

# **Building Apps for Vision Pro**

## **An introduction to the concepts behind spatial computing**



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# About Me

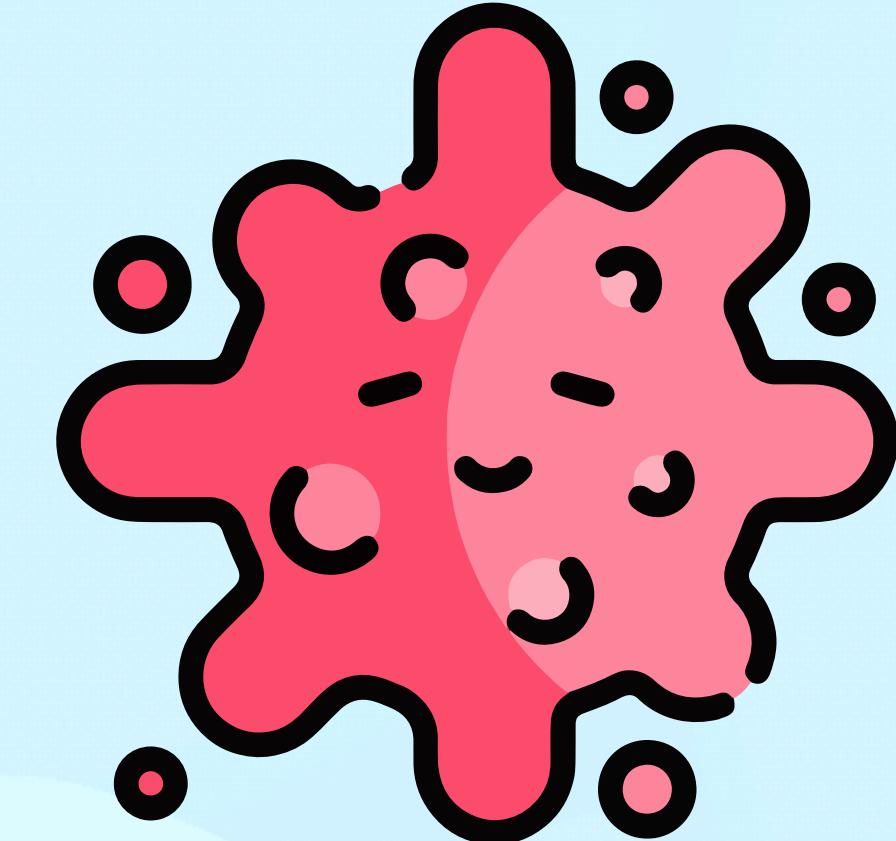
- **Global Nomad:** Lived in 6 of the 7 continents, 4 before college.
- **Education:** BS Computer Science from Drexel University; with a minor in Japanese.
- **Early Career:** Worked in Kyoto, Japan, as a CIA intelligence asset, working for early stage Japanese internet startups. Appeared on cover of Wired Japan.
- **Early Entrepreneur:** Started first company while still in college - employed fellow students to build CD-ROM content for the adult entertainment industry.
- **Most Known For:** Creating the Starbucks app and pioneering mobile banking and check deposit
- **Startup Success:** Created and sold 2 startups; the 1st pioneered mobile banking and the 2nd aviation maintenance software built on blockchain.
- **FIRE'd:** Achieved financial independence by age 30 (via traditional investing), and retired early at 38 (after first startup exit)



