

An abstract background featuring wavy, undulating lines in shades of blue and green, creating a sense of depth and movement. The lines are more pronounced in the center and fade towards the edges.

Augmented Reality on the Web

Workshop
June 15-16th, 2010

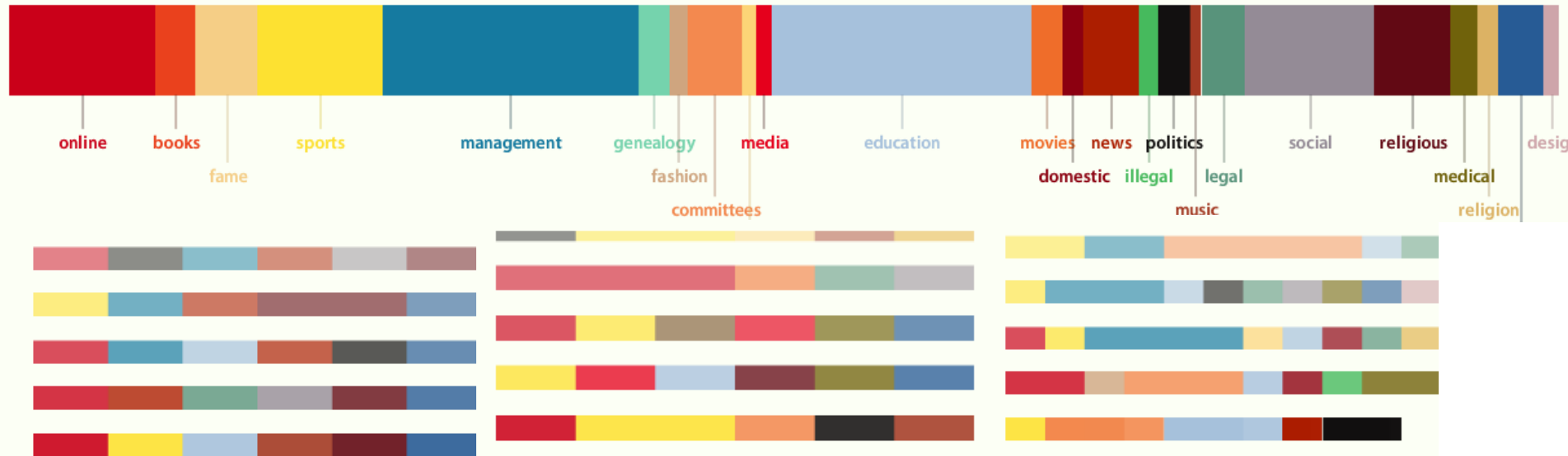
Thank you!

- Manel Medina, UPC
- Phil Archer The W3C logo, consisting of the letters 'W3C' in a stylized blue font with a registered trademark symbol, is positioned to the right of the name 'Phil Archer'. It is flanked by two horizontal lines, one above and one below.
- Acrossair
- Submitters and reviewers of position papers

Your co-chairs for the workshop

- Daniel Appelquist, Vodafone R&D
- Rittwik Jana, AT&T Research Labs
- Phil Archer, W3C (Ubiquitous Web domain)
- Christine Perey, PEREY Research& Consulting

christine perey



CHRISTINE PEREY IS A WRANGLER AND **EVANGELIST** WITH OVER 19 YEARS **EXPERIENCE** IN NEW AND **EMERGING** **MULTIMEDIA COMMUNICATIONS** **MARKETS**

Graphic generated automatically by Personas <http://personas.media.mit.edu/>

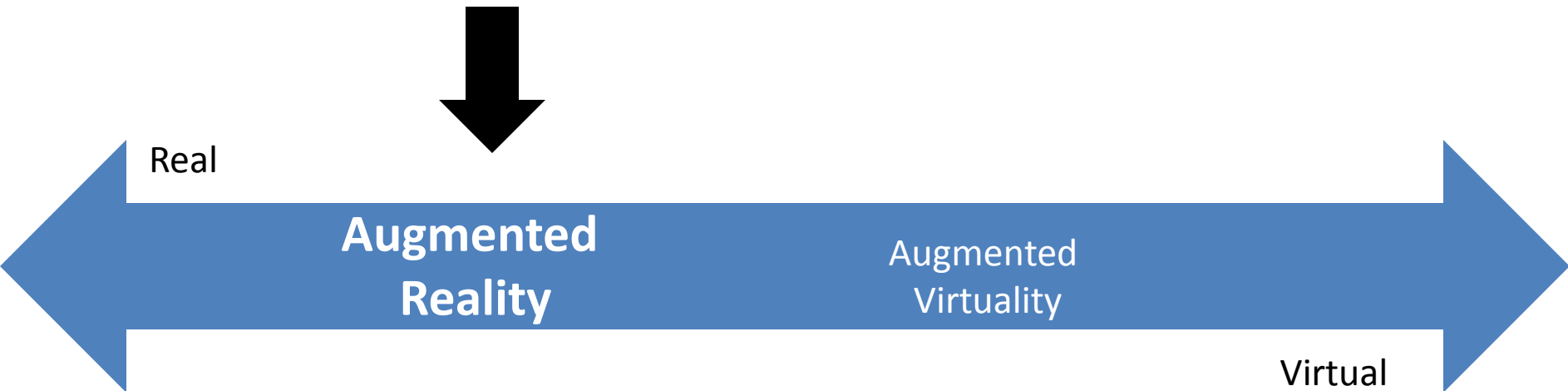
CHRISTINE PEREY WAS THERE, **INTRODUCING** INFORMA'S **REPORT** ON THE **EMERGENCE** OF **MOBILE SOCIAL** **NETWORKS**

OUR ISMAR **MOBILE CHAIR** **CHRISTINE PEREY** WILL BE WORKING WITH OUR OTHER **CHAIRS** TO **PROVIDE** CROSS-OVER **COORDINATION** BETWEEN **PROGRAMS** AND **ENCOURAGING** **PARTICIPATION** FROM THE **MOBILE** **INDUSTRY**

All industries are exciting but I focus on growing the adoption of mobile AR in **print/publishing** and **retail/commerce**.

