



# Cross-Platform Augmented Reality

**TJ VanToll**  
Principal Developer Advocate









# Detroit Lions Become NFL's First 0-16 Team

Published December 28, 2008 • Associated Press



# Augmented Reality





**TJ VanToll** ⚡

Principal Developer Advocate

**@tjvantoll**



# Agenda

- Brief History of AR
- AR today
- Building cross-platform AR apps

**Augmented Reality (AR) is the integration of digital information with the user's environment in real time.**

Pokémon Go Brings Augmented Reality to a Mass Audience

TECHNOLOGY | Pokémon Go Brings Augmented Reality to a Mass Audience

**Pokémon Go Brings Augmented Reality to a Mass Audience**

By NICK WINGFIELD and MIKE ISAAC JULY 11, 2016

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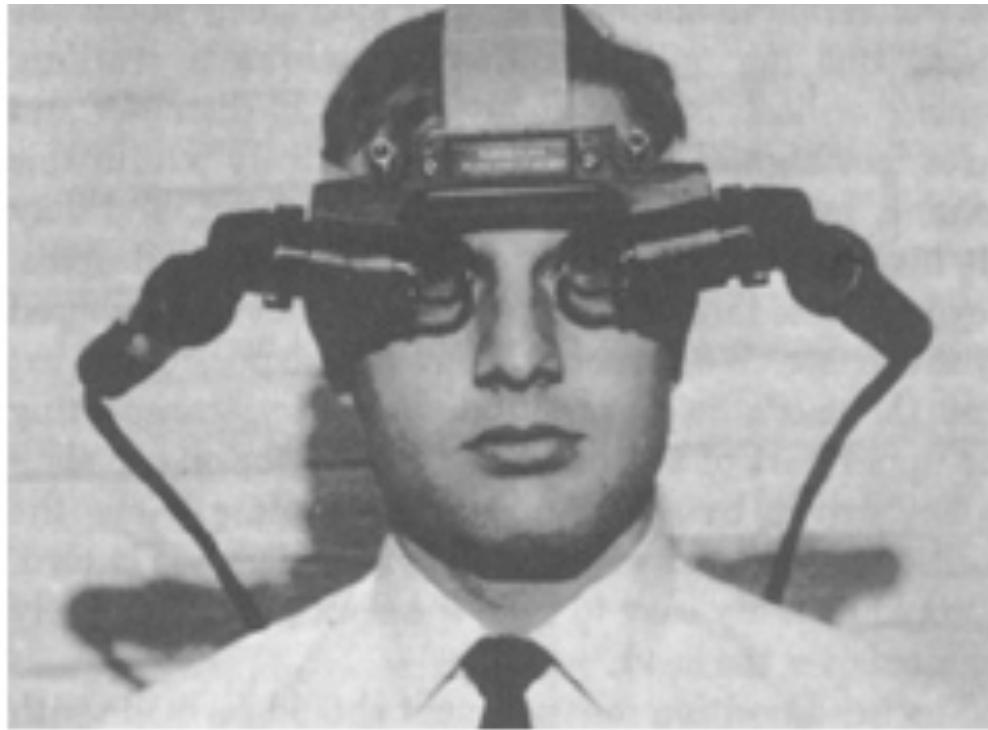
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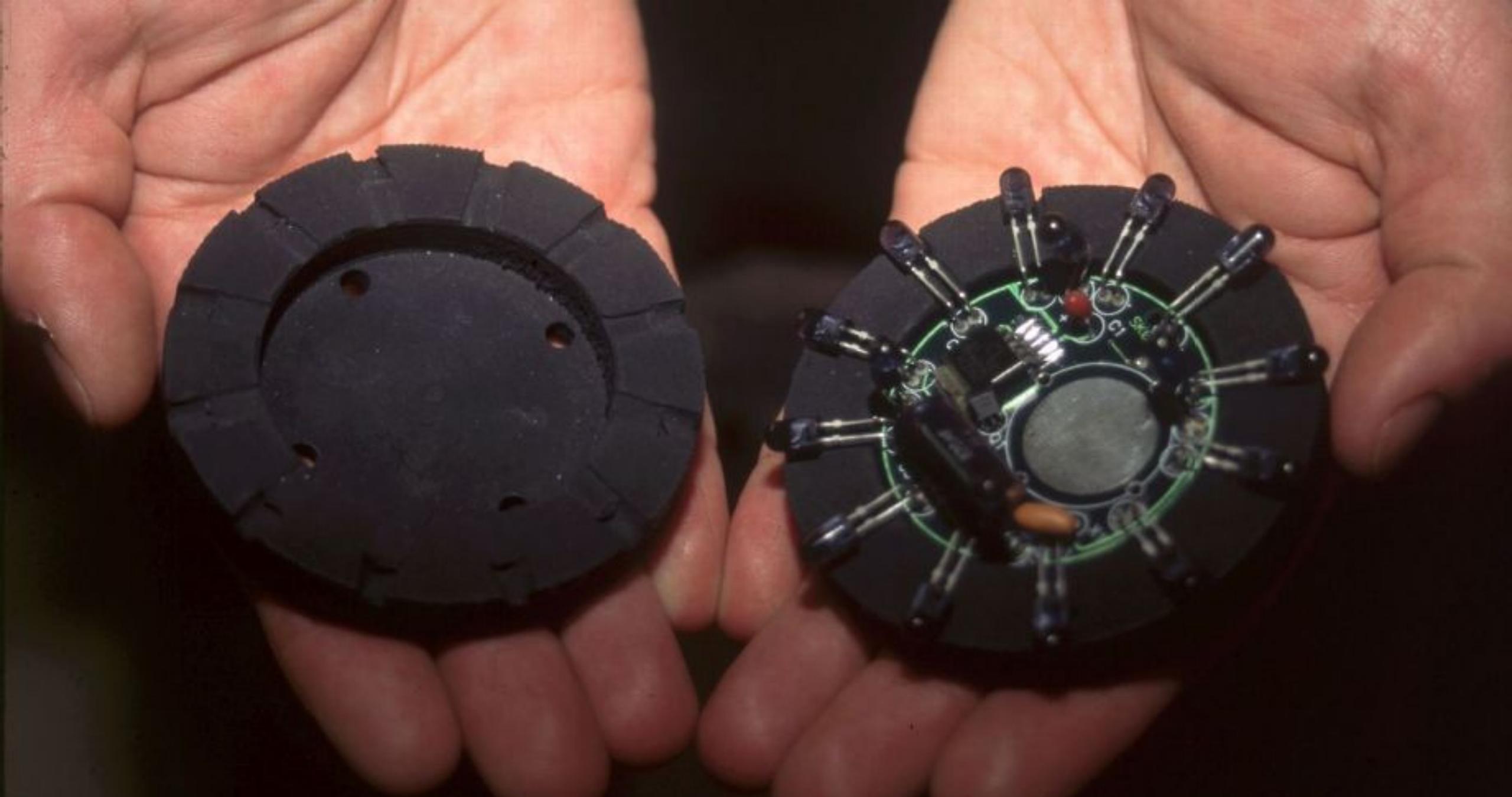


