Welcome to the 2018 HPA Tech Retreat

which, thanks to everyone, is

Sold Out, Again!

these slides are already at
bit.ly/hpa2018-intro

Mark Your Calendars!

2019 HPA Tech Retreat

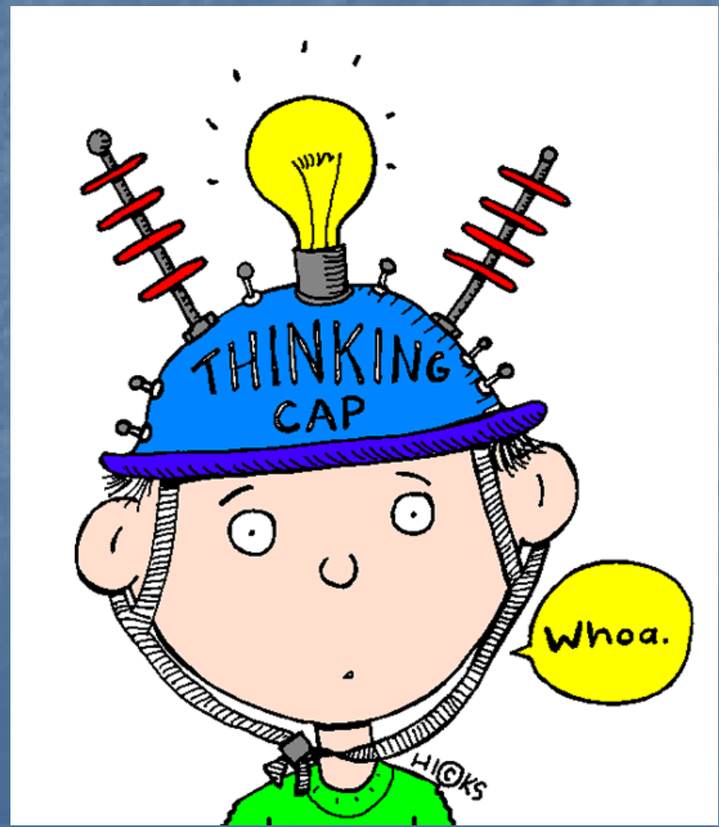
- Week of February 11 through 15, 2019
  - Spend Valentine's Day with the tech you **love** ♥
- here: J. W. Marriott Resort & Spa, Palm Desert
- Submit proposals as soon as you'd like;
  deadline will be in late October:
  - TVMark@EarthLink.Net or Media.Mark.Schubin@GMail.com
  - if you don't hear from me, I probably haven't received your proposal

The Basics

- The schedule ***rules***
  - download the app or check online; there might have been changes
- Power available in all table rows, Wi-Fi in room
  - SSID: Marriott_CONFERENCE Password: hpa2018
- Innovation Zone open to 7:30 pm today, tomorrow 8:30 am to 2 pm ***No Innovation Zone Friday***
- All meals at the JW Pavillion
- Breakfast-roundtable topic lists will be physically posted
  - Slots still available; if you'd like to moderate one, please let me know

The Basics – Part II

- Quizzes:
  - *all* are eligible (except me); *any* research is ok; cheating is *not* possible (so go ahead & try)
    - answers *can* be found online (if you know where to look)
  - place entries in bowl by session end (quiz #5 by last refreshment break)
  - have name and quiz # on entry
  - no penalty for wrong answers
  - win a pin!



2018 Quizzes

- Quiz 0: When was the term “artificial intelligence” coined in what document?
- Quiz 1: Does ATSC 3.0 offer more, less, or the same data payload compared to ATSC 1.0? Explain.
- Quiz 5: Who first proposed image transmission using CRTs at both ends?

The Basics – Part III

- Speakers: Send presentations or give to Max for posting (optional)
- No recording please (except for personal use)
- Be nice!
  - computer sounds muted
  - communications devices on vibrate or silent
  - ***ALL*** calls and conversations outside the room
- WiFi: Again, SSID: Marriott_CONFERENCE, PW: hpa2018
- Please fill out evaluations

Presentations That Have Been Posted

(keep checking)

Tech Retreat Program — Read More

Hotel — JW Marriott, 74-855 Country Club Drive, Palm Desert, CA 92260 — Read More

Tech Retreat Pricing — View

Tech Retreat Innovation Zone — Read More

Tech Retreat Sponsor Opportunities — Read More

Tech Retreat Participants — Read More

Tech Retreat Presentations (Password Protected) — View

Tech Retreat Photos — View

Tech Retreat Articles & Press — Read More

Tech Retreat Call For Proposals — Read More

HOME → 2018 TECH RETREAT → PROTECTED: 2018 TECH RETREAT PRESENTATIONS

This post is password protected. To view it please enter your password below:

Password: ••••••••••

Submit

TRprogram18

2018 HPA Tech Retreat
Technology Year in Review

“Old” Media

Editors' Picks

TECHNOLOGY

Welcome to the Post-Text Future

By FARHAD MANJOO

The internet was born in text. Now, video and audio are ascendant, writing is being left behind, and everything will be different.

https://www.nytimes.com/interactive/2018/02/09/technology/the-rise-of-a-visual-internet.html

Secure | https://www.forbes.com/sites/brettedkins/2017/07/27/the-new-york-times-is-not-failing-announces-strong-2q-profits-and-2-3m-digital-subscrib...

