## Microsoft::WRL::ComPtr< ID3D12Resource > m constantBuffer Microsoft::WRL::ComPtr< ID3D12Resource > m uploadBuffer std::vector< Microsoft::WRL mugen engine::MEGraphicRenderTarget ::ComPtr< ID3D12Resource > > m vertexBuffer const int m numBackBuffer std::vector< D3D12 VERTEX Microsoft::WRL::ComPtr< IDXGISwapChain4 \_BUFFER\_VIEW > m\_vertexBufferView > m swapchain mugen engine::MEGraphicPipeline UINT m\_numVertexBuffer Microsoft::WRL::ComPtr< ID3D12Descriptor std::vector< char > m vsBlob Heap > m rtvHeaps std::vector< Microsoft::WRL ::ComPtr< ID3D12Resource > > std::vector< char > m psBlob std::vector< Microsoft::WRL mugen\_engine::MEGraphicCommandList ::ComPtr< ID3D12Resource > > m additionalVertexBuffer Microsoft::WRL::ComPtr< ID3DBlob Microsoft::WRL::ComPtr< ID3D12Command m backBuffers > m errorBlob UINT m numAdditionalVertexBuffer Allocator > m cmdAllocator D3D12 CPU DESCRIPTOR HANDLE Microsoft::WRL::ComPtr< ID3D12Pipeline UINT m\_currerntAdditionalVertexBuffer mugen engine::MEGraphicDevice Microsoft::WRL::ComPtr< ID3D12Graphics m\_renderTargetHandle State > m\_pipelineState ViewIndex Microsoft::WRL::ComPtr< ID3D12Device CommandList > m cmdList D3D12 VIEWPORT m viewport + MEGraphicGpuResourceManager() Microsoft::WRL::ComPtr< ID3D12Root > m device Microsoft::WRL::ComPtr< ID3D12Command Signature > m\_rootSignature D3D12\_RECT m\_scissorRect void Initialize(const MEGraphicDevice Microsoft::WRL::ComPtr< IDXGIFactory6 Queue > m cmdQueue + MEGraphicPipeline() &device, UINT numVertexBuffer) + MEGraphicRenderTarget() > m\_dxgiFactory mugen engine::VERTEX DATA Microsoft::WRL::ComPtr< ID3D12Fence · wid Initialize(const MEGraphicDevice void SetGpuResource(MEGraphicCommand void Initialize(const MEGraphicDevice - MEGraphicDevice() > m fence + DirectX::XMFLOAT3 pos &device, const D3D12 INPUT ELEMENT List &cmdList) &device, const MEGraphicCommandList - MEGraphicDevice(const MEGraphicDevice UINT64 m fenceVal + DirectX::XMFLOAT2 uv \_DESC inputLayout[], const int layoutSize) &cmdList, HWND hwnd, const int window void UploadVertexData(uint32 &)=delete + MEGraphicCommandList() width, const int window height) void SetPipelineState(const \_t index, VERTEX\_DATA \*vertices, + void Initialize() int type, MEGraphicCommandList + void Initialize(const MEGraphicDevice size t vertexNum) + void Present() ID3D12Device \*const GetDevice() const &cmdList) &device) void UploadConstantData(CONSTANT + void SetBarrierBeforeRender void ProcessBlobError(HRESULT result) IDXGIFactory4 \*const GetFactory() const (MEGraphicDevice &device, MEGraphicCommand + void Execute() DATA &constData) List &cmdList) void CreateRootSignarure void \_EnableDebugLayer() - ID3D12CommandQueue \*const void SetRenderCommand(MEGraphicCommand (const MEGraphicDevice &device) GetCommandQueue() const List &cmdList) void SetBarrierBeforePresent (MEGraphicCommandList &cmdList) ID3D12GraphicsCommandList void LoadShader() void CreateSrv(const DXGI FORMAT format, const MEGraphicDevice \*const GetCommandList() const void Clear(float clearColor void CreatePipelineState &device) [4], MEGraphicCommandList &cmdList) (const MEGraphicDevice &device, const D3D12 INPUT ELEMENT DESC void CreateTextureBuffer(const · void SetRenderArea(MEGraphicCommand DirectX:TexMetadata &metadata, inputLayout[], const int layoutSize) List &cmdList, const int topX, const MEGraphicDevice &device) const int topY, const int bottomX, const int bottomY) void ResetUploadBuffer(const size t rowPitch, const size