Erasmus Centre for Data Analytics

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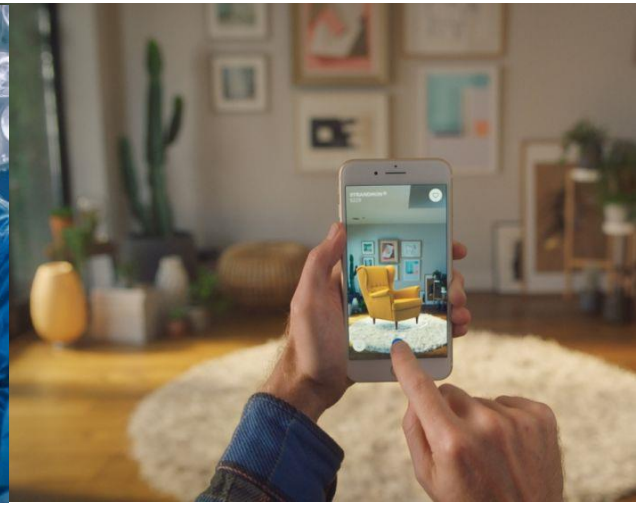
Expert Practice ***Virtual and Augmented Reality***



Virtual and Augmented Reality: Introduction

Erasmus Centre for Data Analytics
Virtual and Augmented Reality

Prof.dr. Yvonne van Everdingen

Virtual Reality (VR) and Augmented Reality (AR) are increasingly used in a variety of disciplines, such as business, psychology, health care, and education. These leading technologies offer a lot of promises but will also entail many challenges to overcome.

"When the folks who understand the problems engage with the folks who understand what leading technology can do, innovation happens (Fink, Forbes 2017)."

Virtual and Augmented Reality: Overview

Erasmus Centre for Data Analytics
Virtual and Augmented Reality

We are an international, interdisciplinary group of academics conducting research related to the use of VR and AR in business, psychology, health care and education.

We help companies, psychologists, health care specialists and educators understand how to best use VR and AR to improve their performance.

RSM Erasmus University

Erasmus School of Economics

Erasmus School of Social and Behavioural Sciences

Erasmus MC

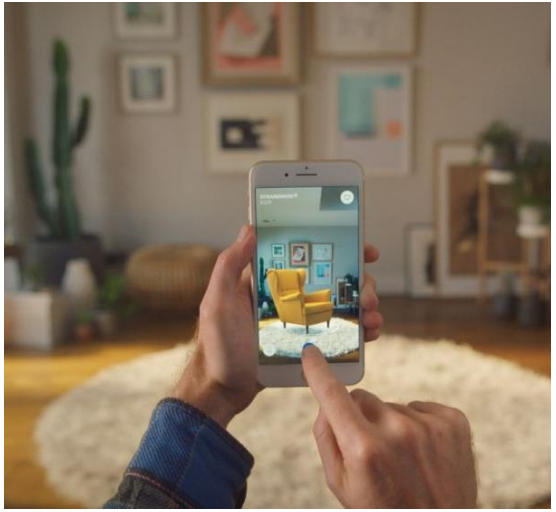
Virtual and Augmented Reality: Overview

The VR and AR researchers aim to:

1. Facilitate interactions between academia on the one hand and industry, psychologists and hospitals on the other hand
2. Disseminate and increase the impact of academic research

Collaboration opportunities can take different shapes:

- Data sharing and research collaboration
- Contract research/consulting
- Research funding (e.g., PhD projects)
- Internal workshops



Souce image: https://retailtrends.nl/news/50037/ikea-lanceert-augmented-reality-app

Virtual and Augmented Reality: The Team // Research Interests

Erasmus Centre for Data Analytics
Virtual and Augmented Reality

Business, Marketing and New Technologies:

Yvonne van Everdingen, Professor and Director // new technologies (especially VR and AR), development & marketing of new products, sustainable products

Stefan Stremersch, Professor // innovation, new technologies (e.g., VR), (healthcare and pharmaceutical) marketing

Xi Chen, Associate Professor // quantitative marketing, digital marketing, AR applications

Ana Martinovici, Assistant Professor // eye tracking, visual attention in consumer choice processes;

Ana Scekic, Assisant Professor // eye tracking, product displays and assortment, consumer choice processes;

Business, Technology and Operations Management:

Rene de Koster, Professor // warehousing, robotics, material handling, container terminal operations, behavioral operations, retail operations, and sustainable logistics; VR

Jelle de Vries, Assistant Professor // restaurant analytics, warehousing, behavioral operations management, behavior in truck transportation; VR

Mahsa Alirezaei, PhD student // technology and operations management

Urban, Port, and Transport Economics:

Anna Bornioli, Senior Researcher // design of healthy urban environments using VR and EEG technology; mobility

Virtual and Augmented Reality: The Team // Research Interests

Erasmus Centre for Data Analytics
Virtual and Augmented Reality

(Clinical) Psychology:

Matthias Wieser, Professor // clinical psychology and affective neuroscience, pain research; VR for diagnoses and treatment

Marta Andreatta, Assistant Professor // use of VR to investigate mechanisms underlying and risk factors for psychiatric disorders

Neurology:

Janne Papma, Assistant Professor // Neuropsychology & Neuroscience, Dementia, Young onset dementia diagnosis, person-centered care, VR

Jackie Poos, PhD student // Neuropsychology, Neuroscience, Dementia, Frontotemporal dementia, VR

Virtual and Augmented Reality: Consulting Opportunities

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Virtual and Augmented Reality

We help partners gain insights into the potential applications of VR and AR in their business, treatments, or educational activities and how these applications can bring value.

Our process involves 3 steps:

1. Discovery: exploring opportunities for relevant VR and AR applications.

2. Data collection and analysis: conducting interviews, experiments, etc. and analyze data to test the success potential of the different opportunities.

3. Evaluation and feedback: evaluate the options and provide feedback and recommendations.

Virtual and Augmented Reality: Research Methods

Lab experiments

Eye tracking

In-depth case study (interviews, survey)

Field experiments

Data analytics

Virtual and Augmented Reality: Examples of Ongoing Projects

Projects in Business:

- The use of AR apps to test products in a virtual environment (with Charlie Temple)
- The opportunities of VR experiences to become a substitute for a real-life experience (with University of California Riverside)
- The use of VR for optimal routing and safety in warehouses (with STC Group)
- The use of VR as a communication tool (storytelling, showing new products, attracting customers, etc.)

Projects in Psychology:

- The use of VR for investigating the underlying learning mechanisms of anxiety- and fear-related disorders
- The use of VR to study human behavior and avoidance approach in social interactions
- VR and AR as pain management tool

Virtual and Augmented Reality: Examples of Ongoing Projects

Projects in Urban, Port, and Transport Economics:

- Assessing the health benefits of exposure to urban/natural environments using EEG and VR
- Using (simulated) environments (e.g., natural, cultural) to identify settings that support mental health

Projects in Neurology

- Using VR for diagnosing AD (Alzheimer) and FTD (Frontotemporal Dementia)
- Applying VR to the social cognition paradigm

Erasmus Centre for Data Analytics

Passion provides purpose, but data drives decisions

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