

November 16 – 18 • Las Vegas

DEVLEARNSM

Sparking Creativity

Co-located Event **ADOBE** LEARNING SUMMIT



VIRTUAL REALITY (VR) & AUGMENTED REALITY (AR)

Learnings from DEVLEARN Nov 2016



WorkBright
Ray Handley



WHAT HAPPENS IN VEGAS...

...does not stay in Vegas!

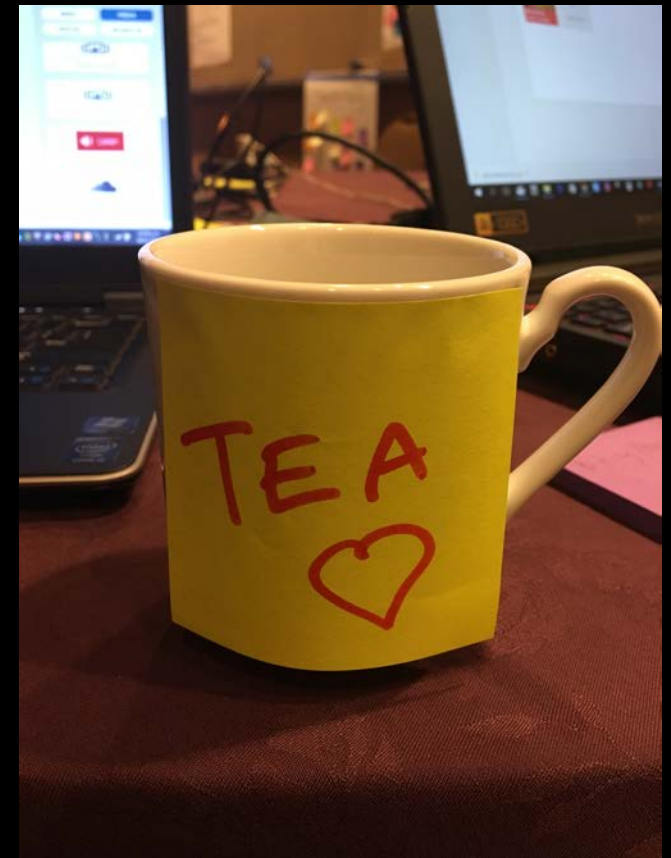


AUGMENTED REALITY WORKSHOP



AUGMENTED REALITY WORKSHOP

- Full day workshop about using augmented reality in the workplace
- Reviewed how to develop AR performance improvement solutions, resolving performance problems
- Got me thinking - Are we behind the rest of the world?
- Evaluated the good, bad and ugly apps (best to do your homework on this and stay current as this is changing rapidly)
- Developed a quick AR experience using Blippar and Layar





AUGMENTED REALITY WORKSHOP

- Some key learnings:
 - Situated cognition – knowing is inseparable from doing (AR allows this)
 - Collaborative Learning – learning in situation and alongside others
 - Embodied Cognition
 - E.g. learning to play guitar to a professional standard using a virtual guitar
 - Being in the environment and not passively observing from outside
- Apps, hardware and tools to consider in AR –
 - Unity, Vuforia, Appy Pie, EON, Aurasma, WondaVR, GearVR, Layar, Blippar
 - Google “AR and VR hardware and software” and you’ll get a good idea of what is out there (changing quickly)

GETTING 'AUGMENTAL'

- augmentedreality.org - great place to start looking at everything relating to Augmented Reality (AR) and links to many other AR tools and resources.
- augmentedworldexpo.com – the 8th Augmented Reality World Expo (AWE) is a 3 day expo in California from May 31 to June 2, 2017



8th year in the USA
5,000 attendees
Over 100,000 sq. ft. expo
3-day conference + 2-day expo
6 speaker tracks
200+ speakers
200+ exhibitors

SESSIONS ATTENDED



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KEYNOTE



Why New Realities Require New Narratives
Maxwell Planck
Technical Founder, Oculus Story Studio

Oculus Story Studio
<https://www.oculus.com/story-studio/>

Dear Angelica * Quill * [Henry](#)

- Keynote speech – VR changes the way stories need to be told
- Camera is everywhere – how do you guide the learners
 - Attention grabbers – bird flying past head in direction of focus, noises and sounds to divert the audience.



