API Collection

Object capture

Create 3D objects from a series of photographs using photogrammetry.

Overview

In iOS 17 and macOS 12 and later, you can create 3D objects from photographs using a process called photogrammetry. You provide RealityKit Object Capture with a series of well-lit photographs taken from many different angles. It analyzes the overlap area between different images to match up landmarks and produces a 3D model of the photographed object.

Topics

Model creation

📄 Capturing photographs for RealityKit Object Capture

Take high-quality images of objects to generate 3D models.

📄 Creating 3D objects from photographs

Construct virtual objects to use in your AR experiences.

{} Scanning objects using Object Capture

Implement a full scanning workflow for capturing objects on iOS devices.

{} Building an object reconstruction app

Reconstruct objects from user-selected input images by using photogrammetry.

{} Creating a photogrammetry command-line app

Generate 3D objects from images using RealityKit Object Capture.

`{}` Using object capture assets in RealityKit

Create a chess game using RealityKit and assets created using Object Capture.

`class` `PhotogrammetrySession`

Manages the creation of a 3D model from a set of images.

`struct` `PhotogrammetrySample`

An object that represents one image and its corresponding metadata.

`struct` `ObjectCaptureView`

A view that guides a user through capturing images for object capture.

`class` `ObjectCaptureSession`

A session object that monitors and controls image capture for photogrammetry.

`struct` `ObjectCapturePointCloudView`

Renders the current state of the point cloud from an object capture session.

See Also

Asset creation

`{}` Swift Splash

Use RealityKit to create an interactive ride in visionOS.

`{}` Diorama

Design scenes for your visionOS app using Reality Composer Pro.

`{}` Composing interactive 3D content with RealityKit and Reality Composer Pro

Build an interactive scene using an animation timeline.

`{}` Presenting an artist's scene

Display a scene from Reality Composer Pro in visionOS.

`:=` Reality Composer

A visual editor for RealityKit AR scenes.

USD

An efficient and scalable way to represent 3D scenes.