Phases of a real Augmented Reality roll-out: corporate & customer considerations

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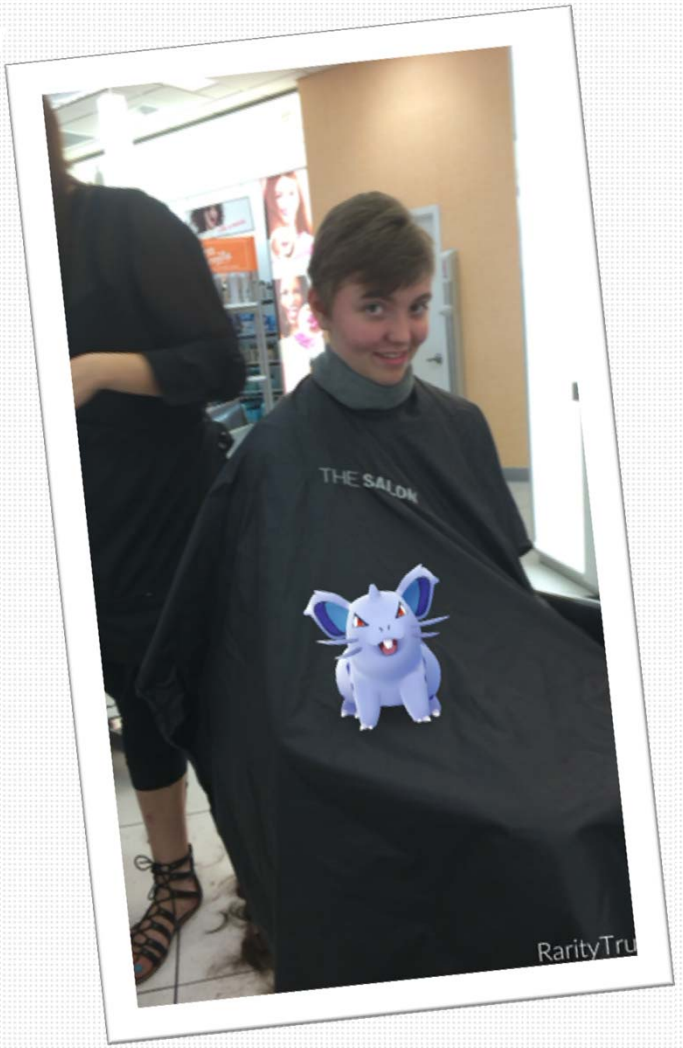
Augmented Reality definition

A technology that **superimposes or overlays** a computer-generated image on a user's view of the real world, thus providing a composite view.



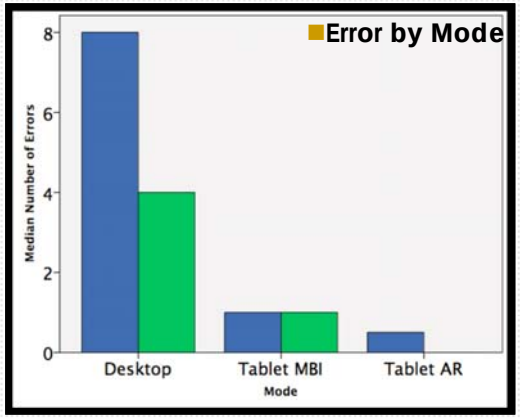
Virtual Reality definition

A computer-generated simulation (or in other words, a completely fake computer world) of a three-dimensional image or environment that can be interacted with in a seemingly real or physical way by a person using special electronic equipment, such as a helmet with a screen inside or gloves fitted with sensors.

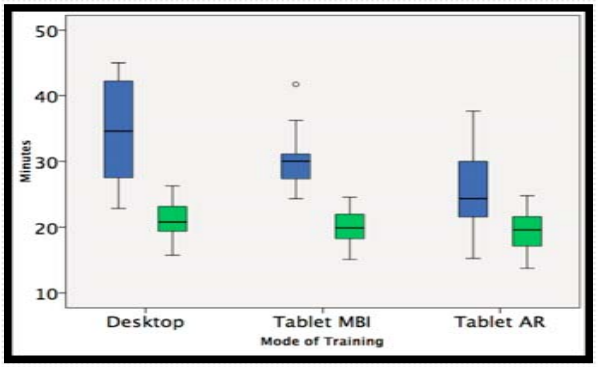
AR adds efficiency to Technical Communication

- In large enterprise customer scenarios, we want to introduce AR for select use cases.
- During our AR Think Tank and from our research, we see many efficiencies for our customers' field technicians. The findings from Iowa State University and Boeing show an increase in first time quality, a reduction in errors, fastest time and increased worker efficiency.

