



GearVR Ecosystem & Services

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What's on The Horizon:

A Look at the Future of VR at Samsung

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Taeyong Kim

Vice President

Samsung Electronics

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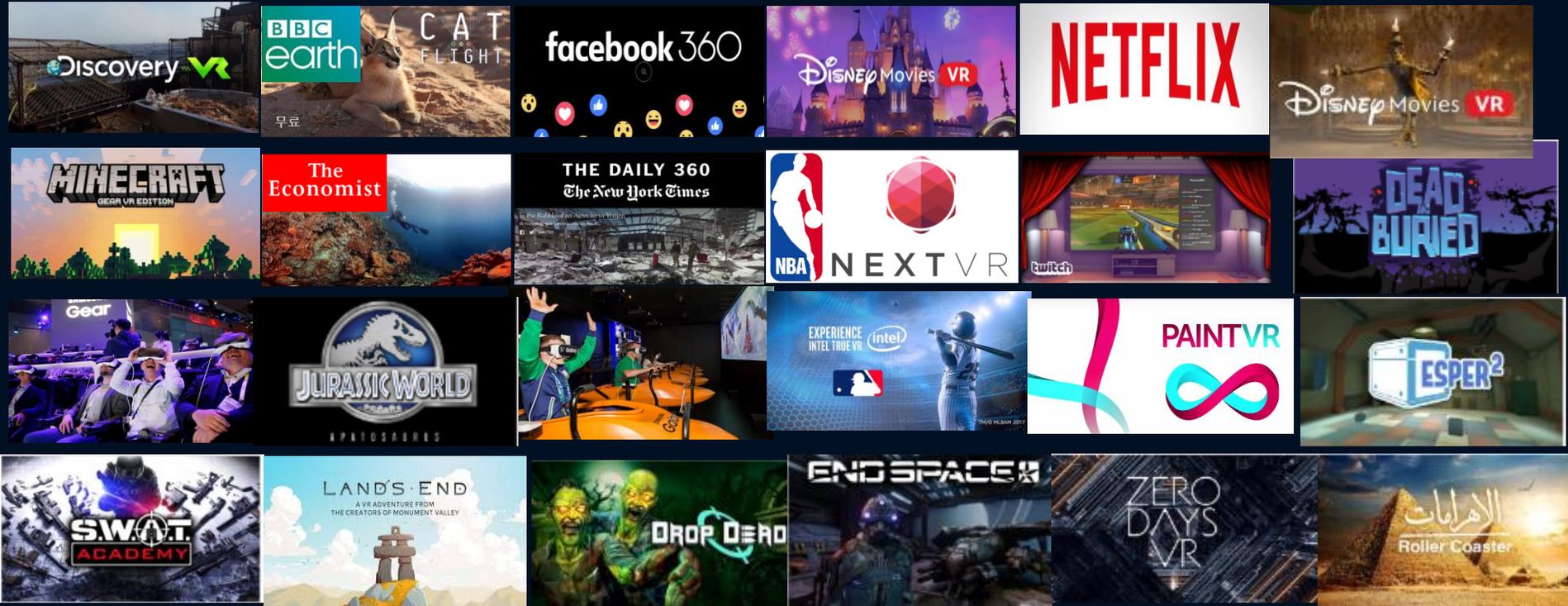
GearVR