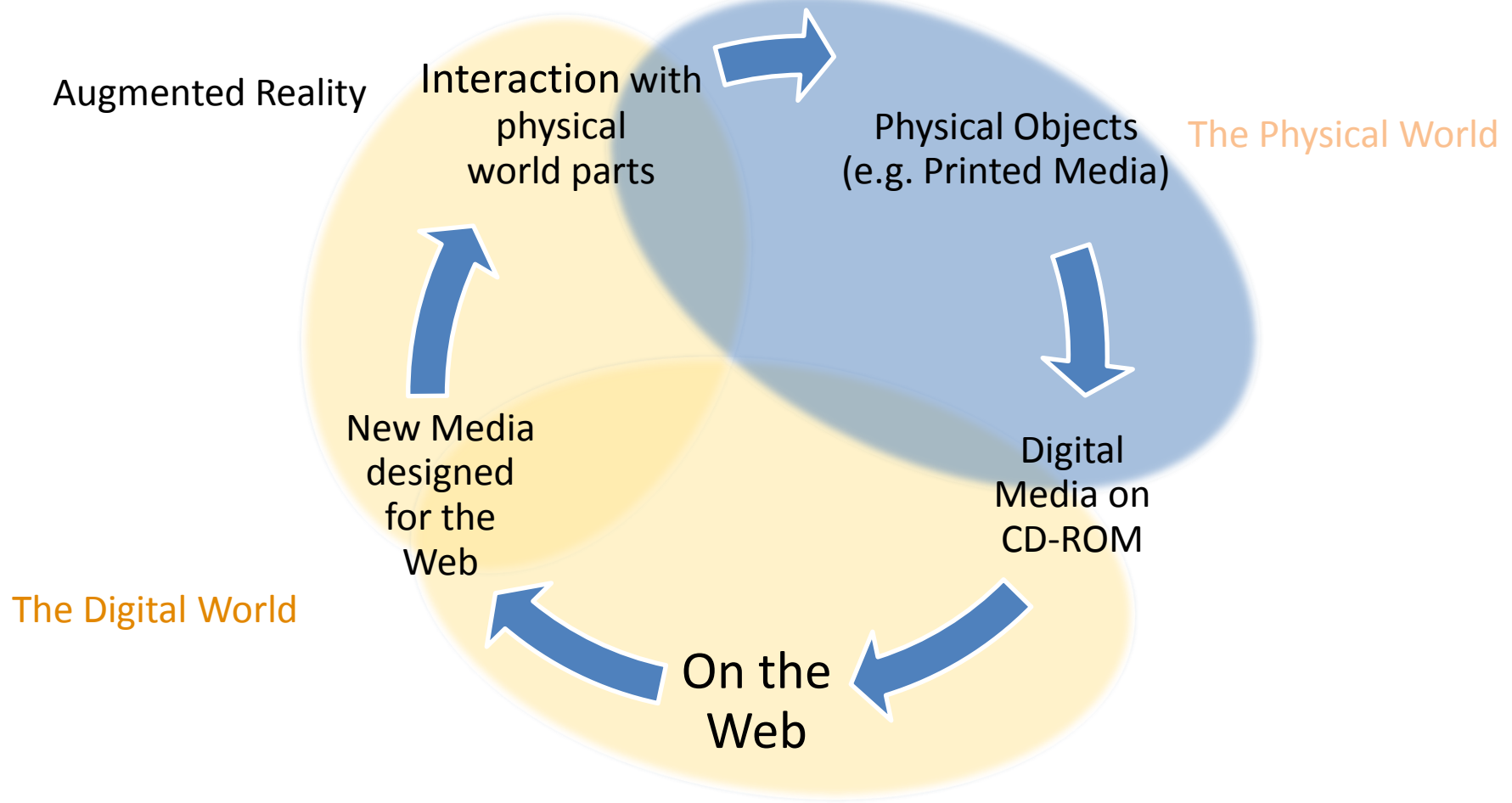


Augmented Reality adds digital information
INTO and OVER the “real” world
Enabling users to get much more of an informed experience