Image from [http://www.espn.com/nhl/story/\\_/id/21080555/nhl-bring-back-infamous-glow-puck](http://www.espn.com/nhl/story/_/id/21080555/nhl-bring-back-infamous-glow-puck)

FoxTrax glowing puck: Was it th X +

www.slate.com/articles/sports/sports\_nut/2014/01/foxtax\_glowing\_puck\_was\_it\_the\_worst\_blunder\_in\_tv\_sports\_history\_or\_was.html

# SLATE

## Lame Puck

Was Fox's glowing puck the worst blunder in TV sports history, or was it just ahead of its time?

By Aaron Gordon



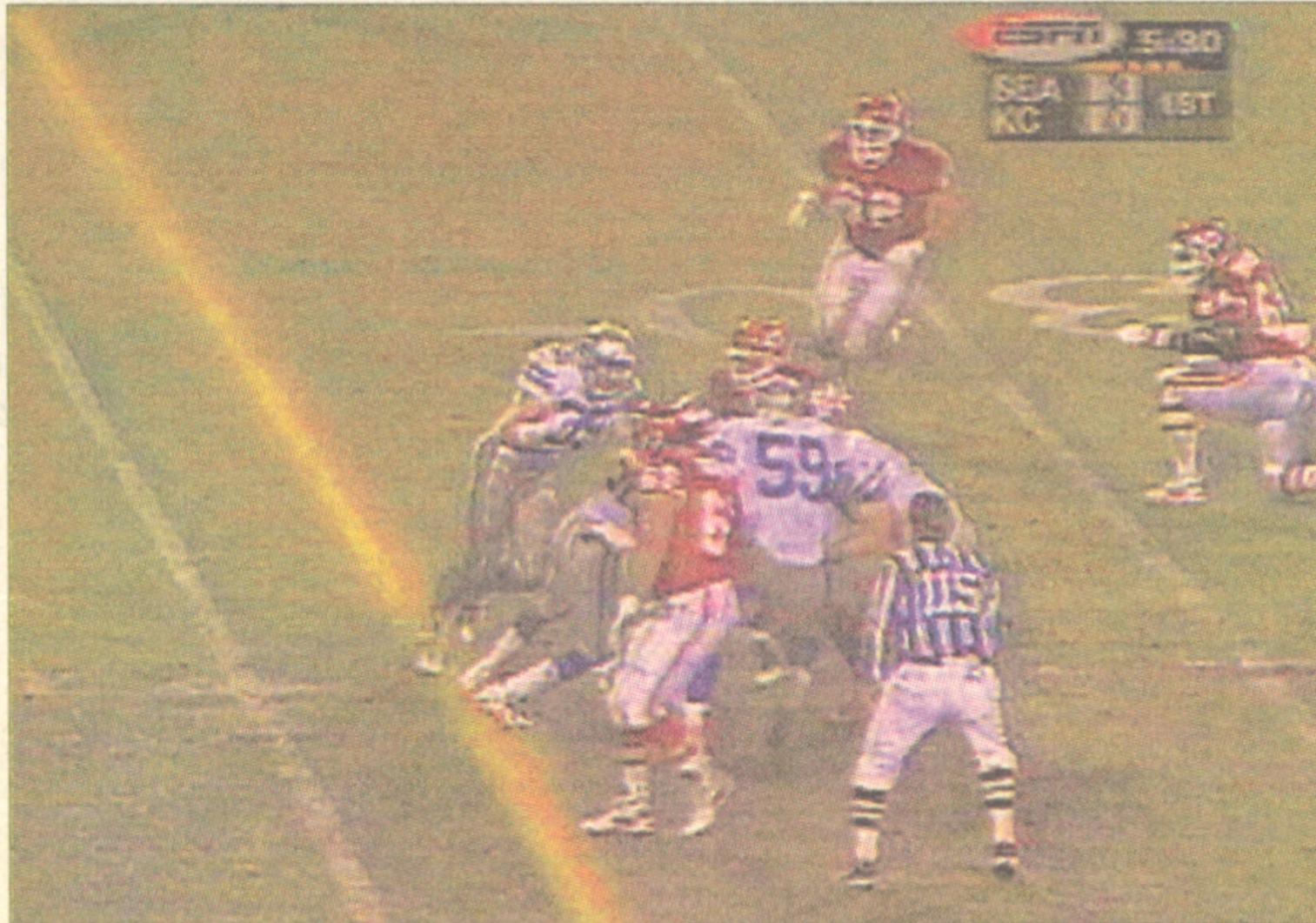
The 1996 Fox Sports promotional video starts with a bunch of scientists straight from central casting, puttering with Erlenmeyer flasks that are bubbling over with smoking fluids. Then, there's a quick flash of a slap shot accompanied by a laser beam