*Photo: Rodney while living in the Congo with his pet Chimp "Sofie"*

# What I'm doing now ...

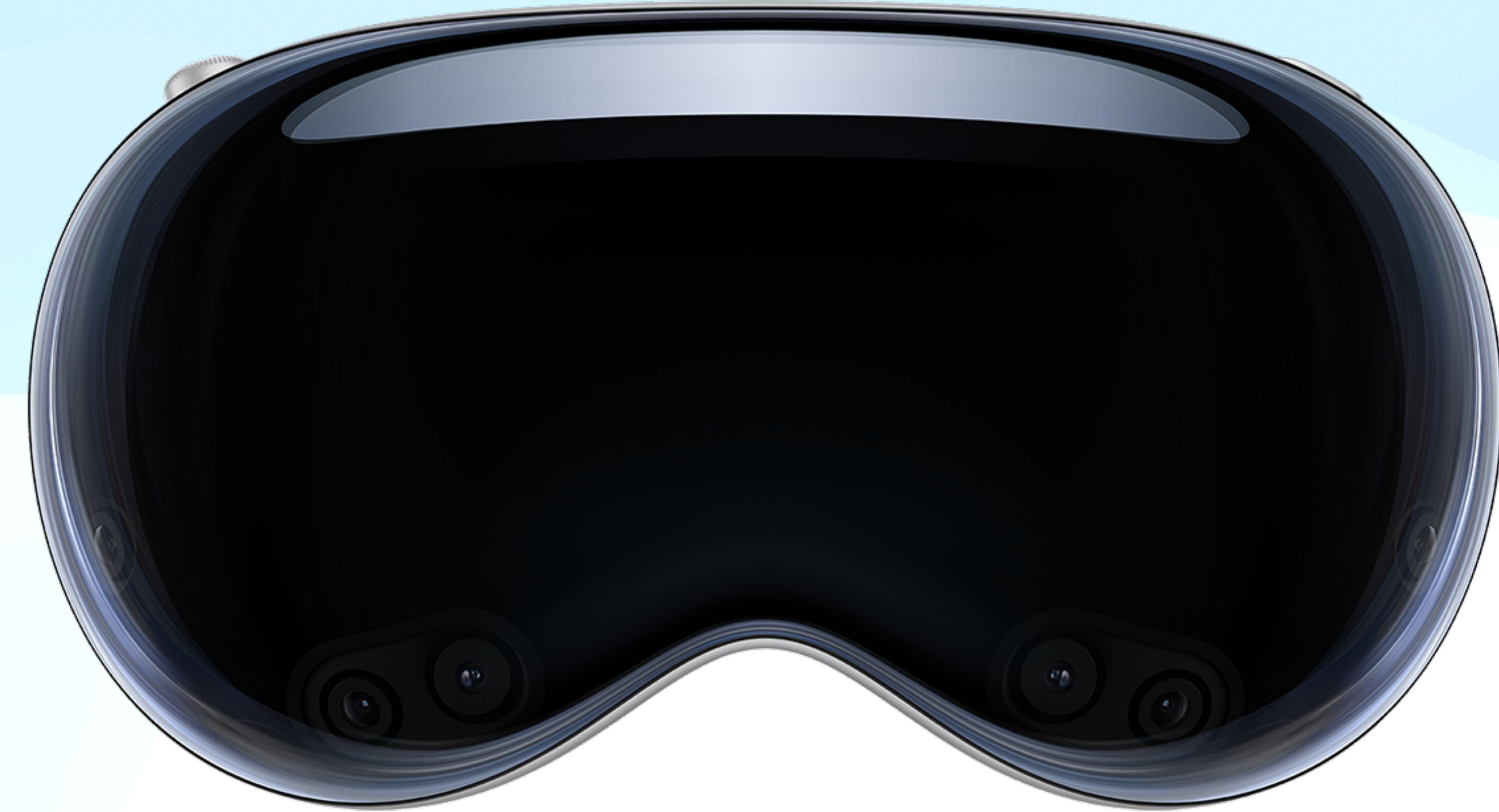
- **Cancer:** DX'd Stage IV colon cancer in 2022, came to NYC for treatment ... now in early stages of remission
- Started working on **ChemoBuddy** when DX'd - an app to help me track and analyze my chemo regimens so I could better understand what causes my side effects and communicate that info with my Oncologist
- Initially created for personal use - but has since generated a lot of “grassroots” interest from the larger cancer community
- I’m starting a new company, **HacktiveHealth** to bring ChemoBuddy to market and to create innovative solutions in the area of **AI predictive analytics** and **remote patient monitoring**
- I’m now in closed Beta with plans to launch an open Beta later this year.



