

SIGGRAPH2014

NATURALLY DIGITAL

vancouver



The **41st** International
Conference and **Exhibition**
on **Computer Graphics** and
Interactive Techniques

idean 

 **RAYWENDERLICH.COM**

Tutorials for Developers & Gamers

Developing a 3D Model Viewer for iOS using
COLLADA and OpenGL ES

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Idean / RayWenderlich.com

Content & Deliverables

Today's Keywords

- Developing
- 3D Model Viewer
- iOS
- COLLADA / OpenGL ES



Schedule

2:00pm - 5:15pm

- **2:00pm** Introduction / Welcome
- **2:15pm** Part 0: “Hello, World!”
- **2:30pm** Part 1: COLLADA Parser
- **3:00pm** Part 2: GLKit Render (iPhone)
- **3:30pm** — BREAK —
- **3:45pm** Part 3: OpenGL ES Render (iPad)
- **4:15pm** Part 4: UI Components and Gesture Recognizers
- **4:45pm** Part 5: Swift, Xcode 6, and Scene Kit
- **5:00pm** Conclusion / Q&A

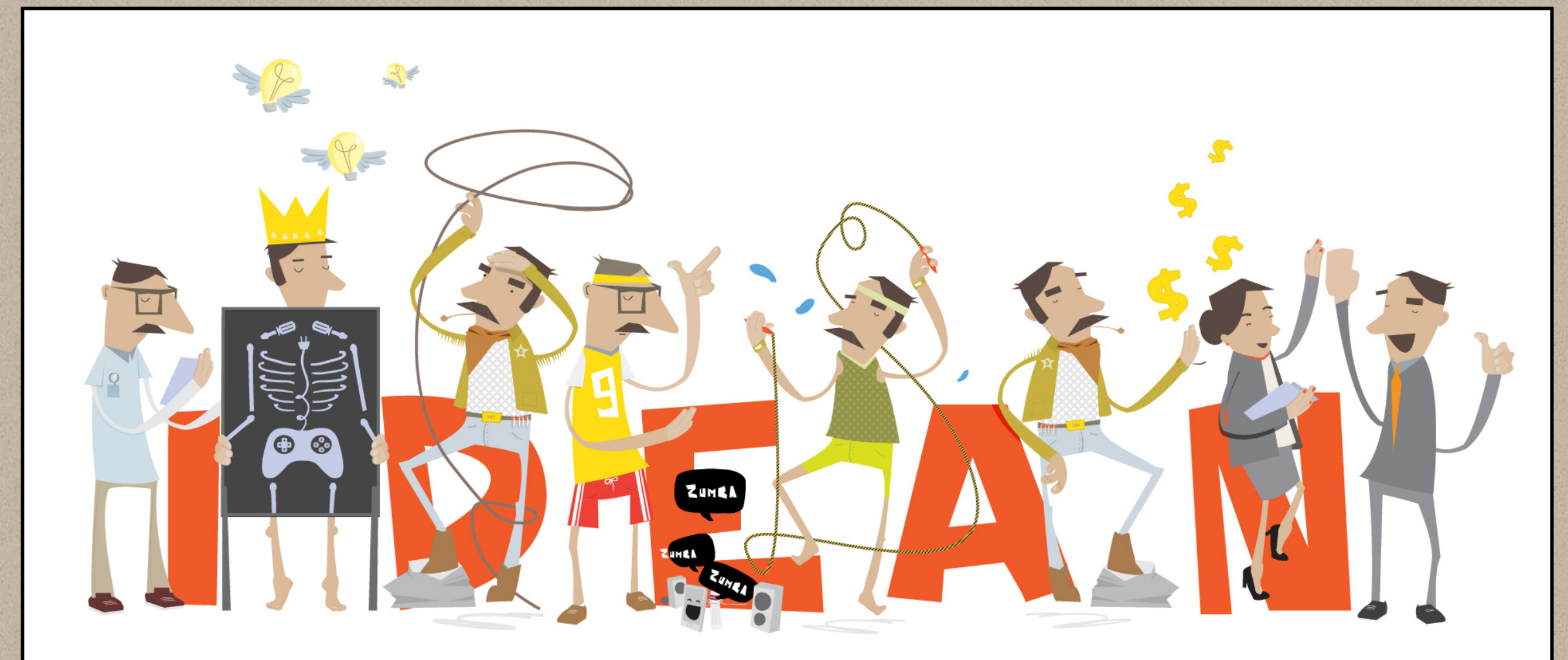
Who is this course for?

