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**UAB**  
Universitat Autònoma  
de Barcelona



# From paper to digital: Accessibility as the new context for Translation Studies

Pilar Orero



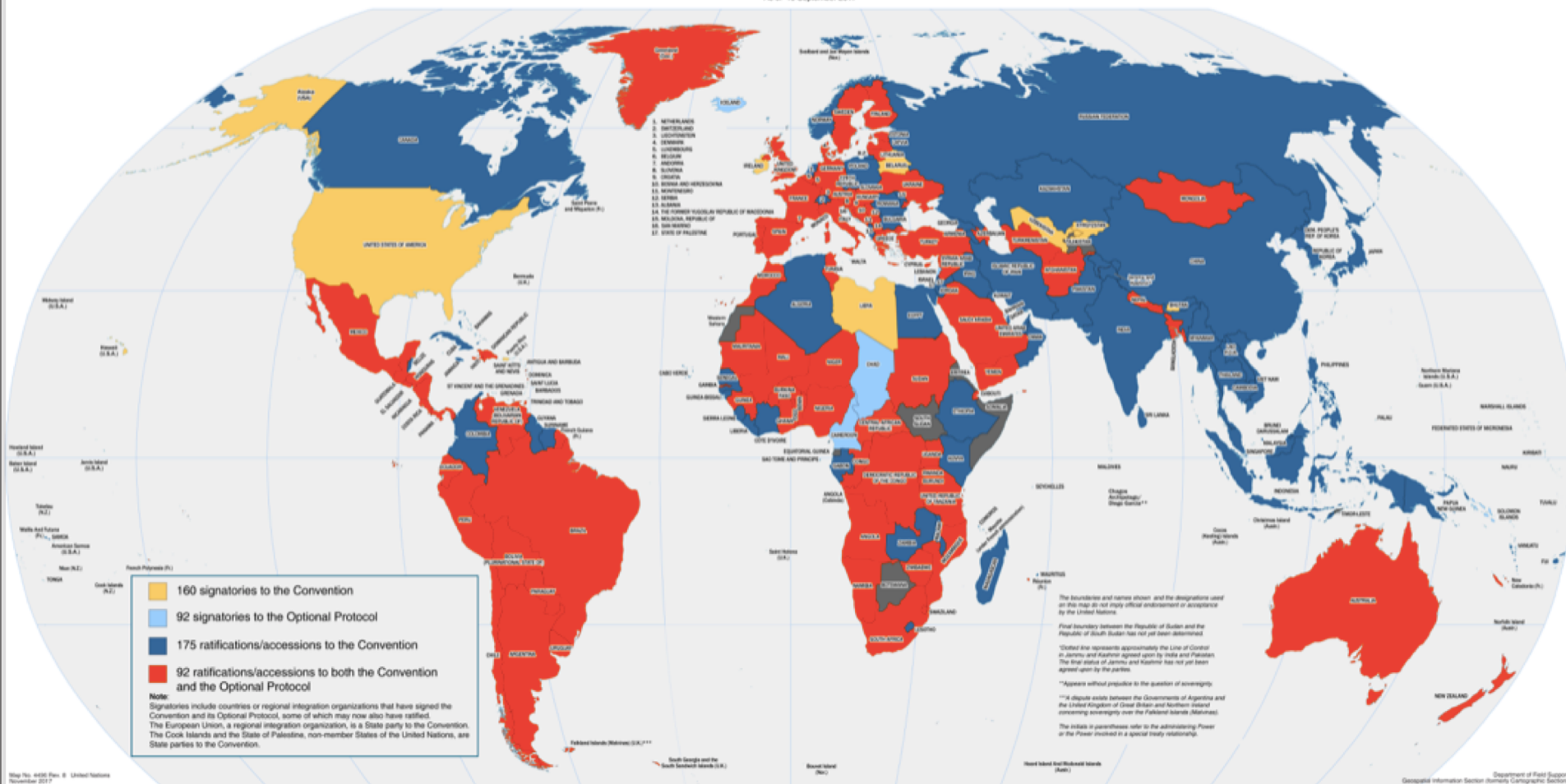
**THESE PROJECTS HAVE RECEIVED FUNDING FROM THE EUROPEAN UNION'S  
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004218 and -IT02-KA203-024311**