Source: [http://www.slate.com/articles/sports/sports\\_nut/2014/01/foxtax\\_glowing\\_puck\\_was\\_it\\_the\\_worst\\_blunder\\_in\\_tv\\_sports\\_history\\_or\\_was.html](http://www.slate.com/articles/sports/sports_nut/2014/01/foxtax_glowing_puck_was_it_the_worst_blunder_in_tv_sports_history_or_was.html)

# The thin yellow line

ESPN added a new feature in its football broadcasts this year. "1st and Ten" technology places a yellow line, visible only to TV viewers, that indicates where the first-down marker is.

**Story, D-4**



ESPN

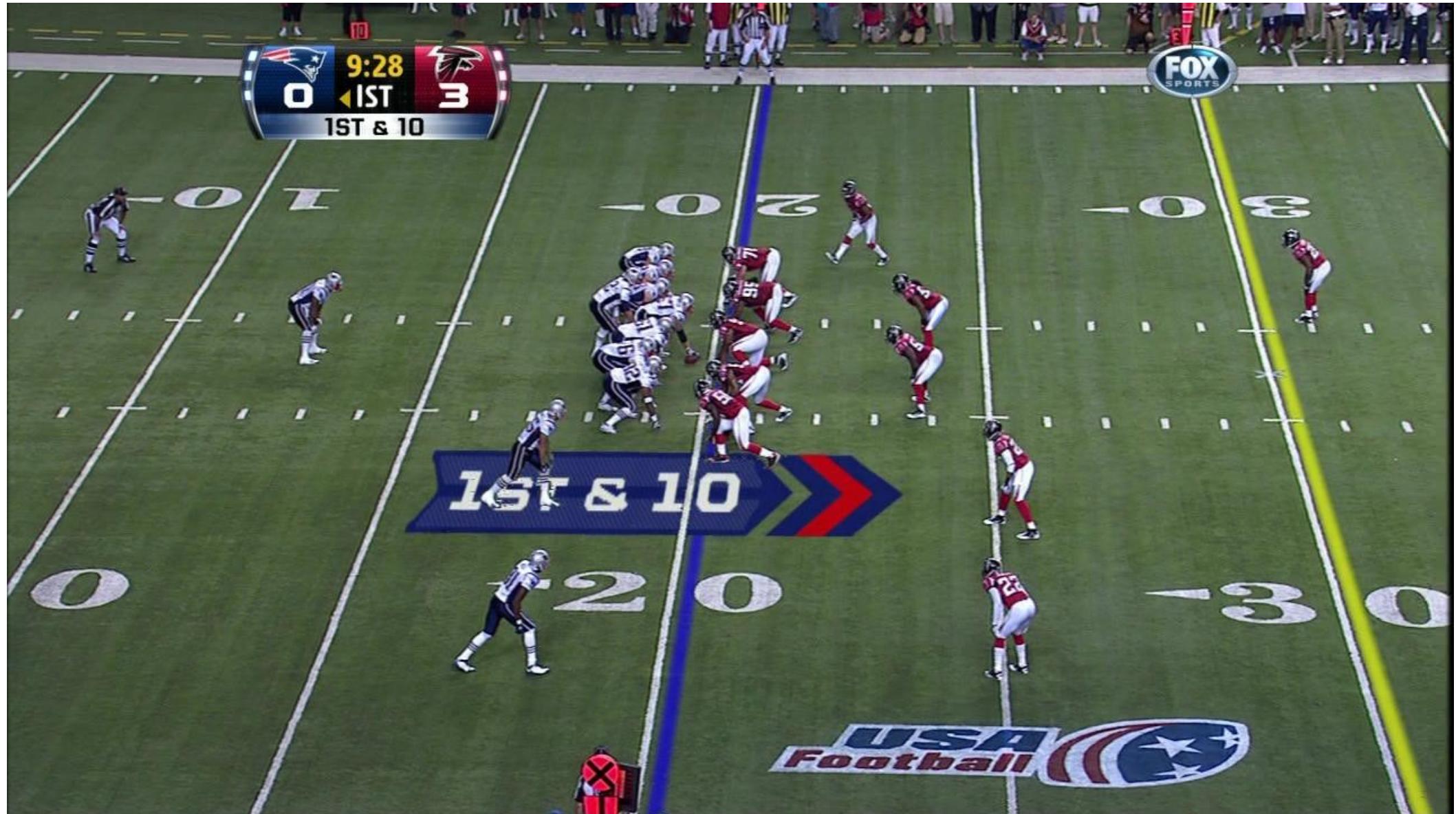


Image from <https://gobraithwaite.com/creative-marketing-saved-nfls-yellow-first-line/>

“It probably cost the broadcaster \$25,000-\$30,000  
for a weekend back then.

We had to roll out an entire truck to make it work  
for games in the early days. It was five racks of  
equipment, a lot of engineers, a traveling circus.”