void SetRenderBaseCommand \_t height, const MEGraphicDevice &device) (MEGraphicCommandList &cmdList) void UploadDataToUploadBuffer (uint8 t \*srcData, const size \_t rowPitch, const size\_t height) void InitalizeConstantBuffer (const MEGraphicDevice &device) size t GetAlignmentedSize (size\_t size, size\_t alignment) void CreateCbv(const MEGraphicDevice &device) void SetBarrierBeforeUploadTexture (const MEGraphicCommandList &cmdList) -m\_pCmdList -m\_pDevice -m\_pCmdList -m resourceManager -m\_pPipeline -m\_pPipeline \ -m\_pRenderTarget -m\_pRenderTarget / -m\_pDevice -m vertices mugen\_engine::MEImage size\_t m\_height size t m xDivideNum size\_t m\_yDivideNum DirectX::XMFLOAT4 m\_brightness BLEND\_TYPE m\_blendType magica\_rogue::MRTransform + MElmage() float m\_x mugen engine::MEFontData MEImage(const std::wstring · float m\_y &filepath, MEGraphicDevice - HDC m\_hdc - float m\_vx &device, size\_t xDivideNum, HFONT m\_oldFont size\_t yDivideNum, MEGraphicCommandList float m\_vy std::unordered map< wchar &cmdList, MEGraphicPipeline &pipeline, + MRTransform(const float x, t, MEGraphicCharacterUnit MEGraphicRenderTarget &renderTarget) const float y, const float magica\_rogue::MRHitPoint > m loadedCharacters magica\_rogue::MRCamera void DrawGraph(int x, int w, const float w) float m\_value + MEFontData() y, float priority, int index=0) int m anchorX void SetPosition(const float float m maximum MEFontData(std::wstring fontName, + void DrawRotaGraph(int x, x, const float y) int m anchorY int fontSize, MEGraphicDevice int y, float scale, float MRHitPoint(const float maximumValue) + MRCamera(const int x, const int y) + void SetVelocity(const float &device, MEGraphicCommandList &cmdList, angle, float priority, int woid Heal(const float value) w, const float w) MEGraphicPipeline &pipeline, MEGraphicRenderTarget woid SetAnchor(const int x, index=0) + void RatioHeal(const float ratio) void SetVelocityWithAngle &renderTarget) const int y) void DrawGraph2X(int x, int (const float angle, const float speed) + void Damage(const float value) MEFontData & operator=(const int GetAnchoredX(const int y, float priority, int index=0) + float GetX() const MEFontData &rhs) x) const float GetValue() const void DrawRotaGraph2X(int x, + float GetY() const void DrawString(const int + int GetAnchoredY(const int int y, float scale, float + float GetRatio() const x, const int y, const float y) const angle, float priority, int + float GetNextX() const float GetMax() const color[4], float priority, const index=0) + float GetNextY() const std::wstring text) void DrawModiGraph(int x0, + void SetX(float x) void DrawFormatString(const int y0, int x1, int y1, int + void SetY(float y) int x, const int y, const float x2, int y2, int x3, int y3, color[4], float priority, const float priority, int index=0) + woid SetVelocityX(float vx) std::wstring text,...) void DrawModiGraph2X(int x0, + void SetVelocityY(float wy) int y0, int x1, int y1, int + void Update() 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\_hpGuageImg -m\_guageFont -m transform m\_camera -m\_hp -m\_playerImg magica\_rogue::MRPlayer PLAYER\_ID m\_id float m\_size float m\_speed MRPlayer(const PLAYER\_ID id, const float x, const float

y, MRCamera &camera)

+ MRTransform & GetTransform()

+ void Update() + void Move()

+ float GetSize()

+ void Render() const

uint32\_t m\_descriptorHeapIncrementSize
Microsoft::WRL::ComPtr< ID3D12Resource

Heap > m basicDescHeap

> m textureBuffer