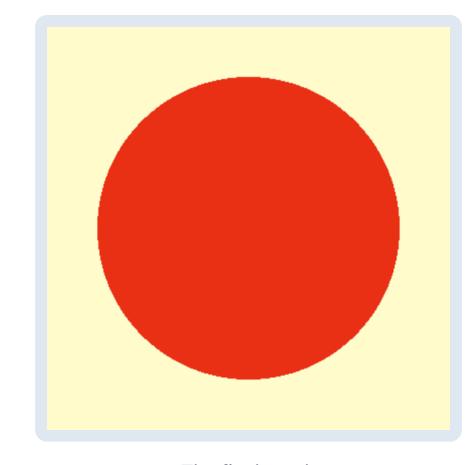
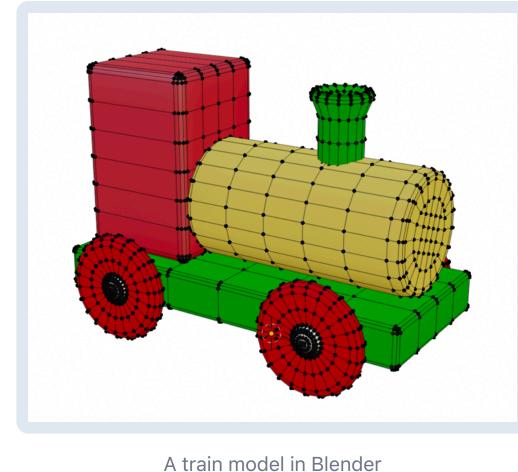
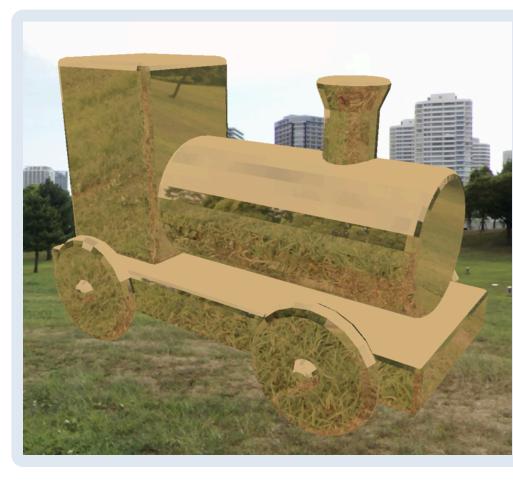
1 Hello, Metal!



The final result

What is Rendering?

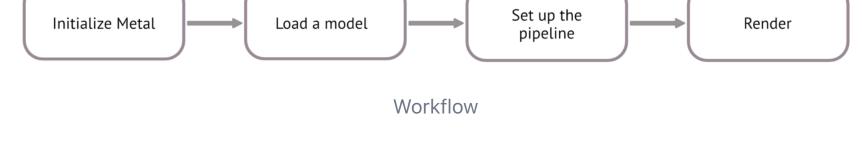




Shading techniques cause reflection

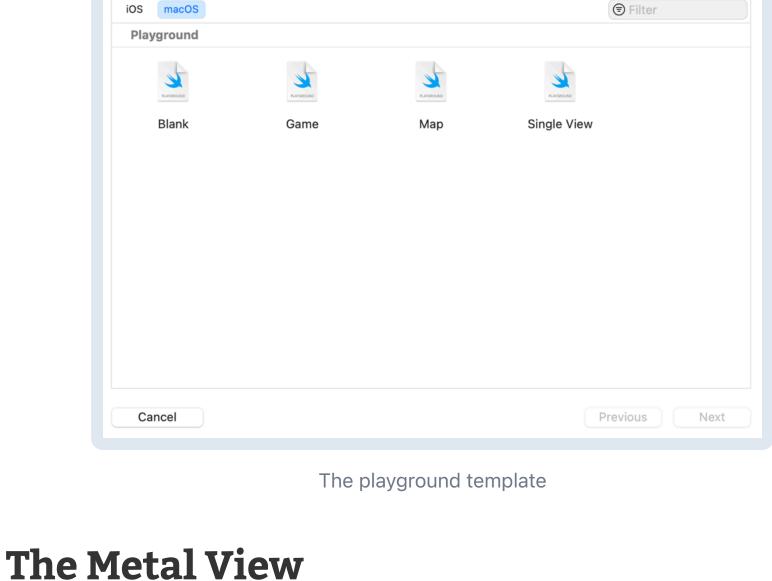
What is a Frame?