“Now it's basically one computer”



Source: <https://technabob.com/blog/2008/12/17/mini-augmented-reality-ads-hit-newstands/>





Source: <http://mashable.com/2012/04/04/google-glasses-project-glass/>



Google Trends

Explore



18

**google glass**

Search term

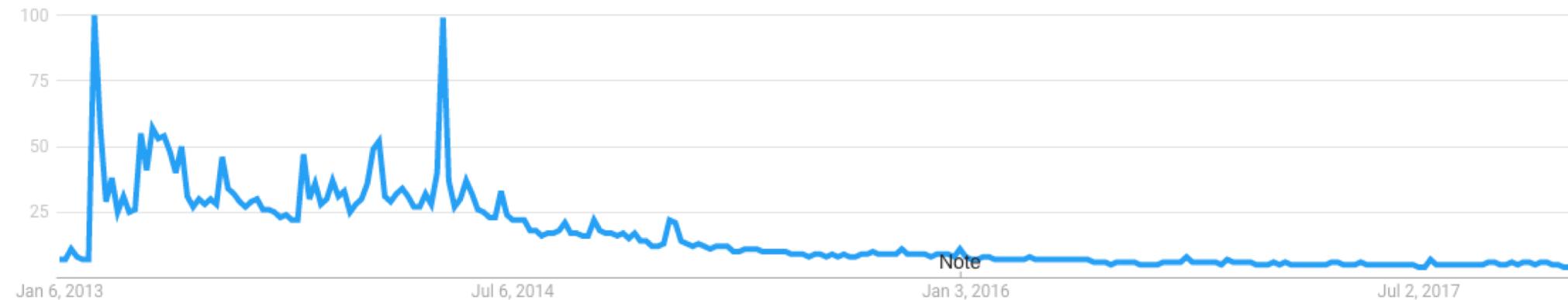
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Interest over time 

ON Google Glass users fight privacy fears +

www.cnn.com/2013/12/10/tech/mobile/negative-google-glass-reactions/index.html ... ☰ ☆ Live TV • U.S. Edition + ☰

**CNN** U.S. | World | Politics | Money | Opinion | Health | Entertainment | Tech | Style | Travel | Sports | Video | VR

# Google Glass users fight privacy fears

By Heather Kelly, CNN  
Updated 2:48 PM ET, Thu December 12, 2013

STOP THE CYBORGS

Anti-Google Glass icons from StopTheCyborgs.org, a group raising awareness about Google Glass privacy concerns.

**Story highlights**

Google Glass users have faced some negative reactions from businesses and strangers

Carolyn Capern and her business partner Greg Trujillo were eating breakfast in a Panera bakery in Florida recently, each wearing Google Glasses but actually

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# Google Glass available to everyone for \$1500

SARAH MISHKIN

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Sarah Mishkin

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MAY 13, 2014

Google's flagship wearable device—Google Glass—is [now available](#) for anyone in the US who wants to spend \$1,500 on the smart spectacles some find fascinating and others find bizarre.

In a post to the Google+ social network Tuesday afternoon, Google announced the new availability of the devices, which combine a set of spectacles with a small computer that sits just above the wearer's right eye.

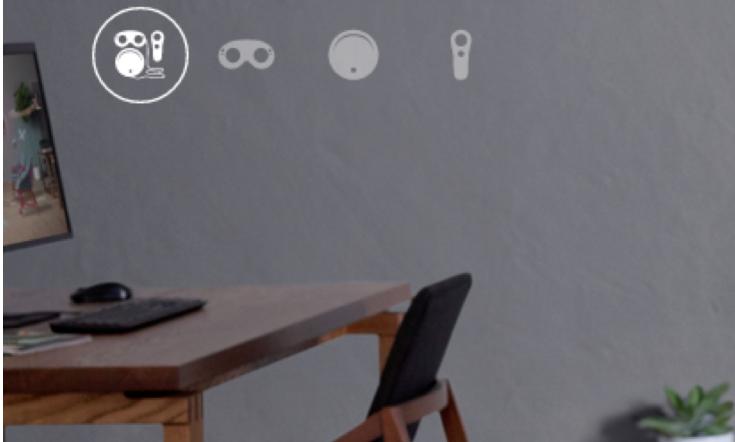




# Magic Leap One™

## Creator Edition

We're adding another dimension to computing. Where digital respects the physical. And they work together to make life better. Magic Leap One is built for creators who want to change how we experience the world.