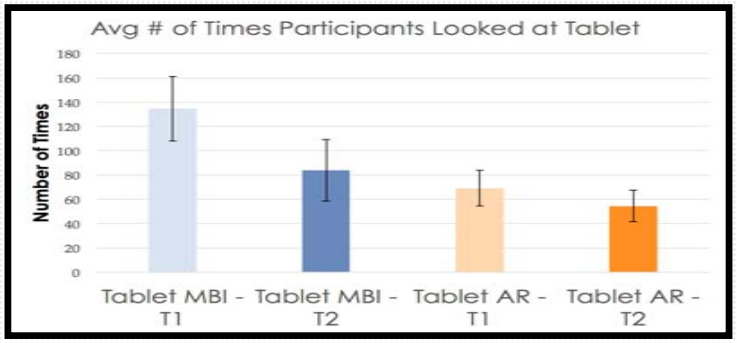
Tablet AR had significantly lower errors.



AR participants completed the assembly task faster the first time.



Worker Efficiency



Inter-service/Industry Training, Simulation, and Education Conference (I/ITSEC) 2014

HUAWEI

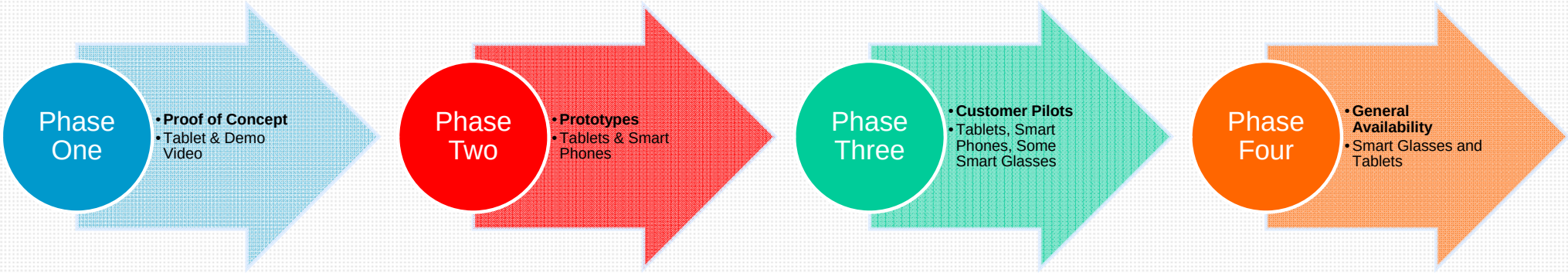
Augmented Reality in Information Products

Technical Documentation Innovation

Contents

AR in Information Products phased approach goals

- Our phased approach plan increases our investment as the technology and the business case improves for AR and wearable technology.
- Technical communicator hands on involvement increases through each phase with the goal of being independent of AR vendor developer assistance by phase four.



Our end goal is to save our customers time and money by allowing them to view procedures digitally over-laid on the equipment via an AR experience. Smart glasses will leave their hands free to use tools and simultaneously perform the tasks while viewing the instructions.

Phase one

Phase One
IMS Proof of Concept (using markers)

AR Proof of Concept

- During the proof of concept phase, we partnered with a vendor.
- The purpose of this phase was to socialize Augmented Reality as a possible documentation delivery mechanism
  - internally to leaders and product lines documentation teams, and
  - externally as a demonstration to customers.
- The predominant viewing device was a tablet. Tracking was created with markers
- We created the POC as quickly and as cheaply as possible.