**ChemoBuddy**  
<https://chemobuddy.app>



# What is “Spatial Computing”

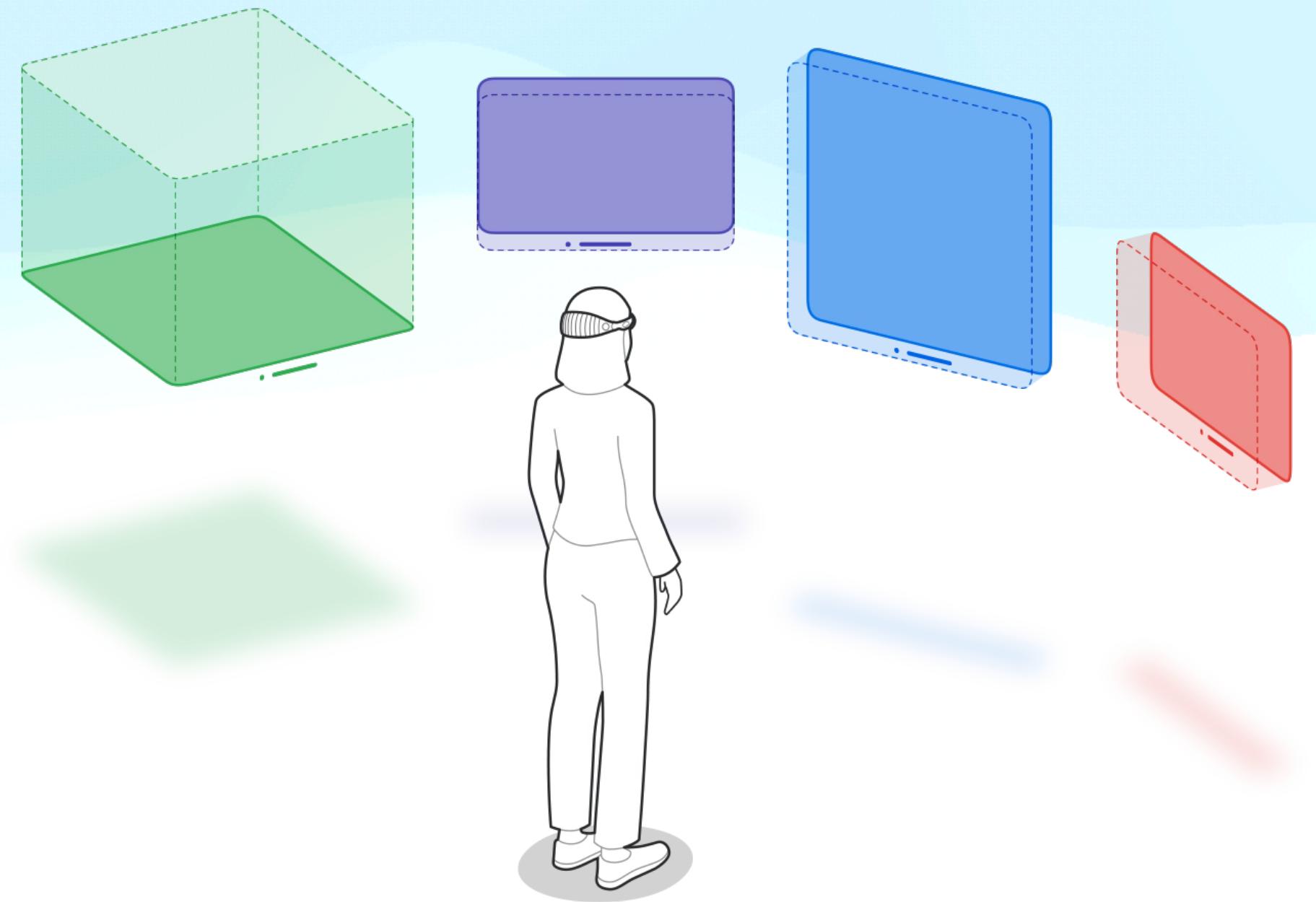


<https://developer.apple.com/visionos/>

# What is “Spatial Computing”

## Melding AR and VR concepts

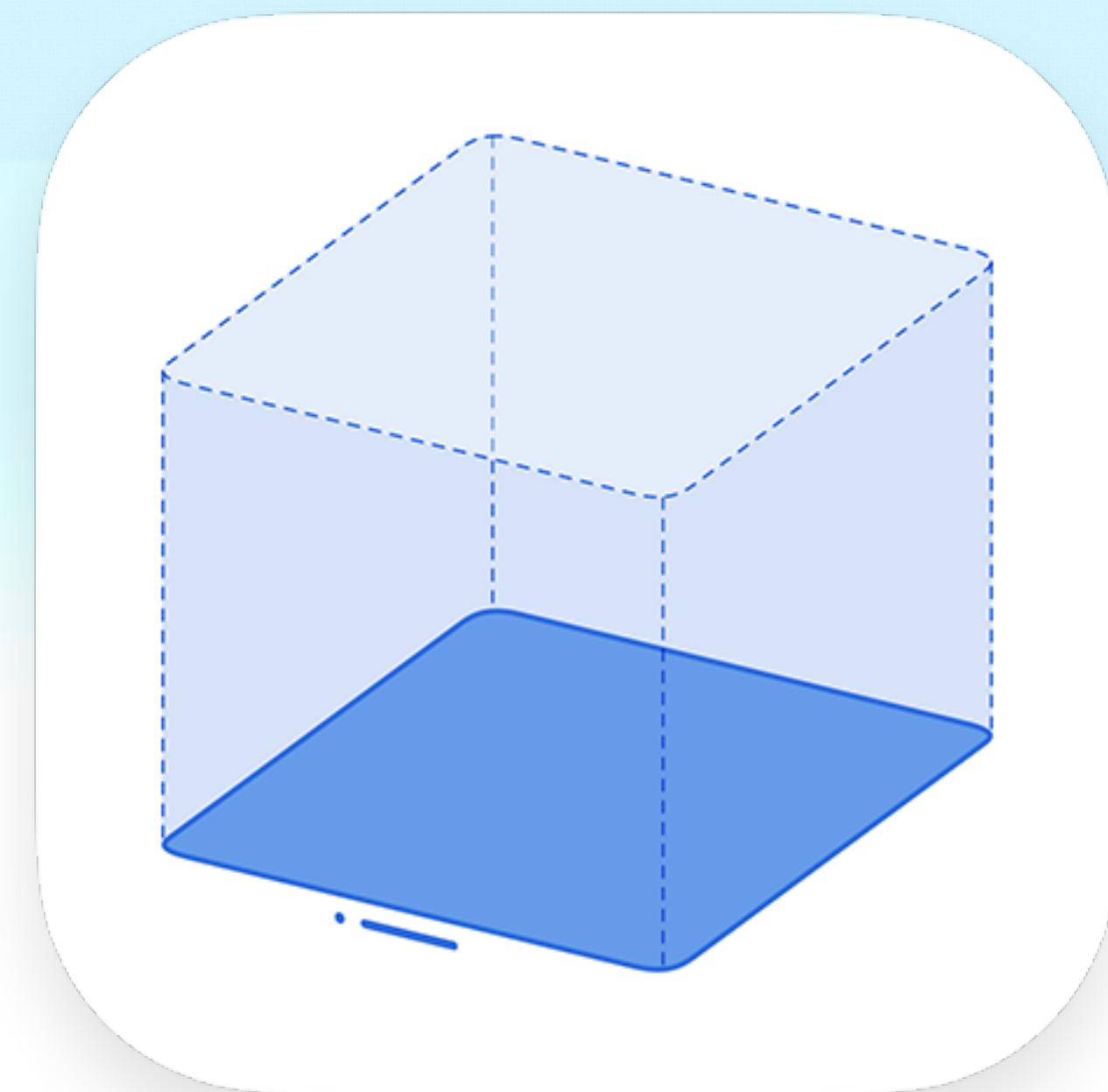
- **Limitless 3D Space:** Apple Vision Pro provides a huge persistent area for exploring and creating in 3D.
- **Two Ways to Use:** Choose to stay aware of the real world while using apps (AR), or get fully lost in a virtual world (VR).
- **Easy Switching:** Move smoothly from a normal screen view to a full 3D experience and back.
- **Shared Experiences:** Two or more people can “share” the same experience from different POVs



