



Virtual Worlds and Market Research

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Overview

- Definitions of VR/Definitions of Market Research
- Catch 22 of Virtual Interaction
- Opportunities for Market Research
 - Behavioral Tracking
 - New Research Testbed
 - Hyper-Tailoring

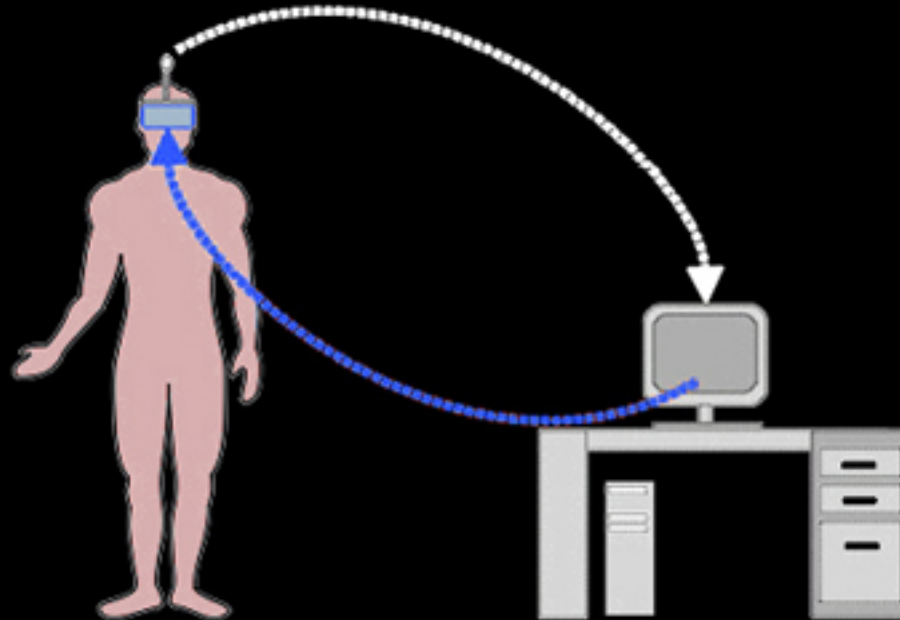
Virtual Identities

Definitions and Technology

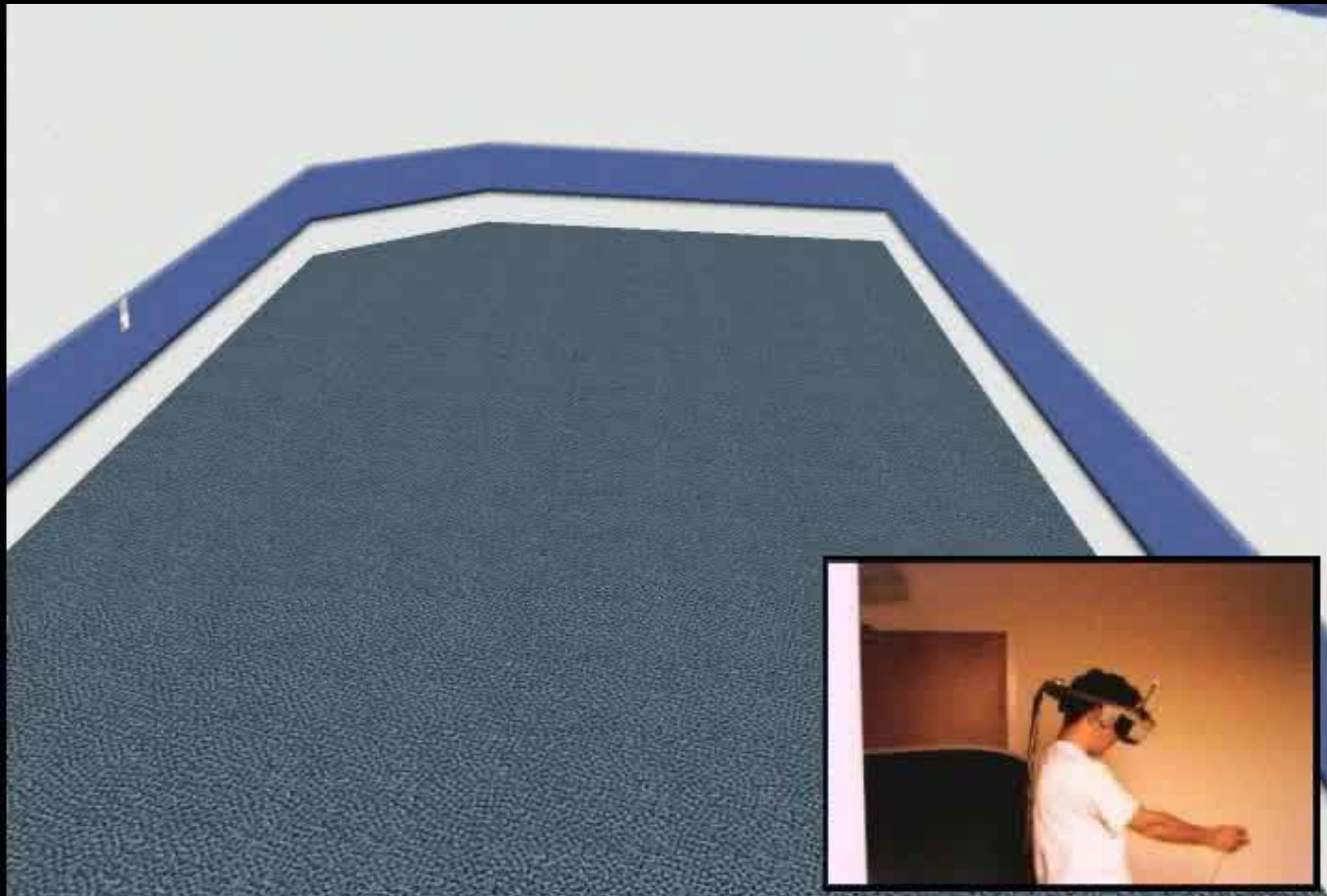


Digital Immersive Virtual Environment Technology

Audio-Visual Display



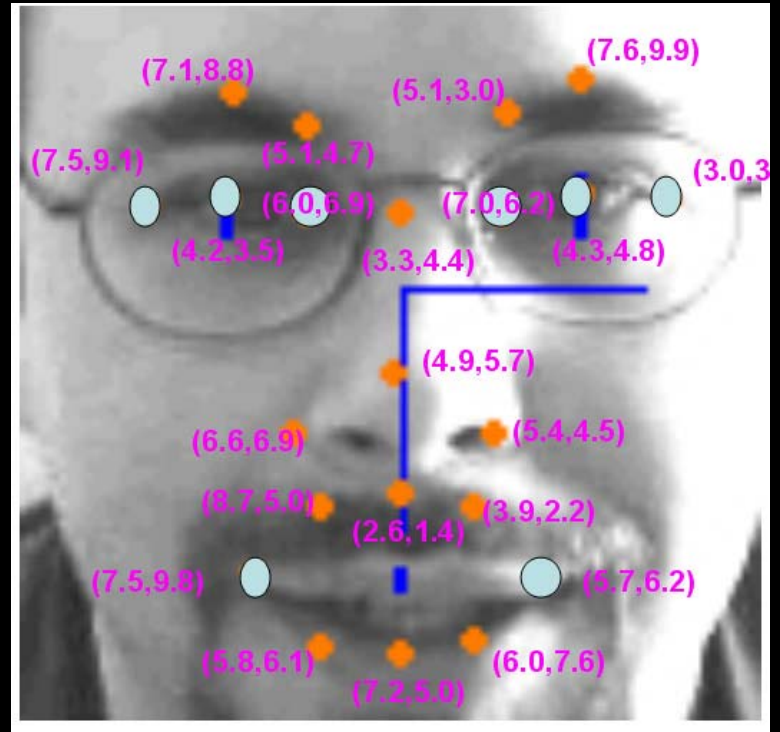
Digital Immersive Virtual Environment Technology



