



# Daydreaming about Cardboards

Virtual Reality in Android



- 🔑 : headless CMS: [contentful.com](https://contentful.com) 🐱
- 🐦 : [@MarioBodemann](https://twitter.com/MarioBodemann) 🐱
- 📄 : [bit.ly/mbcbrd](https://bit.ly/mbcbrd) 🐱



Cardboard

# Google Cardboard

- Easy to produce,
- available from different companies,
- in different styles/interactions,
- You just need a phone.



# How does Cardboard work?

- Use 3D data and movement to draw two images,
  - one for the left and right eye.
- Contains Lenses to move things away.
- Brain combines image to 3D scene.

# How do you program for it?

SDKs available for

- Android (OpenGL),
- IOS (Objective C),
- Web (JS),
- Unity Engine (C# /JS) x (🍏, G, 🖥️, 🐧).

# How do I write a Unity App?

Demo time!



# What do those SDKs provide?

- 3D setup (left/right camera translation and separate rendering),
- lensdistortion correction,
- adoption of cardboard movement to scene,
- panorama of 360 degree photospheres (more later).



# What can I do in pure Android only?

- VrPanoramaView/VrVideoView
  - Integration of photospheres in view hierarchies.
- Integration with other (Java) libraries.
- Sending of Intents easily.

# Limitations of Android SDK

- Creating of 3D models has to be done by
  - either low level OpenGL or
  - 3rd party 3d engine.
- Setup of Google VR libraries
  - one module for each .aar dependency needed.

# Adding a Photosphere to an simple project

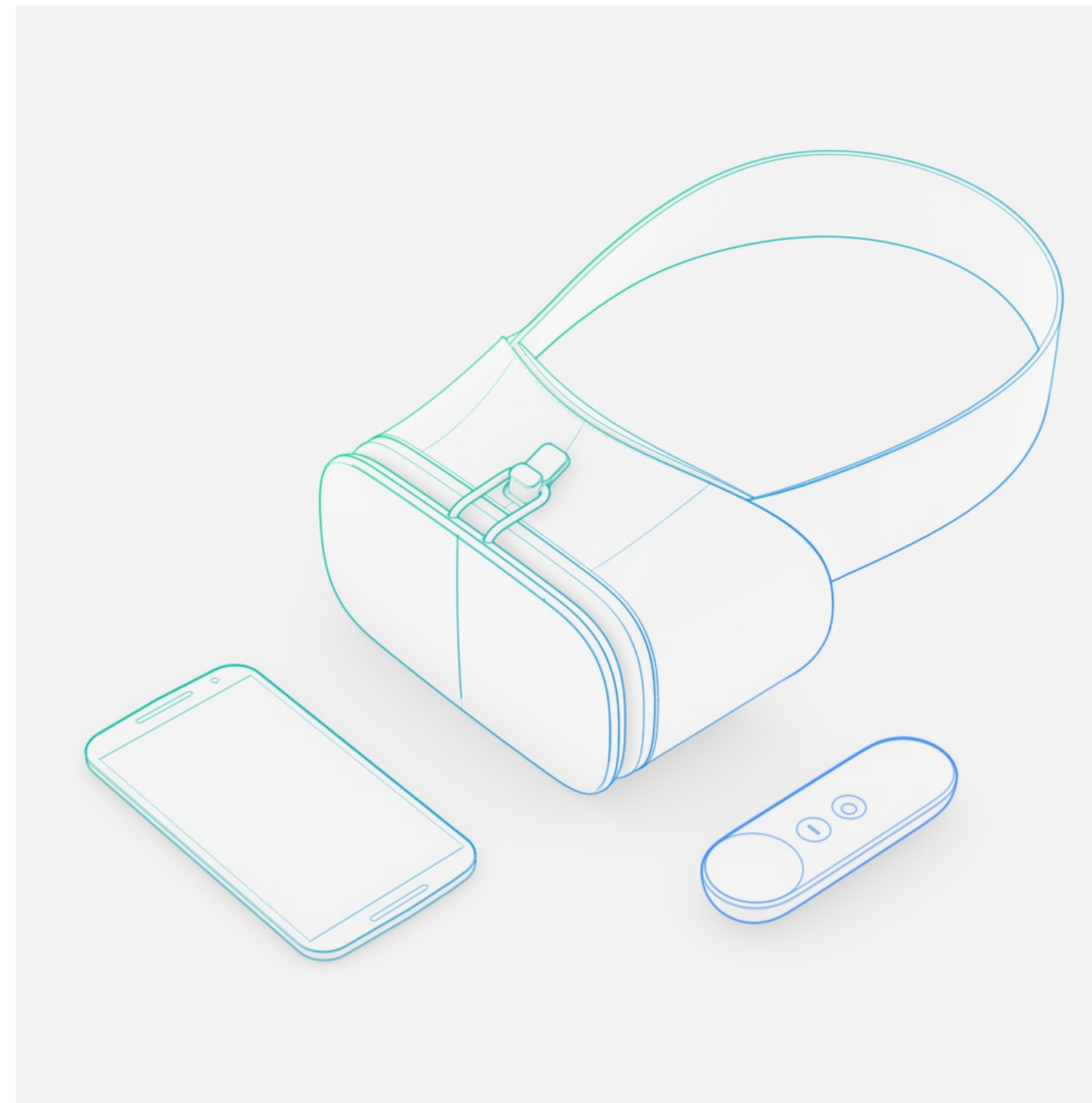
- Demo
- How to add a Photosphere view to your view hierarchy.



