Accessibility-Enabled VR360 player
[EU H2020 ImAc Project]
EBU Open Source Meetup

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EU H2020 ImAc Project

ImAc (Immersive Accessibility): explore how accessibility can be efficiently integrated with immersive media

- **Immersive Media**: 360º video (i.e. VR360) and spatial audio
- **Access Services**: subtitles, audio description, sign language
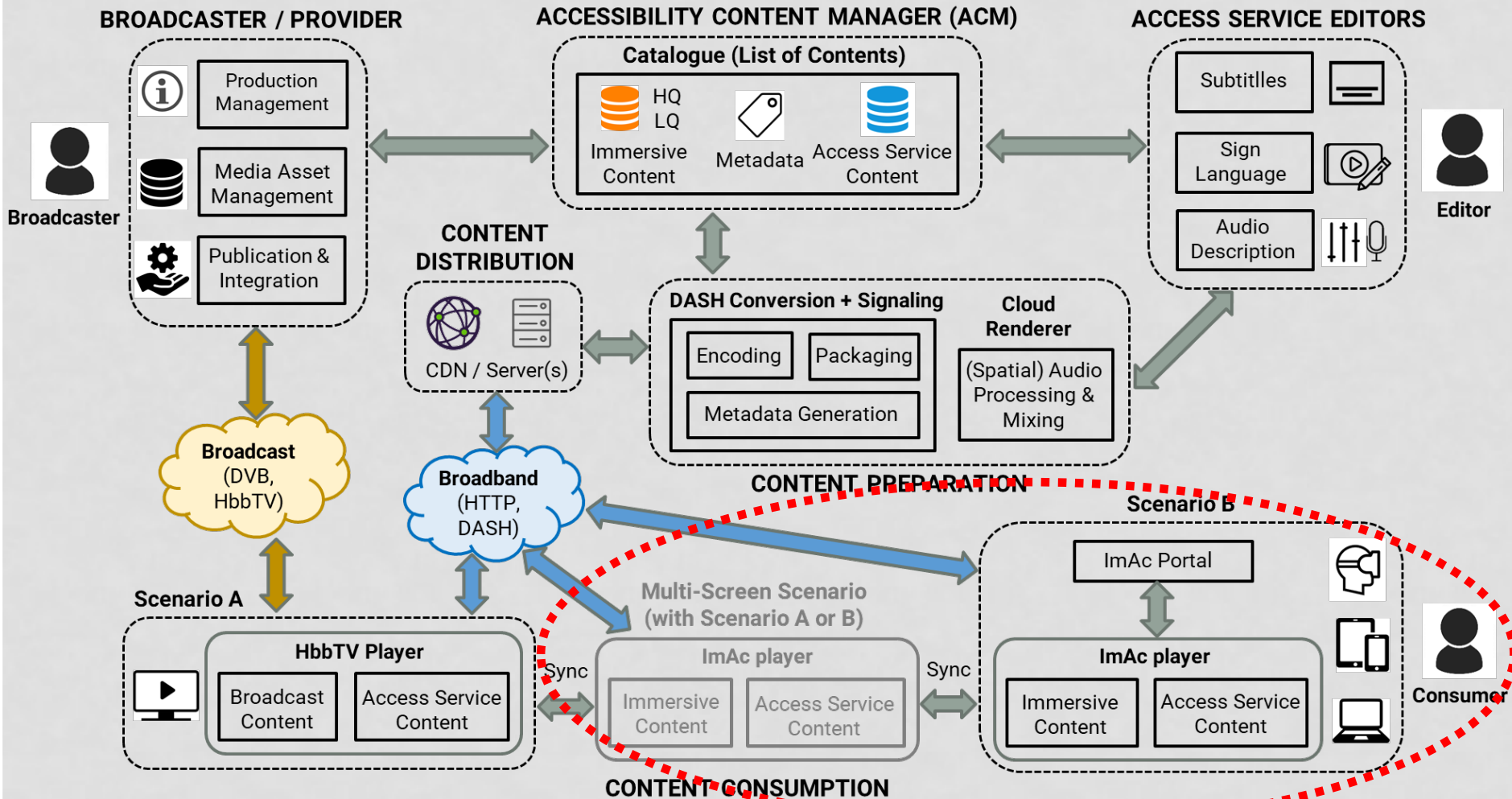- **Assistive Tech**: guiding methods, voice control, zoom features...