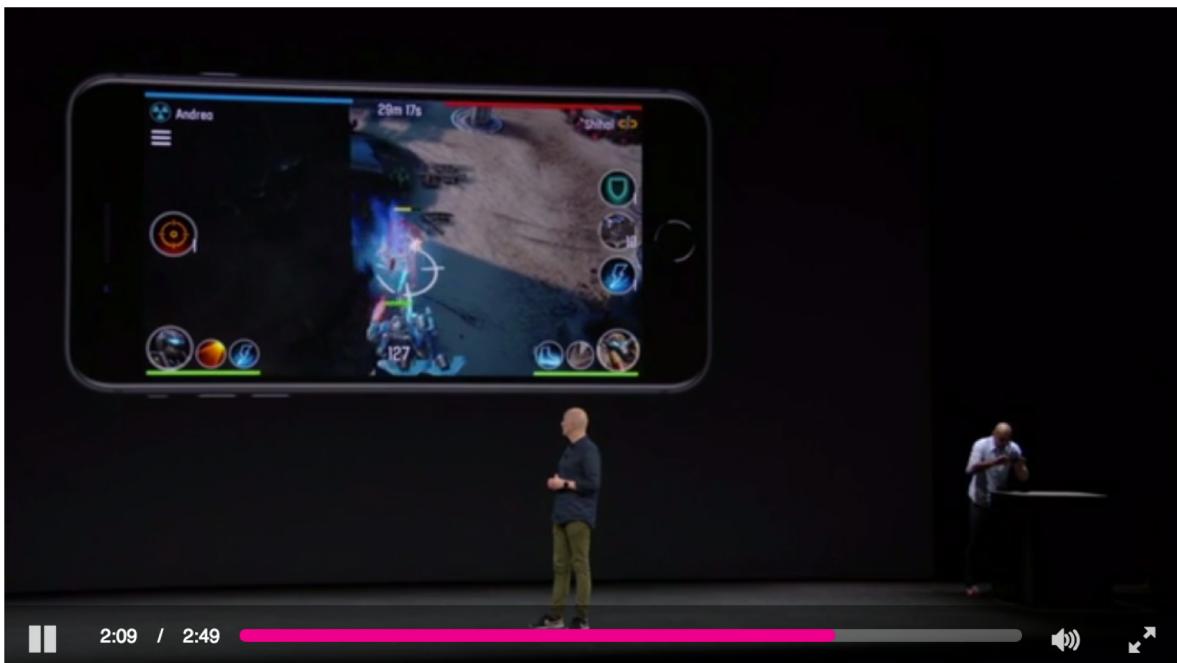
# Agenda

- Brief history of AR
- AR today
- Building AR apps w/JS

Apple shows off breathtaking new augmented reality demos on iPhone 8

By Nick Statt | @nickstatt | Sep 12, 2017, 2:36pm EDT

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Apple today showed off a handful of new augmented reality demos to show the efficacy of

See Everything, Secure Everything

Prevent breaches, detect endpoint threats and stop malware.

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ARCore: Augmented reality at Android scale

The Keyword Latest Stories Product News Topics

GOOGLE AR AND VR

# ARCore: Augmented reality at Android scale

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# Device Support

- ARKit
  - iPhone 6S+
  - iPad Pros and Generation 5 regular iPads
- ARCore
  - Pixel, Pixel XL, Pixel 2, Pixel 2 XL
  - Galaxy S8, S8+, Note8, S7 and S7 edge
  - LGE's V30, V30+ (Android O only)
  - ASUS Zenfone AR
  - OnePlus's OnePlus 5

Google publicly launches ARCore X +

https://techcrunch.com/2018/02/23/google-publicly-launches-arc/

TC News Startups Mobile Gadgets Enterprise Social Europe Trending Amazon Tesla Microsoft

# Google publicly launches ARCore 1.0 on 13 phones, will begin expanding Lens preview

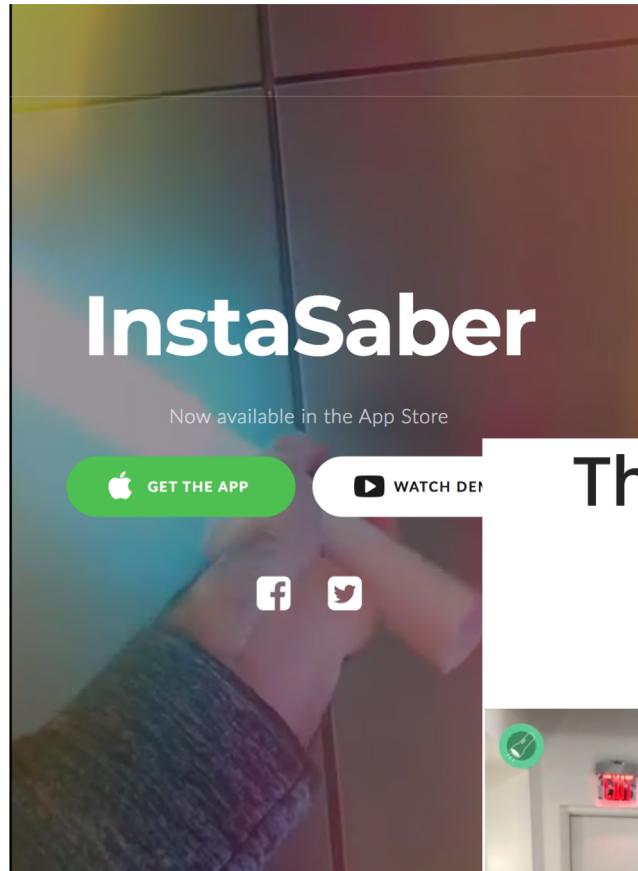
Posted Feb 23, 2018 by Lucas Matney (@lucasmtny)







After playing around in the experimental phase, Google is bringing its ARCore augmented reality platform to its 1.0 release with availability on over 100 million Android devices.