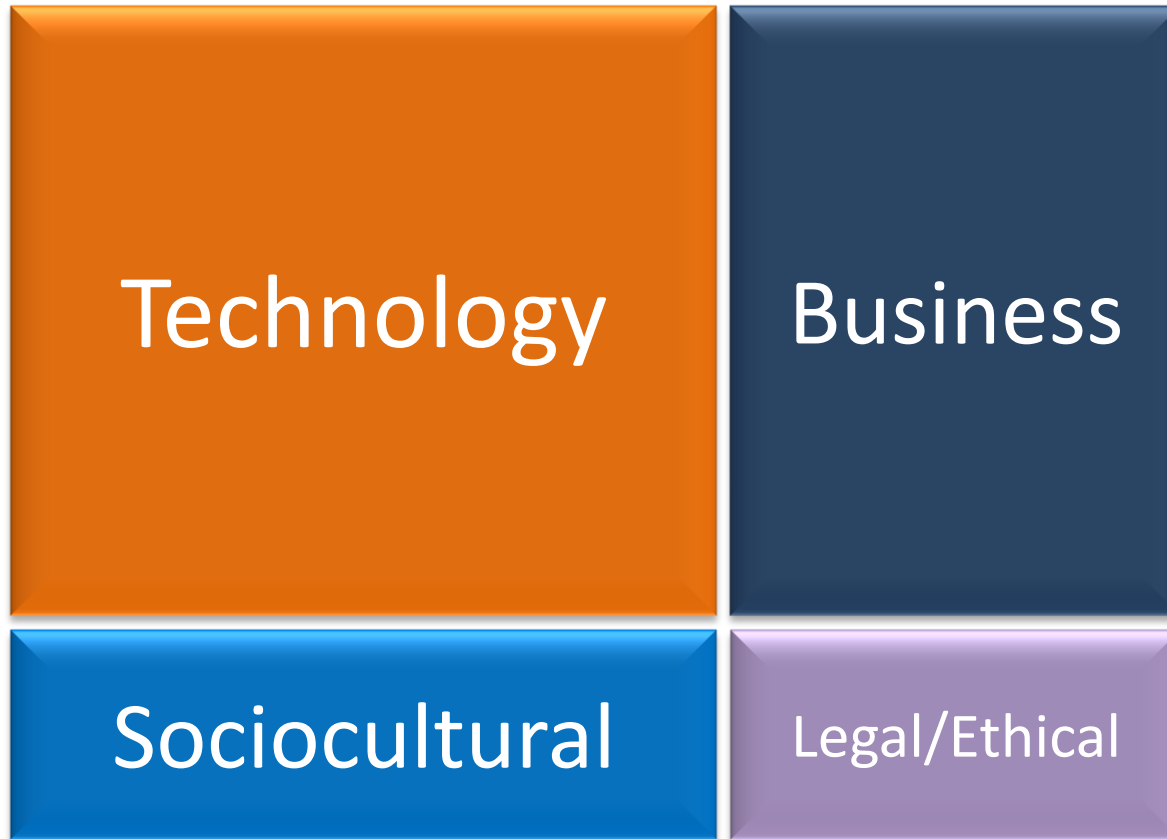
Milgram's Continuum

AR Continues what the Internet Began



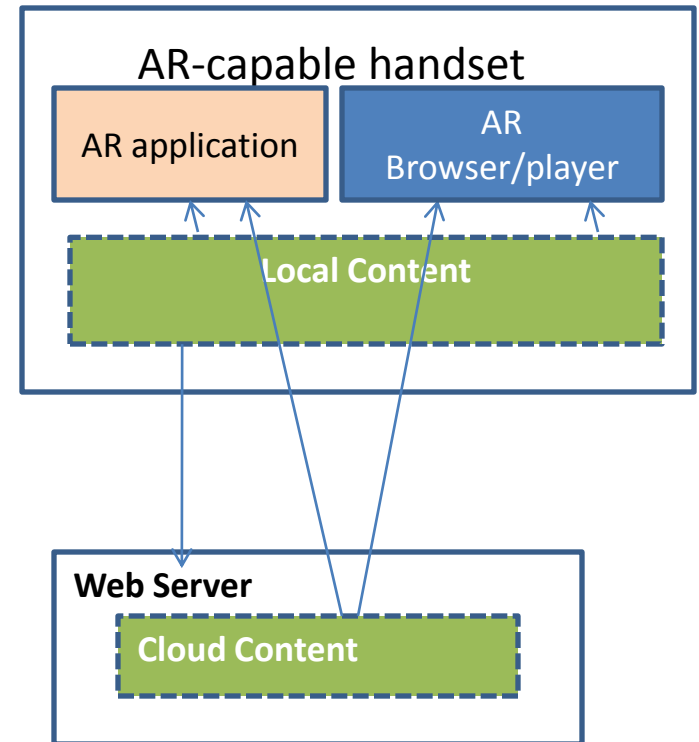
Challenges ahead

Risk Categories



Authoring AR Content

- Current limitations
 - No standards or open APIs
 - Must author for specific platforms (handsets, players)
 - Physical “anchor” recognition is low/unreliable
 - Low ability to represent and manipulate objects (unless using game engines) or introduce interactivity



MOBILE Augmented Reality SUMMIT @MWC2010

Hosted by



vodafone

Summary

- Sixty-five participants, four hours of discussion: technology, business, user experience
- Main outcomes
 - Collaboration will be possible on
 - Open interfaces, interoperability
 - Shared vision of how the industry grows
 - Discussion of future technology standardization
 - How we will (must) monetize Mobile AR
- Building the industry will also benefit from:
 - Data to help decision making
 - Mass market

Wrap up-User Experience

- Terminology is quite “raw,” needs refinement
- Users need a “whole” experience, interactivity
- Users want an experience which has AR as a component
 - Easy, simple experience
 - Experiences that are different (new, enhanced, social, contextual)
- Privacy, preferences, users controlling their experiences
- Device fragmentation (how to have single or predictable user experience on different devices?)

Wrap up-Technology

- Need open protocols (Standards)
 - Does not need to be the goal in every area
 - Device APIs (camera, accelerometer, microphone)
 - Data formats (tagging, mapping)
 - Front end display/presentation
- The role of 3D in Mobile AR
 - Game industry is already handling this for handheld devices
 - Different groups had different outcomes (let gaming industry handle it, or we need to address for AR)
 - Need to divide rendering vs. creation (modeling of objects)
- Networks, latency, bandwidth, battery life
- High interest level expressed on part of Image Recognition providers
- Security, policy and privacy, secure transactions

Wrap up-Business Issues

- Many different revenue streams possible
 - Corporate entities of all sizes are important
 - End users- will pay for experiences (won't pay for information)
 - Verticals
- Feed the **entire** ecosystem
 - Ecosystem participants
 - Distribution of revenues for value
 - Value chain needs to be better understood
- User value
 - Generated a laundry list of what users are likely to pay for
- Role of advertising
 - Avoiding dystopian future
 - Definition of advertising, brand marketing
 - Coupons, hyperlocal models
- Transactions (micropayments), fulfillment (as sources of revenues)

