would alter the first level as all of the players found it extremely easy to complete (Players 1/2/3 A) the first level could be kept however it would be more of a game tutorial rather than the first level of the game. Improvements which could be implemented in the first level include spawning the food at different times and different positions around the maze, increase the amount of obstacles to create a more complex maze and include dangerous food that can for instance change colour at anytime for the player to lose or create a timer which the player must complete the level before the timer runs out. In the second level there are a number of changes that need to be made however one change with the player felt needed to be made most is a small adjustment on one of the obstacles as it was difficult for the player to pass through it without hitting it(Player1c / Player2b /Player2f/ Player3c). Even though the players found it hard to get away from the AI snake I would still position the snake at the same point as it posed a challenge for the players to complete the level (Player3b/Player1e). The positioning of the snake forced the players to find alternative routes around the snake which made for interesting viewing as each player came up with different solutions(Player 1d). A possible future improvement for

this level would be to create difficulty levels and the easier difficulties both the player snake and the enemy snake could have less length to make it easier for the player to move around and complete the level. The final level was easy for players to go through as the ai was a bit too slow which gave players time to move around him(Player3i /Player2h/ Player1h). A possible improvement for the future would either be to increase the snakes speed or else add another snake with the same speed. I also felt that the snake was too large for the screen and there where too many obstacles around the snake(Player1f,Player3h), for future improvements I could decrease the amount of food on the second level and increase the playing area of the snake making obstacles smaller. Other possible improvements suggested by the players included snake customisation options to choose the snake colour, giving obstacles and the background different colours, adding power ups such as a power up where the player snake can eat the enemy snake and adding a score according to the length of the snake.