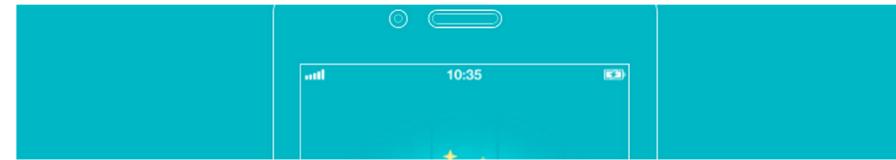


## This AR app solves Sudoku puzzles using your iPhone's camera

Spoilers

By Thuy Ong | @ThuyOng | Sep 21, 2017, 10:28am EDT

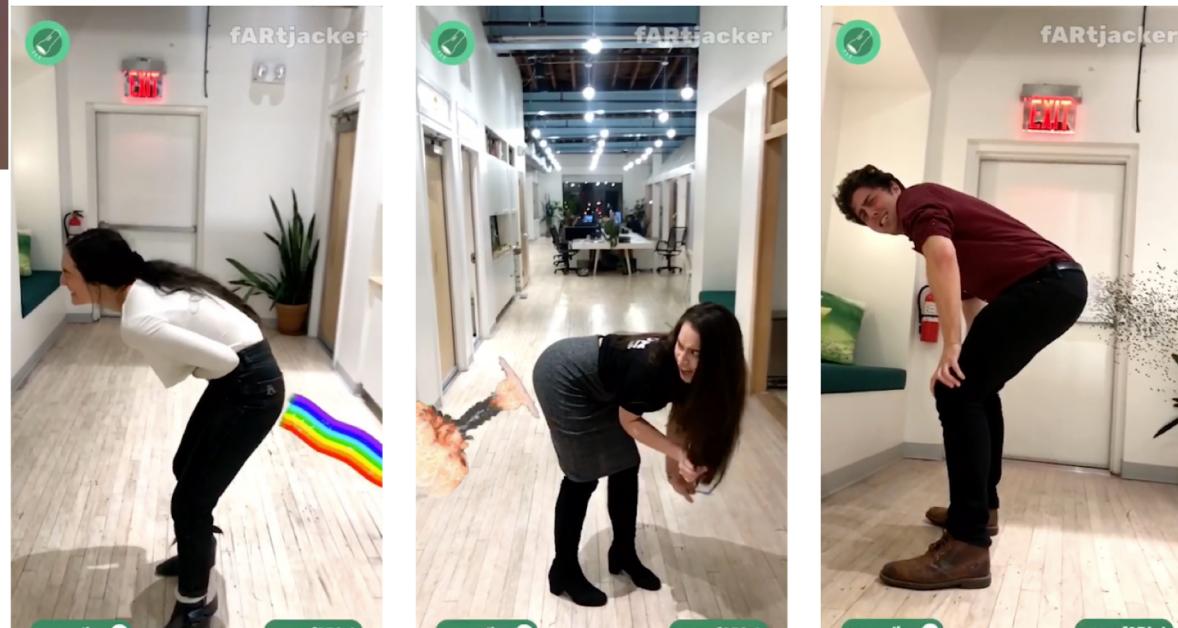
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## The AR Fart App We've All Been Waiting For

December 19, 2017 • by Jonathan Nafarrete

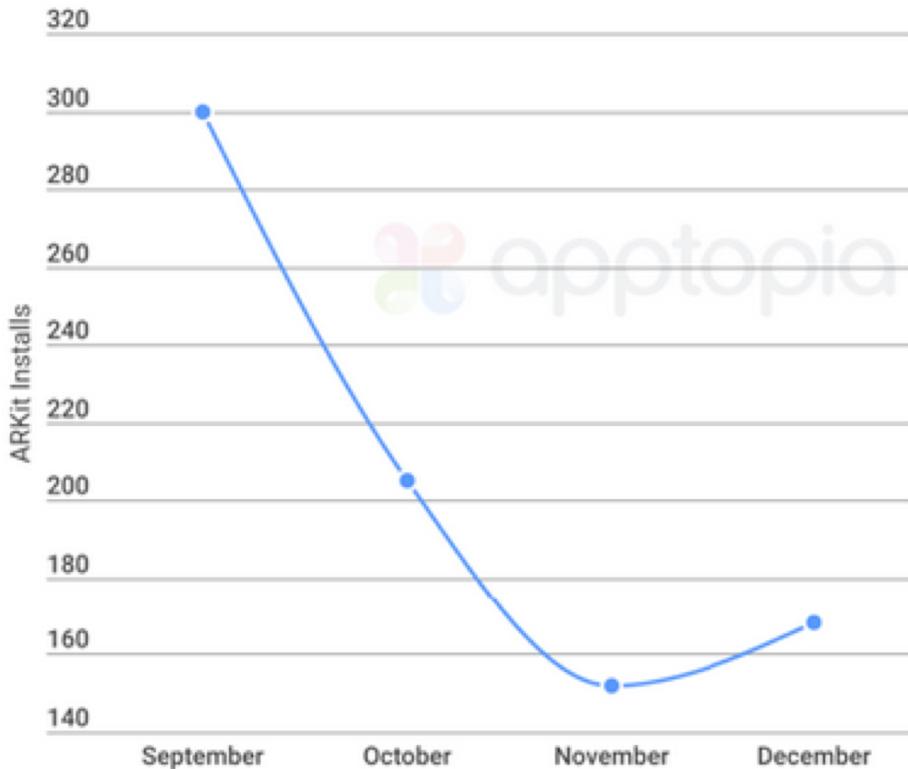
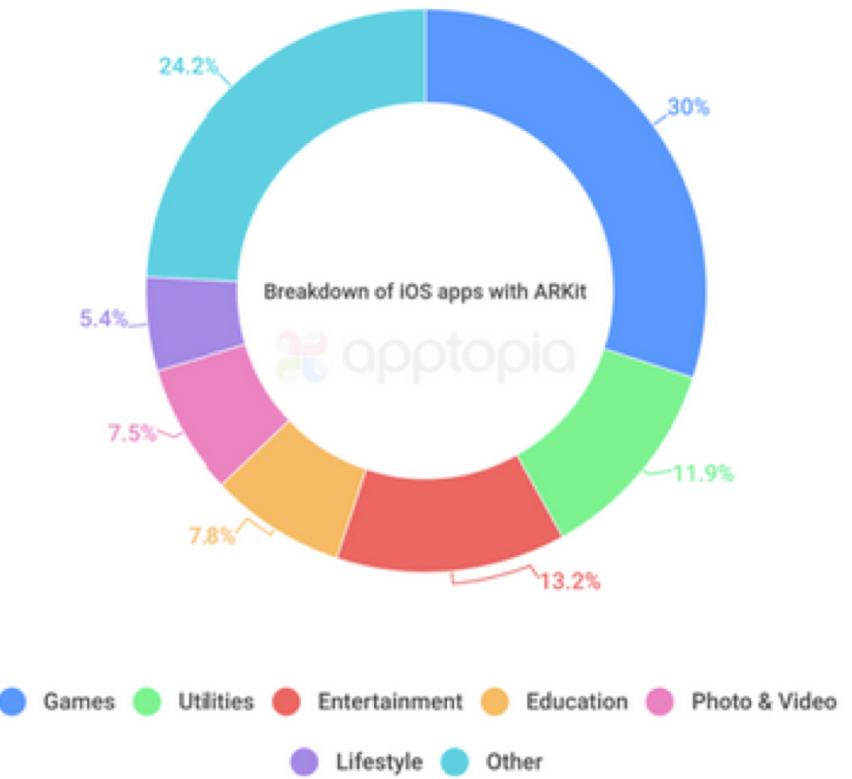
NOW TRE