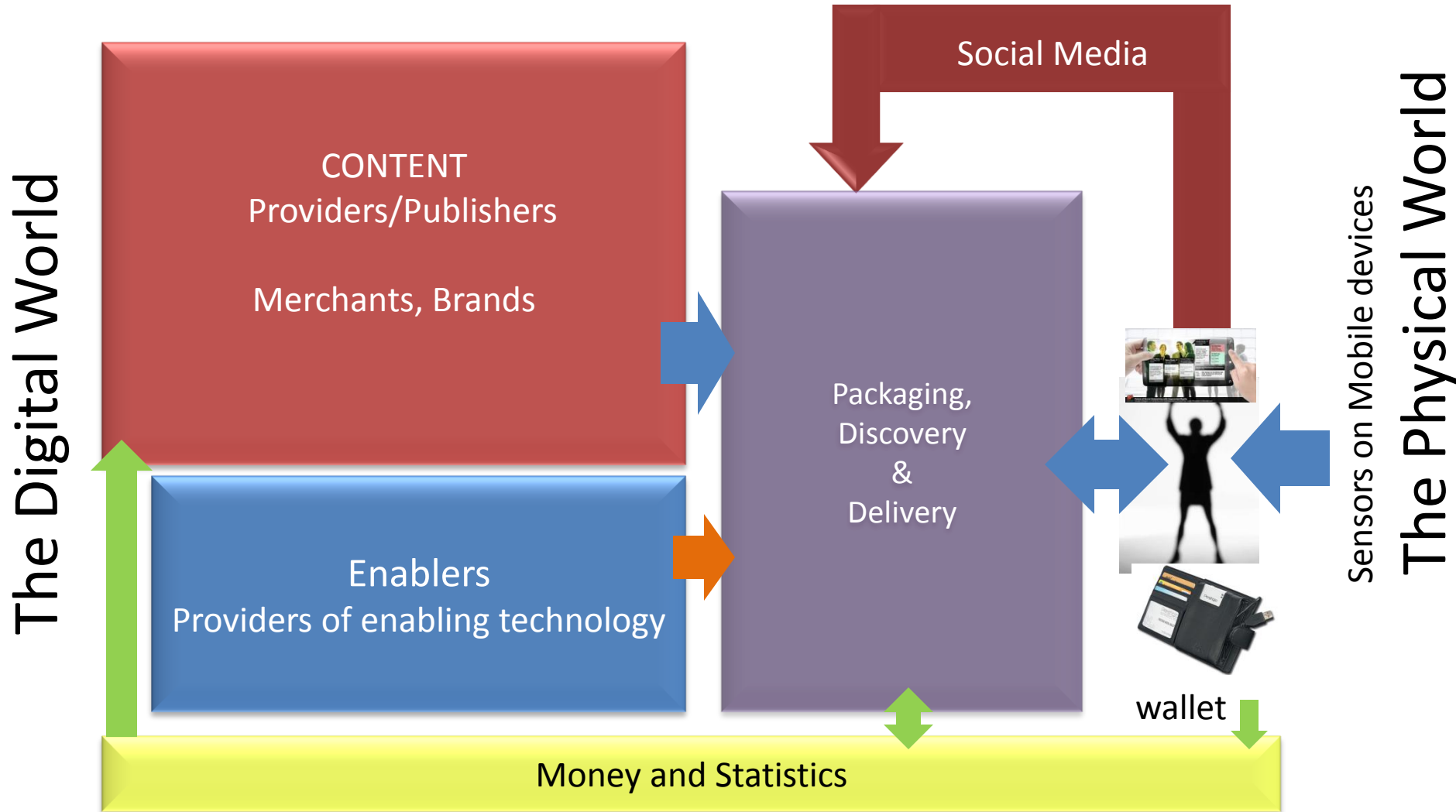
Seoul, Korea
October 14, 2010

MOBILE
Augmented
Reality
SUMMIT
@ISMAR2010

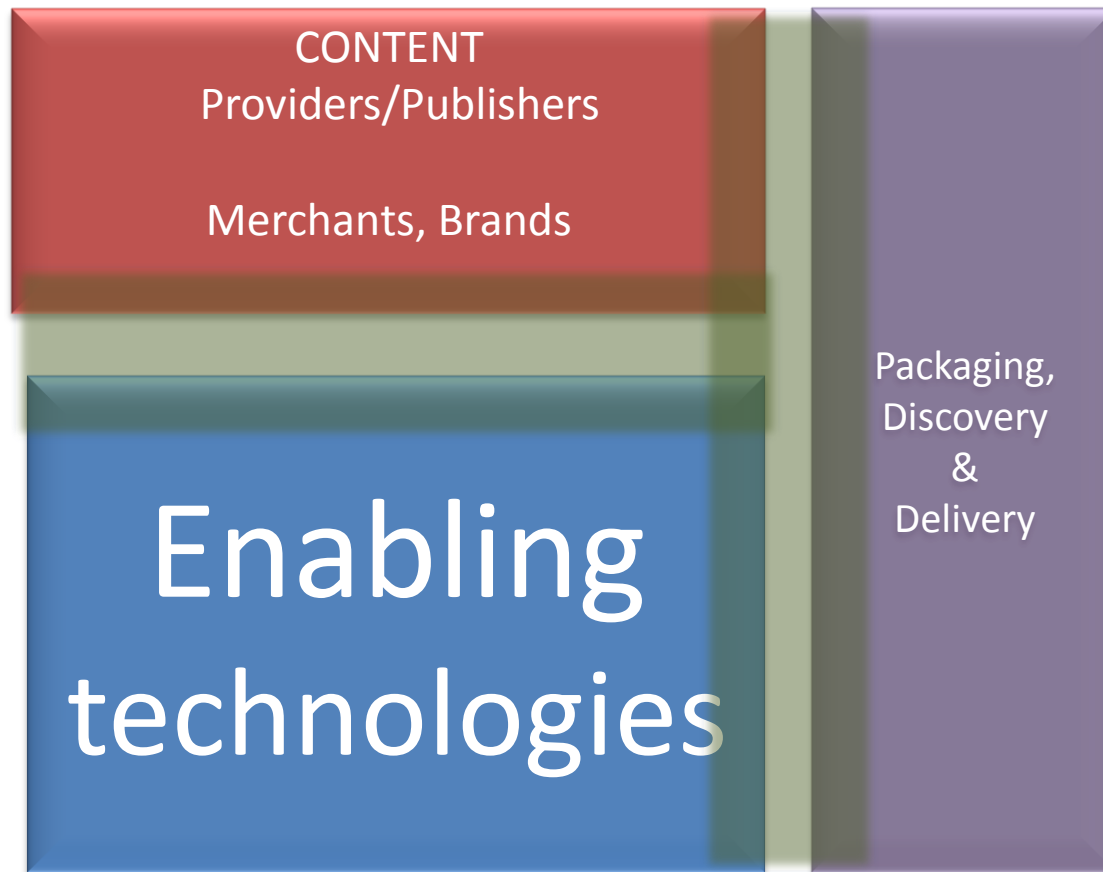
W3C Workshop

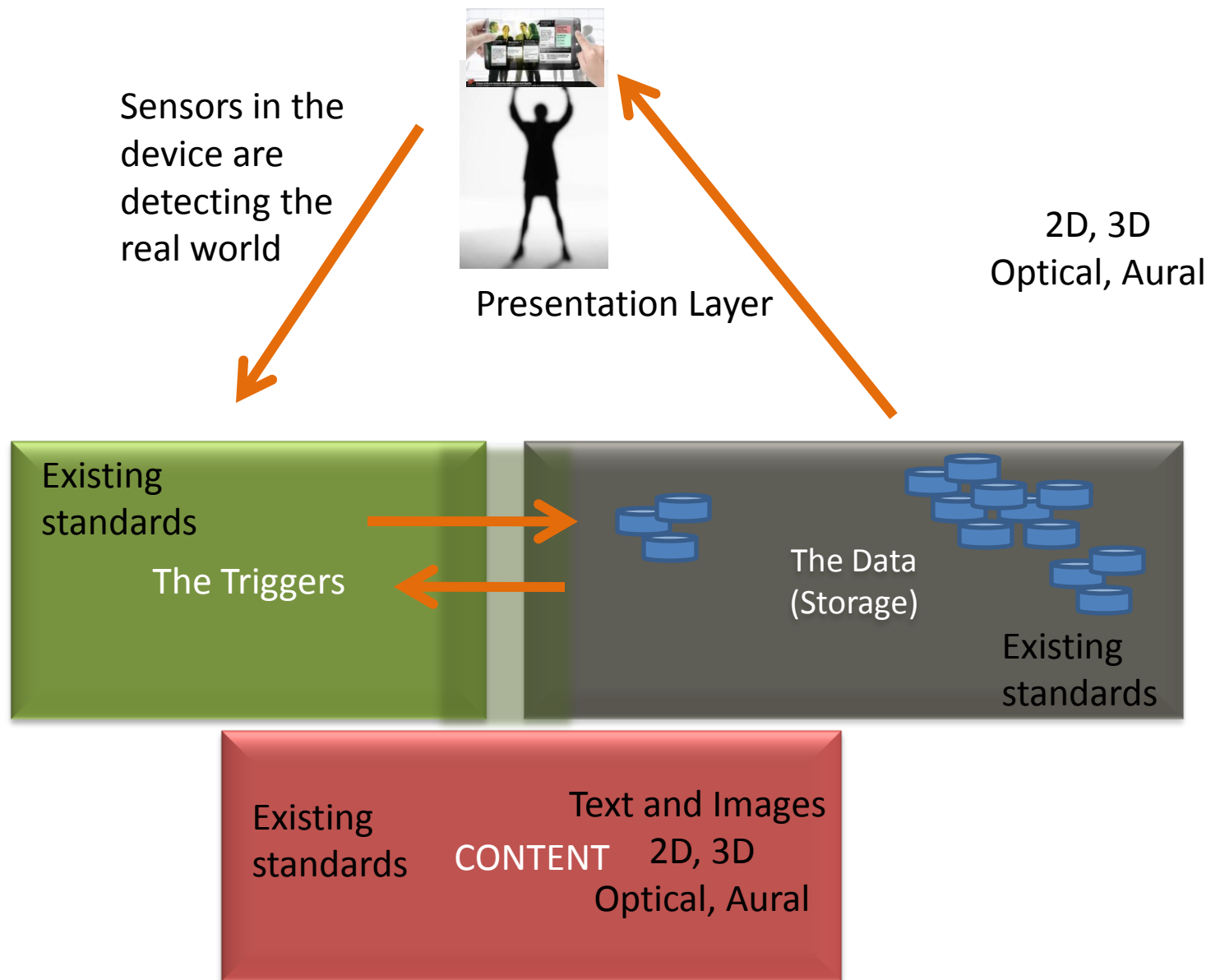
Augmented Reality on the Web

AR Ecosystem



Workshop Focus





Where are there already standards?

Beginning with the end in mind



Damon Hernandez
@metaverseone



are2010

Augmented Reality Event (ARE)

The first global event dedicated to advancing
the business of augmented reality.