Media & Entertainment / #TrumpsAmerica

JUL 27, 2017 @ 03:22 PM 815

The New York Times Is Not 'Failing': Announces Strong 2Q Profits And 2.3M Digital Subscribers

Brett Edkins, CONTRIBUTOR

FULL BIO

So why not give it

Secure | https://www.recode.net/2018/2/1/16957766/wired-print-magazine-nick-thompson-constraints-recode-media-peter-kafka-podcast

recode

TRENDING TOPICS MORE

Why Wired is still putting out a print magazine in 2018

One year into the job, Editor in Chief Nick Thompson has thought a lot about the power of print – and what has to change.

By Eric Johnson | @HeyHeyESJ | Feb 1, 2018, 12:05pm EST

Thompson said on the latest episode of **Recode Media with Peter Kafka**. "Will Wired still be putting out a magazine in a year? Yeah, absolutely!"

https://www.newyorker.com/magazine/2018/02/12/why-paper-jams-persist

THE NEW YORKER

ANNALS OF TECHNOLOGY FEBRUARY 12 & 19, 2018 ISSUE

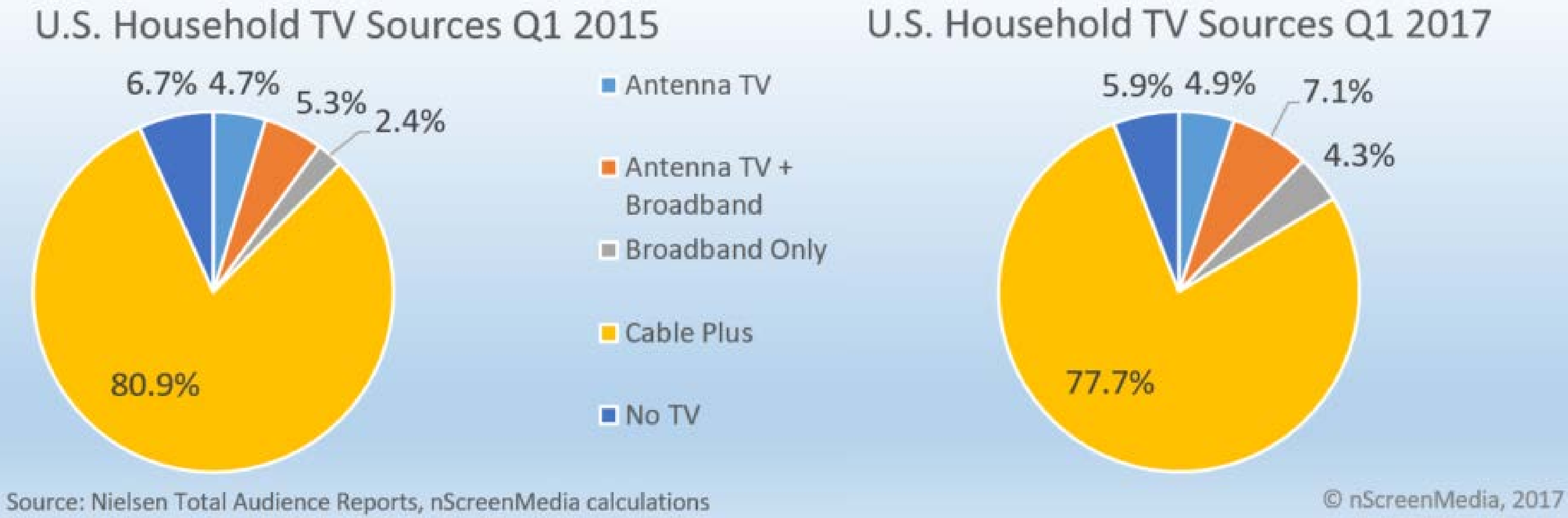
WHY PAPER JAMS PERSIST

A trivial problem reveals the limits of technology.