# CRPD and Optional Protocol Signatures and Ratifications

■ Not Signed ■ Signed Convention ■ Signed Convention & Protocol ■ Ratified Convention ■ Ratified Convention & Protocol

As of 19 September 2017







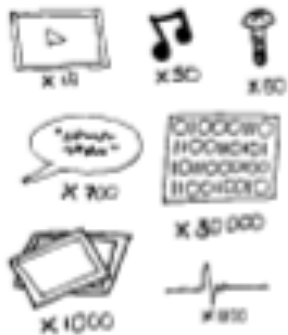
# Accessibility





# Traditional Broadcasting

## ADDITIONAL BROADCASTING



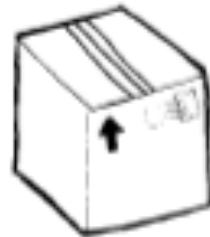
The programme is made in the traditional way.

2



The programme is turned into a piece of linear media.

3



This is broadcast to everyone.

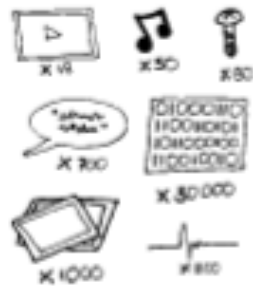
4



The same content is played back on different devices, resulting in compromises on some devices.

## OBJECT BASED BROADCASTING

1



The programme is made in the traditional way.

2



The programme is turned into a collection of media objects along with some metadata to describe how it should be assembled. All of this data is broadcast to everyone.

3



The device inside the viewer's home re-assembles the media objects according to the metadata.

4



The objects can be assembled differently (based on the original metadata), optimising the experience depending on local factors relating to the device, environment and viewer.

