mugen engine::MEGraphicRenderTarget const int m_numBackBuffer Microsoft::WRL::ComPtr< IDXGISwapChain4 > m swapchain mugen engine::MEGraphicPipeline Microsoft::WRL::ComPtr< ID3D12Descriptor std::vector< char > m vsBlob Heap > m rtvHeaps std::vector< char > m_psBlob std::vector< Microsoft::WRL ::ComPtr< ID3D12Resource > > Microsoft::WRL::ComPtr< ID3DBlob m backBuffers > m errorBlob D3D12 CPU DESCRIPTOR HANDLE Microsoft::WRL::ComPtr< ID3D12Pipeline m_renderTargetHandle State > m_pipelineState D3D12 VIEWPORT m viewport Microsoft::WRL::ComPtr< ID3D12Root Signature > m_rootSignature D3D12_RECT m_scissorRect + MEGraphicPipeline() + MEGraphicRenderTarget() · void Initialize(const MEGraphicDevice void Initialize(const MEGraphicDevice &device, const D3D12 INPUT ELEMENT &device, const MEGraphicCommandList _DESC inputLayout[], const int layoutSize) &cmdList, HWND hwnd, const int window _width, const int window_height) void SetPipelineState(const int type, MEGraphicCommandList + void Present() &cmdList) + void SetBarrierBeforeRender void ProcessBlobError(HRESULT result) (MEGraphicDevice &device, MEGraphicCommand void _CreateRootSignarure List &cmdList)

+ void SetBarrierBeforePresent

List &cmdList, const int topX,

void SetRenderBaseCommand

const int topY, const int bottomX,

(MEGraphicCommandList &cmdList)

void Clear(float clearColor

const int bottomY)

-m_pPipeline

(MEGraphicCommandList &cmdList)

[4], MEGraphicCommandList &cmdList)

void SetRenderArea(MEGraphicCommand

(const MEGraphicDevice &device)

(const MEGraphicDevice &device,

inputLayout[], const int layoutSize)

const D3D12 INPUT ELEMENT DESC

void LoadShader()

void CreatePipelineState

Microsoft::WRL::ComPtr< IDXGIFactory6 > m_dxgiFactory MEGraphicDevice() - MEGraphicDevice(const MEGraphicDevice &)=delete + void Initialize() + ID3D12Device *const GetDevice() const IDXGIFactory4 *const GetFactory() const void _EnableDebugLayer()

> m device

mugen_engine::MEGraphicDevice

Microsoft::WRL::ComPtr< ID3D12Device

Allocator > m cmdAllocator Microsoft::WRL::ComPtr< ID3D12Graphics CommandList > m cmdList Microsoft::WRL::ComPtr< ID3D12Command Queue > m_cmdQueue Microsoft::WRL::ComPtr< ID3D12Fence > m_fence UINT64 m fenceVal

mugen_engine::MEGraphicCommandList

Microsoft::WRL::ComPtr< ID3D12Command

+ MEGraphicCommandList() + void Initialize(const MEGraphicDevice &device) + void Execute() - ID3D12CommandQueue *const

ID3D12GraphicsCommandList *const GetCommandList() const

GetCommandQueue() const

+ DirectX::XMFLOAT3 pos

+ DirectX::XMFLOAT2 uv

std::vector< D3D12 VERTEX _BUFFER_VIEW > m_vertexBufferView UINT m_numVertexBuffer std::vector< Microsoft::WRL ::ComPtr< ID3D12Resource > > m_additionalVertexBuffer UINT m_numAdditionalVertexBuffer UINT m_currerntAdditionalVertexBuffer ViewIndex + MEGraphicGpuResourceManager() + void Initialize(const MEGraphicDevice &device, UINT numVertexBuffer) mugen engine::VERTEX DATA void SetGpuResource(MEGraphicCommand List &cmdList) void UploadVertexData(uint32 _t index, VERTEX_DATA *vertices, size_t vertexNum) void UploadConstantData(CONSTANT DATA &constData) void SetRenderCommand(MEGraphicCommand List &cmdList) - void CreateSrv(const DXGI _FORMAT format, const MEGraphicDevice &device) void CreateTextureBuffer(const DirectX:TexMetadata &metadata, const MEGraphicDevice &device) void ResetUploadBuffer(const size t rowPitch, const size t height, const MEGraphicDevice &device) void UploadDataToUploadBuffer (uint8 t *srcData, const size _t rowPitch, const size_t height) 8 8 8 8 8 void InitalizeConstantBuffer (const MEGraphicDevice &device) size_t _GetAlignmentedSize (size_t size, size_t alignment) void _CreateCbv(const MEGraphicDevice &device)