7M+ units shipped

#1 Mobile VR Platform



Strong Ecosystem



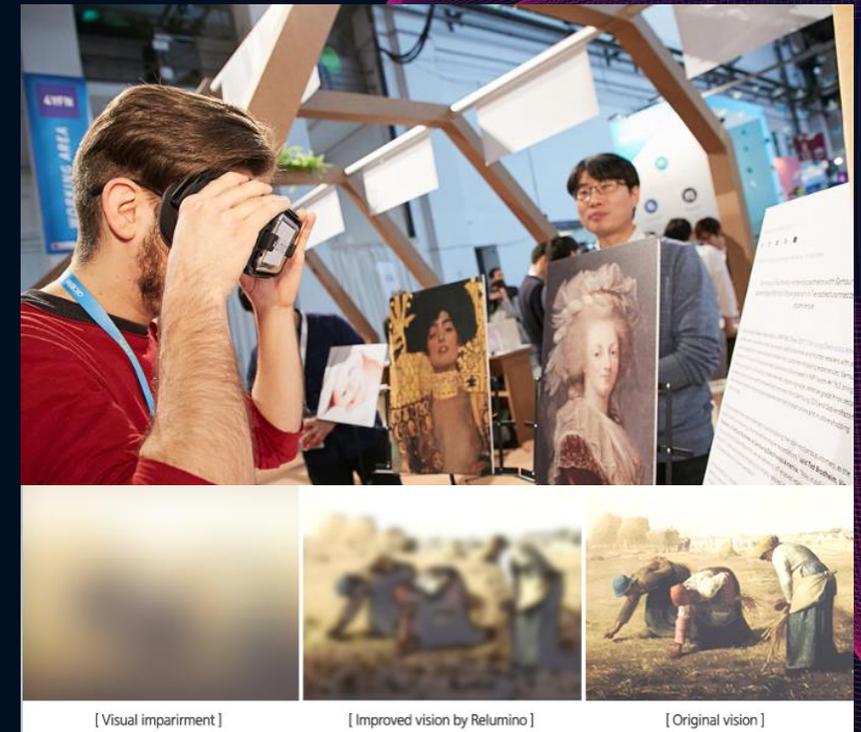
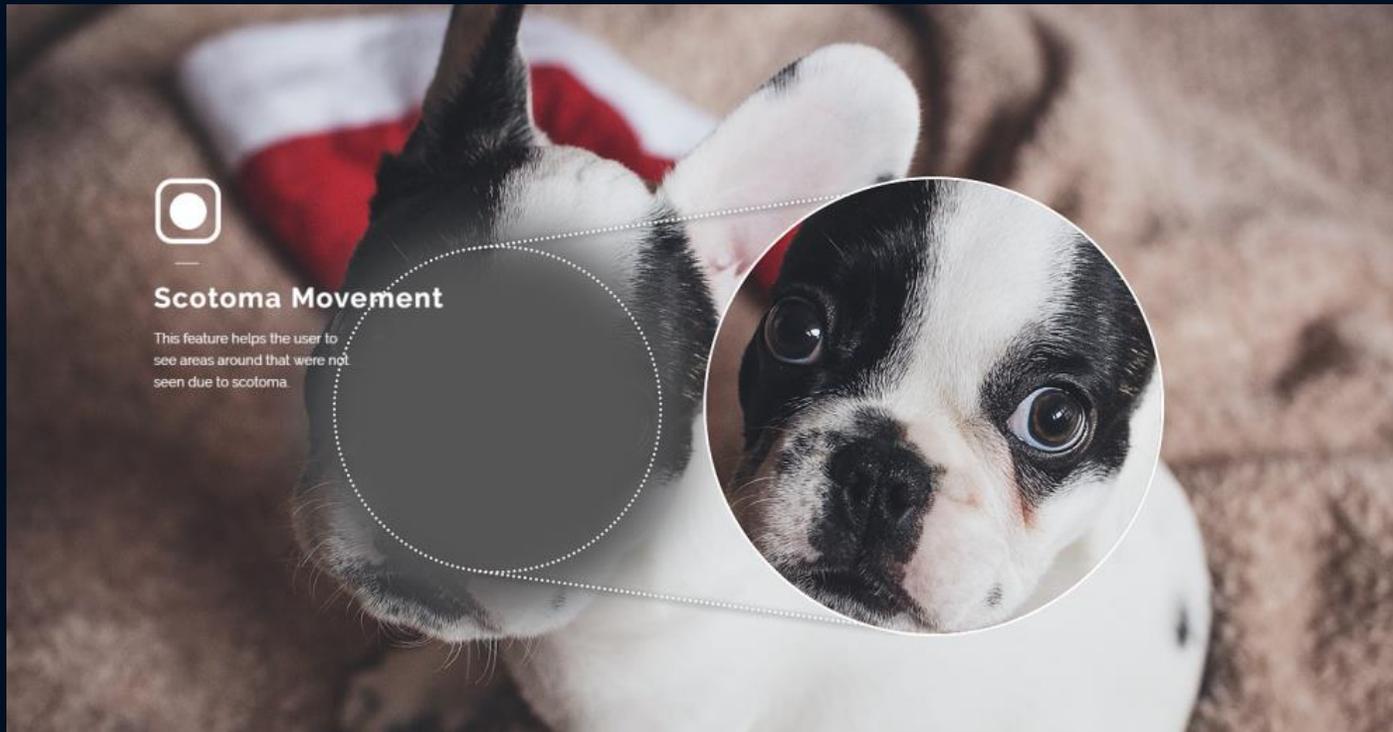
Over 1000 apps for GearVR