# Personalisation



DIGITAL

VS

TRADITIONAL

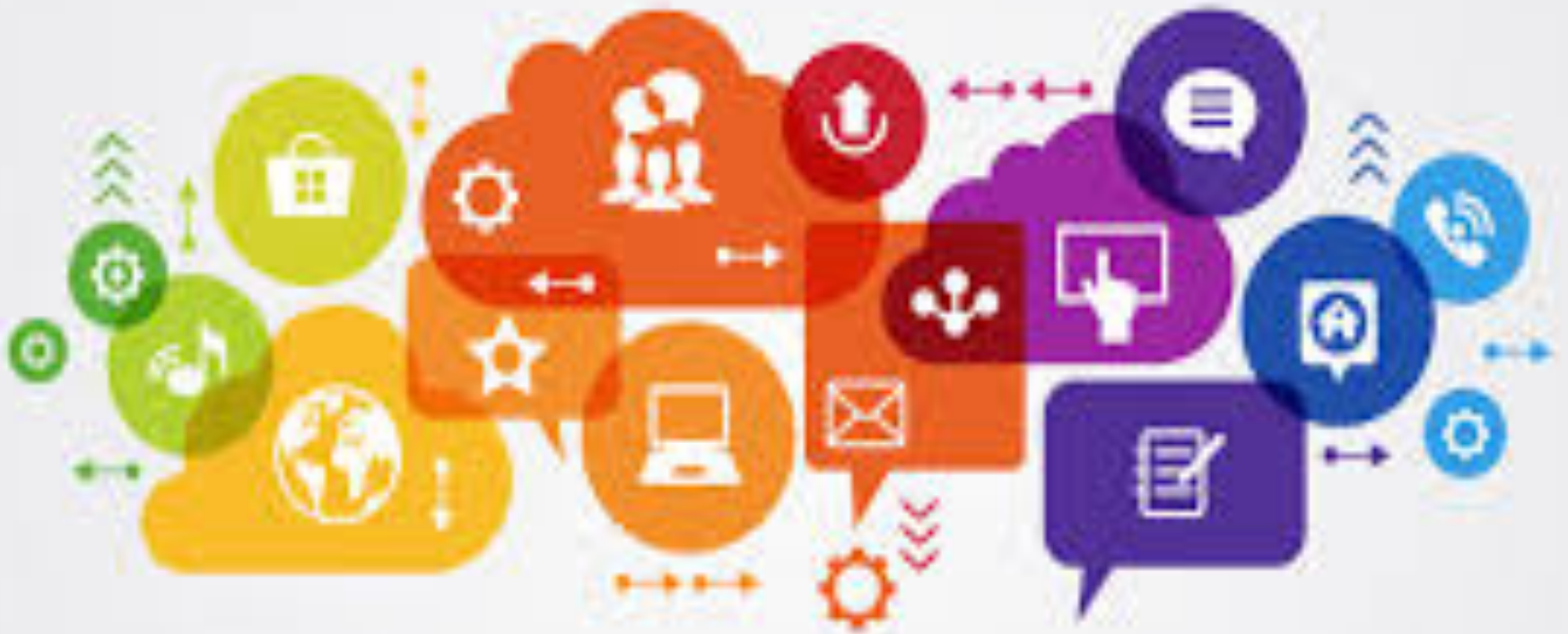
MARKETING

# NEW MEDIA VS. OLD MEDIA





# TODAY MEDIA CONENT





**CONTENT4ALL**

Personalised Content Creation for the Deaf Community in a Connected Digital Single Market



UNDERSTANDING  
MEDIA ACCESSIBILITY  
QUALITY



## LiveTextAccess European Project

Intralingual Real Time Respeakers and Velotypists





**RB**  
**Re\_Build**

# BEYOND REALITY





# IMAGES

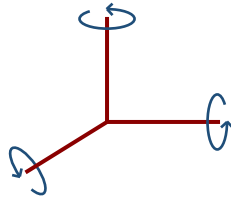




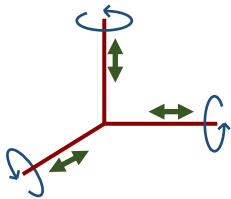
# 3 DoF vs 6 DoF

DoF = Degrees of Freedom

3 DoF = 3 Rotational Axes

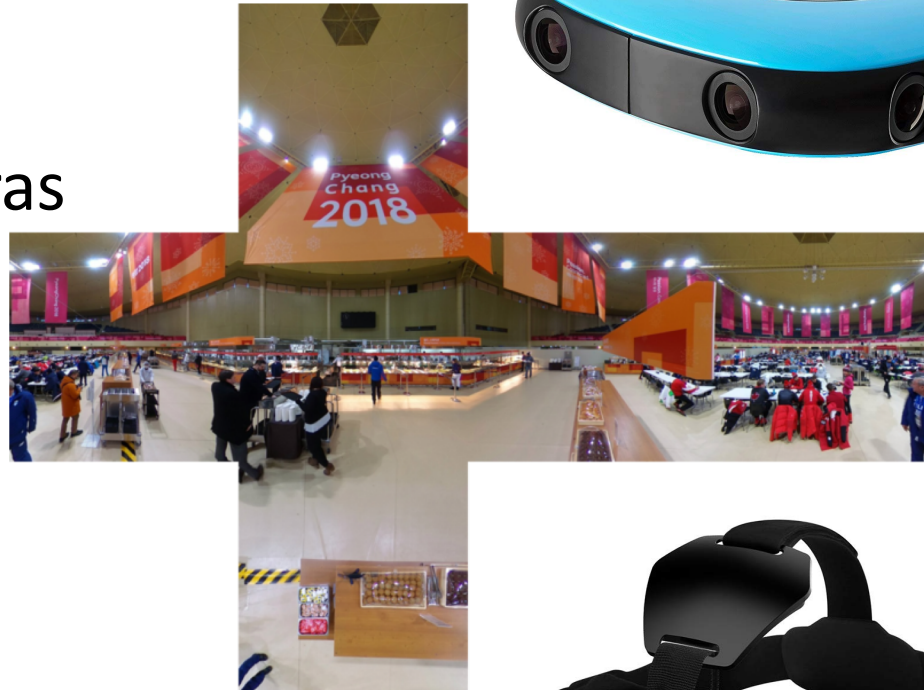


6 DoF = 3 Rotational Axes + 3 Positional Axes



# 360 Video

- Panoramic video
- Uses special cameras
- Requires HMD



# Virtual Reality



Computer generated world

- Gaming
- CAD – Architects, Engineers
- Education - Simulation
- Virtual Galleries

