6/05/2023:

Successfully implemented full basic functionality for Darkvision. Need to go in and adjust the colors of the materials, and make sure everything is working as seen in the game.

To do this, I created three different material assets, and one material parameter. The parameter contained two values: Opacity and RadiusOpacity. The former pertains to the AI vision, while the latter pertains to the effective radius of Darkvision. The names may change. The three materials were as follows:

* Vision Cone: A translucent cone representing the AI’s line of sight, anchored to their head, and invisible while the Darkvision ability is inactive.
* Darkvision Highlight: A post-process material that activates the Vision Cone’s visibility to the player while in-game, and highlights AI meshes.
* Darkvision Radius: A post-process material that affects the saturation of the player’s vision in game to support the efficacy of the Darkvision Highlight material.

I have encountered the issue where the Darkvision Radius material is not working properly by not changing the perceived color of the environment, as well as a delayed activation of Darkvision itself. The vision cone material appears translucent in the editor, but in-game, it is opaque.

Some additional notes include that the AI used for testing had no patrol animations, and was a basic Quinn mannequin.

8/21/2023

Brief mention: Summer 2023 course load greatly impacted my ability to work on the project in a negative way in the short term. In the long term, however, I feel much more confident in my understanding of programming concepts. Delaying Practicum III completion by a semester also has thrown my initial planning for a loop.

03/12/2024

Darkvision still has several issues that need to be addressed. The problems I was experiencing with the initial activation were solved through a series of branch checks, but there is now an issue where the vision cone no longer appears, making it difficult to test whether or not the radius overlap is actually functioning as initially intended.

I also want to give the player the ability to see vision cones through walls (I don’t really need them to see the whole AI outline). I’m putting this link here for me to reference later: <https://www.youtube.com/watch?v=CUTqTYqlOM8>

03/25/2024

Darkvision’s radius works as expected. However the issues are as follows:

First, if the overlapped actor is inside of the Darkvision Radius, the vision cone will not display.

Second, if the overlapped actor’s vision cone is displaying properly and the ability is deactivated, the vision cone will remain visible.

Darkvision only properly works if an entity is outside of the radius when the player activates the ability, and outside of the radius when the player deactivates the ability. On the bright side, the overlapped actor can enter the radius to display the vision cone properly, and exit the radius to make the cone invisible, so long as the described conditions are met.

03/27/2024

Darkvision works! I removed all of the functionality checking for overlaps from the player blueprint into the AI blueprint. The AI on BeginPlay() collects a reference to the player, and stores it as a variable. From this reference variable, I’m able to access the player blueprint variable bIsUsingDarkvision? and the darkvision radius component.

In the AI blueprint, every frame, I check if that Boolean variable is true. If it is false, the vision cone visibility is set to false, but if it is true, I call the custom event PlayerUsingDarkvision() within the AI blueprint.

This event checks whether or not the AI capsule component is overlapping the darkvision radius player component, returning a Boolean value. If this bool is true, the visibility of the AI vision cone is set to true, but if it is false, the visibility is set to false.

Now, the player can activate the ability, see nearby AI vision cones, and move around. If the darkvision radius no longer overlaps, or the player’s ability deactivates (manually or after a set time), the vision cone will no longer be visible.

Any further changes to this ability will be in the form of the vision cone material. It doesn’t visually match Dishonored’s with the gradient fade, and it also isn’t visible through walls.