By Joshua Rothman

free link (at least at the moment)

Television



http://www.nscreenmedia.com/antenna-tv-plus-broadband-sweet-spot-consumers/

- fewer households with no TV
- more households with over-the-air antennas (“wireless TV”)

Secure | https://www.theverge.com/2018/2/6/16973914/tvs-crt-restoration-led-gaming-vintage

THE VERGE TWEET SHARE

THE LAST SCAN

Inside the desperate fight to keep old TVs alive

By Adi Robertson | @thedextriarchy | Feb 6, 2018, 8:26am EST

Photography by James Bareham and Amelia Holowaty Krales

SHARE

Behind a nondescript Manhattan storefront, Chi-Tien Lui is stockpiling objects many people wouldn't think twice about trashing: cathode ray tube televisions. The first

Secure | https://www.usatoday.com/story/tech/talkingtech/2018/01/06/ces-secret-few-products-see-light-day/1009616001/

USA TODAY

NEWS SPORTS LIFE MONEY TECH TRAVEL OPINION 10° CROSSWORDS WASHINGTON MORE

TALKING TECH

BUZZ VIDEO PODCASTS NEWSLETTER

CES secret - few products see light of day

Jefferson Graham, USA TODAY Published 9:05 a.m. ET Jan. 6, 2018 | Updated 10:23 a.m. ET Jan. 6, 2018

Secure | https://techcrunch.com/2015/12/07/hamwells-e-shower-connects-your-shower-to-the-internet-of-things-and-bathing/

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

Battlefield
Water
Shower

Hamwells e-Shower Connects Your Shower To The Internet Of Things (And Bathing)

Posted Dec 7, 2015 by John Biggs (@johnbiggs)

Secure | https://www.usatoday.com/story/tech/talkingtech/2018/01/06/ces-secret-few-products-see-light-day/1009616001/

USA TODAY

NEWS SPORTS LIFE MONEY TECH TRAVEL OPINION 10° CROSSWORDS WASHINGTON MORE

TALKING TECH

BUZZ VIDEO PODCASTS NEWSLETTER

CES secret - few products see light of day

Jefferson Graham, USA TODAY Published 9:05 a.m. ET Jan. 6, 2018 | Updated 10:23 a.m. ET Jan. 6, 2018

Secure | https://techcrunch.com/2015/12/07/hamwells-e-shower-connects-your-shower-to-the-internet-of-things-and-bathing/

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

Battlefield
Water
Shower

Hamwells e-Shower Connects Your Shower To The Internet Of Things (And Bathing)

Posted Dec 7, 2015 by John Biggs (@johnbiggs)

Posted Dec 7, 2015

ATSC (1.0) vs. ATSC 3.0

- Govt. mandated w/viewer funds
  - Single-broadcaster transitions
  - Reception mandated
- No adjustability
  - 19.39 Mbps
  - 15.2 dB SNR
  - No simultaneous variability
- MPEG-2 video coding
  - Allowed HD in 6 MHz channel
- Transition 1996 (to 2009)

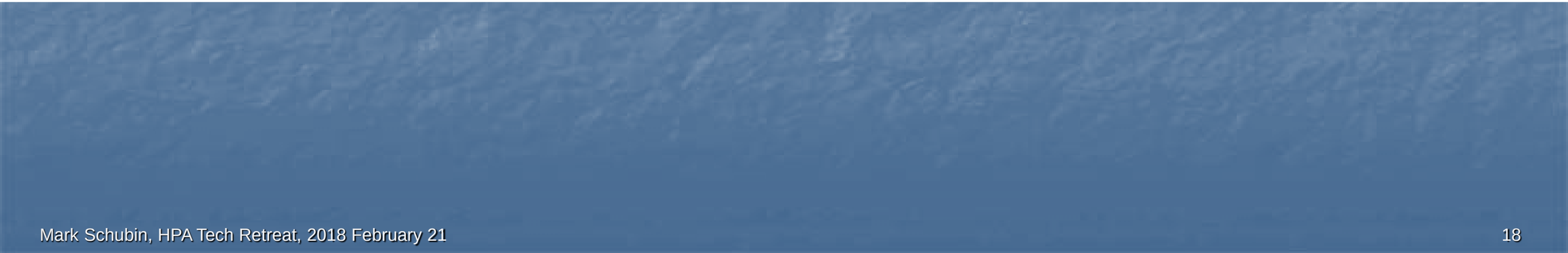
- Govt. permitted
  - Mkt.-b'caster reliance req'd 5 yrs.
  - Reception voluntary
- Adjustability
  - Variable bit rate
  - Variable robustness
  - Up to 4 variable "pipes"
- Many codings, incl. HEVC (H.265)
  - Perhaps 4x efficiency of MPEG-2
- Authorized late 2017

https://www.wsj.com/articles/era-of-peak-tv-continues-with-487-scripted-shows-in-2017-1515182593

THE WALL STREET JOURNAL.

