# Implementing subtitles in immersive media for a comfortable reading



WoRLD: Workshop on Reading, Language and Deafness Belén Agulló • Pilar Orero • Anna Matamala

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#### 1. INTRODUCTION

Current situation:

- Immersive contents (cinematic virtual reality) are starting to be mainstreamed.
- There is **no standard solution** to implement subtitles (or subtitles for the deaf and hard-of-hearing) yet.

### Main issues:

- Position: where should subtitles be located?
- Speaker location: if there is no audio cue, how can the speaker be located and identified?



## 2. POSITION – POSSIBLE SOLUTIONS

HOW?

- **Fixed-positioned**: subtitles are placed in two or three fixed positions in the 360° sphere.
- Always-visible: subtitles follow head's movement and are always displayed in front of the viewer.

# WHERE?

- At the **top** or at the **bottom** 

## 3. SPEAKER LOCATION – POSSIBLE SOLUTIONS

- An **arrow** positioned next to the subtitle to indicate where the speaker is located. The arrow only appears if the speaker location is out of sight.
- A radar that is always displayed and indicates where the speaker is located (represented by a dot).
- An auto-positioning mechanism that automatically takes the viewer where the speaker is, forcing the change of perspective.

### 4. CONCLUSIONS

- The **position of the subtitles** will **depend** on the type of content. **Always-visible** is preferred among users so far.
- Further testing is needed for speaker location solutions.
- Subtitles in immersive media must be implemented following criteria of accessibility, usability and immersion.

# 5. REFERENCES

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TransMedia Catalonia is a research group funded by Secretaria d'Universitats i Recerca del Departament d'Empresa i Coneixement de la Generalitat de Catalunya, reference code 2017SGR113.

The project ImAc has received funding from the European Union's Horizon 2020 Research and Innovation Programme, grant agreement No 761974.

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