Criterion B: Design

Design of the Solution

Four Basic	Properties	Actions
Objects		
Мар	- a grid costume, enlarged at the beginning of the game	enlarge: a background grid image costume is enlarged to create an area for objects to interact move: since Character remains center-stage, it is the map that is moving that gives the perception that the Character is moving
Player Character	 remains at the center of the stage can eat dots when in contact with them 	incrementSize: after receive DotEat call or CharacterIdentifier + Eat size is increased decrementSpeed: after receive DotEat call, speed is decreased
	 gain size when eating the dots cannot exist beyond Map boundaries 	CompareSize: when in contact, compares size and determines which Character is larger, and eats the smaller one, calls CharacterIdentifier + Eat accordingly
		SortRankings: Generates and sorts a displayable List that holds the score of all Characters in descending order
		AtBorders: if Character touches the border of the Map , this is set to 1, and the Map will not move in the direction that allows the Character to be beyond the borders
		GameLose: if CompareSize determines that Character is smaller or if any AI Character score reaches 100, player loses and game stops
		GameWin: if Character score reaches 100, player wins and game stops
Dots	 can clone itself and spawn randomly within the stage disappear when Character or AI Characters are in contact 	createClone: a randomizing algorithm spawns a dot at a random location near edges of stage and within the map Eat: Hides the dot and calls DotEat to the

AI Characters (Three in Total)-has a chance to spawn within the stageincrementSize: after receive DotEat call or Character depending on their sizes-engages or disengages Character depending on their sizes-can eat dots when in contact with themcan eat dots when in contact with them-can eat dots when in contact with themgain size when eating the dots-CompareSize: when in contact, compares size and determines which Character is larger, and eats the smaller one, calls CharacterIdentifier +-gain size when eating the dotswhen in contact with Character, if larger, player loses, if smaller, disappearscannot exist beyond Map boundariesSimulateEating: if AI Character does not spawn within stage, its score and size are incremented according to a randomizing algorithmEliminated: A method that stops this character's scripts if CompareSize determines that another character is larger		 cannot exist beyond Map boundaries 	character in contact with the dot
PointTowards: an algorithm that compares the current sizes of Character and his own, and determines whether this character should move towards Character or another dot	AI Characters (Three in Total)	 has a chance to spawn within the stage engages or disengages Character depending on their sizes can eat dots when in contact with them gain size when eating the dots when in contact with Character, if larger, player loses, if smaller, disappears cannot exist beyond Map boundaries 	 incrementSize: after receive DotEat call or CharacterIdentifier + Eat size is increased decrementSpeed: after receive DotEat call, speed is decreased CompareSize: when in contact, compares size and determines which Character is larger, and eats the smaller one, calls CharacterIdentifier + Eat accordingly AppearChance: a randomizing algorithm decides when an AI Character will spawn SimulateEating: if AI Character does not spawn within stage, its score and size are incremented according to a randomizing algorithm Eliminated: A method that stops this character's scripts if CompareSize determines that another character is larger PointTowards: an algorithm that compares the current sizes of Character and his own, and determines whether this character should move towards Character or another dot



These tests need to be carried out several times by playing the game to fulfill relevant requirements of the game.

ACommon operating techniques are used to move Player CharacterAlpha test by myself to see if controls are intuitive, then have advisor and client beta test and ask for their opinion on the controlsBThe map moves in perception to the Player CharacterThe Character should be stationary, while the map background should be moving, creating the illusion that the Character is moving with a focused cameraCPlayer Character cannot move beyond mapPlay the game and attempt moving beyond mapDDots spawn randomly on the stagePlay the game with advisor and wait to see if dots are indeed randomly appearing near all four sides of stageDDots cannot exist beyond mapPlay the game with advisor and go to edge of map and wait to see if any dots spawn beyond the mapEPlayer Character can eat dots, grow in size, and decrease in speedPlay the game with advisor see if in interactions are happening correctly, or physically through observation. Have client play the game to see if the speed and size change is similar to original game.F, GAI Characters simulate Eating process and spawn according to algorithmPlay the game and wait until an AI character is spawned, if it is bager and move towards Player Character and only by observation with client.FAI Characters will move towards Player CharacterPlay the game and wait until an AI character is is larger than the AI and see if AI will move towards ots if it is smaller	Success Criteria	Action To Test	Method of Testing/Expected Result
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character and gains its size			character and gains its size
I Sorted Scoreboard Play the game, eat dots and AI, and	Ι	Sorted Scoreboard	Play the game, eat dots and AI. and
correctly ranks player see if the scoreboard updates itself		correctly ranks player	see if the scoreboard updates itself
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character reaches score 100. or when		· · · · · · · · · · · · · · · · · · ·	character reaches score 100. or when
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