Era of Peak TV Continues With 487 Scripted Shows in 2017

FX Networks research shows original scripted shows on streaming services rose 30% last year



advanced-television.com/2017/10/04/75-of-us-have-skipped-social-event-to-watch-tv/

Wednesday, October 04, 2017

Stay Connected

ADVANCED TELEVISION

75% of US have skipped social event to watch TV

Super Bowl LII

- conventional TV meaurement: 103.4 M viewers, down 7% from 2017
  - 2017: 113.7 M, 2015: 115.8 M
  - still 2018 ranks in top-10 US TV audience of all time
- most live-streamed: AMA 2.02 M, ▲17% over 2017
  - which was ▲23% over 2016
  - not yet 2% of the 7%-smaller conventional-TV audience
- new for 2018: measurement of out-of-household viewing: another >12 M TV viewers
- Total viewership: 118.2 M

Secure | https://advanced-television.com/2018/01/17/parks-20-of-streamers-share-credentials/?utm_source=Newsletter&utm_campaign=f3c5f25bb3-...

ADVANCED TELEVISION

Parks: 20% of streamers share credentials

January 17, 2018

from the 2017
HPA Tech Retreat
Technology
Year in Review

www.theverge.com/2017/1/7/14200210/amazon-alexa-tech-news-anchor-order-dollhouse

THE VERGE TECH SCIENCE CULTURE CARS REVIEWS MORE

CIRCUIT BREAKER | TECH | AMAZON

Amazon's Alexa started ordering people dollhouses after hearing its name on TV

Check your settings

by Andrew Liptak | @AndrewLiptak | Jan 7, 2017, 5:52pm EST

fortune.com/2018/02/03/alexa-super-bowl-ad/

FORTUNE

Why Your Echo Won't Perk Up During Amazon's Super Bowl Ad

2018

Secure | https://www.hollywoodreporter.com/heat-vision/box-office-black-panther-climbs-historic-242m-bow-record-monday-1086456

The Hollywood Reporter

FEBRUARY 20, 2018

8:39am PT by Pamela McClintock

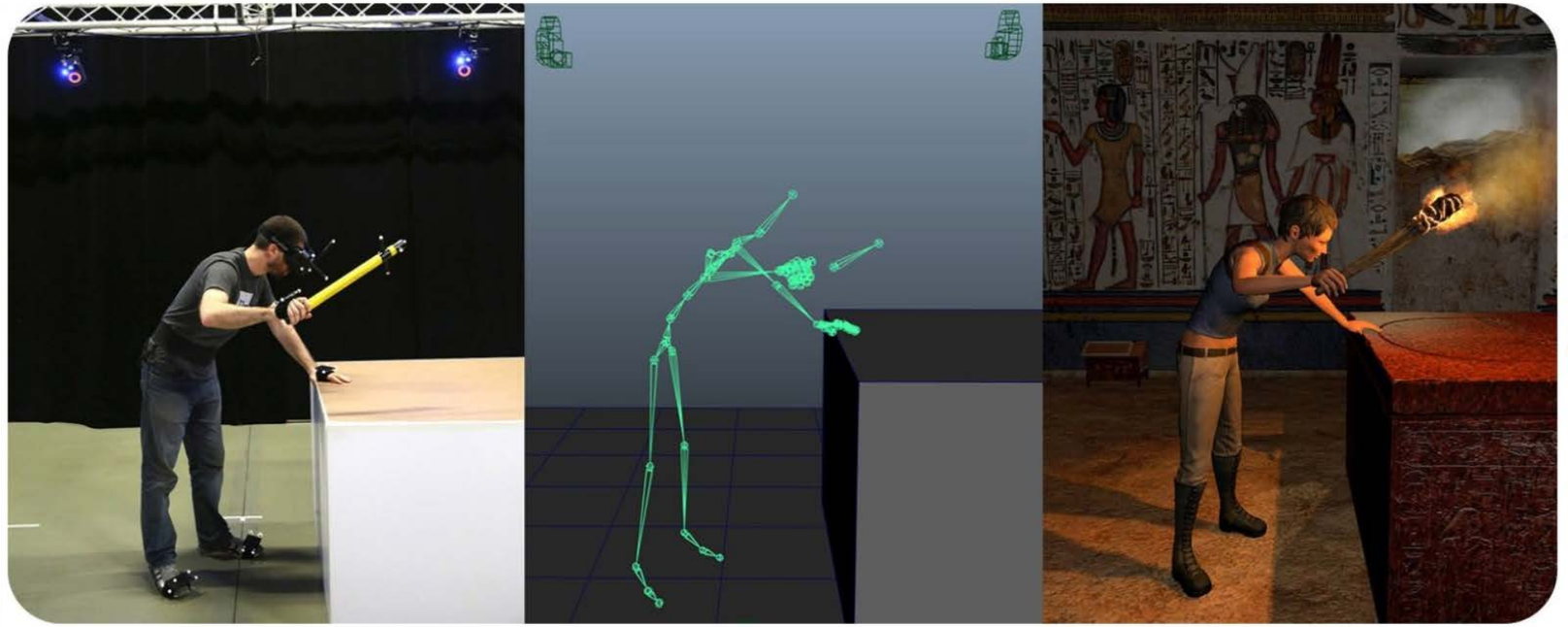
Box Office: 'Black Panther' Climbs to Historic $242M Bow After Record Monday

