Présentation shaders :

* Définition

Shader détermine couleur d’un pixel, passe par graphic pipeline (celle choisie ici est High Definition Render Pipeline). Les shaders faisant des calculs directement sur le GPU (en dehors de pipeline) sont des compute shaders.

Un shader est composé de subshader et de passes. Les subshaders définissent le hardware, pipeline, et configuration compatible avec le subshader, et les informations sur le subshader lui-même. Les passes correspondent aux instructions pour update le render state avant les calculs du shader, et du shader program en lui-même.

Shader inclus dans le post-processing, et inclus connaissances des custom pass : injection de shaders à différents moments du render.

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| | **Name** |  |  | | --- | --- | --- | | **Available Buffers** | **Description** |
| BeforeRendering | |  |  | | --- | --- | |  | Depth (Write) | | |  | | --- | | Just after the depth clear, you can write to the depth buffer so Z-Tested opaque objects won't be rendered. It's useful to mask a part of the rendering. Here you can also clear the buffer you allocated or the Custom Buffer | |
| AfterOpaqueDepthAndNormal | Depth (Read | Write), Normal + roughness (Read | Write) | Buffers will contain all opaque objects. Here you can modify the normal, roughness and depth buffer, it will be taken in account in the lighting and the depth pyramid. Note that normals and roughness are in the same buffer, you can use DecodeFromNormalBuffer and EncodeIntoNormalBuffer functions to read/write normal and roughness data. |
| BeforePreRefraction | |  |  | | --- | --- | |  | Color (no pyramid | Read | Write), Depth (Read | Write), Normal + roughness (Read) | | Buffers will contain all opaque objects plus the sky. Use this point to render any transparent objects that you want to be in the refraction (they, will end up in the color pyramid we use for refraction when drawing transparent objects). |
| BeforeTransparent | Color (Pyramid | Read | Write), Depth (Read | Write), Normal + roughness (Read) | Here you can sample the color pyramid we use for transparent refraction. It's useful to do some blur effects but note that all objects rendered at this point won't be in the color pyramid. You can also draw some transparent objects here that needs to refract the scene (like water for example). |
| BeforePostProcess | |  |  | | --- | --- | |  | Color (Pyramid | Read | Write), Depth (Read | Write), Normal + roughness (Read) | | Buffers contains all objects in the frame in HDR. |
| AfterPostProcess | |  |  | | --- | --- | |  | Color(Read | Write), Depth (Read) | | Buffers are in after post process mode, it means that the depth is jittered (So you can't draw depth tested objects without having artifacts). |

* Utilité
* Application au cas actuel

Shaders applicables sur modèle, mais aussi post-processing

* Faisabilité du cas