Connected Thinking

Changing People's Lives

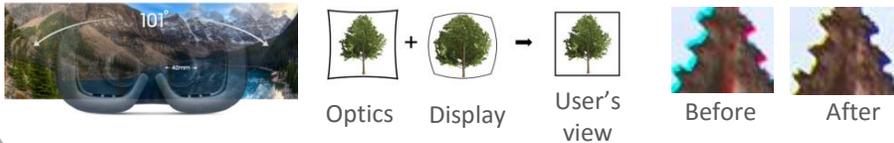
- Relúmiño
 - Visual aid application working with Gear VR & Galaxy mobile
 - Launched on August for free, to help 240 million of Visually Impaired people
 - Lower price (Gear VR:~\$100) compare to thousands dollar of competitive.



What makes a great VR system?

Wide & Vivid True Immersion

WQHD Super AMOLED Display
101° FOV
Optics
Chromatic Aberration Correction



Head Tracking

Persistent tracking at
1KHz sampling rate
from Gear VR sensors



→ Precise and smooth 360° Experience

3D Spatial Sound

Immersive VR Experience

Minimized Motion Sickness

AMOLED Low Persistence technology



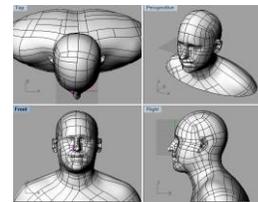
MTP Latency <20ms

High Frame Rate 60fps

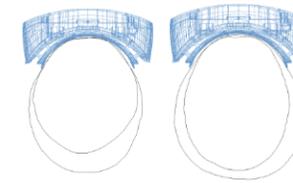
Sensor Fusion + Sensor Calibration

→ Decreased Motion Blur & Judder

Ergonomic Design



Reduced
Perceived Weight



Fitting Various
Face Shapes



Soft Suede
Face Foam

Comfort

GearVR with Controller

Controller conveys more comfortable and advanced play experience

Future of Virtual Reality



motion
tracking



untethered



touch



holodeck
experience

Samsung HMD Odyssey



360 Content Ecosystem

VR Live Pass

- ✓ 360 Live broadcast the most exciting Sports & Music events
 - ✓ UFC 212, June 3rd
 - ✓ X-Games(Minneapolis), July 13~16th
 - ✓ Coldplay music concert, August 17th
 - ✓ Replays available in Samsung VR

UFC

UFC 212

ALDO vs HOLLOWAY
Unframed

Streaming Live June 3rd
on **SAMSUNG VR**

SAMSUNG Gear VR
Powered by Oculus

This promotional banner features two fighters, Aldo and Holloway, in profile facing each other. The UFC logo is in the top left, and the Samsung Gear VR logo is in the top right. The event title 'ALDO vs HOLLOWAY Unframed' is centered, with the streaming date and platform information below it.