Phase two

Phase Two
SuperDual Band Interactive Print Prototype

AR Prototypes

- **Different vendors were used for different prototypes to evaluate both the software and the vendors for future use.**
- **The US Best Practices and Innovation team and several different product line documentation teams in China worked together using existing documentation to build the prototypes with the vendors.**
- **Tablets were the primary viewing device.**
- **The prototypes were shared at two large user groups allowing many customers to try out the AR experiences hands on and for Huawei to gather a lot of feedback from many different customers.**

Phase two, continued

Phase Two
Object Recognition Prototypes

AR Prototypes

- **The purpose of phase two is to**
  - **engage the product line documentation teams in helping to develop the AR experiences,**
  - **engage more customers and gather their feedback**
  - **document the processes and procedures used to add to Huawei's information development process, and**
  - **create marker-less AR experiences using object recognition.**

Phase Three

AR Customer Pilots

- The amount of AR experiences will be expanded for select customers to pilot the experiences on the job in place of, or to enhance existing customer documentation.
- Huawei's trained technical communication teams will provide some of the AR experience development with support from AR development vendors.
- The predominant viewing device will be tablets. However, some testing will be conducted with a limited amount of smart glasses.
- Preliminary Huawei development processes and procedures will be tested during this phase.

Phase Four

AR Customer General Availability

- AR experiences will generally be available to Huawei customers to enhance their technical documentation user experience.
- The technical communication teams will work completely or mostly independent of vendors to create the AR experiences.
- The predominant viewing device will be smart glasses. Tablets will also be used.
- Standard Huawei AR development processes and procedures will be available for the technical communication teams.

Dependencies

- Lab use / equipment
- Existing content
- Viewing devices
- Target graphics/ collateral
- 3D Models
- Use case and storyboard

Development

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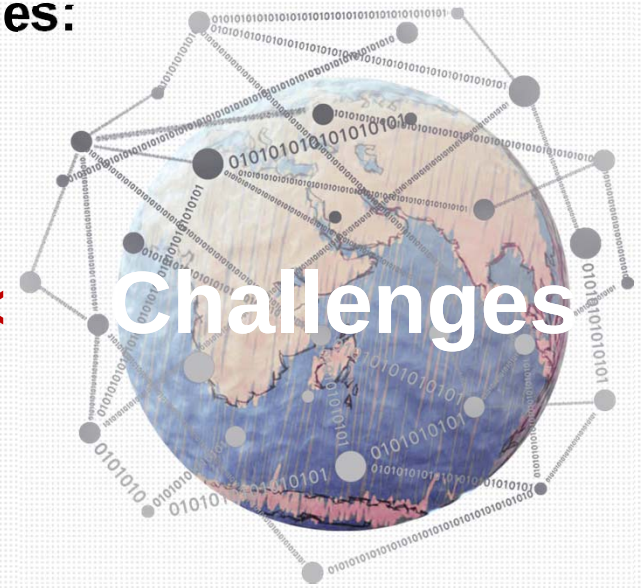
Why do we develop AR and VR documentation

From interviews with customers and frontline product managers, we find two major challenges:

Customers want a clear understanding of Huawei latest solutions.

<< Challenges >>



Customers want to personally experience the industry-benchmark solutions and products launched by Huawei.

Traditional documentation cannot always satisfy their needs.

User experience needs to be improved.