The New York Times

Coming Soon to AMC Theaters: Virtual Reality Experiences

Secure | https://www.nytimes.com/2017/09/26/business/media/amc-theaters-virtual-reality.html

By **BROOKS BARNES** SEPT. 26, 2017



Dreamscape Immersive uses more than a dozen cameras and sensors to transport people into various settings.
Caecilia Charbonnier

Paramount Pictures to Launch Virtual Reality 'Movie Theater'

By Debra Kaufman
November 21, 2017

Paramount Pictures, in partnership with Bigscreen and in collaboration with Oculus, Samsung, HTC and Microsoft, is launching its first VR movie theater. On December 3, anyone with any brand of VR headset can sign onto Bigscreen's website and watch "Top Gun 3D" for free. The viewer walks into a virtual movie theater with theater seating, and watches trailers prior to the main film. Viewers are seated in a virtual audience and can chat before the movie, which is shown in 30-minute increments over the following 24 hours.

www.etcentric.org/ar-and-vr-groups-create-the-first-global-virtual-reality-day/#more-122334

etcentric

THE MEDIA PROFESSIONAL'S INSIDE PERSPECTIVE

Search

Menu

AR and VR Groups Create the First Global Virtual Reality Day

By Debra Kaufman

November 17, 2017

Augmented and virtual reality have been evolving, but aren't yet at the point of breaking into the mainstream. Now, a grassroots group of individuals and organizations is working to create the first worldwide Virtual Reality Day, on November 18, an event it hopes to make annual until AR and VR reach wide acceptance. The group has chosen the date as the last Saturday before Black Friday, with the hope that parents and children will explore AR/VR together. The New York VR meetup (NYVR) — with 5,300 members, the second largest in the world — will participate.

Mark Your Calendars!

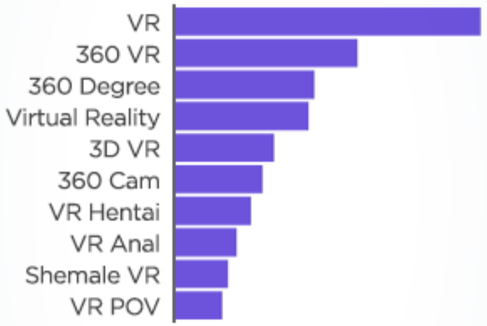
Pornhub

VIRTUAL REALITY

2600+ Videos - 500K / day

Initially launched with 30 videos, Pornhub's VR content has continued to grow, reaching over 2600 videos in 12 months and 500,000 daily video views.

Top VR Searches



VR Demographics

+160% Men are 160% more likely to view VR videos comapred to women.

Popularity when compared to other ages

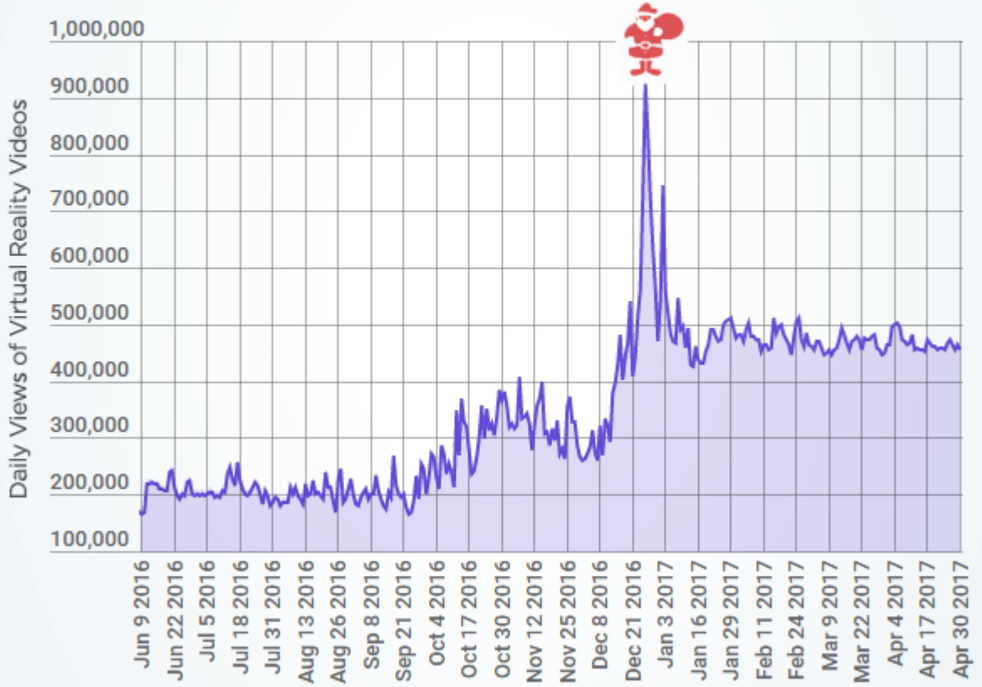
▲18%	18 to 24
▲47%	25 to 34
▲5%	35 to 44
▼59%	45 to 54
▼81%	55 to 64
▼84%	55+