WHY NEW REQUIRE



REALITIES NARRATIVES

by MAXWELL PLANCK

NEW STUDIO



MY FIRST JOB OUT OF COLLEGE WAS WITH

PIXAR

THE FIRST TIME I TRIED VR, I WAS UNDERWITLIMED

but it HAS

WHAT I LOVE ABOUT VR is that you INTERACT with it the SAME WAY WE do in the REAL WORLD

evolved

IT'S A DIFFERENT



GAME WHEN CREATING A STORY for a VISITOR

VISITOR

the LANGUAGE of VIRTUAL REALITY

VERBS ADJECTIVES ADVERBS

VISITOR GAZE ATTRACTION SETTLING IN LETTING GO LOOK AT

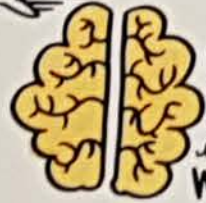


the HEDGEHOG WHO JUST WANTS A HUG ON HIS BIRTHDAY

THERE are SO MANY FACETS of STORY for the VISITOR to EXPLORE

THE IDEA that the DIRECTOR is the HOST, a MASTER STORYTELLER

CREATING an ENTIRE UNIVERSE to BE EXPLORED by the VISITOR



OUR BRAINS ARE NOT FULLY CHALLENGED with JUST WORDS



TIME to PURSUE PASSIONS



WE HAVE MONTHLY CONTESTS for NEW IDEAS

NEW CONSTRAINTS

from the WORLD of VR



to the HOLODECK

WE HAVE a lot to DO in PERFECTING the ART of STORYTELLING

A NEW AUDIENCE

but with VR, it can be a FULL

SKETCHNOTES SPONSORED by





CONFERENCE SESSIONS I ATTENDED

- Virtual Reality in the workplace – Cavalier
- 360 degree interactive video for learning – Nicholls
- Augmented Reality applications for workplace learning – Salas
- Virtual Reality Learning Strategy – Skiles
- Using Virtual reality in corporate learning – O'hare
- Virtual and Augmented Reality for learning – Kartchner
- New technologies that will change your learning strategies – Ganci
- Low-cost Virtual Reality Solutions for Learning – Bishman
- Using 360 degree video in Training – Hildenbrand
- Using Immersive Simulations to develop Real-world Skills – Quinn

KEY LEARNINGS AND INSIGHTS



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VR WILL BE THE NEXT MAJOR COMPUTING AND COMMUNICATION PLATFORM.

VR IS GOING TO BE THE MOST SOCIAL PLATFORM.

I HONESTLY DON'T KNOW HOW LONG IT WILL TAKE. MY GUESS IS THAT IT WILL BE AT LEAST 10 YEARS.

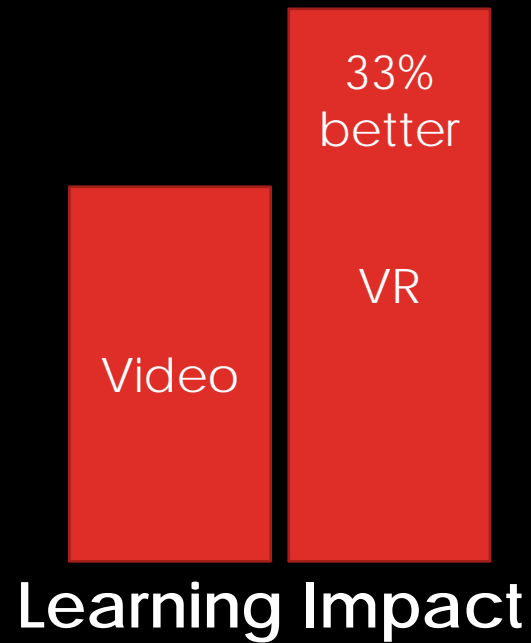
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Mark Zuckerberg and friends



THE NEXT BIG THING?



Not New

- VR has been the "next big thing" since the 1980s
- Too expensive
- Makes you nauseous

New

- Affordability of VR
- high quality, more comfortable headsets
- Significantly reduced nausea

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\$150 billion industry by 2020.