Your First Metal App



Choose a template for your new playground: iOS macOS

Getting Started



The Model

Command queue

Render command

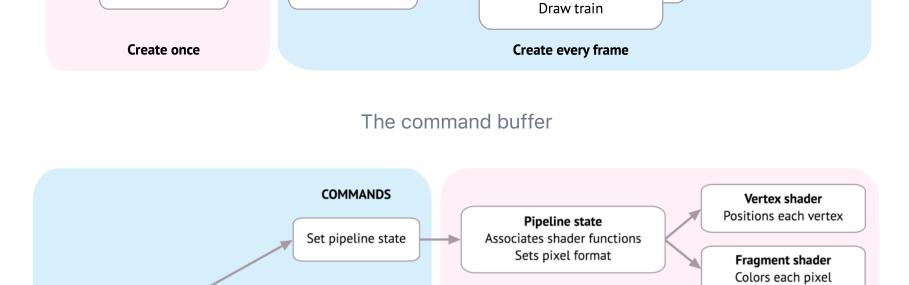
encoder

Create every frame

Command buffer

Set vertex buffer

Queues, Buffers and Encoders



Command encoder

eg: Set pipeline state

Draw ground

Vertex buffer

Holds vertex positions

Render Pass 3

Render Pass 2

Render Pass 1

Create once

Command encoder

eg: Set pipeline state

Draw sphere

The render command encoder

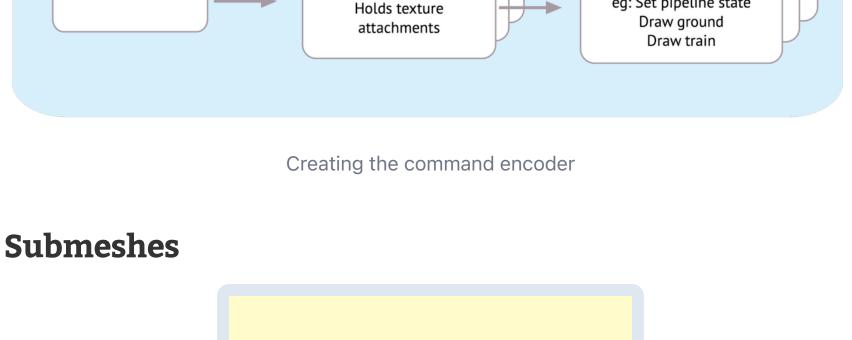
The Pipeline State

Shader Functions

Command buffer

Rendering

Render Passes

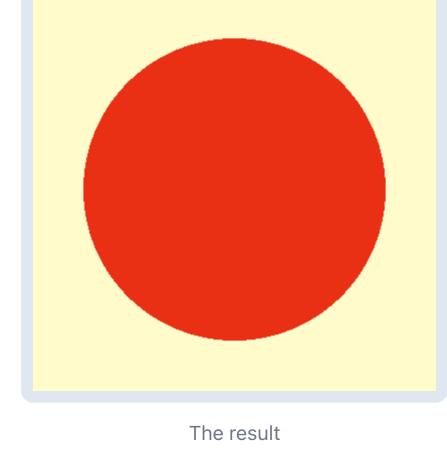


Render Pass Descriptor

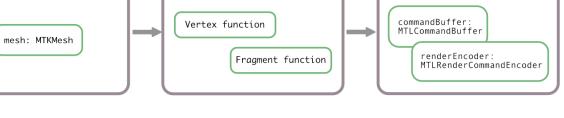
Initialize Metal

commandQueue: MTLCommandQueue

device: MTLDevice



Load a model



Render

Set up the pipeline

The completed workflow