# Report: Despite Apple's hype, early developer adoption of ARKit has been slow

Chance Miller - Jan. 3rd 2018 3:21 pm PT  @ChanceHMiller





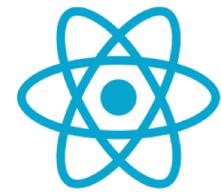
All in all, Apptopia estimates that there are under 1,000 applications currently in the App Store that take advantage of ARKit.

Source: <http://blog.apptopia.com/arkit-has-less-than-1000-installs>

# Agenda

- ~~Brief history of AR~~
- ~~AR today~~
- Building AR apps w/JS





# React Native



A screenshot of a GitHub repository page for the project "HippoAR/react-native-arkit". The repository has 34 stars and 54 forks. It contains 400 commits, 15 branches, 17 releases, and 6 contributors. The latest commit was made 10 hours ago. The repository is licensed under MIT. The code tab is selected, showing a list of recent commits:

File / Commit Message	Date
macrozone Merge pull request #133 from gtfargo/master	Latest commit 0404b04 10 hours ago
components fix assign bug	22 days ago
hocs add option to overwrite position	a month ago
ios adds requiresMainQueueSetup to fix warning in rn 0.49+	8 days ago
lib refactor	a month ago
screenshots Update README.md	6 months ago
.eslintrc eslint	6 months ago
.gitignore [Issue 33] Solve Xcode 9 deprecated. [No Issue] Add Xcode .gitignore.	4 months ago
ARKit.js added onPlaneRemoved, eulerAngles and simple changelog	22 days ago
CHANGELOG.md update changelog	22 days ago
CODE_OF_CONDUCT.md Create CODE_OF_CONDUCT.md	6 months ago

The screenshot shows a GitHub repository page for `EddyVerbruggen/nativescript-ar`. The repository has 5 stars, 18 forks, and 2 issues. It contains 33 commits, 1 branch, 4 releases, and 1 contributor. The latest commit was made 7 days ago. The repository includes files for NativeScript, NativeScript plugin, and Augmented Reality.

Augmented Reality NativeScript plugin <https://www.nativescript.org/blog/pre...>

nativescript nativescript-plugin augmented-reality

33 commits 1 branch 4 releases 1 contributor MIT

Branch: master New pull request Create new file Upload files Find file Clone or download

File / Commit	Description	Time Ago
EddyVerbruggen Added repository		Latest commit 4b73f5e 7 days ago
.github	Enjoy, world!	4 months ago
android-lib-src	Android library typings added	2 months ago
demo	Travis	16 days ago
docs	Allow undefined plane material #2	3 months ago
publish	Enjoy, world!	4 months ago
src	Added repository	7 days ago
.gitignore	Android support	3 months ago
.travis.yml	Travis	16 days ago
LICENSE	Bumped a few dependencies	28 days ago
README.md	Android support	3 months ago



# Demo!



# Snapchat buys Israeli augmented reality start-up for \$40 million: Report

Arjun Kharpal | @ArjunKharpal

Published 6:32 AM ET Tue, 27 Dec 2016



Snap Inc – the owner of Snapchat – has quietly acquired Israeli augmented reality (AR) start-up Cimagine Media for a reported \$30 to \$40 million, according to a media report.

Cimagine Media makes software that allows businesses or consumers to visualize what an item might look like in their environment. For example, the start-up works with Shop Direct to allow customers to see what furniture would look like in their home via a tablet.

This so-called augmented reality use is of interest to Snap Inc, considering Snapchat uses this technology in their lenses to let users turn their faces into animals for example.

## Snapchat buys Looksery, a 2-year-old startup that lets you Photoshop your face while you video chat



Alyson Shontell



© Sep. 15, 2015, 3:36 PM



19,111



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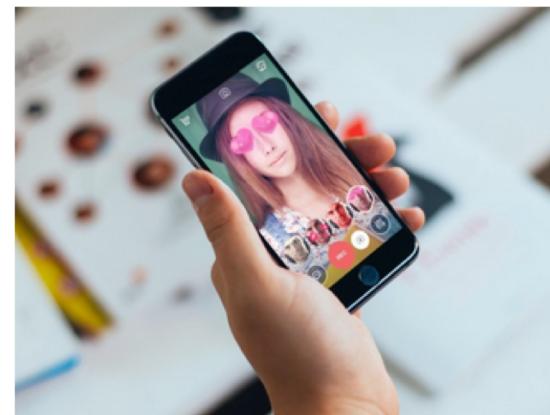


TWITTER



Snapchat has acquired facial recognition startup Looksery.

