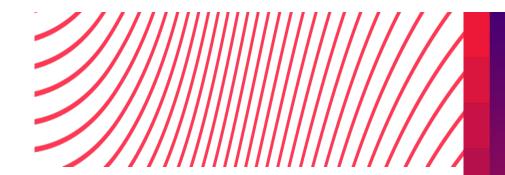


FUTURE USER EXPERIENCE FOR TELEVISION IN EUROPE



Judy Parnall - Head of Standards & Industry





Personalized User Experience

- The user may receive suggestions on what content to consume at any given moment, based on a prediction by the service of what they need at a given moment.
- The personalized experience may even extend into activities undertaken in the physical world.
- A fully personalized user experience will require the system to identify the user. The user may be able to login to services by their preferred method, including facial and voice recognition



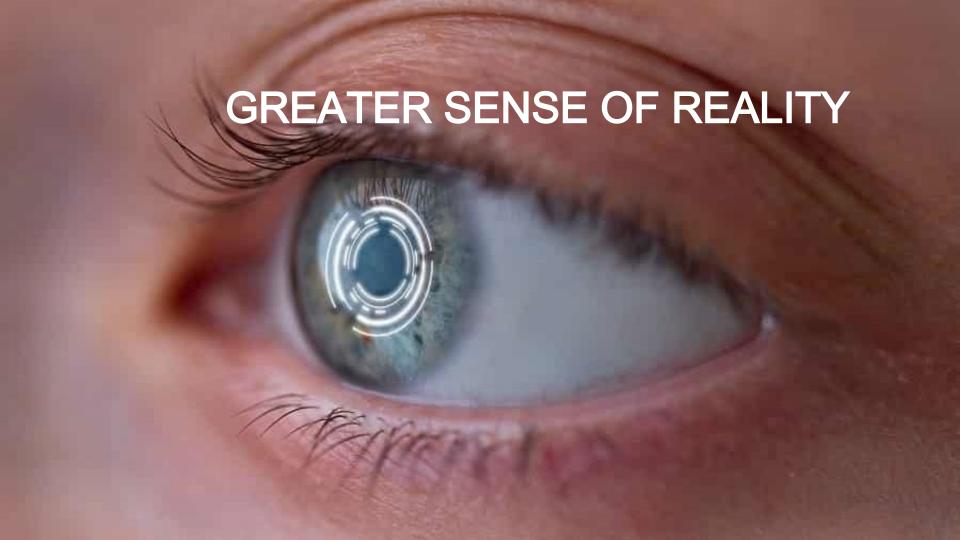
Digital Assistants and Ambient Computing Ecosystems

- Over the coming years we can expect to see significant growth in 'ambient environments' from smart speakers, wearables and smart cars to voice enabled IoT devices.
- Discovery may be based on casual natural language interactions, facilitated through voice and dynamic responses from the GUI (graphical user interface)
- Assistants will evolve to become more companion like



Adaptive Experiences

- All users may be able to understand and enjoy any content with universal accessibility
- Speech synthesis may help automated translation sound like the person originally speaking in a piece of content.
- Speech may be automatically translated into sign language presented by avatars in a natural manner.
- Experiences will be seamless. The user could, for example, start reading at home and continue listening while cycling, with an option for AR and controls using speech, gesture or brain computer interfaces





Immersive Experiences

- Users may be able to experience 'worlds' that they have not yet experienced.
- Technology that outperforms today's HMDs may be integrated in an eyeglass like device.
- Portable 3D displays may be used by individual viewers as a second screen
- 3D audio may provide not only directionality but also depth of field



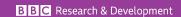
Mergers of the Physical and the Digital

- The AR Cloud, a real time 3D 'map of the world', overlaid onto the real world. This may allow computer vision enabled devices to become the gateways for avatars in this new landscape of reality layered with virtual interactive information.
- In the longer term, brain computer interfaces may allow integration of human beings and the technology surrounding us. We may be able to control the world around us with our thoughts, and media experiences may fully immerse us, utilizing all our senses; sight, hearing, smell, taste and touch



Content New Forms: Immersive services

- Ultra -HD TV services: from 4K to 8K, and possibly 16K
- Extended reality (XR) services
- Next Generation Audio (NGA) services



Thank you

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