```
mugen engine::MEGraphicGpuResource
                  Manager
- Microsoft::WRL::ComPtr< ID3D12Descriptor
  > m textureBuffer
- Microsoft::WRL::ComPtr< ID3D12Resource
```

 uint32 t m descriptorHeapIncrementSize Microsoft::WRL::ComPtr< ID3D12Resource

> m constantBuffer

> m_uploadBuffer

m_vertexBuffer

ViewIndex

List &cmdList)

List &cmdList)

&device)

size t vertexNum)

DATA &constData)

+ void CreateSrv(const DXGI

+ void CreateTextureBuffer(const DirectX::TexMetadata &metadata, const MEGraphicDevice &device)

+ void ResetUploadBuffer(const size_t rowPitch, const size

+ 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

void _SetBarrierBeforeUploadTexture (const MEGraphicCommandList &cmdList)

8 888 ...

&device)

std::vector< Microsoft::WRL ::ComPtr< ID3D12Resource > >

- std::vector< D3D12_VERTEX

UINT m numVertexBuffer std::vector< Microsoft::WRL ::ComPtr< ID3D12Resource > > m additionalVertexBuffer

Heap > m basicDescHeap

- Microsoft::WRL::ComPtr< ID3D12Resource

BUFFER VIEW > m vertexBufferView

UINT m numAdditionalVertexBuffer UINT m currerntAdditionalVertexBuffer

+ MEGraphicGpuResourceManager() + void Initialize(const MEGraphicDevice &device, UINT numVertexBuffer)

+ void UploadVertexData(uint32

t index, VERTEX DATA *vertices,

+ void UploadConstantData(CONSTANT

+ void SetRenderCommand(MEGraphicCommand

FORMAT format, const MEGraphicDevice

t height, const MEGraphicDevice &device)

+ void SetGpuResource(MEGraphicCommand