Pleased to meet you...

- Developers
- Artists
- Mobile/Graphics professionals or students
- Any others?

Required: Macbook Pro + Xcode 5

Optional: iPhone/iPad + Developer Account



Disclaimer

Apple WWDC 2014

- Swift
- Xcode 6
- iOS 8: Scene Kit, Metal



Part 0: “Hello, World!”

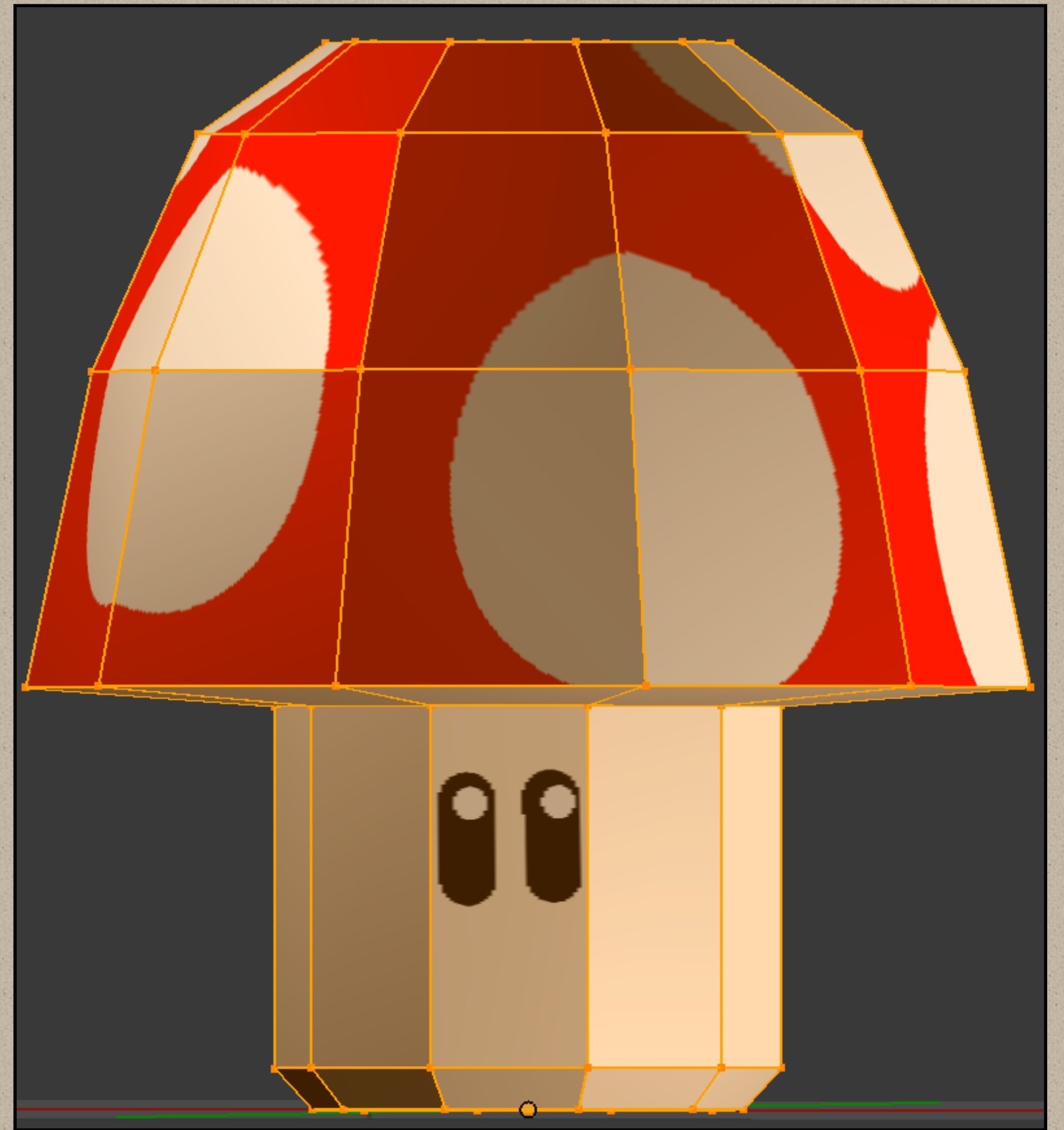
Directions

1. Download the course resources:
github.com/ricardo-rendoncepeda/RRCModelViewer
2. Open the starter project: **Xcode/Starters/Part0/RRCModelViewer.xcodeproj**
3. Build and run for iPhone! (⌘B, ⌘R)
4. Build and run for iPad! (⌘B, ⌘R)
5. Open the unit tests file: **RRCModelViewerTests.m**
6. Test: “Hello, World!”