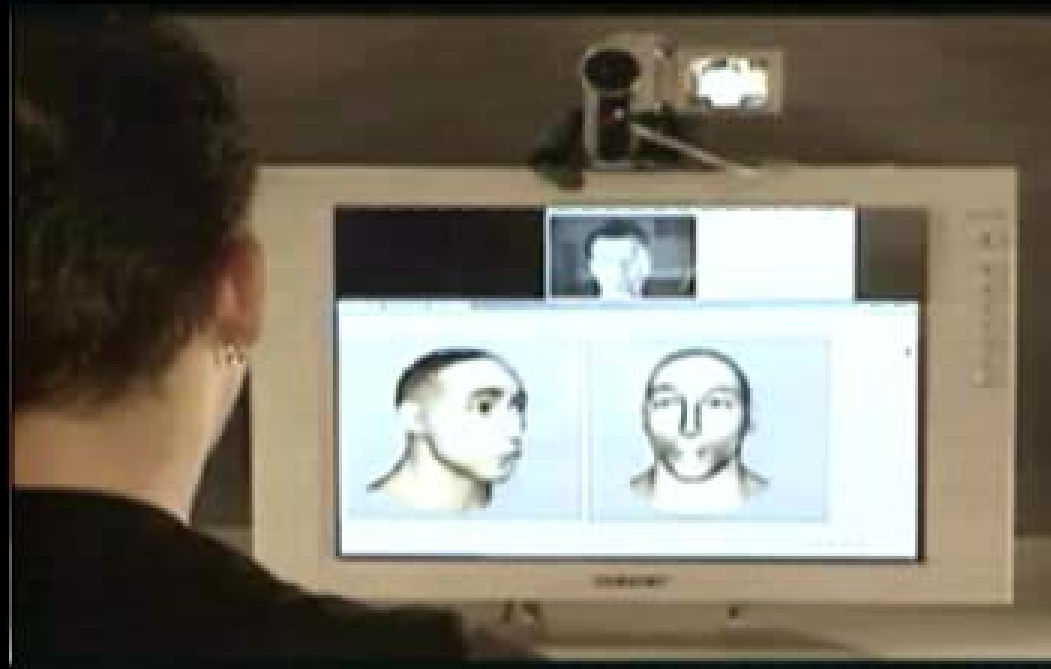
Digital Human Representation (Avatar) Creation

Show Virtual Cap'n Neil

Facial Expression Tracking



Facial Expression Tracking



The Catch 22 of Virtual Worlds

Social Presence

Laws don't exist virtually

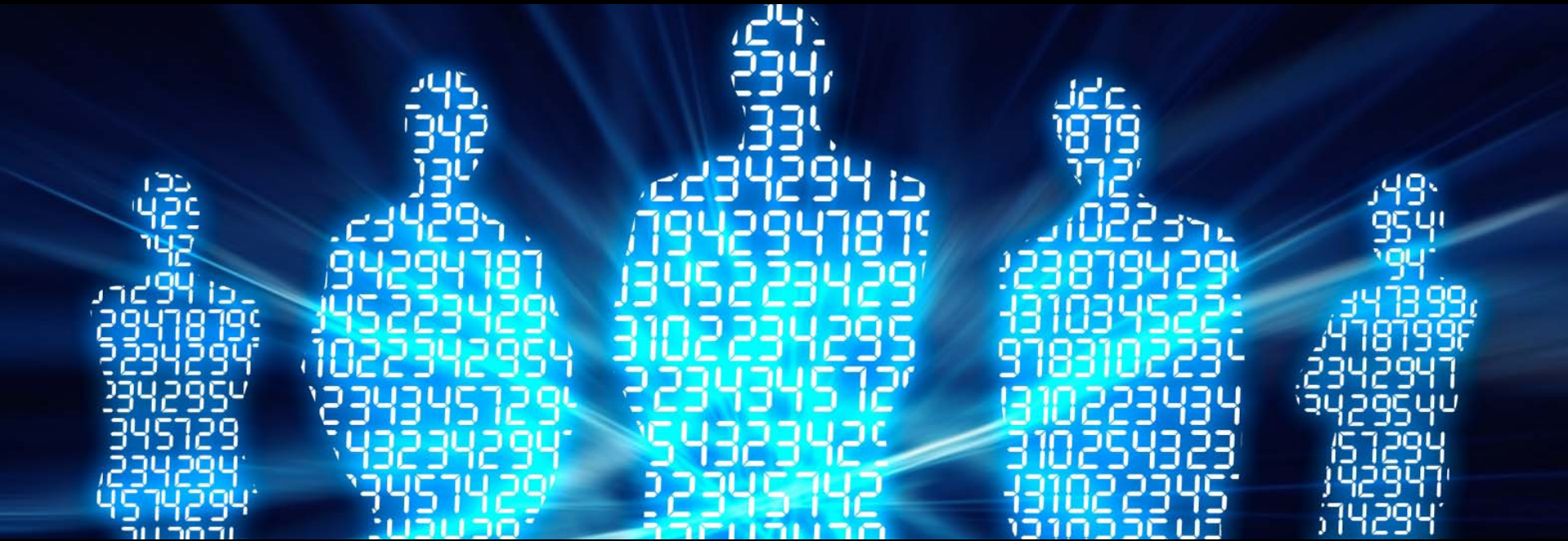
The Brain is not wired to
encode virtual experiences

