

2023

visionOS 1.0 SDK

RealityKit

- Window / Volume / Space
- SwiftUI views : Model3D, RealityView, SwiftUI attachments
Vibrant material, Glass background, Ornaments, Hover Effect
- SwiftUI gestures : RotateGesture3D, targetedToEntity, SpatialTapGesture, preferredHandAction, 3D properties on spatial gestures
- Custom component/system, Attachment entities: AttachmentProvider
- Image-based lighting, Shadows, ShaderGraphMaterial, Rasterization rate map, Foveation, Dynamic content scaling, Particle emitters, Portals
- VideoPlayerComponent : 3D video support (HV-HEVC)
- RealityKit USD schemas
- SharePlay
- Accessibility component, Voice over

ARKit

- ARKitSession, DataProvider
- Privacy and authorization API
- Automatic persistent WorldAnchors
- Scene understanding: Plane detection & classification, Scene geometry, Image Tracking, Hand Tracking with render struct/function
- Ray casting with system gestures or hand tracking

Reality Composer Pro

- RealityKitContent Swift Package
- ShaderGraphMaterial: MaterialX, ShaderGraph Node Editor
- Particle system
- Audio authoring
- Statistics: Materials, Geometry, etc.
- USDZ export

3D QuickLook

- Volume, USDZ metersPerUnit, 100% scale
- Automatic ground plane and shadow
- < 25 MB better, < 200 mesh, < 100k vertices in total, max 2K x 2K texture, 8-bit per channel texture, use MaterialX Unlit surface
- Windowed Quick Look / In-app Quick Look

Metal 3

- CompositorServices API (C and Swift APIs)
- World tracking with ARKit (C and Swift APIs)

Xcode

- SwiftUI preview, visionOS simulator
- Instruments : RealityKit Trace template

Unity

- Unity Shader Graph -> MaterialX
- AR : Plane detection, World mesh, Image markers
- Static foveated rendering, Universal rendering pipeline, Single-pass instanced rendering, Depth composition
- Input: XR Interaction Toolkit