Part 1: COLLADA Parser

COLLADA (.dae)

- XML Scene Graph
- Open schema
- Vertex attributes: positions, normals, texture coordinates, total count.
- Well-supported: Maya, Blender, Preview, Photoshop, Xcode, etc.

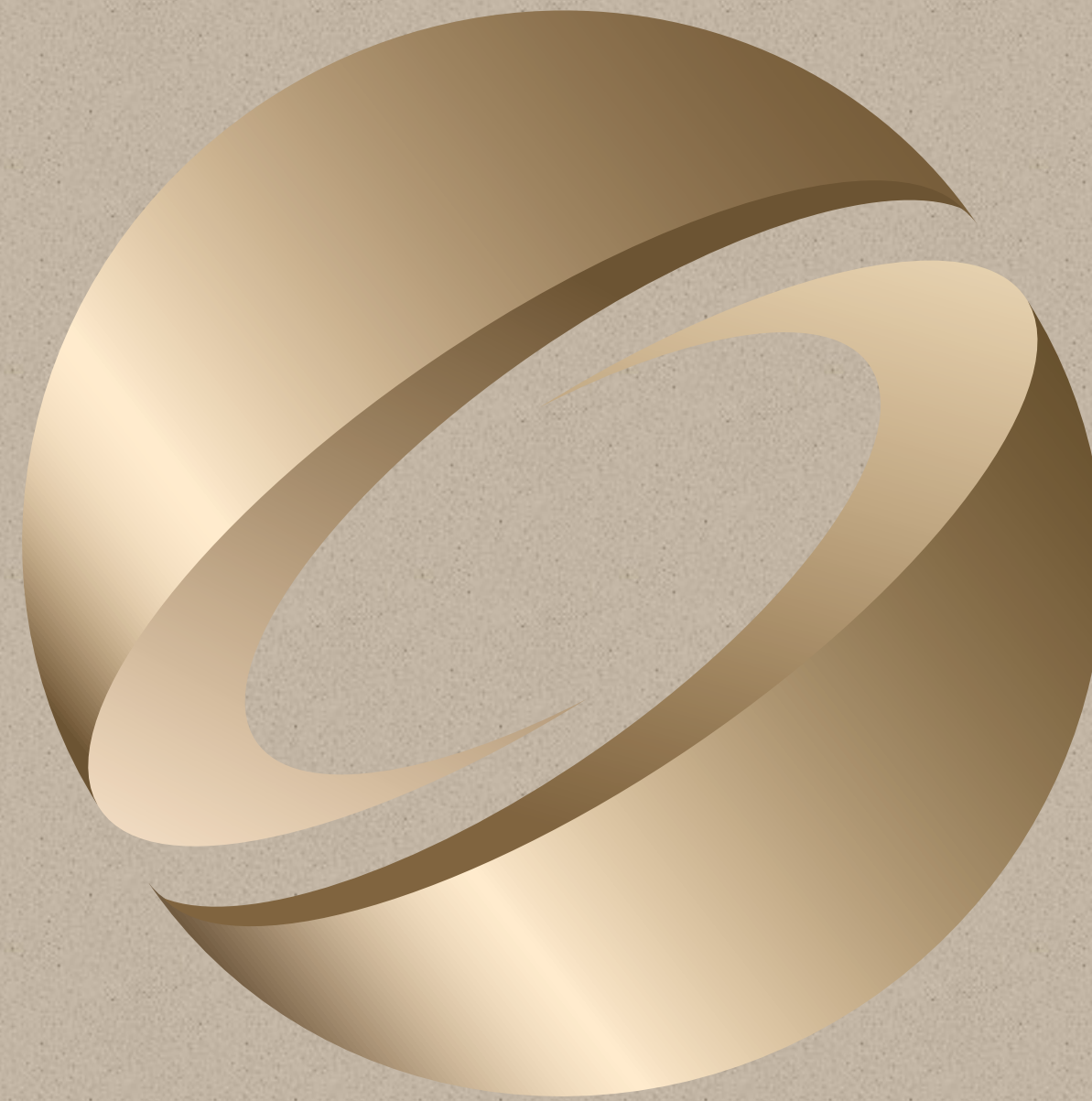


Part 2: GLKit Render (iPhone)