We automatically behave
'normally' in virtual spaces.



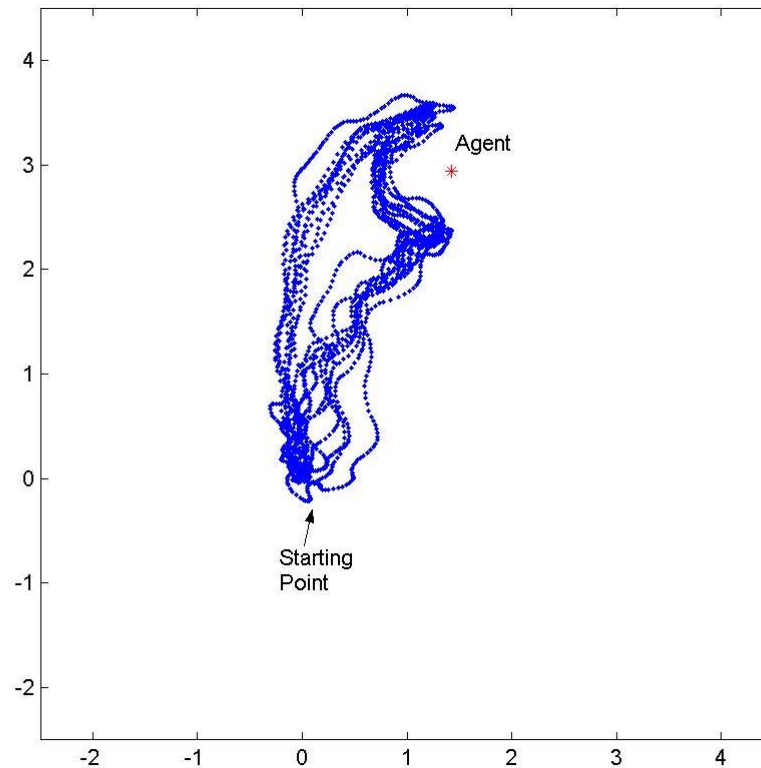
Social Presence Experiments

Real vs. Virtual



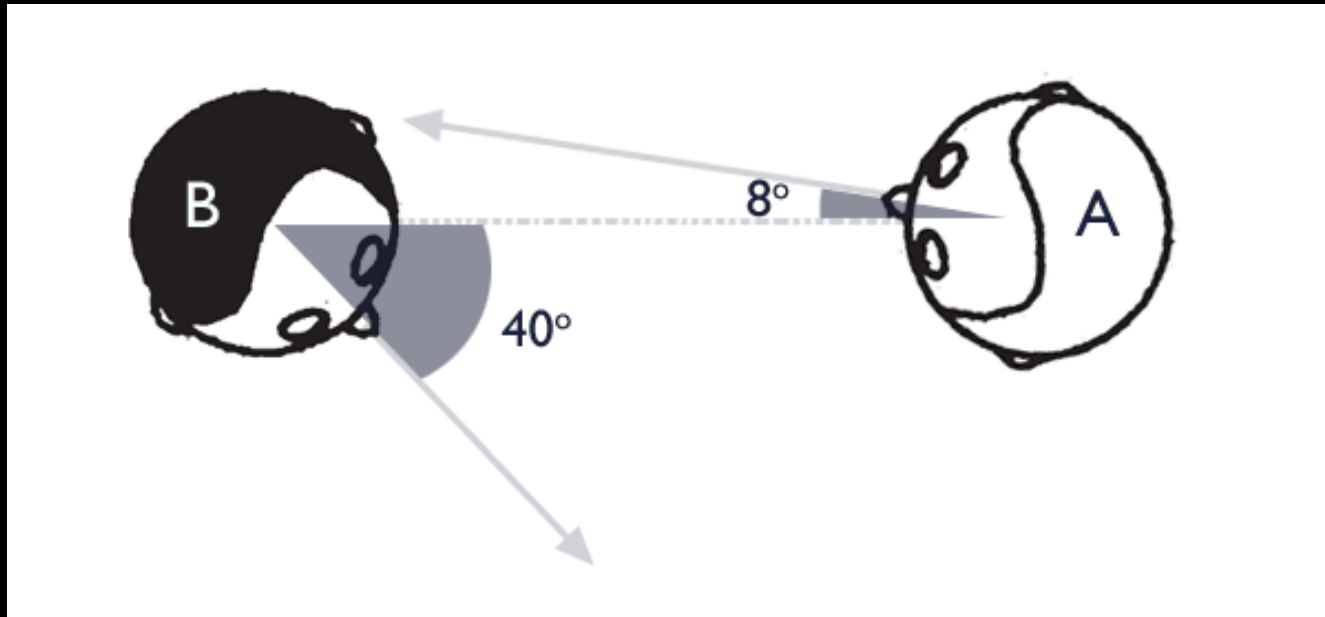
Social Presence

Interpersonal Distance



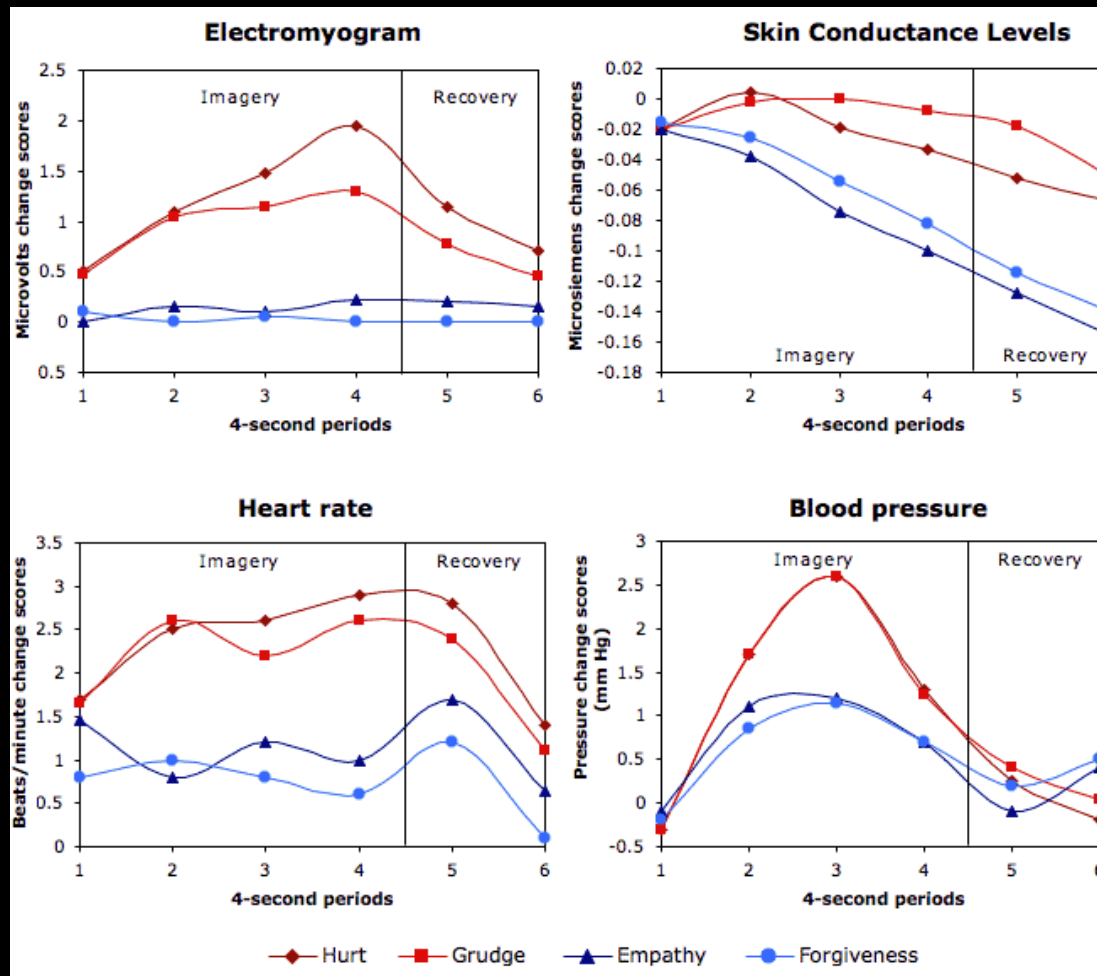
Social Presence

Eye Gaze



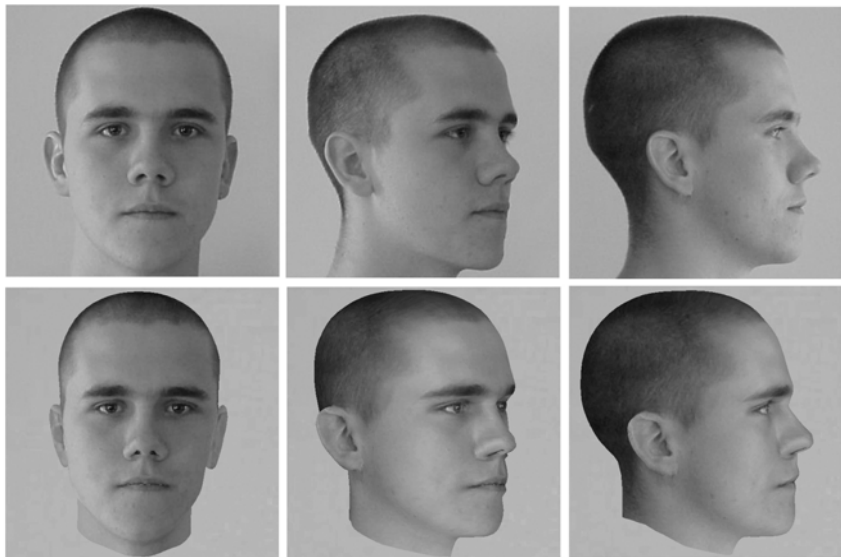
Social Presence

Physiological Signals



Social Presence