# Building Blocks of Spatial Computing



**Windows**



**Volumes**

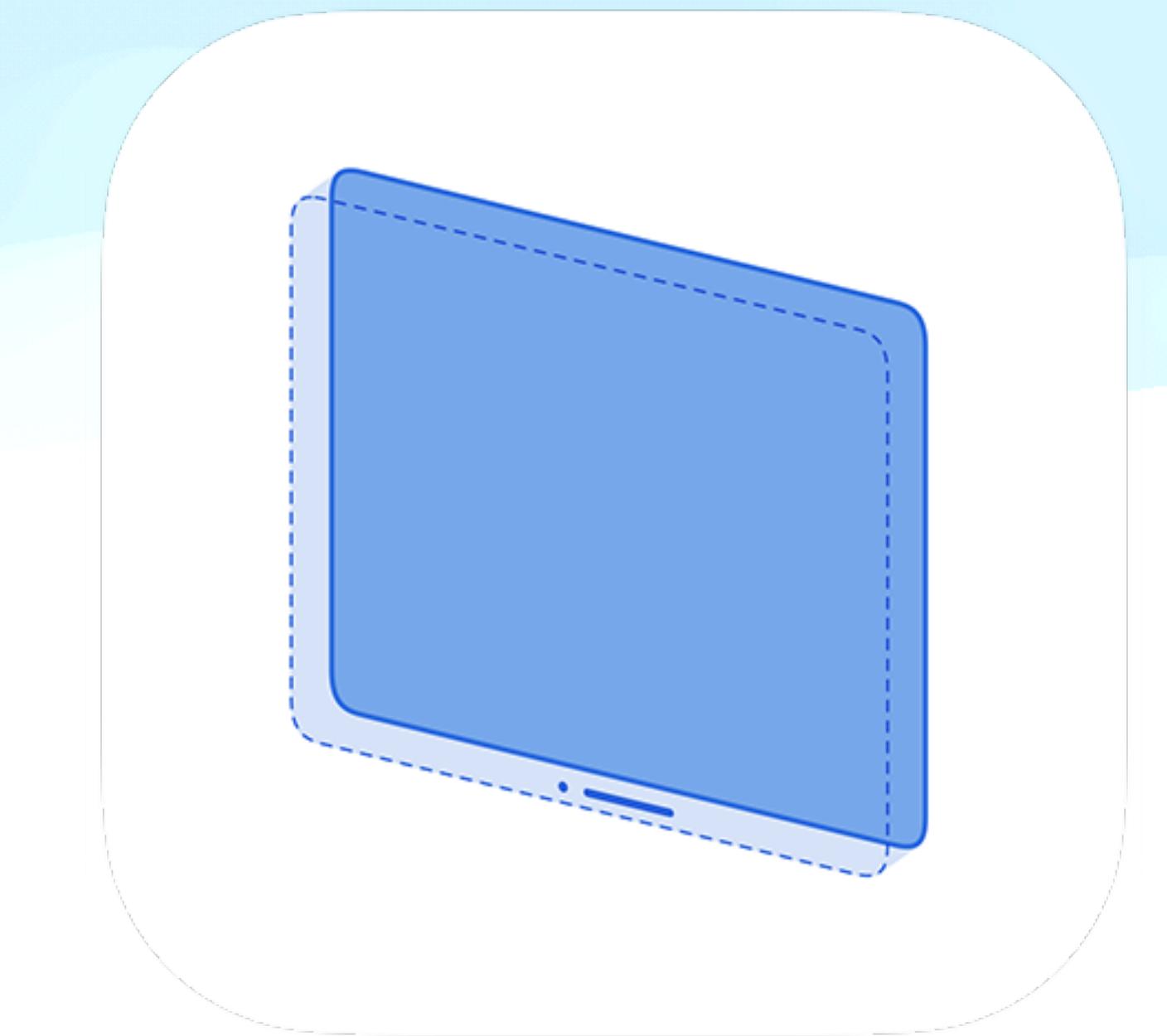


**Spaces**

# Building blocks of spatial computing

## Level 1 - “Windows”

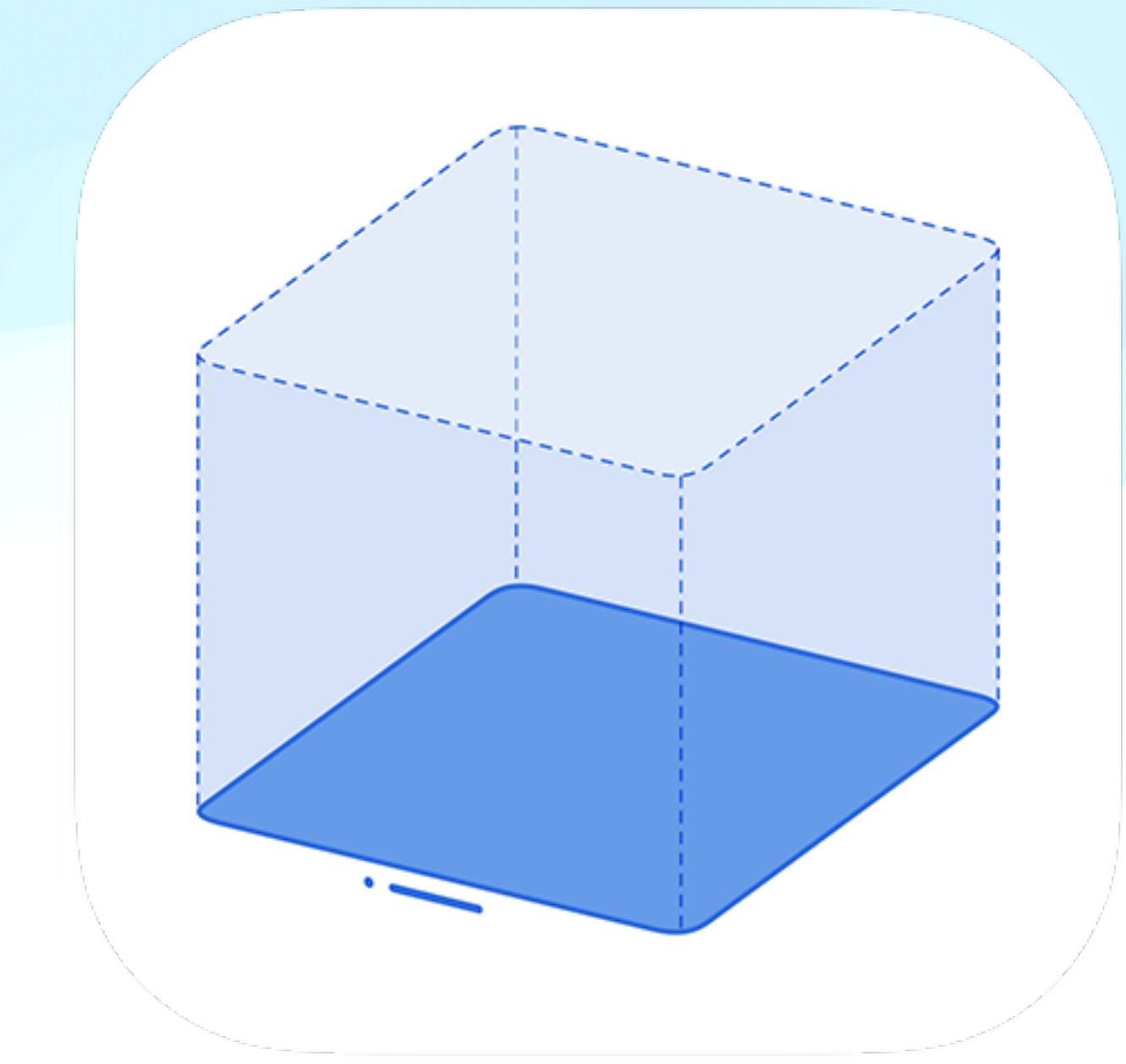
- **Most Familiar:** Easiest way to start developing for VisionOS.
- **Multiple Windows:** Less like iOS and iPadOS, and more like MacOS, apps can have multiple windows.
- **SwiftUI Framework:** Utilizes familiar SwiftUI for constructing windows with traditional views and controls.
- **Enhanced Depth with 3D Content:** Option to add 3D elements to enrich the user experience.
- **Compatibility:** Existing iPad and iOS apps can be run as Windows without any additional work.