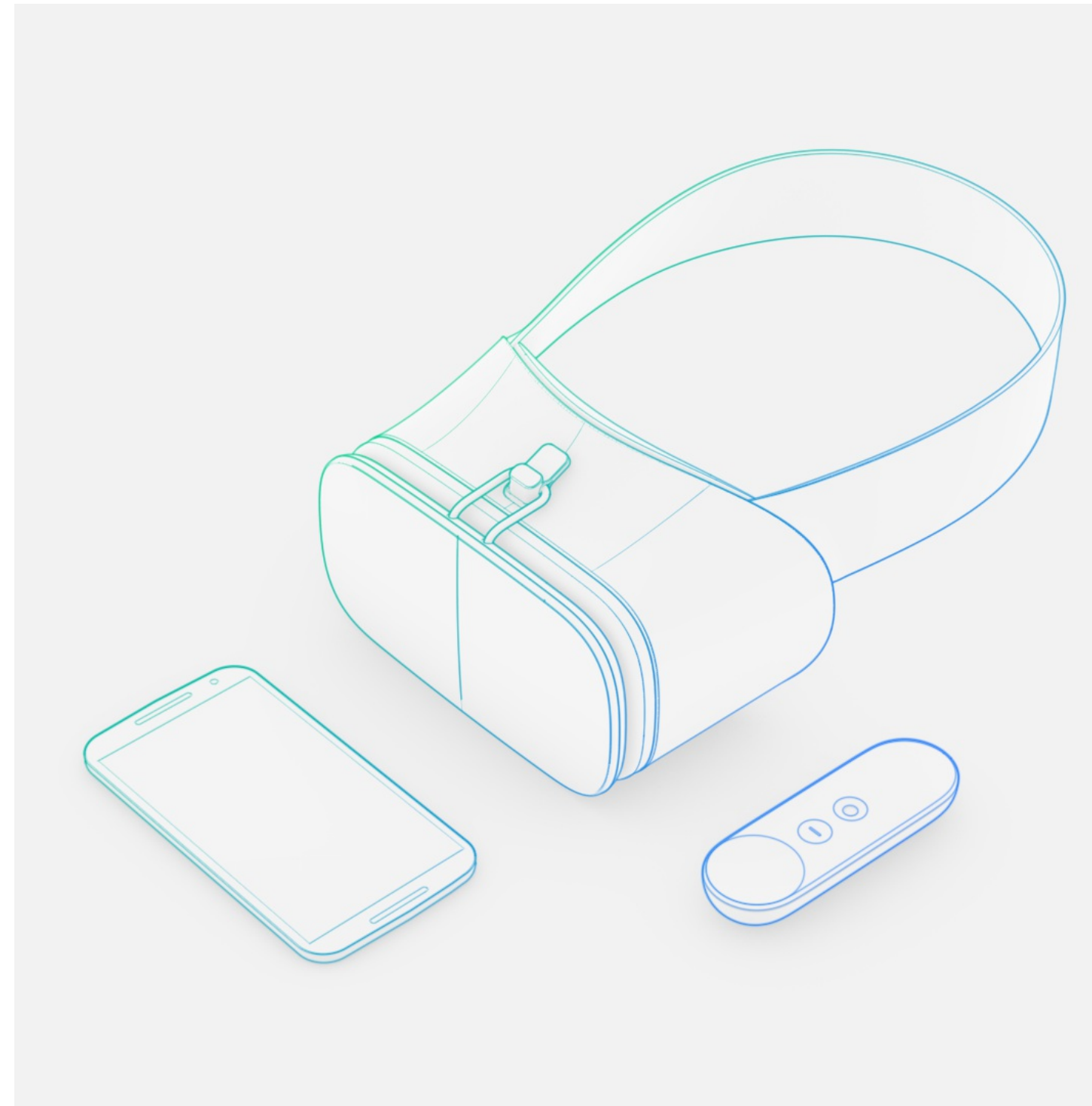


Daydream

# Hardware

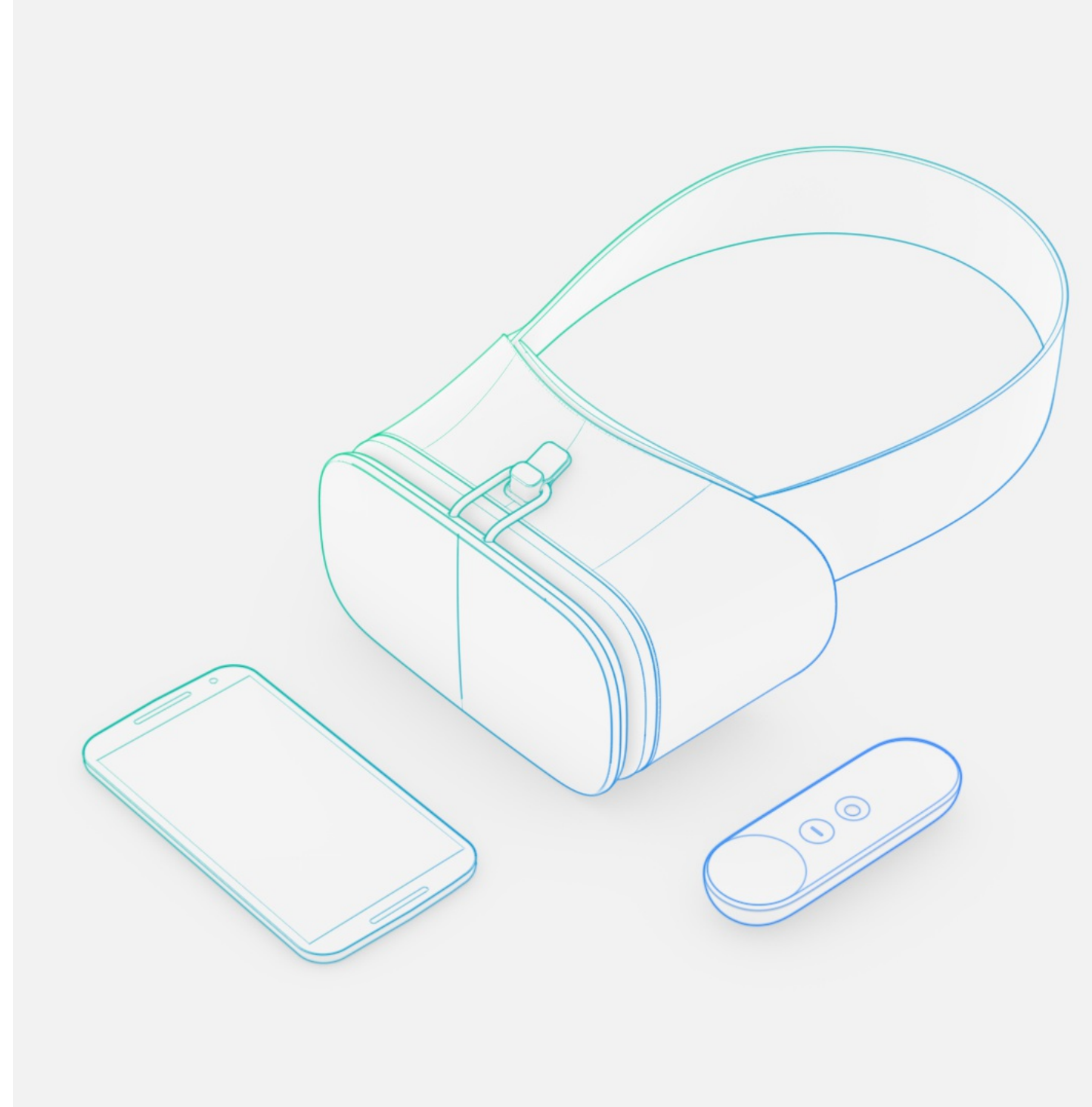