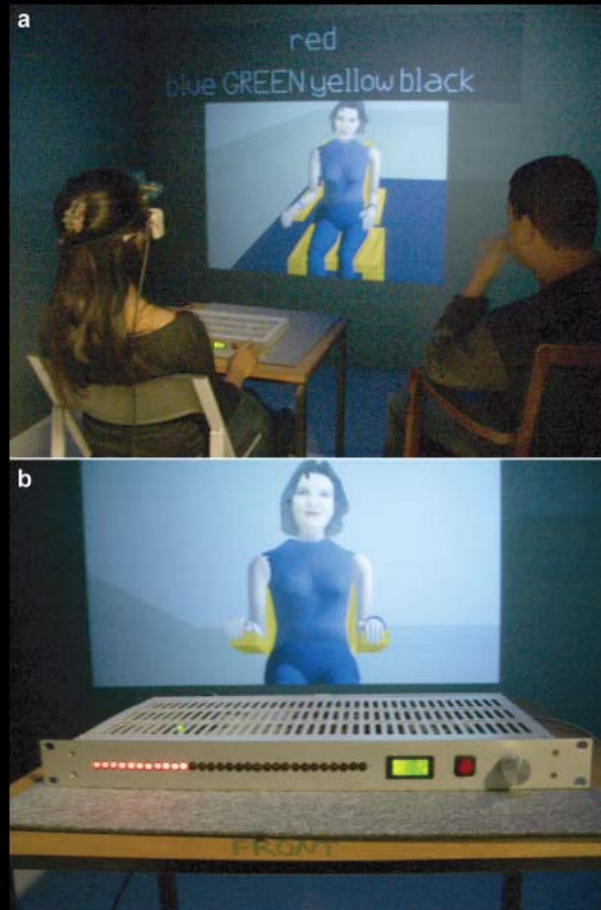
Memory/Facial Recognition



Study	Trained ON	Traning Time	Testing Time	Feedback	Sample Size	Hair	RV Diff
1	Full Real	Unlimited	Unlimited	Yes	20	Yes	9%
2	Full Real	Unlimited	300 ms	Yes	14	Yes	12%
3	Full Real	1000 ms	Unlimited	Yes	17	Yes	7%
4	Full Real	Unlimited	Unlimited	No	15	Yes	12%
5	Full Real	Unlimited	Unlimited	Yes	21	No	3%
