Presence Research: Where do we *want* to be?

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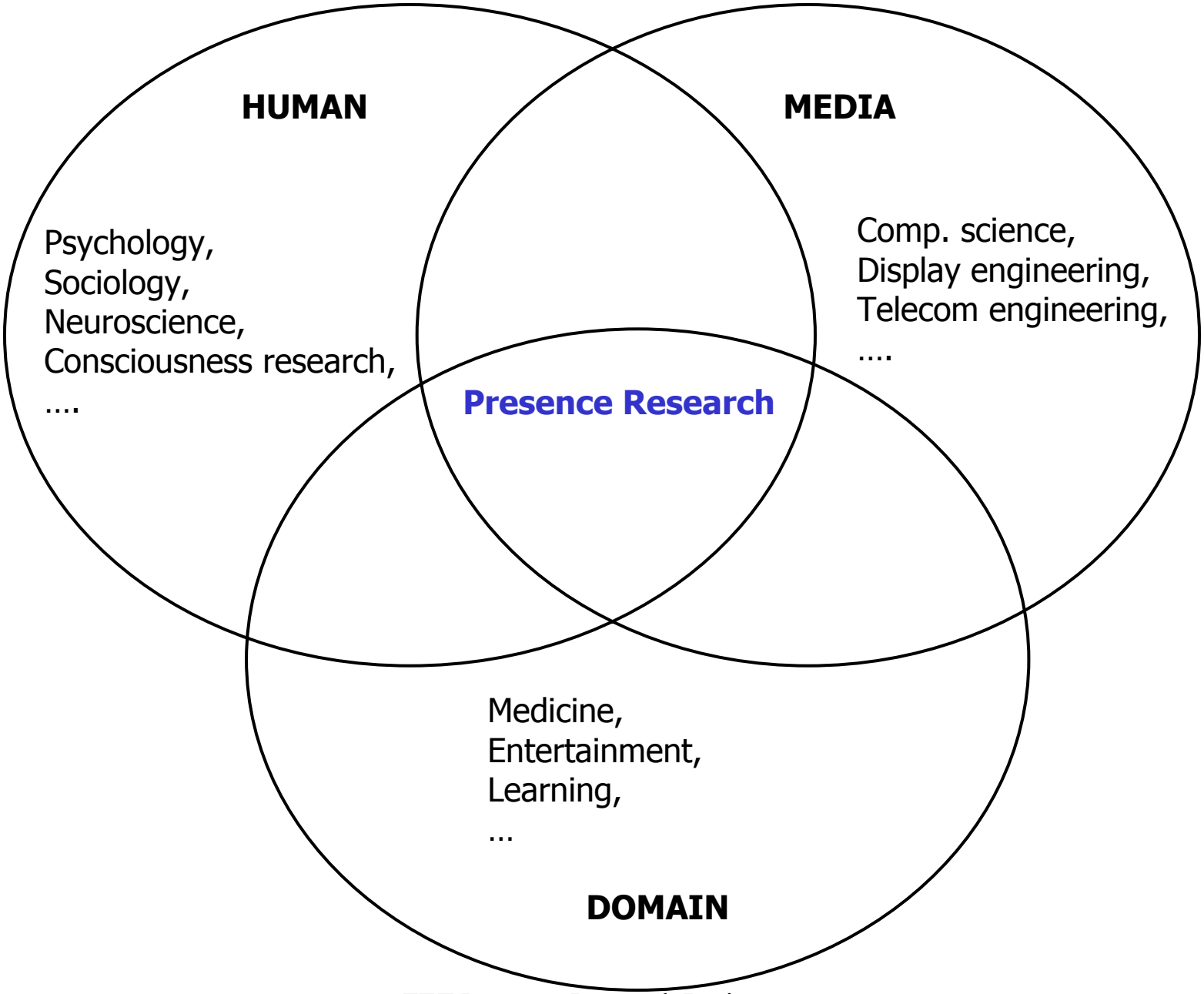
Presence Research

- Presence research is a new, fast growing, research area.
- Presence research bridges hardware engineering, software engineering, philosophy, psychology, communication, neuroscience and other fields because it deals with the **central nature of user experience with media technologies** that have been variously described as the sense of "being transported to another place, " "the sense of immersion in another world," the feeling that the interface has "disappeared."
- Presence is most often succinctly defined as the sense of "being there," present inside the world of the medium as opposed to here, where the body is physically present.
- Understanding the mechanisms and causes of this experience has become a central problem in new media research because it may **characterize the phenomenal experience of users when "media work"** and may be a key feature of users' optimal experiences with media – i.e. transparency; directness; the illusion of non-mediation.


HUMAN
MEDIA
Psychology,
Sociology,
Neuroscience,
Consciousness research,
….
Comp. science,
Display engineering,
Telecom engineering,
….
Presence Research
Medicine,
Entertainment,
Learning,
…
DOMAIN

Presence Research Initiative I Expected Outcomes

- Enhanced understanding of the relation between minds and media
  - Models/theories of presence, incl. neural plausibility
  - Measurement paradigms; best practice
- Enhanced understanding of Presence Engineering
  - haptics, visual displays, robotics, interaction paradigms
- Working knowledge of determinants, dimensions and effects of presence (minimal cues; hierarchy of diminishing bandwidth; cue interactions?)
- Development of real applications in specific domains

Presence Research Initiative I Unaddressed Opportunities

- Audio is of great importance to our sense of presence in the real world, yet in virtual worlds it receives little attention – it is not a solved problem however, and investing in audio work may pay itself off in relation to other modalities as well (e.g. cross-modal integrations and illusions).
- Very little research on social presence/ connectedness: telecom research can benefit massively from good presence apps.
- Entertainment, Arts & Design
- Ethics, longitudinal studies, field studies, ...

Presence Research Initiative II Vision

- Media technologies should aim to enhance our perceptual, emotional, and cognitive abilities, overcoming or ameliorating our naturally inborn limitations, enhancing and broadening our sensory, perceptual, cognitive and emotional reach across space and time. They should serve our informational and entertainment needs, without overburdening the human, or cluttering her/his environment.

Presence Research Initiative II Challenges

- Technologies (sensors & displays) for sensory and cognitive enhancements (including augmented reality, wearables and implants) that are small, lightweight and self-powered
- Understanding human behavior and identity in its social and environmental context – i.e. move out of the lab and into homes, offices, cars, and outdoors.
- Scaleable and mobile ***presence portals*** supporting the ability to be present anywhere with anyone, from anywhere, at any time, ranging from lightweight, mobile applications to immersive variants.