GLKit

- GLKViewController: Frame/render buffers, viewport, display, updates.
- GLKTextureLoader
- GLKBaseEffect: Fixed-function pipeline (OpenGL ES 1.x)
- GLKMath: Vectors, matrices, quaternions





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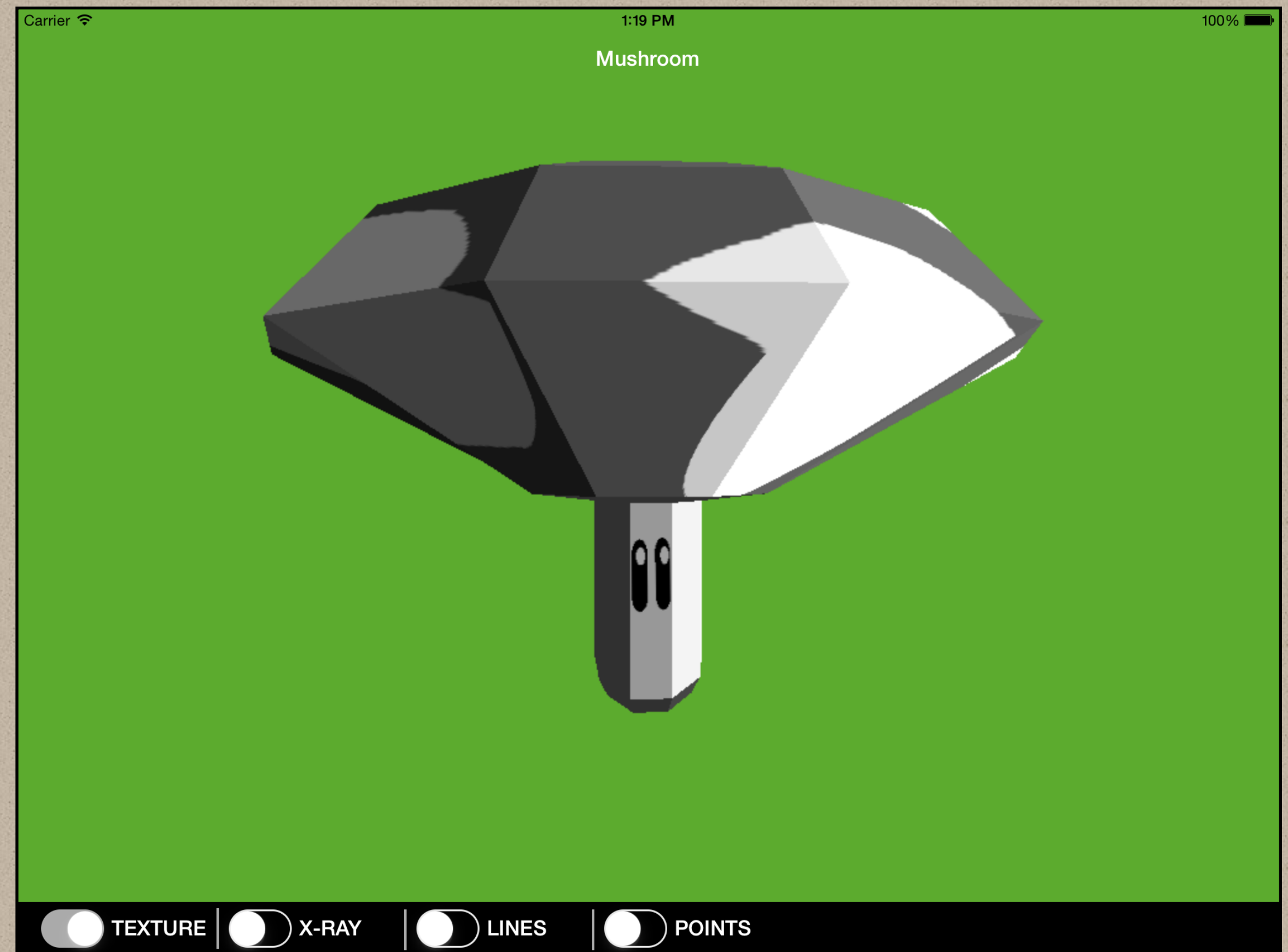
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Part 3: OpenGL ES Render (iPad)

