2D Camera component

Ideas

Cinematic effects for the camera

The camera can have different reaction on screen when something happen to the player:

* When player health is low , red outlines around the camera will appear
* When player pick up health or coins, a color responding to the pickup will appear in slightly different styles
* A portion of the screen will be darkened if player hit an obstacle or pick up a bad pickups
* The camera can be flipped upside down or/and mirrored to add extra challenges to the player
* The camera can zoom out to show the player and a boss ( if they exist )
* Camera can rotate at chosen speed for extra challenges for the player

Examples:

Player taking damage

<https://youtu.be/Zu2PkEjNvyQ?t=139>

<https://youtu.be/sqRlqWwbxgU?t=81>

Player being blinded

Just an example on how the camera effects could be , in my case , the screen would darkened around the edge and player can only see a portion of the screen which would slowly go back to normal after hitting an obstacle

<https://www.youtube.com/watch?v=boXVM1IeakU>

Pilot blacking out in a video game

<https://www.youtube.com/watch?v=p0VrZJ_8G04>

Features and Tasks

| **Feature Name:** Outline Effects (15 points)  **Link to JIRA:**  **Feature Description:** Outline appears when an event occurs. Examples can be when a player is colliding with another entity or object like health. A green outline will appear.  **Conditions of Satisfaction:**  Outlines appear according to camera size.  Outline color can be change  Duration of how long the outline will stay on screen can be change |
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| **Feature Name:** Grayscale Effects (10 points)  **Link to JIRA:**  **Feature Description:** Change colorful scene into black and white scene  **Conditions of Satisfaction:**  Shader will change the colored scene into black and white  User can control the amount in the material inspector  The closer the value to 1 , the more black and white it become |
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| **Feature Name:** Invert Color Effects (10 points)  **Link to JIRA:**  **Feature Description:** Invert all the color in the scene  Image below is for guidance    **Conditions of Satisfaction:**   1. Shader will invert all the color in the scene |
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| **Feature Name:** Blur Effects (15 points)  **Link to JIRA:**  **Feature Description:** Scene will appear blurry based on the blurriness the user pick  **Conditions of Satisfaction:**   1. Shader will make the scene appear blurry 2. User can control blur size 3. Blur size will affect how far apart are the alternate images from each other ( 0 to 10 ) ) means no alteration |
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| **Feature Name:** Vignette Effects (20 points)  **Link to JIRA:**  **Feature Description:** Edges of the screen will be darkened compared to the middle of the screen , making it easier to focus on 1 part of the screen.  **Conditions of Satisfaction:**   1. Shader will darken the edges of the screen. 2. User can choose how big the middle ( transparent part ) of the screen can be 3. Color of the vignette can be change |
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| **Feature Name:** Highlight Effects 15 points)  **Link to JIRA:**  **Feature Description:** Change everything in the scene to appear black and white except for 1 color  **Conditions of Satisfaction:**   1. Shader will change everything on screen into black and white except the chosen color of the user 2. Threshold can be alter so user can pick how close the color in the scene must be to the chosen color to not be altered to black and white |
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