One of my favorite games, *Halo 3: ODST*, has an extremely underrated graphical quality that, for 2009, was rather unique. The way the game looks during the different times of day and whether or not the visor is on always draws me back into a rerun.

In this specific screenshot, the player is running through the city at night with his/her visor on, meaning a digital interface between the player and the camera view of the world is engaged. I like the way this works because, without the visor, the world is seen normally and the scene is much more gloomy, as it should be due to the story. With the visor on, live allies and enemies are outlined to separate their bodies from the scene and dead bodies, the lights bloom a little brighter, interactable objects in the world are given an outline just barely visible enough to make them distinct from the still objects, and the contrast is slightly increased, making the dark city more easily viewable and any other visual effects such as explosions more impactful against the night backdrop. This effect is really neat to me and gives *ODST* its unique aesthetic quality.

There are several ways I think this visual effect could have been made, all of which could be achieved within the fragment shaders alone. In the case of the increased contrast, this could be a simple image process that slightly ups the contrast of each pixel on the screen. The outlining is more difficult, but this could be accomplished by detecting moving entities or interactable objects and, using an edge detection method, change the color of the outer pixels to give them the outline effect. Another possible way this could be achieved is by retrieving the object or moving entity data from the core processing of the game and simply changing the outer layer of the object to be on or off depending on the visor status. The light bloom is most likely also a result of image processing that, when a pixel surpasses some sort of threshold for light, increases the intensity of the pixel and bleeds that color into surrounding pixels to give that increased flare effect.

The game has various other visual effects that are quite impressive. The visor is just an example I like the most.