# Hardware



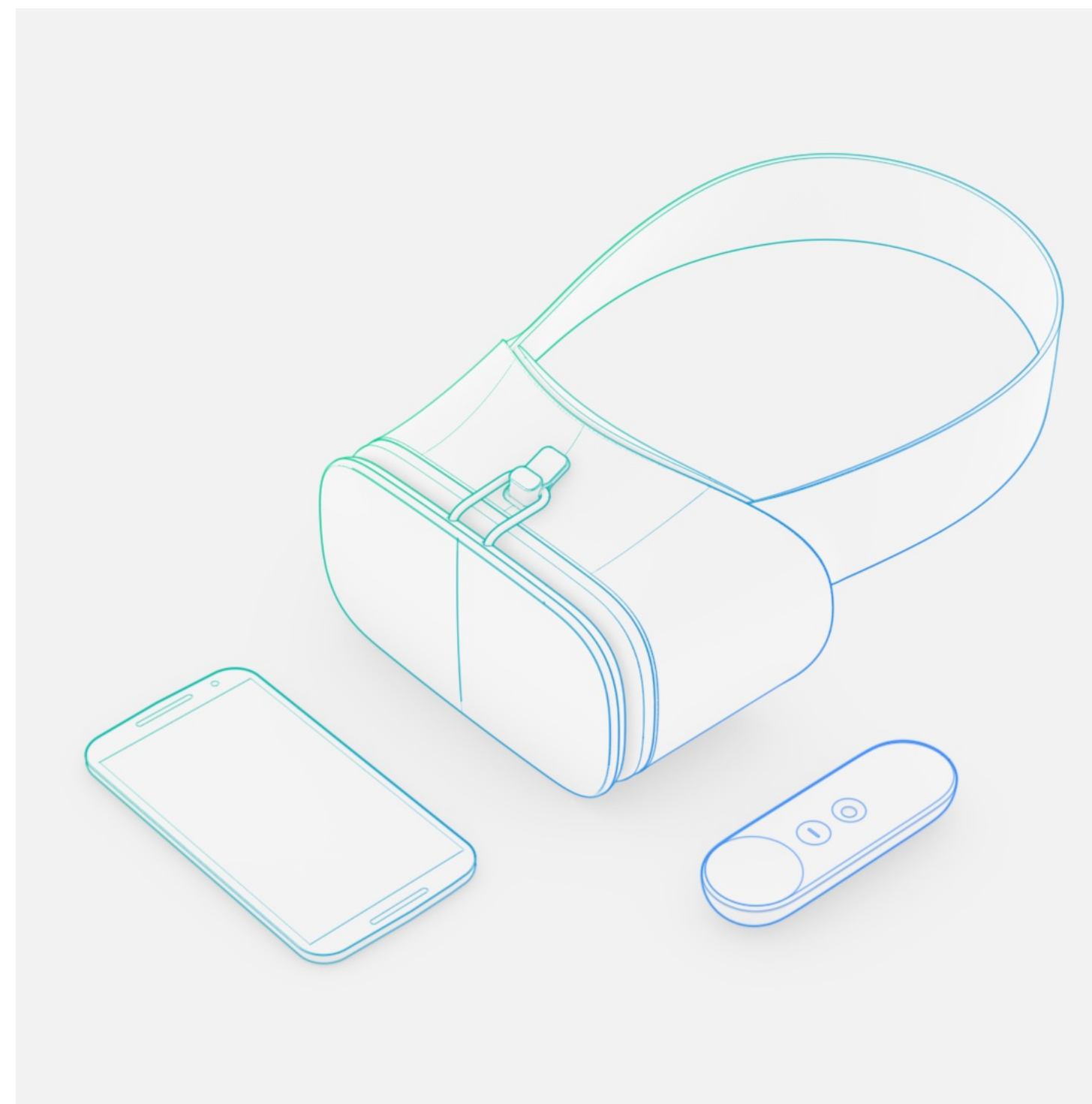
Google IO 2016 General ➤ Controller ➤ Designing ➤

# Hardware



Google IO 2016 General ➤ Controller ➤ Designing ➤

# Hardware





# New SDK features

- Controlling the controller
  - Use Emulator at ...

