AUDIO REALITY | MIXED REALITY DEVICE

Project overview

Mixed reality : is the merging of real and virtual worlds to produce new environments and visualizations. Can include **audio** and visual feedback.

The focus is on the **visual** in augmented reality concepts. The technology superimposes a computer generated image on a user's view of the real world, providing a composite view. Either through a device screen or custom eyewear, whilst visually striking the technology can be seen as a barrier. With users reluctant to adopt the technology as it doesn't integrate into their lives. Quite often it is obtrusive, claustrophobic and draws unwanted attention to the user. It can impede the natural view of the world, and beyond entertainment there hasn't yet been a 'killer app' or mass adoption.

Vision is not the only sense that can be augmented. Sound and vision inputs are both processed by the brain in equal weight.
There is an exciting opportunity to augment our reality using audio. It can be less obtrusive, (eliminating the need for hardware that has to be worn over the eyes) more contextual and more immersive. A combination of 'natural vision' with augmented audio opens up opportunities that have remained unexplored. Audio reality could be 'grand' soundscape based (enhancing /enriching experiences such as brand/retail) or it could be tasked focused (helping users perform more effectively as prosumers).

Designing a system
The convergence of technology can result in solutions that are too bulky, complex to be practical. Our approach is to design a suite of products that perform specific tasks using readily available portable devices (smartphones) to link the devices as well as process the data. So there are input devices, cameras, microphones, etc that work in partnership with output devices, headphones, earphones and sound collars. This modular approach to hardware design allows for better, more discreet integration into users lives.

The focus of this project was on use cases that helped people with special needs (Autism, Alzheimers). The devices take in information from cameras and microphones and then feedbacks information to the user to help them deal with social situations they may otherwise find difficult

Areas of opportunity:

Healthcare

Autism - Enabling sufferers to partake effectively in social interactions, better communications. Cameras monitor/track a subjects face and interpret facial expressions. Microphones listen and interpret conversation in real time Audio reality prompts the user to how to react appropriately, what could be said, how it could be said.

Alzheimers - Using face recognition, databanks and sound therapy to eliminate alienation, prompt memories to help with general life tasks to improve independence.

Retail / Branding / Entertainment
Navigation / Guidance
Task / Tool / Professional

Technology: 3-D, 4-D Sonics. Wireless, bluetooth. Camera, Face tracking & recognition. Microphone, Biometrics. Haptics.

PROBLEM

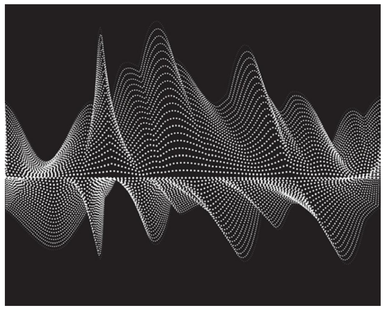
Current virtual reality devices require users to wear clunky headsets or view through screens

The also tend to offer experiences that do not enhance peoples lives

THOUGHT

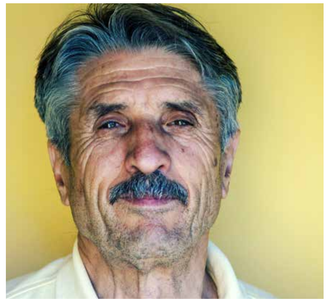
Why not use audio rather than visual as sound is much less intrusive than vision and can be delivered in a far more subtle way

Sound can also be used to create immersive experiences



EXECUTION

Target areas need to be thought of where an audio reality device would actually provide a benefit to the users life



USES THAT HELP PEOPLE

TASK BASED

The device could be used in a task based way to help people through specific jobs

TRAINING

The device could be used to guide professionals through procedures

NAVIGATION

An audio device could be aware of where the user is and provide useful information accordingly

SPECIAL NEEDS

The device could be used by people with mental health issues such as Alzheimers, autism and dementia to help them lead a more comfortable life

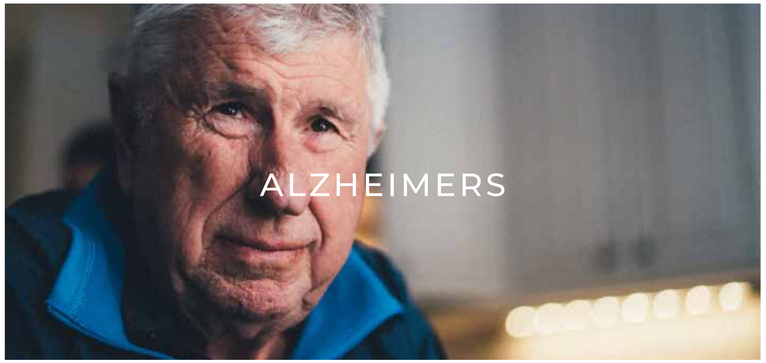
RETAIL

An audio device that improves and makes a retail experience more engaging

GOAL

Design a mixed reality system that helps people with special needs deal with social situations they may find difficult

SPECIAL NEEDS



An audio reality device could help people with Alzheimers deal with situations they may find difficult

ISSUES THEY CAN FACE
- Struggle to remember loved ones
- Get confused and stressed trying to preform day to day tasks
- Can get lost when separated from carers

USE CASE:ALZHEIMERS

INSPIRATION
NATURAL
SUBTLE
WARM

An audio reality device could help people with autism deal with situations they may find difficult

ISSUES THEY CAN FACE
- Struggle with social situations
- Find it hard to pick up on subtle human nuances
- Can prefer to shut off from the world

USE CASE:AUTISM

INSPIRATION
FUN
TACTILE
EMPOWERING

DEVELOPMENT

Designed to work for the target market

Interviews with target market and the family of potential users as well as other techniques were used to help develop the design