JUNE 2-3

REGISTER

Santa Clara
Convention Center

A.R.E.2010 Recap

are2010

Augmented Reality Event (ARE)

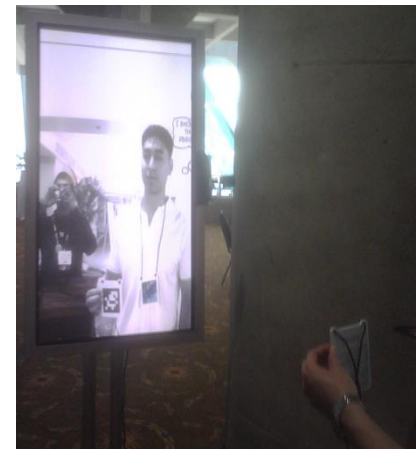
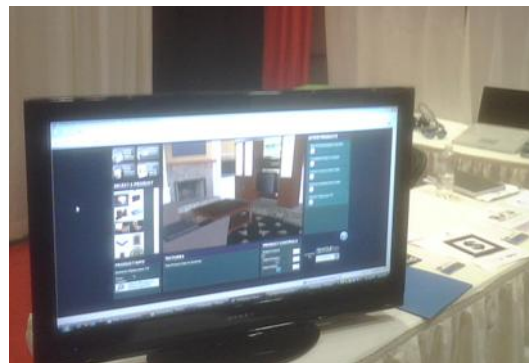
The first global event dedicated to advancing
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REGISTER

Santa Clara
Convention Center

- Panels, dev camps, meetups- and many more
- Due to growing demand for knowledge and expertise in AR put together the first commercial event dedicated to advancing the business of augmented reality.
- Start-ups, developers, mobile, and hardware companies
- Organizations within entertainment, media, education, healthcare, government, tourism, and many more



are2010

Augmented Reality Event (ARE)

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Panel: Foundation for Next Gen AR

Panelists:

Gene Becker – Lightning Laboratories

Mike Liebhold – IFTF

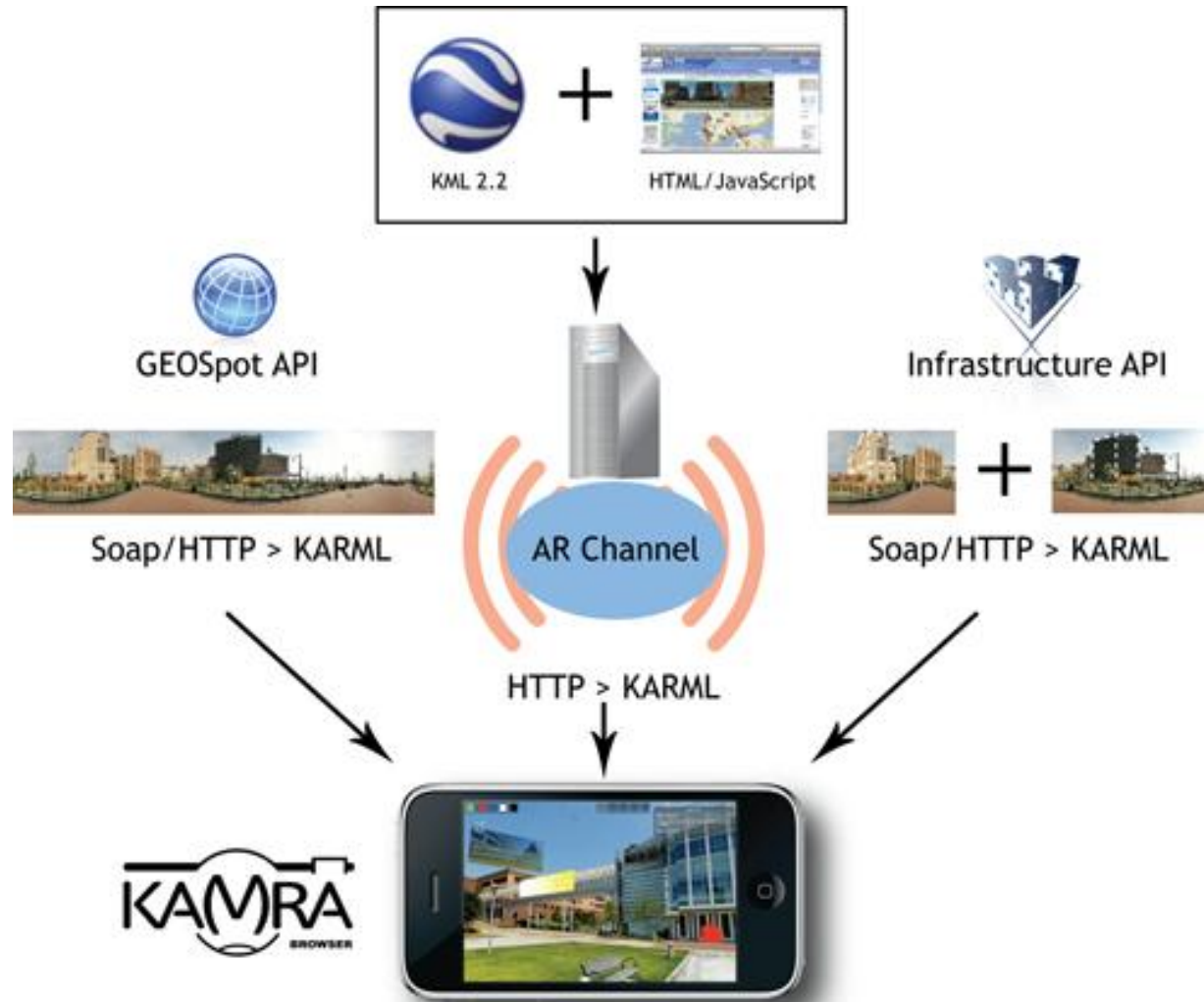
Damon Hernandez – Web3D Consortium

Sophia Parafina – locativemedia.org

Shailesh Nalawadi – Google Goggles

Derek Smith – Simple GEO

Open AR Browser - Kamra



<https://research.cc.gatech.edu/polaris/>

Going forward

- Use existing standards, extend when necessary
- Use existing projects, extend - don't reinvent
- Iterate quickly, make lots of prototypes
- Respect today's architectures, plan for the future architectures

Slide contribution - Sophia Parafina, OpenGeo (opengeo.org)

- standards baseline comprises more than 30 standards
- KML

CityGML: a common information model for the representation of 3D urban objects. It defines the classes and relations for the most relevant topographic objects in cities and regional models with respect to their geometrical, topological, semantic and appearance properties. It is realised as an open data model and XML-based format for the storage and exchange of virtual 3D city models.