mugen_engine::MEGraphicGpuResource Manager Microsoft::WRL::ComPtr< ID3D12Descriptor

uint32_t m_descriptorHeapIncrementSize Microsoft::WRL::ComPtr< ID3D12Resource

Microsoft::WRL::ComPtr< ID3D12Resource

Microsoft::WRL::ComPtr< ID3D12Resource

Heap > m basicDescHeap

> m_textureBuffer

> m constantBuffer

> m_uploadBuffer

m vertexBuffer

std::vector< Microsoft::WRL

::ComPtr< ID3D12Resource > >

-m pPipeline -m pRenderTarget

mugen_engine::MEFontData - HDC m_hdc

-m_pRenderTarget / -m_pDevice

HFONT m_oldFont

std::unordered_map< wchar</p> t, MEGraphicCharacterUnit > m_loadedCharacters

+ MEFontData()

 MEFontData(std::wstring fontName, int fontSize, MEGraphicDevice &device, MEGraphicCommandList &cmdList, MEGraphicPipeline &pipeline, MEGraphicRenderTarget &renderTarget)

MEFontData & operator=(const MEFontData &rhs)

· void DrawString(const int x, const int y, const float color[4], float priority, const std::wstring text)

void DrawFormatString(const int x, const int y, const float color[4], float priority, const std::wstring text,...)

mugen engine::MEImage

-m_pCmdList

-m_pCmdList

-m vertices

-m_resourceManager

void _SetBarrierBeforeUploadTexture (const MEGraphicCommandList &cmdList)

size_t m_height - size_t m_xDivideNum

· size_t m_yDivideNum

-m_pDevice

DirectX::XMFLOAT4 m_brightness BLEND_TYPE m_blendType

+ MElmage()

MEImage(const std::wstring &filepath, MEGraphicDevice &device, size t xDivideNum, size t yDivideNum, MEGraphicCommandList &cmdList, MEGraphicPipeline &pipeline, MEGraphicRenderTarget &renderTarget)

void DrawGraph(int x, int y, float priority, int index=0)

+ void DrawRotaGraph(int x, int y, float scale, float angle, float priority, int index=0)

void DrawGraph2X(int x, int y, float priority, int index=0)

 void DrawRotaGraph2X(int x, int y, float scale, float angle, float priority, int index=0)

+ void DrawModiGraph(int x0, int y0, int x1, int y1, int x2, int y2, int x3, int y3, float priority, int index=0)

void DrawModiGraph2X(int x0, int y0, int x1, int y1, int x2, int y2, int x3, int y3, float priority, int index=0)

void SetBrightness(const float R, const float G, const float B, const float A)

void SetBlendType(BLEND_TYPE blendType)

void ResetAdditionalVertexBuffer()

-m_random

magica_rogue::MRMapData

-m_mapchiplmg

-m_minimaplmg

const int m_width

const int m_height

- int m_startX int m_startY

-m_font

- std::vector< std::vector<</pre> int > > m_mapData

std::vector< std::vector< int > > m_graphicData

std::vector< ROOM_NODE > m _roomList

std::vector< ROOM_NODE > m _pathList

std::vector< ROOM_NODE > m _regionList

float m_chipSize

std::vector< ROOM_INDEX> m_roomIndex

- MRMapData(const int width, const int height, uint32_t seed, MRStaticObjectManager &staticList)

+ void Update(const MRTransform &playerTransform)

+ void Render(const MRCamera

&camera) const + void RenderMiniMap(const MRTransform &playerTransform, MRStaticObjectManager &staticList) const

+ float GetStartX() const

+ float GetStartY() const

+ void HitWithWall(MRTransform &transform, const float size)

void ConvertGraphFromMap()

void DivideRooms() void SetStartPosition(std

::vector< ROOM_NODE > &rooms)

void _SpawnTreasureBox(MRStaticObject Manager &staticList)

magica_rogue::MRRandom

std::mt19937 m_engine

+ MRRandom(uint32_t seed) uint32 t GetRanged(uint32

_t minimum, uint32_t maximum) + std::mt19937 & GetDevice()