X GAMES
MINNEAPOLIS

X GAMES
Skateboard Vert Final

Live streaming July 13 5:45PM CT/6:45 PM ET
Available only on Samsung VR

This promotional banner shows a skateboarder in mid-air performing a trick. The X Games Minneapolis logo is at the top. The event title 'X GAMES Skateboard Vert Final' is prominently displayed in the center, with the live streaming date and time below it.

LIVE NATION

COLDPLAY
Unframed

Watch Coldplay live with Gear VR
on August 17th

This promotional banner features a live performance by Coldplay. The Live Nation logo is in the top right. The band's name 'COLDPLAY' and the event title 'Unframed' are centered, with the viewing date and platform information below.

360 Round



Available on End of 2017

Best 360 contents

- ✓ The Best quality, 4K 3D
- ✓ Low Latency
- ✓ Real-Time preview / capturing
- ✓ 1 Step Stitching
- ✓ Variable Edit Functions

Design Excellence

- ✓ 17 cameras / 8 Stereo cameras
- ✓ Unibody Design
- ✓ Compact Design

Durability & Manageability

- ✓ Water & Dust Resistance (IP65)
- ✓ Expandability
- ✓ PC Controller / Viewer

Gear360



LIVE Broadcast

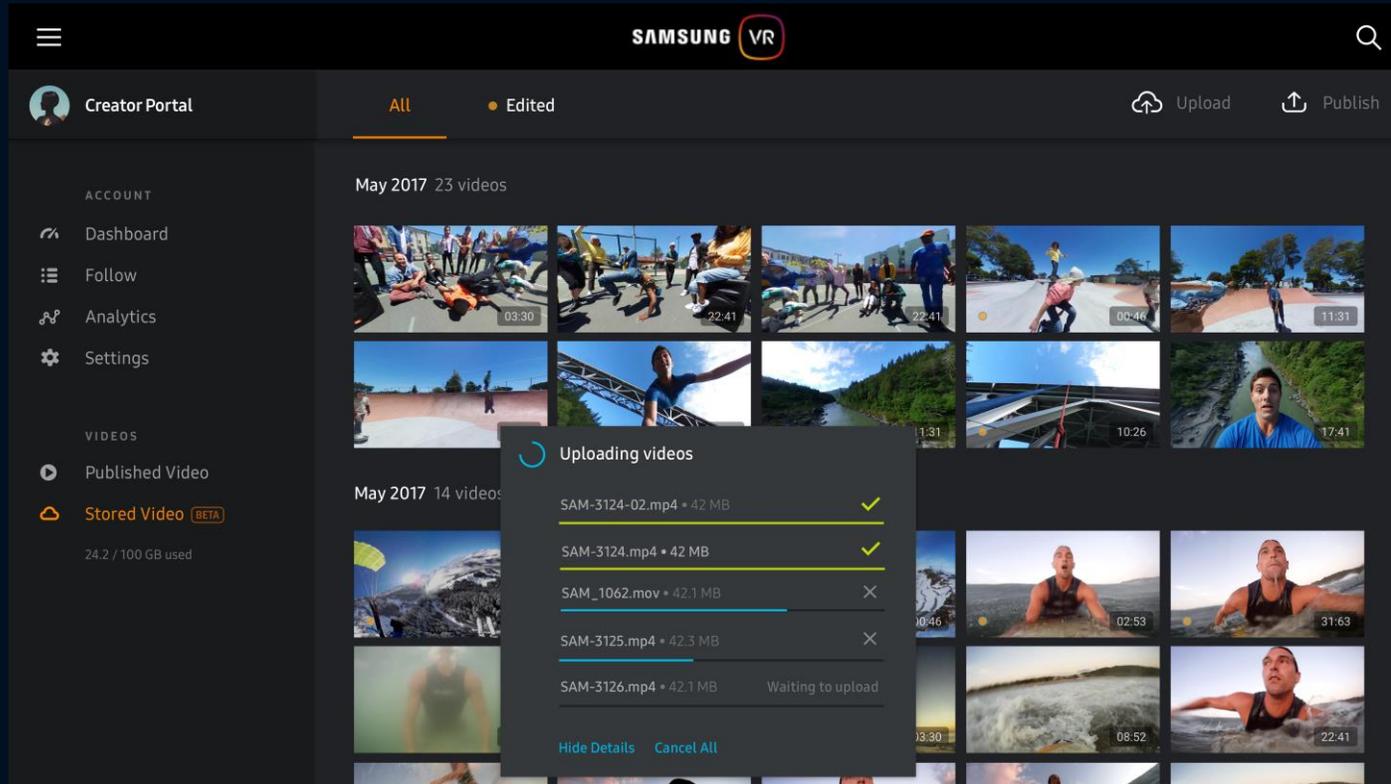


- ✓ 4K 360 Video
- ✓ Social Live on Mobile & PC
- ✓ Easy VR Contents Creation
- ✓ Wide Smartphone Compatibility

SW upgrade for Re-launching (End of '17)

- 360 Photo/Video sharing via Samsung Cloud
- iOS 11 compatible (HEVC Codec support)
- Hybrid Image Stabilization
- SDK for Android & iOS