Premises:

- Accessibility must **not** be considered as an **afterthought**, but as a key aspect in the specification and deployment of services
- Keep **compatibility** with current standard technologies / formats
- **User-Centric Methodology**

Communication:

- Website: http://www.imac-project.eu/
- Twitter: @ImAcProject

End-to-End ImAc Platform

BROADCASTER / PROVIDER

Broadcaster

- Production Management
- Media Asset Management
- Publication & Integration

ACCESSIBILITY CONTENT MANAGER (ACM)

Catalogue (List of Contents)

- HQ LQ — Immersive Content
- Metadata
- Access Service Content

ACCESS SERVICE EDITORS

Editor

- Subtitlles
- Sign Language
- Audio Description

CONTENT DISTRIBUTION

CDN / Server(s)

DASH Conversion + Signaling

- Encoding
- Packaging
- Metadata Generation

Cloud Renderer

- (Spatial) Audio Processing & Mixing

CONTENT PREPARATION

Broadcast (DVB, HbbTV)

Broadband (HTTP, DASH)

Scenario A

HbbTV Player

- Broadcast Content
- Access Service Content

Multi-Screen Scenario (with Scenario A or B)

ImAc player

- Immersive Content
- Access Service Content

Sync

Sync

Scenario B

ImAc Portal

ImAc player

- Immersive Content
- Access Service Content

Consumer

CONTENT CONSUMPTION

ImAc Player - Features

Use of web technology
Supported media formats:
- Traditional 2D and 360º video
- Traditional 2D and spatial audio (Ambisonics)
- IMSC subtitles (subset of TTML, W3C standard)
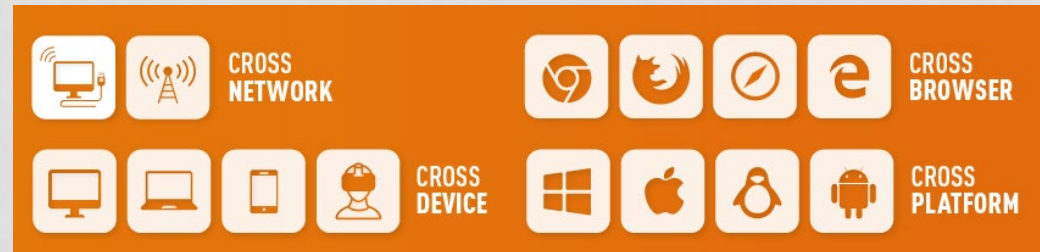- MPEG DASH

Multi-screen scenarios:
- HbbTV + Full Web-based

Github:
- https://GIthub.com/ua-i2cat/ImAc

URL:
- http://imac.i2cat.net/player/

Have a look at our factsheet!

ImAc Pilots

Closed Pilots

- User Interface
- Interaction Modalities (voice control, use of different devices…)
- Presentation Modes + Personalization features for Access Services (Subtitling, Audio Subtitling, Audio Description and Sign Language)
- Questionnaires on Immersion and Preferences

Open Pilots

- Integration of player + content on broadcasters websites
  - RBB, CCMA, and other broadcasters have shown interest!
- Augmented TV programmes with ImAc content on companions screens
  - HbbTV scenarios
  - Full Web-based scenarios
- Registration of statistics on users' activity

ImAc Outputs

Key components of the ImAc platform
- Accessibility Content Manager (ACM) - SaaS
- Access Service Editors – SaaS
- VR360 player - Open-Source

End-to-End Solution!

Benefits:
- User-Centric Methodology: involvement of end-users and professionals.
- Standard-compliant & backward compatible extensions

Standardization:
- Contributions to MPEG, W3C, ITU, ISO…

Would you like your VR360 content to be accessible?

Would you like to test / incorporate our player & other tools?

Would you like to see our demos?

Let's talk! Visit us at the IBC Future Zone!

ImAc

Thank You!

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