How to help customers gain a clear understanding of Huawei latest solutions

Power Point

Video

- 3D product overview

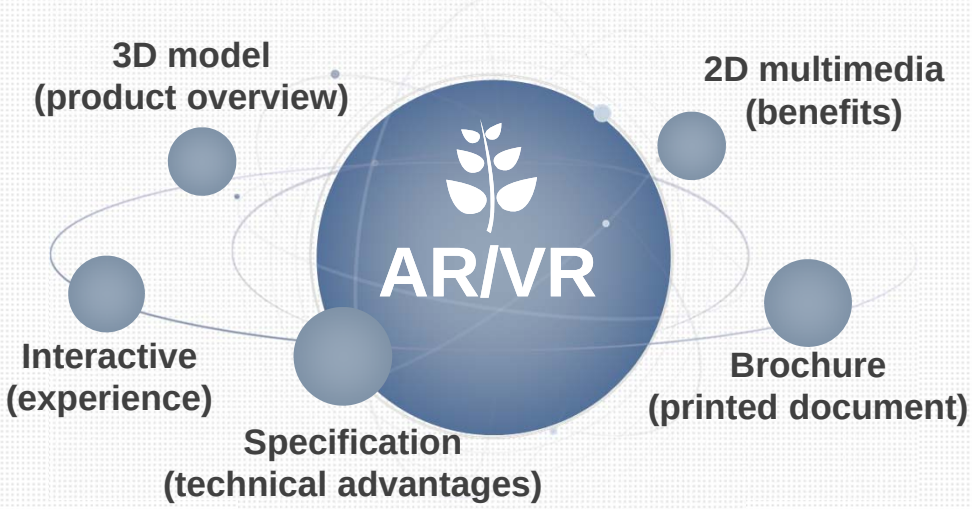
- 2D feature animation

Brochure

Product overview manual

……

Scattered contents



All-in-one

Ultimate experience

How to let customers personally experience Huawei excellent solutions in an easier way

Visit the sample site?

Attend the exhibition?