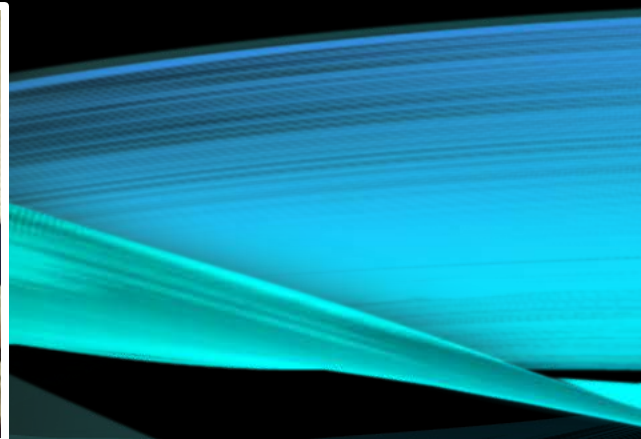
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VIRTUAL REALITY IS THE ULTIMATE EMPATHY MACHINE

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<http://with.in/watch/clouds-over-sidra/>



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VIRTUAL REALITY IS THE ULTIMATE EMPATHY MACHINE



Stanford University study allows people to empathise with cows heading off to the slaughterhouse.

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HARDWARE



THE HARDWARE

- Low end
 - Google Cardboard
- High end
 - Oculus Rift
 - HTC Vive – handheld motion detectors (reach out and operate machines, manual skills)
 - Playstation VR – laser cameras to detect your position

HOW?, WHY? AND CHALLENGES



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THE 3D WORLDS

- Computer-generated – the most likely for training (can control the action and environment)
- Real life video
- Spherical video allows the learner to explore a space or experience a situation from the centre of the action.
- Training may be better suited to 180 degree video rather than 360 video.



WHY VR?

- Safe and realistic replication of otherwise dangerous activities
- Less downtime on machines for training purposes
- More immersive to make it feel like you are actually there
- Remotely work on machines or in environments you normally would not have access to



WHY AR?

- Superimpose visual cues, graphics over the world around you
- VR will influence learning in the office, while AR will influence learning on the go



WHO'S USING IT NOW?

- Some insurance companies to simulate car crashes and learn more so that claims are reduced and driver awareness is peaked
- Commonwealth Bank of Australia is using VR as a recruitment tool
- Workbright is working with companies to develop driver and forklift training and other machine maintenance and repair purposes (and is looking at numerous other projects involving VR and AR)
- The UN have used it to empathise better with the experience for children in war-torn countries – “The Ultimate Empathy Machine”

SO WHAT'S NEXT?



STEPS TO SUCCESS IN AR AND VR

- Try it out for yourself so you know the experience
 - Use Google cardboard and give it a go
 - Get GearVR headset for about \$200 (only Samsung phones)
 - Ask Workbright to organise a demo for you on the HTC Vive – Forklift operation, Milking machine or get your own Vive and try Job Simulator
 - Purchase the Oculus Rift and a grunty PC or laptop and try it out – Oculus Dreamdeck
- Download some of the apps we've discussed
 - With.in for samples of 360 degree video
- Sell it to the decision makers, then identify and develop a pilot or demo – “seeing is believing”
- Subscribe to as many different associations as possible and stay in touch with this fast moving industry

MORE USEFUL LINKS

- arvrgarage.nz – The AR/VR Garage is an Auckland based space for collaboration on everything AR and VR.
- vuforia.com – platform for developing immersive 3D experiences
- scopear.com – AR development company in the USA
- unity3d.com – platform used most commonly to develop AR and VR solutions
- mantarayar.com - A teaching tool, mainly educational but showcases some AR capabilities
- turbosquid.com - Turbo Squid 3D Models
- [3D Max](http://3dmax.com) – 3D Modelling software by Autodesk
- [Angle Lab AR Video SD](https://www.youtube.com/watch?v=SD) – You Tube video of student project on AR
- leapmotion.com/product/vr - Suite of hardware and software designed for VR/AR headsets

MORE USEFUL LINKS

- appypie.com/vr-ar-app-builder – for creating AR / VR app in 3 steps
- eonreality.com – Company in USA that produces AR and VR
- aurasma.com – AR platform with downloadable app for creating AR
- wondavr.com – Authoring solution for 360 degree VR experiences
- GearVR – Samsung's hardware for AR and VR experiences powered by Oculus (need Samsung phone)
- Gear360 – \$350 Samsung's 360 camera for capturing 360 degree or 180 degree video
- layar.com – Another AR app – easy to set up and use, part of the Blippar group
- blippar.com – AR app for quick and easy AR
- with.in – Formerly Vrse – VR content created by great VR creators
- Google Cardboard Assembly - how to assemble and use Google cardboard

CHEERS...

...and enjoy making AR and VR experiences for your learners.