OpenGL ES

- Views
- Textures
- **Shaders**
- ... GLKMath



Part 4: UI Components and Gesture Recognizers

UIKit and Interface Builder

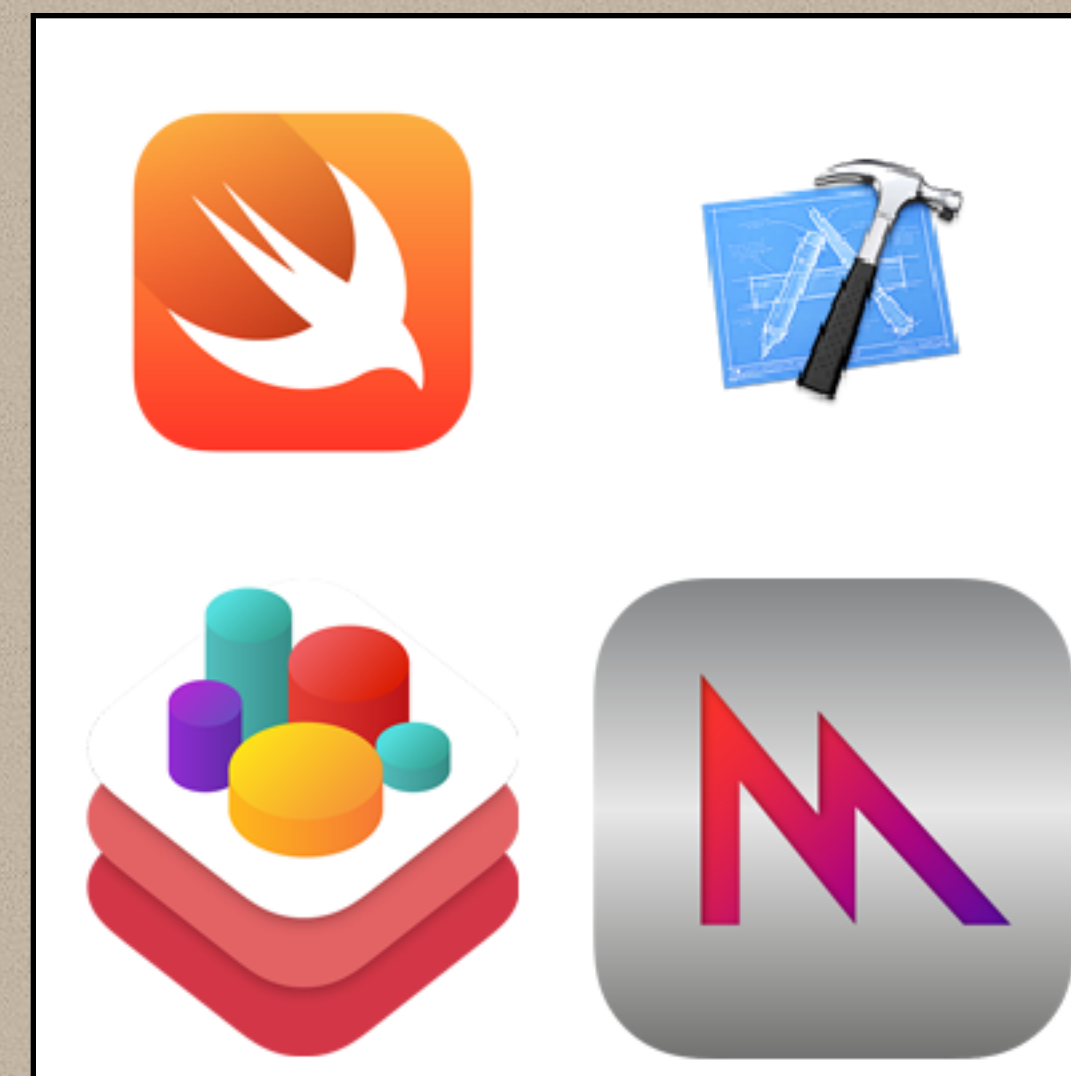
- UISwitch, UILabel
- UIGestureRecognizer: Pinch, Pan, Rotation, Long Press
- IBOutlet
- IBActions



Part 5: Swift, Xcode, and Scene Kit

New!