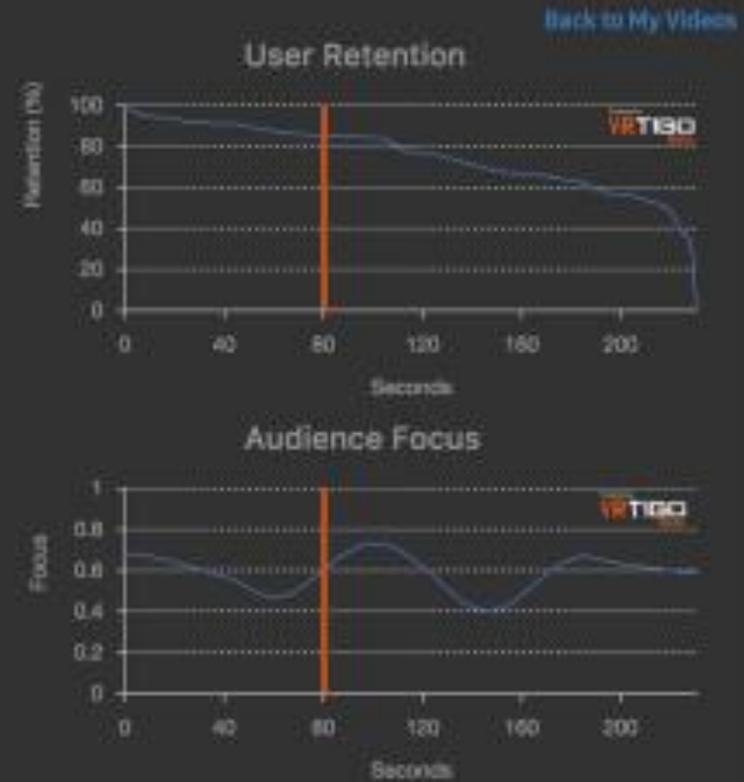
Cloud Tools for Creators



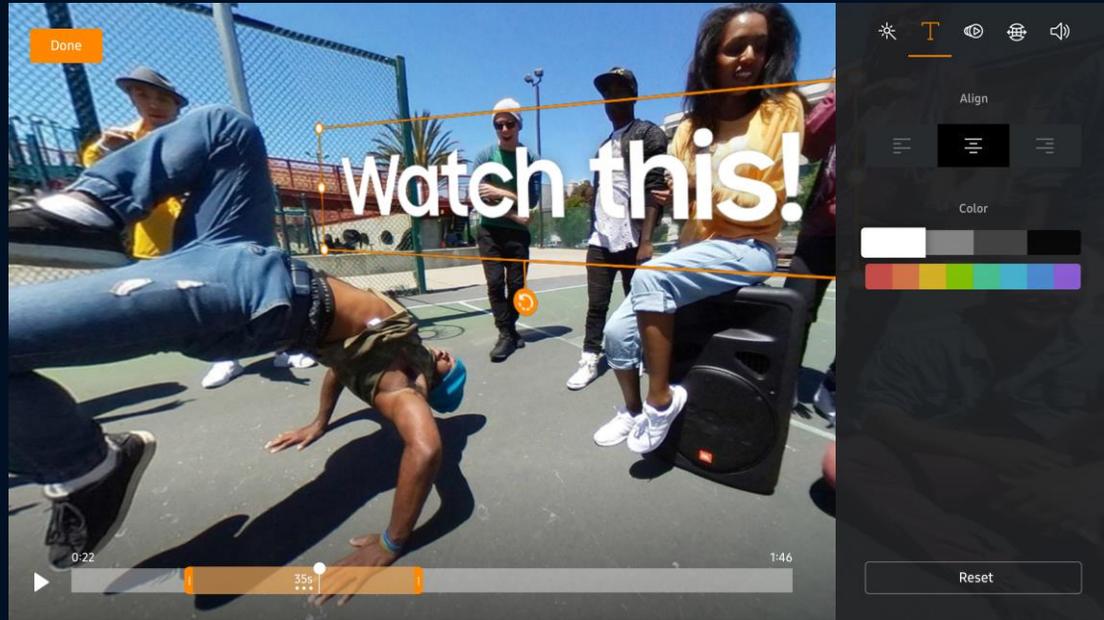
- ✓ Cloud Storage
- ✓ Cloud Editing
- ✓ Stabilization
- ✓ Analytics
- ✓ 4K Live Streaming