6	Full Real	Unlimited	Unlimited	Yes	17	During Training	5%
7	Full Virtual	Unlimited	Unlimited	Yes	18	Yes	4%
8	Full Virtual	Unlimited	Unlimited	No	19	Yes	2%
9	Profile Virtual	Unlimited	Unlimited	Yes	12	Yes	-5%
10	Profile Real	Unlimited	Unlimited	Yes	21	Yes	15%
11	3/4 Real	Unlimited	Unlimited	Yes	17	Yes	17%

Social Presence

Empathy/Obedience



Virtual Worlds

Opportunities for Market Research



Using Virtual Worlds

The virtual world as the New Focus Group

Test bed for products change, shelf presence, packaging design, advertising campaigns.



Using Virtual Worlds

The virtual world as the New Focus Group

Who is in these virtual worlds?

Thousands of people interacting naturally.

Demographic Representative

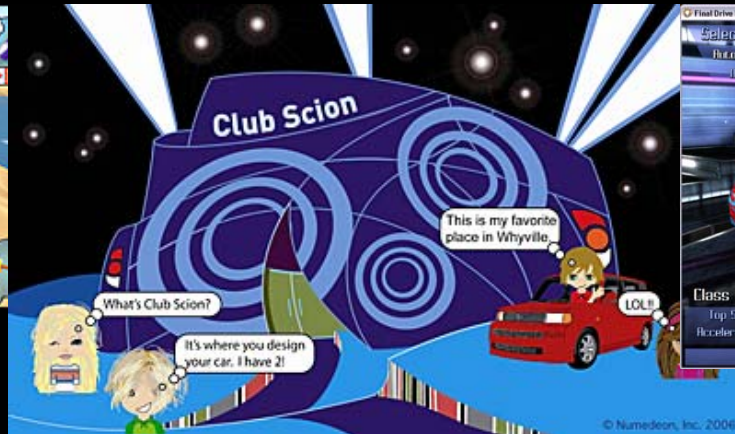
- Ages 8 to 70
- 50% of online gamers are women