pornhub.com/insights

Pornhub

Virtual Reality Video Views

June 2016 to April 2017

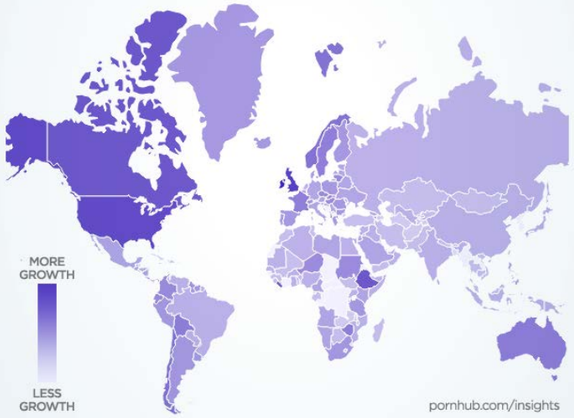


pornhub.com/insights

Pornhub

Growth in VR Video Popularity

June 2016 to April 2017

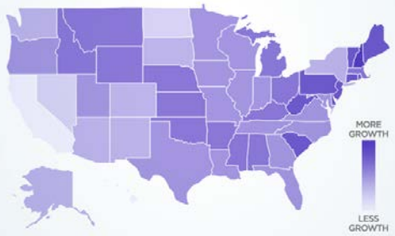


pornhub.com/insights

Pornhub

Growth in VR Video Popularity

June 2016 to April 2017



Pornhub

Countries Where VR is Most Popular

Relative popularity when compared to all other countries

pornhub.com/insights

advanced-television.com/2017/10/10/nokia-kills-off-ozo-vr-camera/

ADVANCED TELEVISION

Nokia kills off OZO VR camera

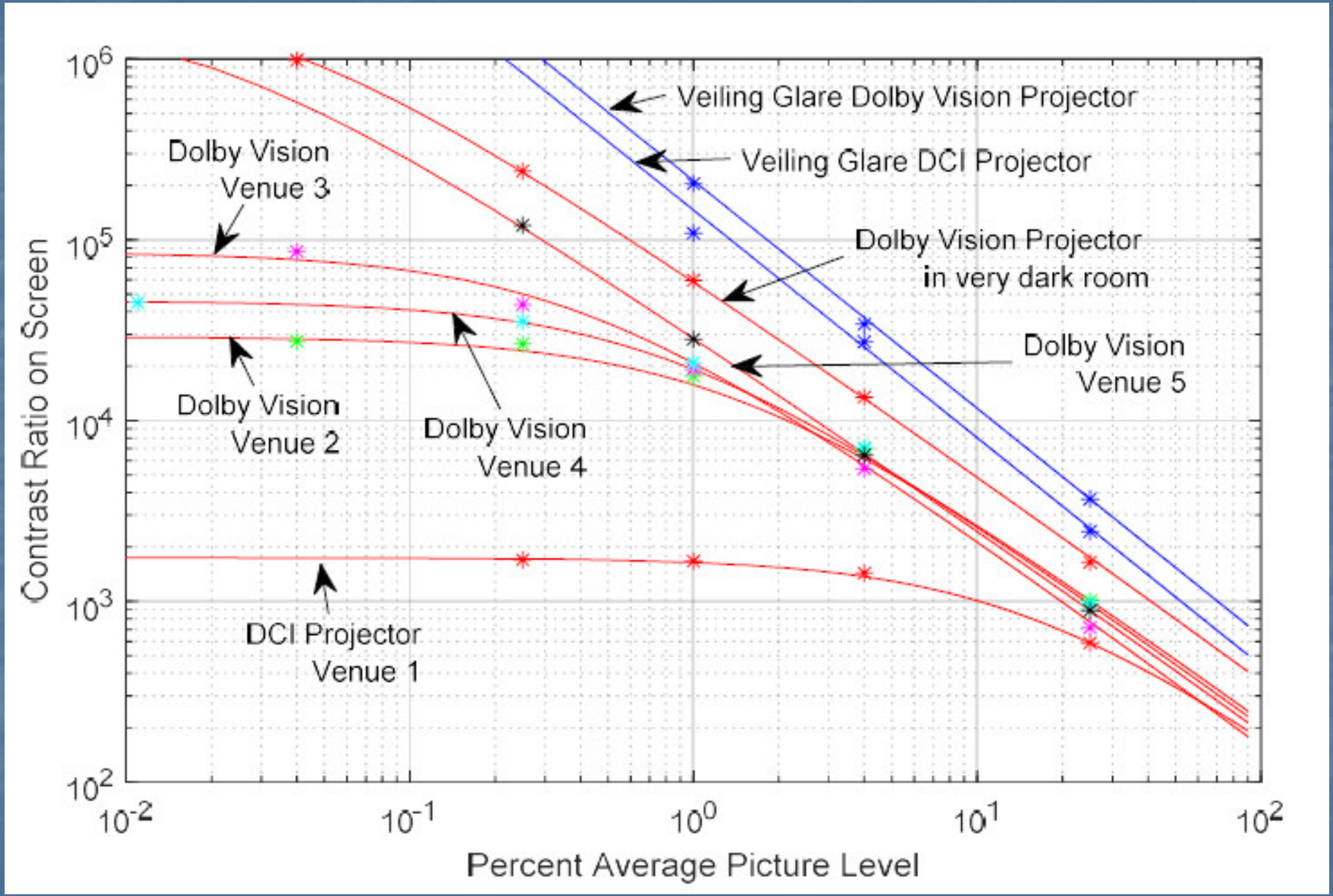
October 10, 2017

Tweet Like 0 G+ Share 1

Nokia has confirmed that it is halting development plans of its OZO virtual reality camera and hardware, and consequently will axe up to 310 jobs from its Nokia Technologies unit.

SAMSUNG
World's First Cinema LED Screen
GRAND OPENING

Necessary? Good?



Security

- Meltdown & Spectre
  - https://arstechnica.com/gadgets/2018/01/meltdown-and-spectre-heres-what-intel-apple-microsoft-others-are-doing-about-it/