# Building blocks of spatial computing

## Level 2 - “Volumes”

- **3D Volume:** A finite 3D volume for added depth.
- **Versatile Viewing:** Create experiences viewable from any angle in Shared Space or an app's Full Space.
- **Minimal Environment Interaction:** Some detection of lighting sources but no ability to interact with your physical environment
- **Compatibility:** 3rd party 3D platforms like Unity and Spline have support for Volumes



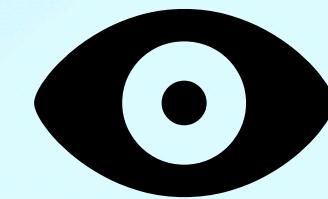
# Building blocks of spatial computing

## Level 3 - “Spaces”

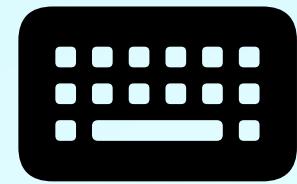
- **Multi Modal:** Can contain Windows, Volumes
- **Unbounded 3D Content:** Can fully react to the external environment (tables, chairs, walls, floor)
- **Shared Spaces:** The default modality where content exists side by side with other apps
- **Dedicated Spaces:** a dedicated Full Space where only that app’s content will appear



# Spatial Computing Input Options



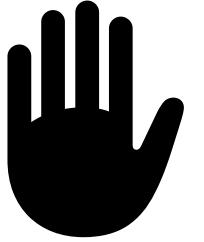
Eye Tracking



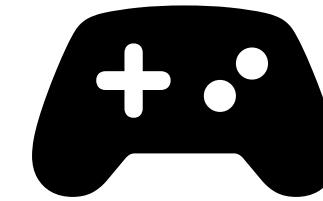
Keyboard



Mouse



Gestures

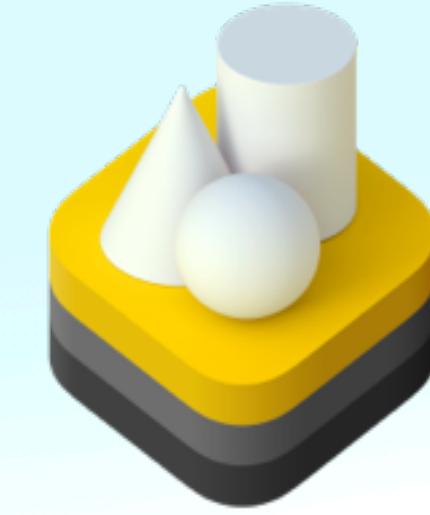


Controller

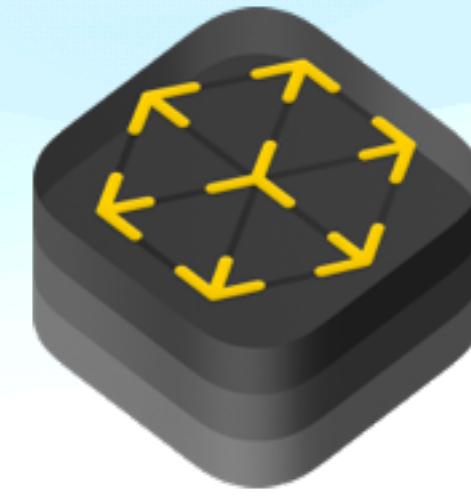
# Spatial Computing Frameworks



SwiftUI



RealityKit



ARKit



Metal

# Spatial Computing Tools



Xcode



Reality Composer Pro



Unity

# Vision Pro Demo

# Questions?