Product Placement

From Passive to Active

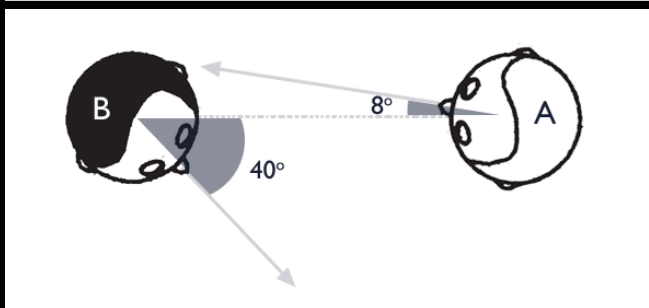
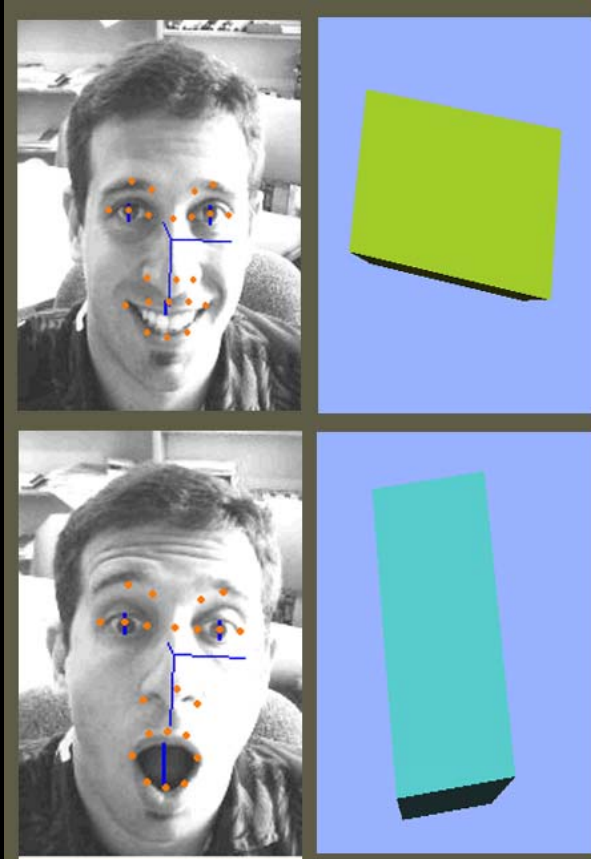
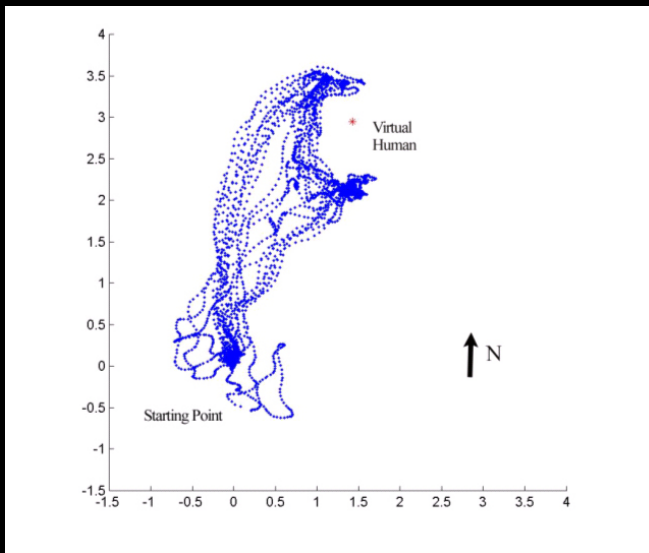


Interactivity, cause/effect of product use



Tracking Data

UPC codes on steroids



Tracking Data:

UPC codes on steroids

- In a virtual world, within millimeter accuracy we can track
 - Who you looked at
 - Who you talked to
 - What you touched
 - Could you find the product
- Using learning algorithms, we can transform tracking data to meaningful information
 - Emotion
 - Personality
 - Attitudes and Affect

Tracking Data

show example video

Tracking Data

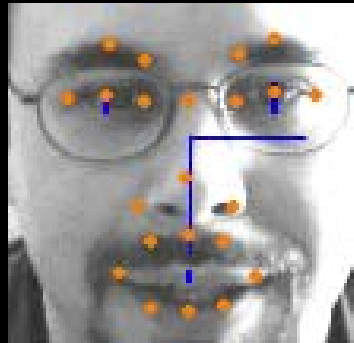
Emotion Detection

- Trained Neural Networks with videos
 - Sad, happy movies
 - Face ratings by clinical psychologists
 - Physiology



Detecting the PAF (pre-accident face)

- Is it possible to use face tracking software to predict accidents?



The Virtual Store

As a Testbed



The Virtual Store

As the ultimate simulation tool



Virtual Product Spokesperson



Health Advertisements



Switch to Face Presentation

Conclusions

- VR can provide huge advantages for a host of different Market Research
- Digital media is becoming the Norm
- Understanding consumer behavior in virtual spaces is crucial



Thank you!

Virtual Human Interaction Lab

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