- Hacking smart TVs via broadcast signals
  - https://arstechnica.com/information-technology/2017/03/smart-tv-hack-embeds-attack-code-into-broadcast-signal-no-access-required/
    - most U.S. TVs now internet-connected
      - https://www.rapidtvnews.com/2017042847039/most-us-tvs-connected-to-the-internet.html#axzz57gJSivSA
- Users locked out of their Google Docs for no good reason
  - https://www.nytimes.com/2017/10/31/technology/google-docs-glitch-bug.html

New Technologies

- Applications for AI:
  - fake news
    - https://futureoffakenews.com/
  - reduce buffering
    - http://www.etcentric.org/mit-and-netflix-testing-ai-based-algorithms-to-curb-buffering/

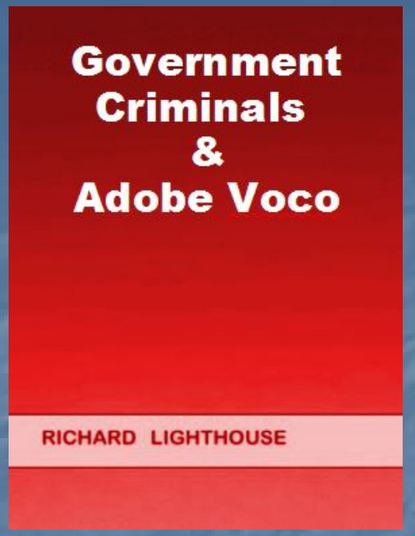
https://www.nytimes.com/2017/11/28/us/politics/trump-access-hollywood-tape.html

HOME SEARCH The New York Times

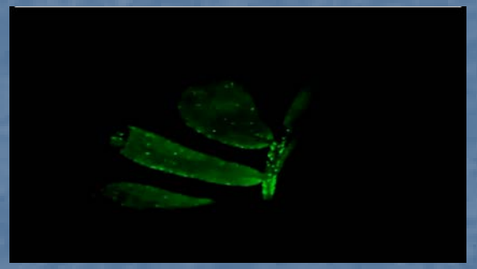
POLITICS

Trump Once Said the 'Access Hollywood' Tape Was Real. Now He's Not Sure.

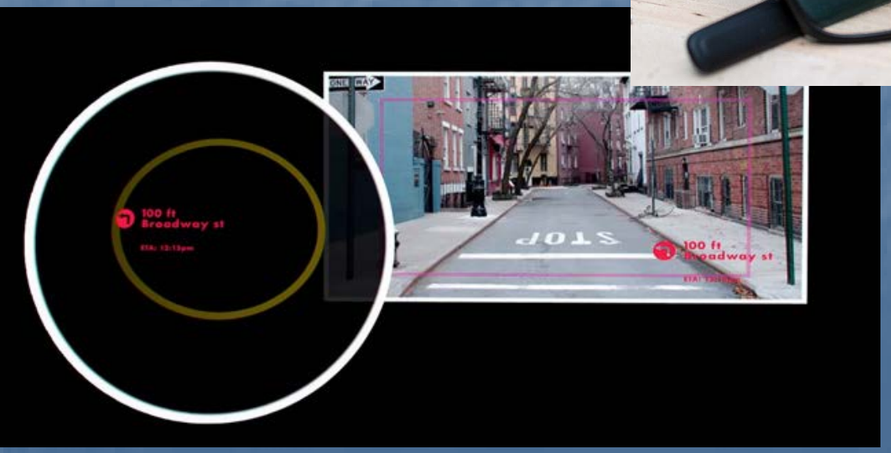
By MAGGIE HABERMAN and JONATHAN MARTIN NOV. 28, 2017