- Swift: Programming language
- Xcode6: IDE
- Scene Kit: 3D API
- ... Metal: GPU API



Resources

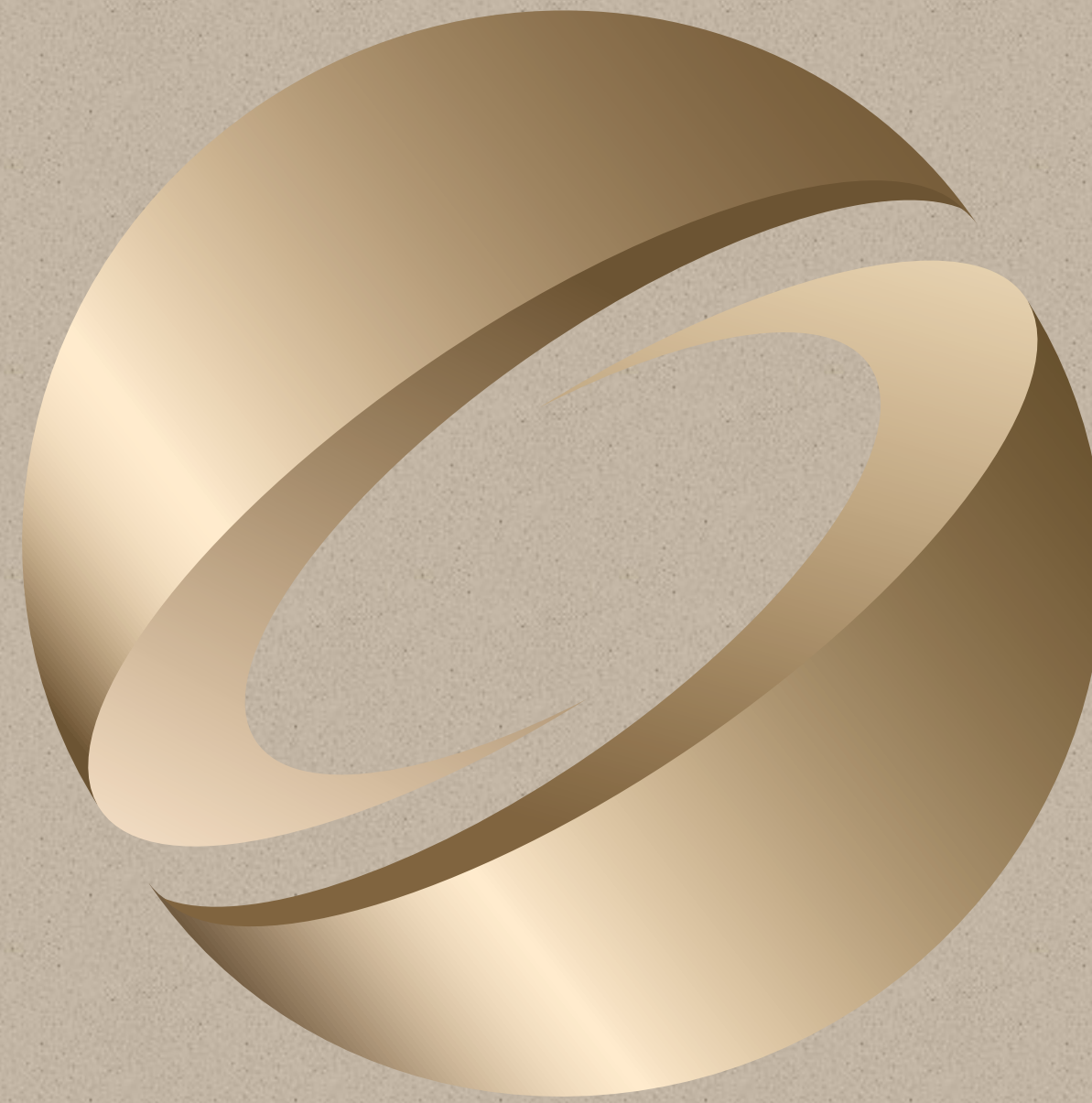
Links, links, links

- Apple Developer: **developer.apple.com**
- Khronos Group: **www.khronos.org**
- RW Tutorials: **www.raywenderlich.com**
- Idean: **www.idean.com**

Contact

How to find me...

- Twitter: **@rendoncepeda**
- LinkedIn: **www.linkedin.com/in/rendoncepeda**
- GitHub: **github.com/ricardo-rendoncepeda**
- RW Profile: **www.raywenderlich.com/u/rcepeda**



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