- develops ISO standard for real-time interactive 3D
- X3D (Extensible 3D) standard
- VRML standard
- multiple profile support

Digital Cities



Cities become digital in a variety of ways



CAD



BIM



CAM



Design



Laser Scan

Digital models are used for numerous applications

City Planning

Games

Mixed Reality

Construction

Entertainment

Public Awareness

Tourism

Emergency Response

Training

Simulation

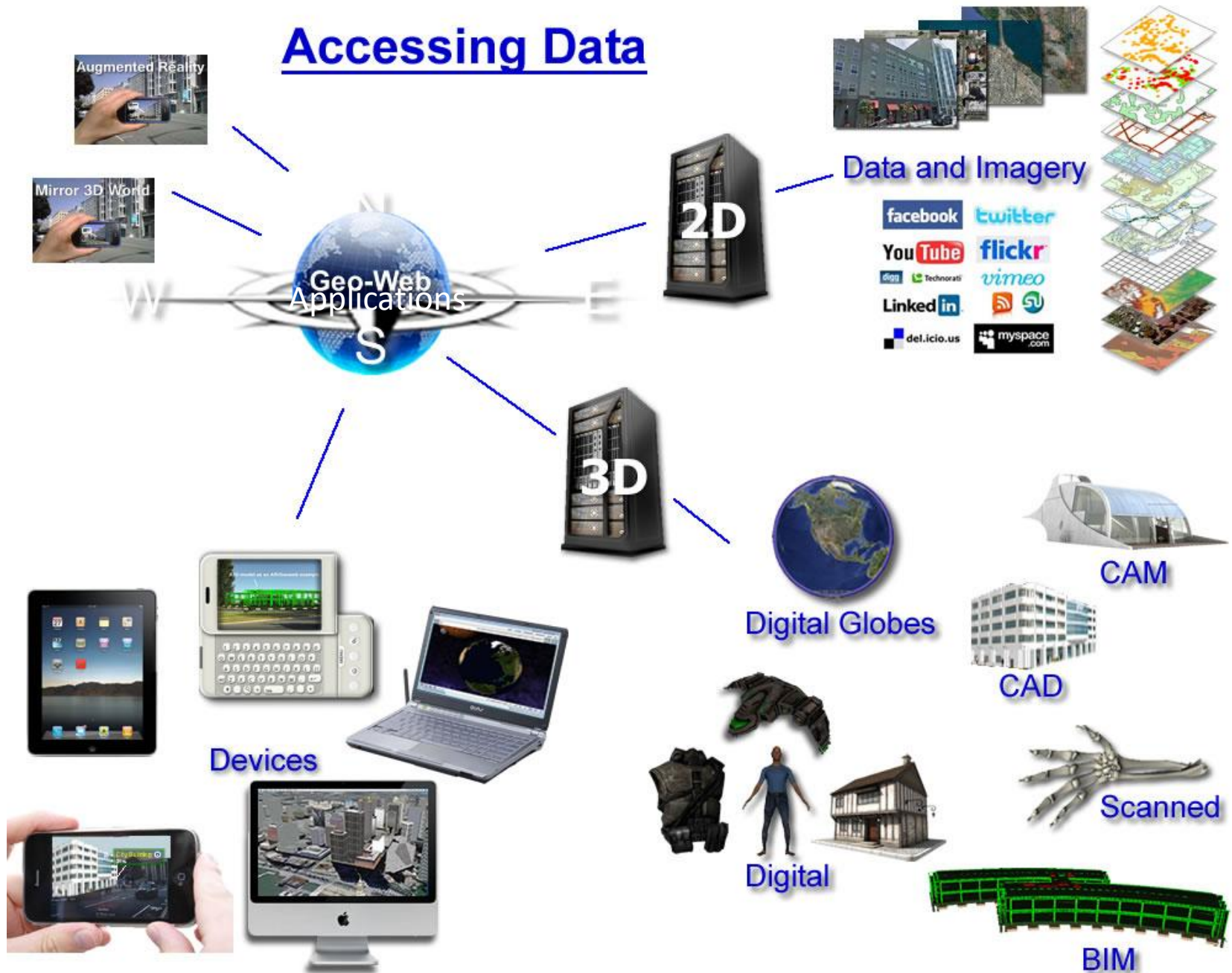
Real Estate

Climate Action Policies

Public Utilities Monitoring

Building Facilities Management

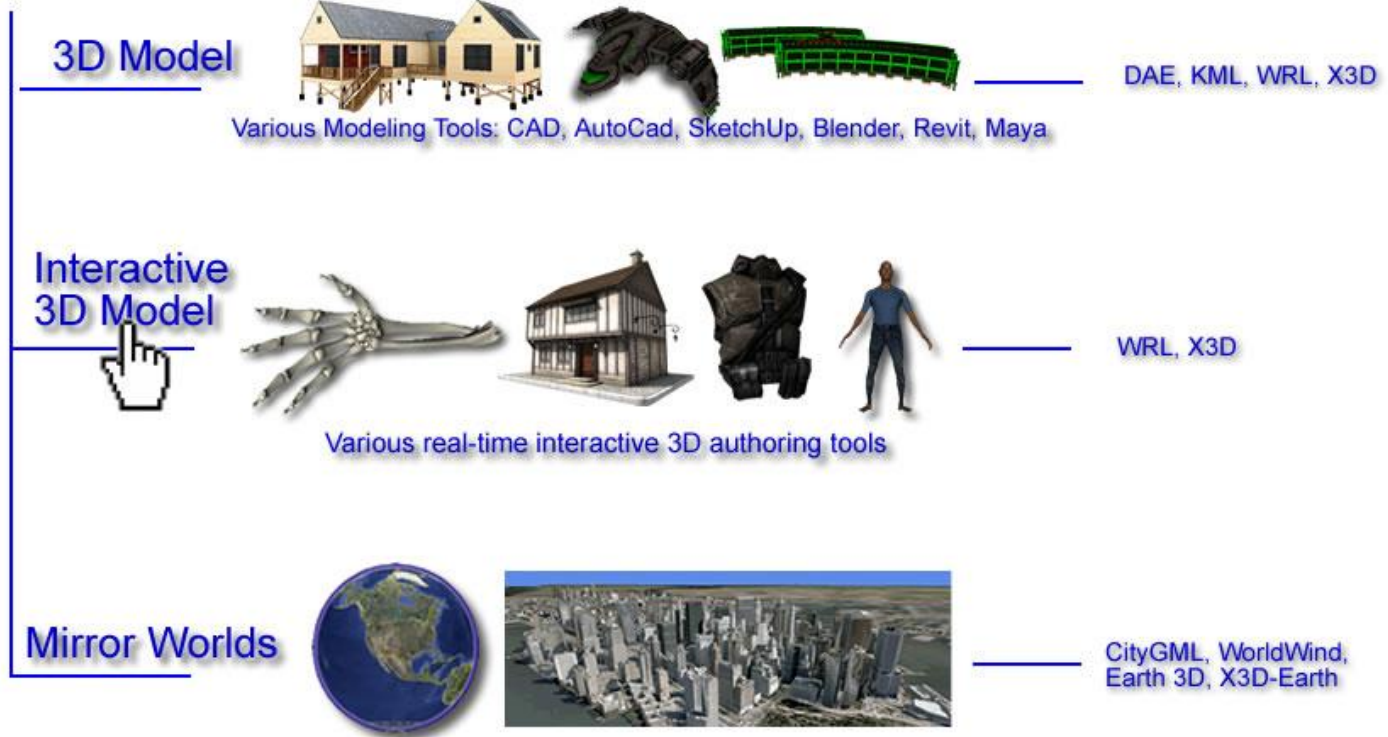
Accessing Data





Foundation built on 'Open'

Open source & standards defining the geo-mixed reality web.

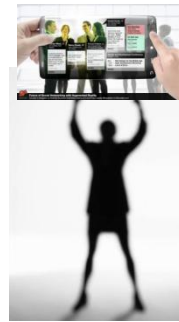


Tool vendors and platforms need to support the efforts of their various industries' standards organizations

W3C Overview and Processes

Where are standards missing?

Sensors in the device are detecting the real world

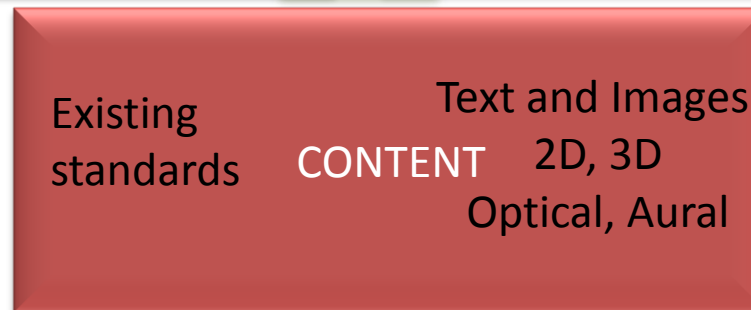
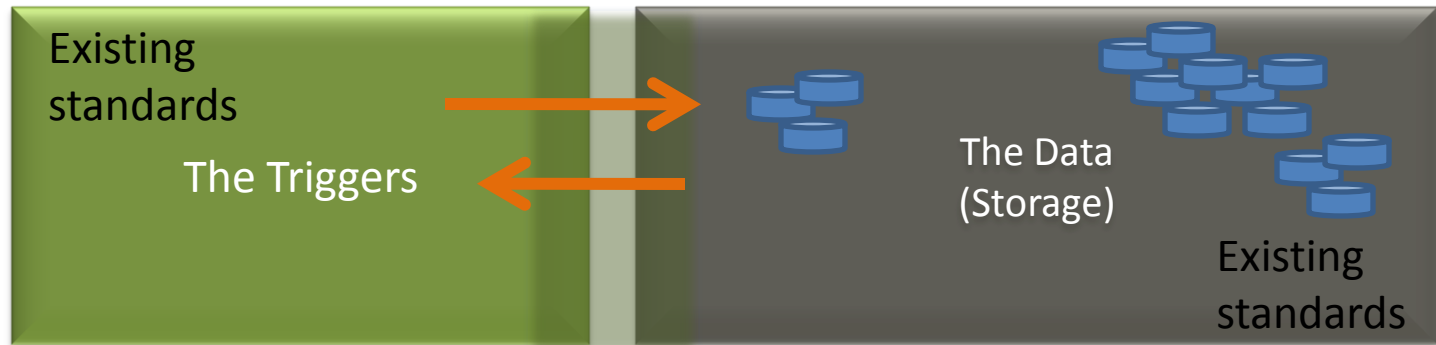


Presentation Layer

2D, 3D
Optical, Aural

How does the content provider “publish once” and get maximum representations?

How does the system abstract the type of trigger which is used?
Geospatial or visual, or auditory



How can data (with assoc triggers) be stored in a variety of formats which enable maximum representations?

What is the future?

- What is the role of the W3C?
- Other standards bodies?
- Industry specific challenges and opportunities

Workshop Sessions

Tuesday June 15th

14h30-16h00 Framing (and Reframing) the Question

16h15-17h45 What Role for Standards?

17h45-19h00 Demonstrations

Dinner and Networking function

Wednesday June 16th

9h30-10h45 Data-Reality-Things

11h00-12h30 Augmented World, Real Business

13h30-14h30 Redrawing “the lines”, refining questions

14h45-16h00 Summary, Next Steps, Action Items

A horizontal banner with a blue and teal wavy, liquid-like background. The waves are dark blue and black, creating a sense of movement and depth. The text is centered in white.

Christine Perey

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Who is here?

Who are we?