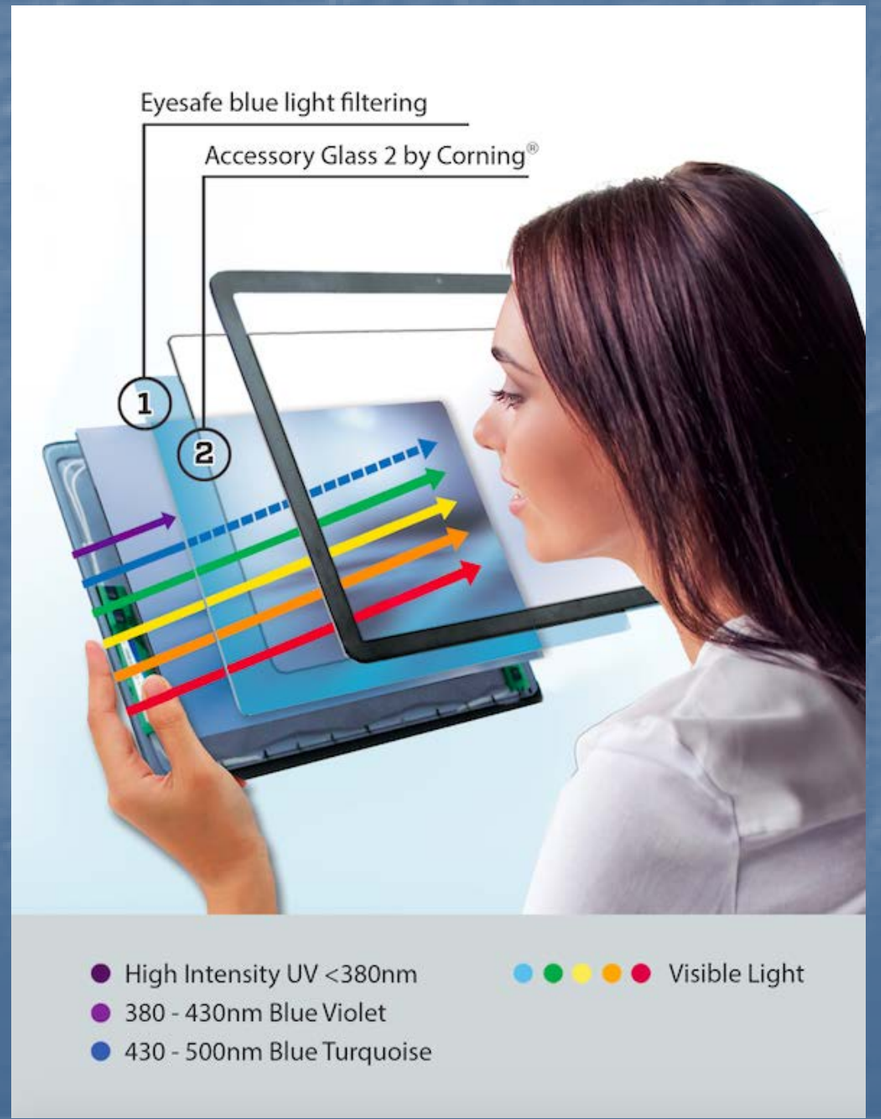
- Acquisition:
  - lensless, single-pixel (even S3D)
    - https://phys.org/news/2017-03-faster-single-pixel-camera-technique-greatly.html
    - https://arxiv.org/abs/1710.02134
  - new stacked-colors sensor
    - https://www.empa.ch/web/s604/farbsensor
  - nanotechnology black and transparency
    - https://news.artnet.com/art-world/vantablack-olympics-pavilion-asif-khan-1220264
    - http://aip.scitation.org/doi/10.1063/1.5000965



- Bit-per-atom storage
  - https://www.pcworld.com/article/3178339/hardware/ibm-fits-a-bit-on-an-atom-eyeing-ever-smaller-devices.html
- Blue-light control
  - http://www.eyesafe.com/corning/
- AR for people who don't want to look dorky



Intel Vaunt



Questions?

(if time allows)

these slides are already at
bit.ly/hpa2018-intro