*Will be available 4Q 2017

Analytics for Samsung VR Creators



Enhancing Your 360 Contents on Cloud



Cloud Editing

Before

After



Video Stabilization

Cloud Stitching for 4K 360 live streaming



✓ Cloud Stitching

- ✓ Introduction of GPU Cloud Service
- ✓ GPU optimization



2K



4K



Gear360 Camera SDK

Directly control Gear 360 from your app



Gear 360 SDK

Connection
/Device information
/ Device settings

Camera settings

Start preview / Take a
photo / Record a video

Start live broadcast
/ Image & video file list



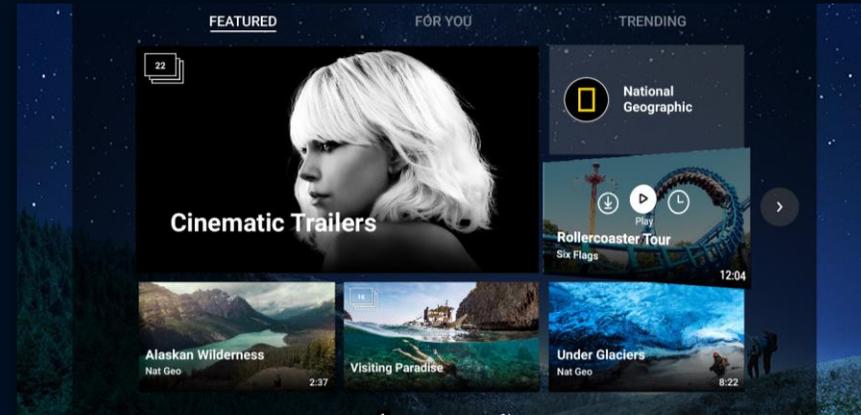
Your
application

Software and Services

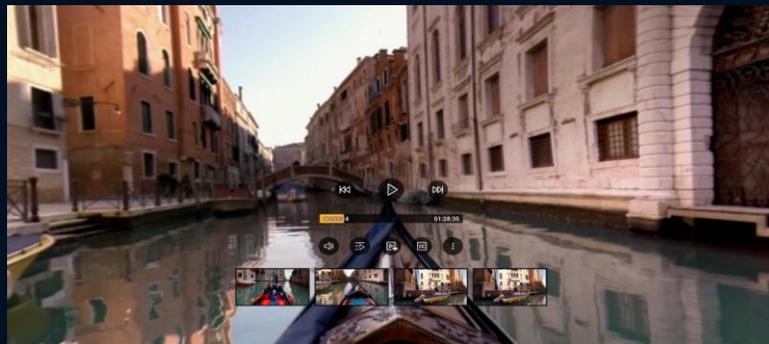
Software and Services



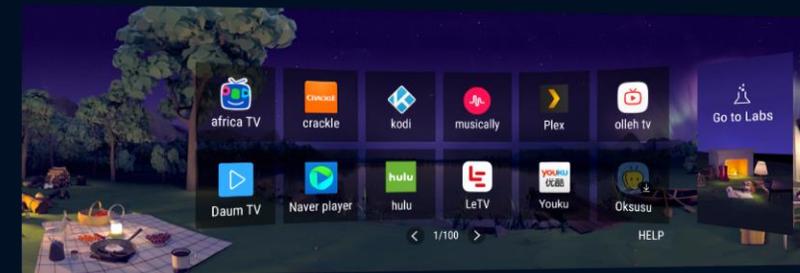
Samsung Internet for Gear VR



Samsung VR Service



Samsung Gallery VR



Samsung PhoneCast VR

Samsung VR Service

- ✓ **360° and Immersive Video** - A premium virtual reality video service