AUTISM

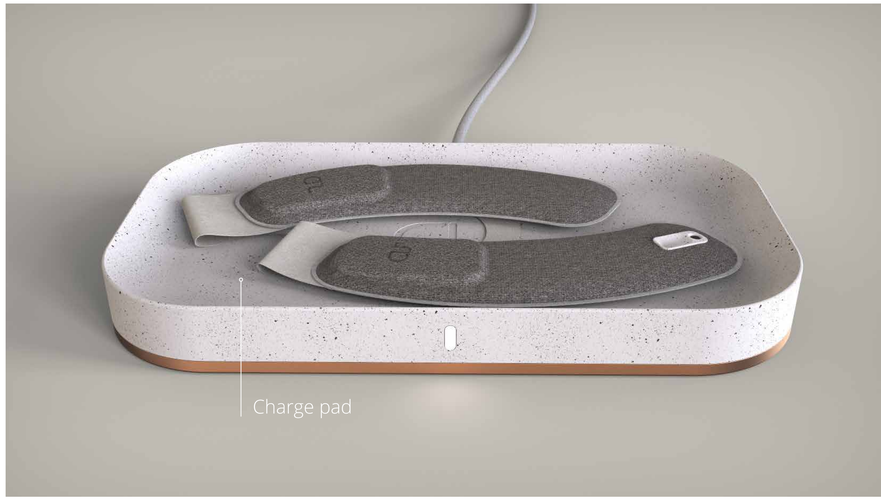
Designed to empower the user and provide support in a active way

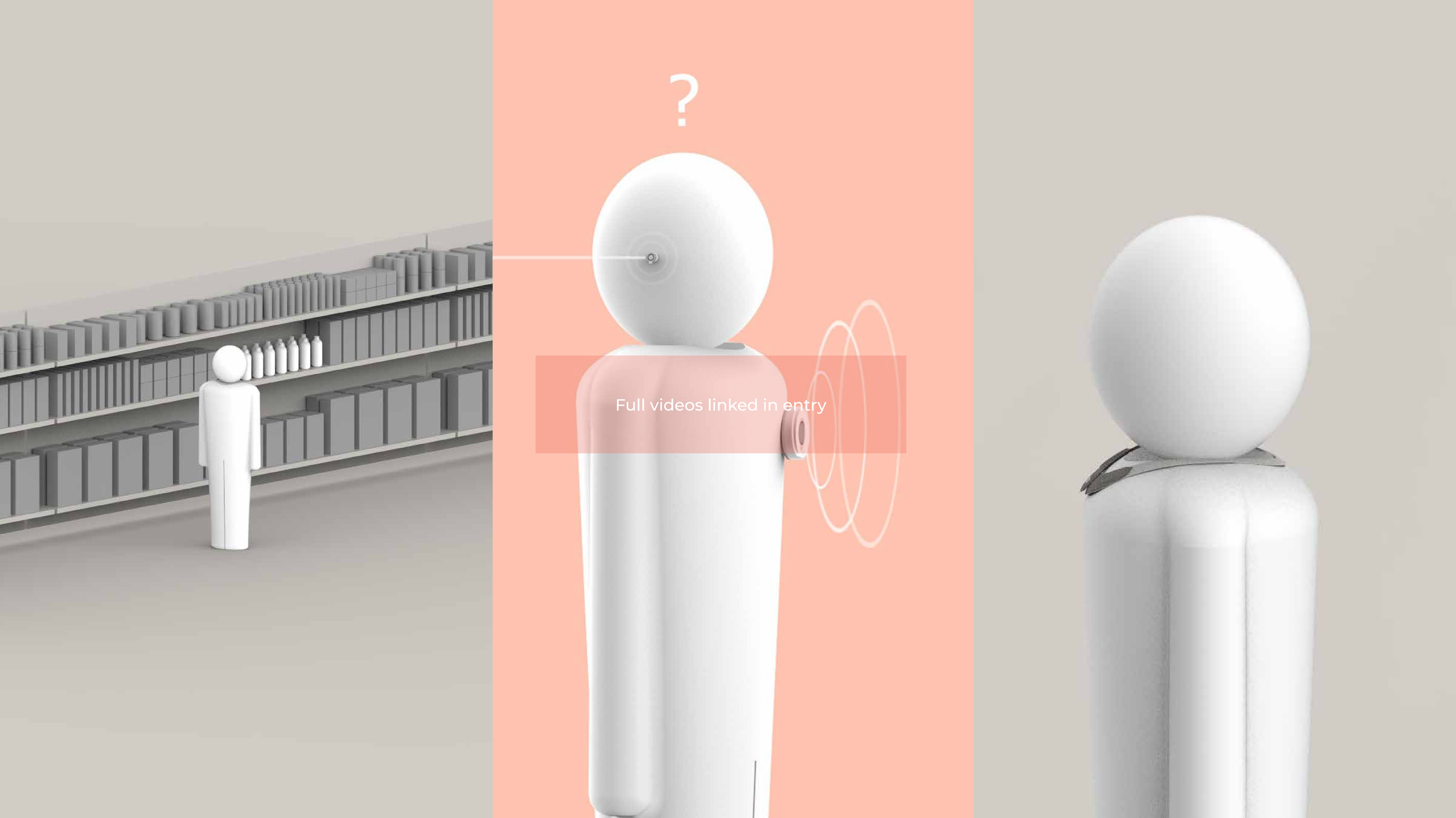
These set of products are designed to be much more fun and tactile, proving support when needed

ALZHEIMERS

Designed to blend in and become more like clothing. providing gentle support without standing out

This device becomes more like a scarf than a piece of tech that can sit under a coat and barely be noticed.

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