# Augmented Reality

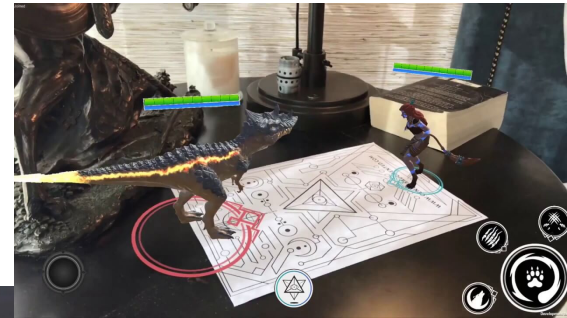


Virtual objects placed in the real world



# Mixed Reality ?

- Definition seems interchangeable with AR
- Using real-world objects as 'anchors' for virtual objects?



# EYEWARE

- <https://ts.catapult.org.uk/current-projects/eyeware/>



# AUDIO

## BARBER SHOP

- <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=2ahUKEwi-3MT8jvDiAhWZwcQBHagUB5cQ3ywwAHoECAoQAw&url=https%3A%2F%2Fwww.youtube.com%2Fwatch%3Fv%3DDIUDTlvagjJA&usg=AOvVaw3Ky5iH5moCMs9dvClbaADR>

## HELLBLADE: SENUA'S SACRIFICE

- <https://youtu.be/oBvDsrJ0D0o>

## SOUND DEMO

- <https://lab.irt.de/demos/object-based-audio/interactive/>

## PEARL

- [https://www.youtube.com/watch?v=M\\_8C7zDxf2g](https://www.youtube.com/watch?v=M_8C7zDxf2g)

# 4, Immersive audio

## Virtual Barbershop

- Created by Qsound Labs to demonstrate their Cetera algorithm
- A 'Dummy head' recording mimics human ears

## Gaming

- Hellblade: Senua's Sacrifice uses Binaural sound to simulate the main characters psychosis

# Audio Beacons

Microsoft Soundscape



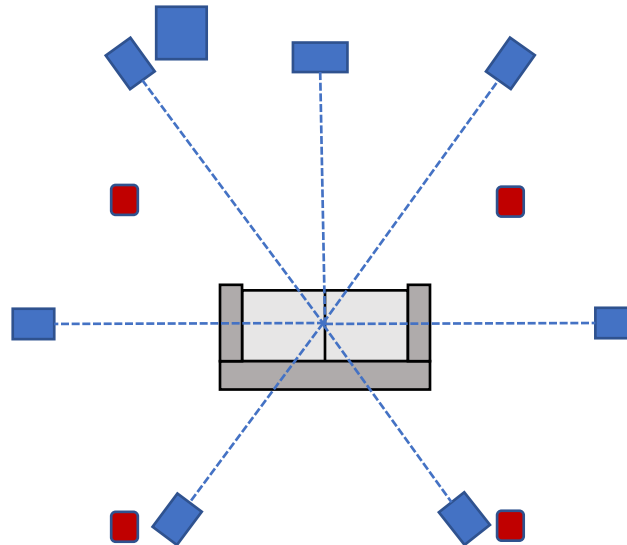
# Next Generation Audio

Places sounds around the user

- Channel Based Audio
- Object Based Audio
- Ambisonics
- Binaural

# Channel Based Audio

- Mono, Stereo, 2.1, 5.1, 7.1, 7.1.2, 7.1.4, 9.1 etc
- 1 track per speaker
  - Audio channels need to match speaker setup
  - Speakers placed around user



# Object Based Audio

Sound 'objects' contain metadata including

- Position, Label, Category

Personalised audio

- AD/no AD, alternate sports commentary, clear audio, Karaoke track?

Position your own AD?