- ✓ **Ever-expanding library** - Over 10K high-quality videos
- ✓ **Premier partners** - Joint collaboration with top content creators and brands (NYT, Hearst and others)
- ✓ **Top Ranked** - One of the most used video apps in GearVR
- ✓ **Multiple Platform** - Support Gear VR/Mobile app and web page(www.samsungvr.com)



Samsung Internet for GearVR

Navigate the sea of internet contents in more intuitive and immersive way



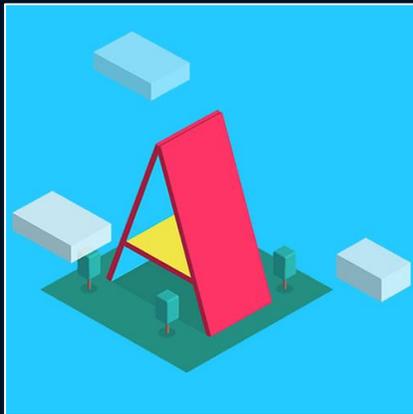
- ✓ Optimized Web Browsing for Gear VR
- ✓ Support all types of videos on the web
- ✓ Featured Media
- ✓ WebVR support

WebVR Support

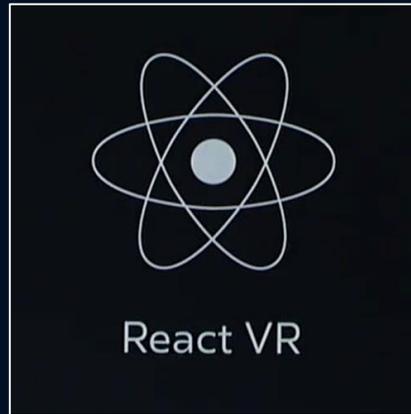


WebVR is an API that provides access to input and output capabilities commonly associated with Virtual Reality hardware like the Samsung Gear VR, Google's Daydream, the Oculus Rift, the HTC Vive, and Windows Mixed Reality headsets. More simply put, it lets you create Virtual Reality web sites that you can view in a VR headset.