The deal was first flagged by Ain.ua, a Ukrainian publication, which states Snapchat purchased the startup for ~ \$150 million. Business Insider has



Looksery's app. Snapchat now offers that same selfie filter as a lens. Looksery

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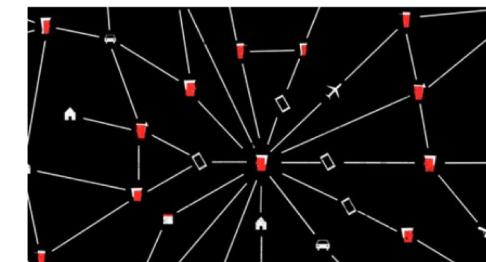
# Google buys Word Lens, the app that translates languages with your phone's camera

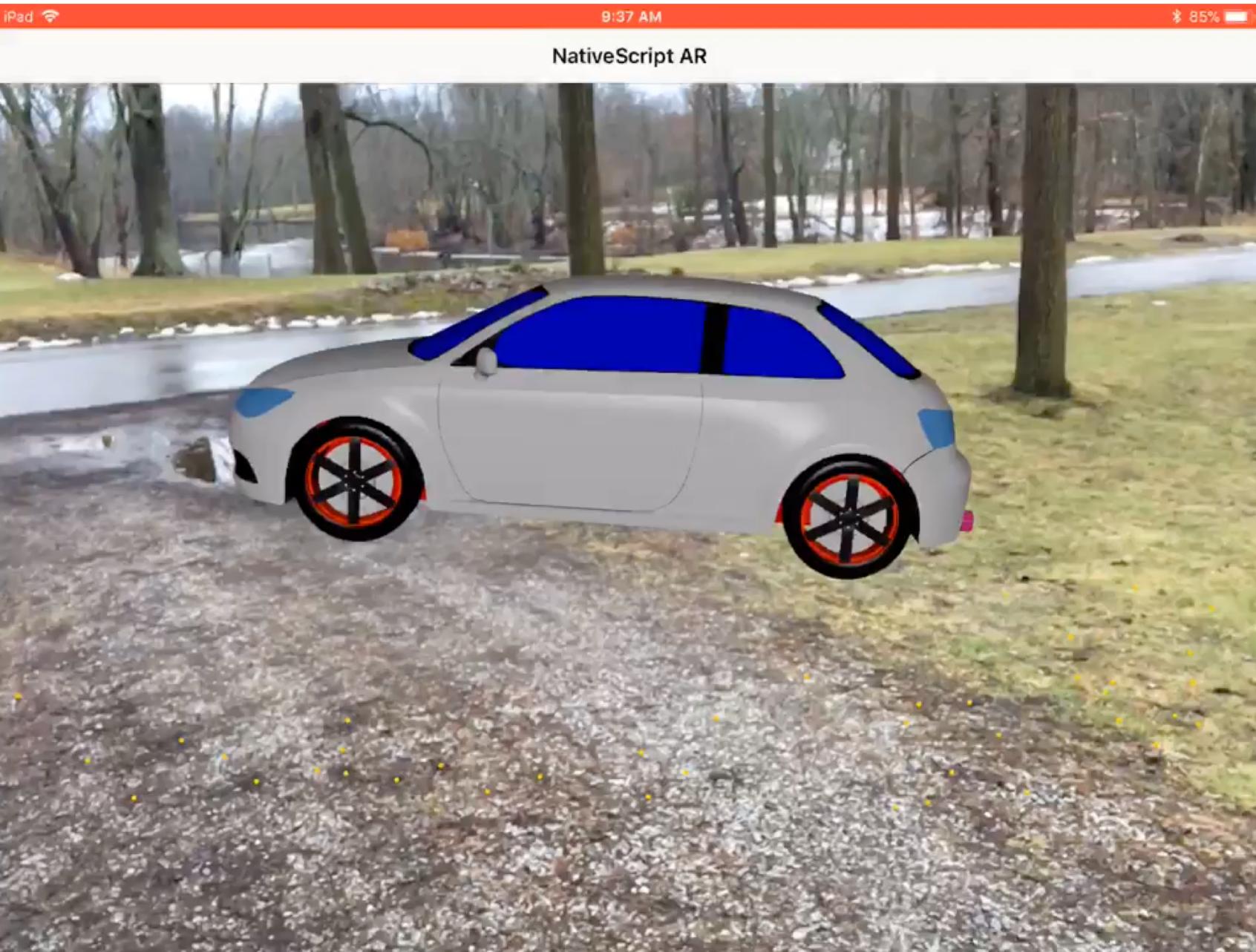
By Chris Welch | @chriswelch | May 16, 2014, 2:50pm EDT

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# Summary

- AR is cool.
- AR is hard.
- It's probably a few years before AR is simple enough for your average developer to build something compelling with.

A screenshot of a web browser displaying the NativeScript website at <https://www.nativescript.org>. The page features a dark blue header with the NativeScript logo and navigation links for Docs, Showcases, Resources, Blog, About, Full menu, and search. The main content area has a dark blue background with white text. It displays the headline "Build amazing iOS and Android apps with technology you already know" and a subtitle about the open source framework. A green "Get started" button is highlighted with a red arrow. Below the main content, there are logos for RANGLE.IO, McKesson, Verizon, SAP, and ADP.

Native mobile apps with Angular X +

https://www.nativescript.org

NativeScript Docs Showcases Resources Blog About Full menu Q Search

# Build amazing iOS and Android apps with technology you already know

Open source framework for building truly native mobile apps with [Angular](#), [TypeScript](#) or [JavaScript](#).

Get started

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# Thank You!

**TJ VanToll**

 [tj.vantoll@progress.com](mailto:tj.vantoll@progress.com)

 [@tjvantoll](https://twitter.com/tjvantoll)