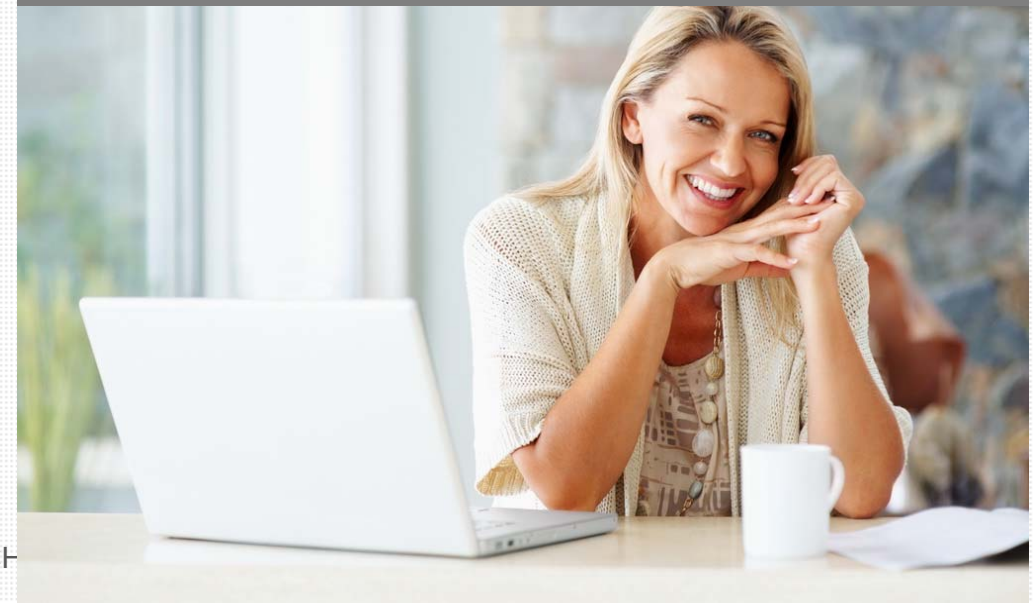
But…

Thousands of kilometers away

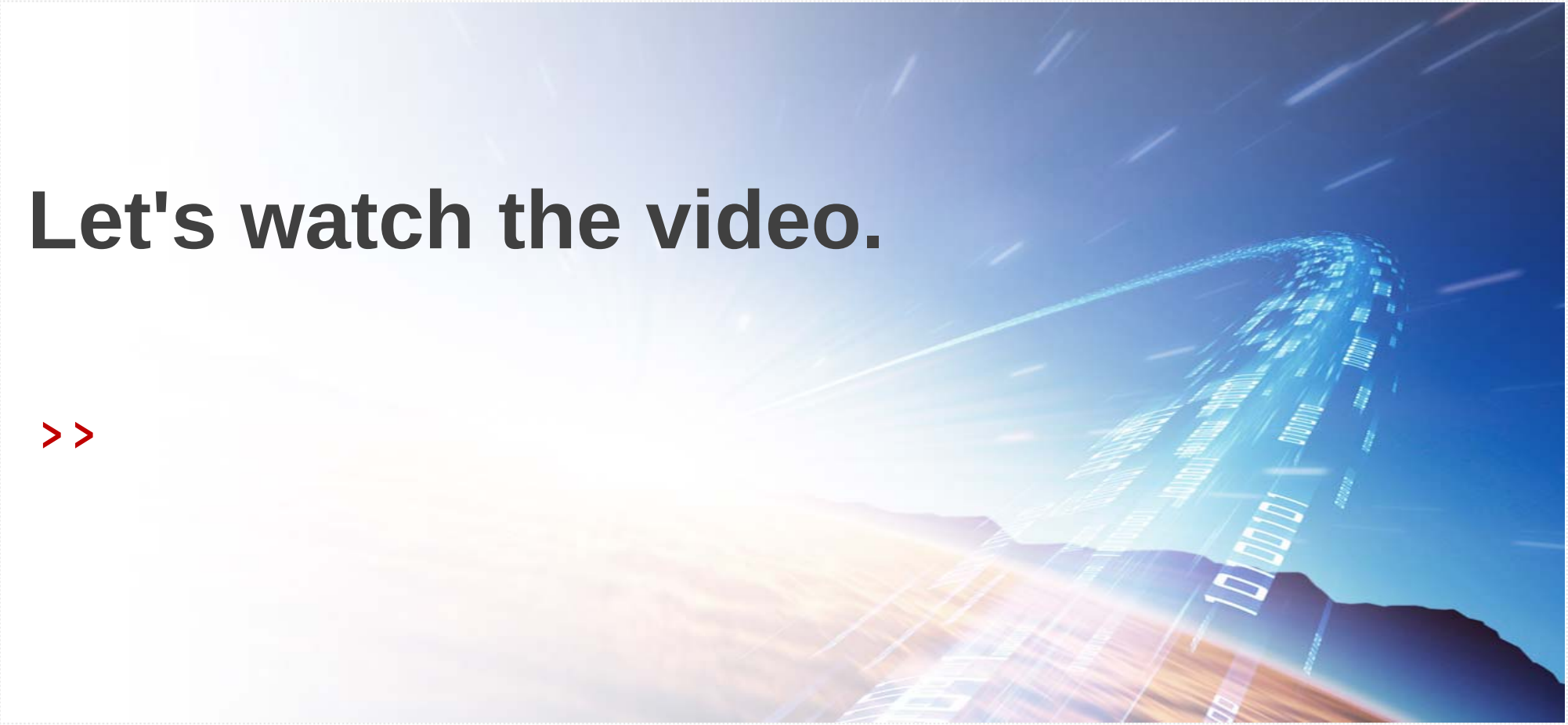
AR/VR

Have a telepresence experience just in your office.

Saving the cost to buy a flight ticket



Showcase



Application of AR/VR documentation

- We launched AR/VR documentation at the Huawei User Group Meeting in this year
- Demonstrated them in exhibitions including Optical Innovation Forum & WDM IIR Exhibition and Huawei Connect 2016
- Won widespread recognition from customers (among whom many are presidents, CTOs, or CEOs)
- Huawei product managers have started to use AR/VR documentation in customer communication

Voice of customers

Up to date, 800+ customers from 50+ countries have experienced AR/VR documentation.

They all show great interest and believe AR/VR documentation can effectively facilitate communication:

Great form (with a surprise face)	**— a Huawei product manager in Japan**
New-style documentation, unbelievable and excellent	**— a customer from South Korea**
A powerful weapon for customer exploration	**— a Huawei product manager in Saudi Arabia**
Interesting and fun	**— a customer from Tunisia**

We have also received good comments from the UK, Hong Kong, Germany and other countries/areas .

The promise of Augmented Reality

- AR will be the UI to the IoT.
- VR is just a stepping stone to AR.
- Use AR to capture tribal knowledge of expert performers. Use the device itself to write the technical document. The person doing the task annotates the task while organizing the task flow. Use AR to capture the motions of the expert performer. Save the experience and add graphics where needed.
- AR will can provide content search by object recognition.
- It is predicted that AR will revolutionize social media by 2026.

Contact information

Rhonda Truitt
Huawei Technologies
Director, Technical Communication Best Practices & Innovation (US R&D); Global Chief Information Architect
Rhonda.truitt@huawei.com

@RhondaTruitt

www.linkedin.com/in/rhondatruitt

Shi Zhenyu (Michael)
Huawei Technologies
Documentation Manager, Microwave Product Line
Transport Network Information Dept.
Peoples Republic of China
mj.shizhenyu@huawei.com

www.linkedin.com/in/michael-shi

Thank you

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