WebVR Frameworks



A-Frame



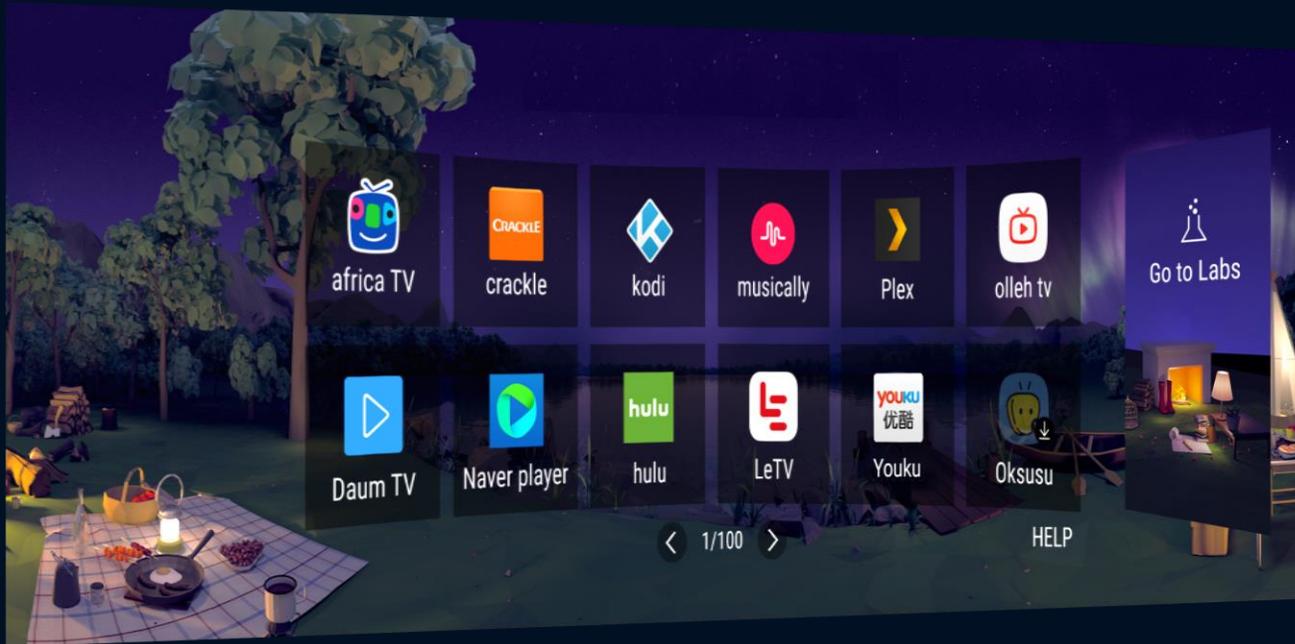
React VR



X3DOM

Samsung PhoneCast VR

Transplant the mobile phone experience to the VR environment



PhoneCast VR Labs



Custom Features

Custom VR Background

Custom Screen Size

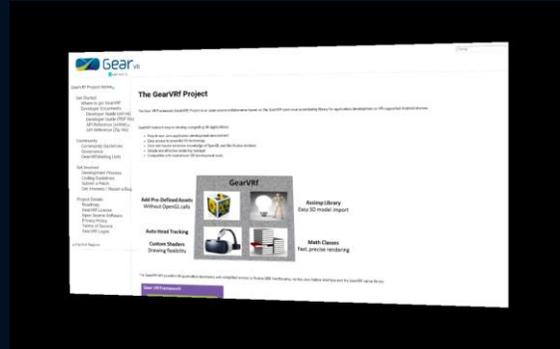
Custom curvature



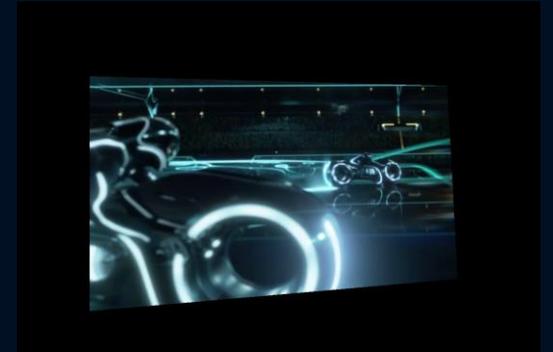
GearVR framework (GVRf)

Lightweight, powerful, open source rendering engine with a Java interface for developing mobile VR games and applications

- ✓ Simple
- ✓ Powerful
- ✓ Optimized for mobile
- ✓ Open source
- ✓ Platform agnostic



WebView



Video



Camera

Thank You