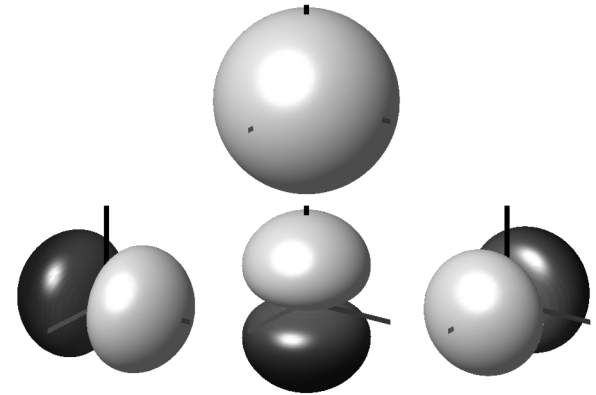
- Fraunhofer MPEG-H demo - pan and fade AD



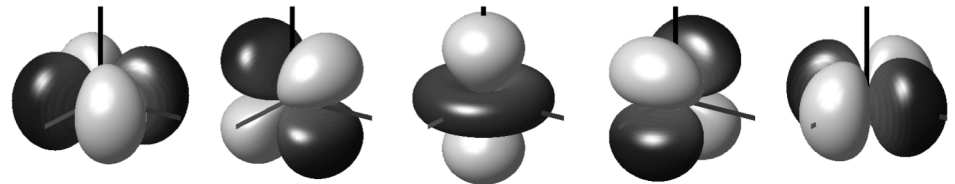
# Ambisonics

## 1<sup>st</sup> Order (4 channels)

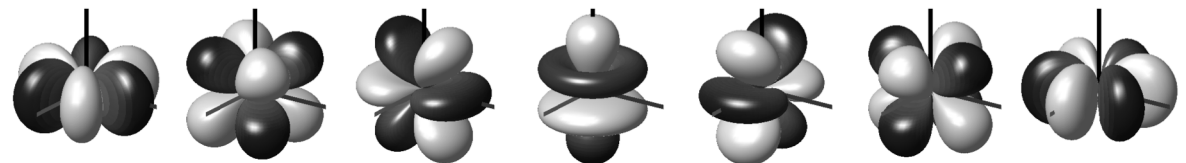
- Mono channel +  
Left/Right +  
Front/Back +  
Top/Bottom



## 2<sup>nd</sup> Order (9 channels)



## 3<sup>rd</sup> Order (16 Channels)



# Binaural Recording

- Using 'dummy head'
- Mimics the way our ears work



## Binaural Audio

- Means 'two ears'
- Attenuations and echos 'encode' position of sounds
- Sounds 3D through headphones
- Can be simulated with algorithm



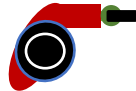
# 5, AD with NGA

Different placement of audio description

- Classic (VOG)
- Static (Friend on Sofa)
- Dynamic (AD on Action)

# Classic (Voice of God)

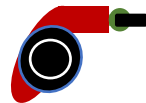
- AD has no position associated
- AD style is more traditional



“Mal pulls a gun on Sheriff Nemo.”

# Static (Friend on Sofa)

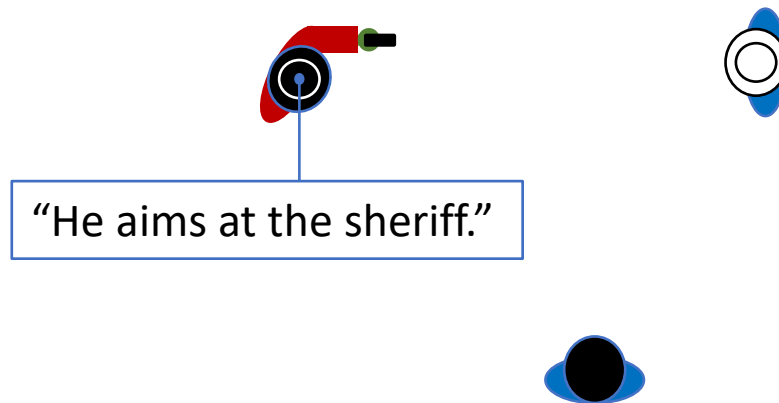
- 1<sup>st</sup> person
- AD comes from a static point in the scene
- Reminiscence (“that’s my friend...”, “We saw this...”, “The shop I was in was full of beads...” )



“That’s when he pulled a gun on me.”

# Dynamic (AD on Action)

- Short, “to the point” sentences
- 3D audio can mean less description





# 6, The Practical

Audio Describe a video

Classic

- when, where, who, what

Static

- 1<sup>st</sup> person, past tense, make it personal

Dynamic

- Just the facts

Thank you

[pilar.orero@uab.cat](mailto:pilar.orero@uab.cat)

+34 622 751958

