Towards an Integrated Methodological Framework for Understanding Embodiment in HCI

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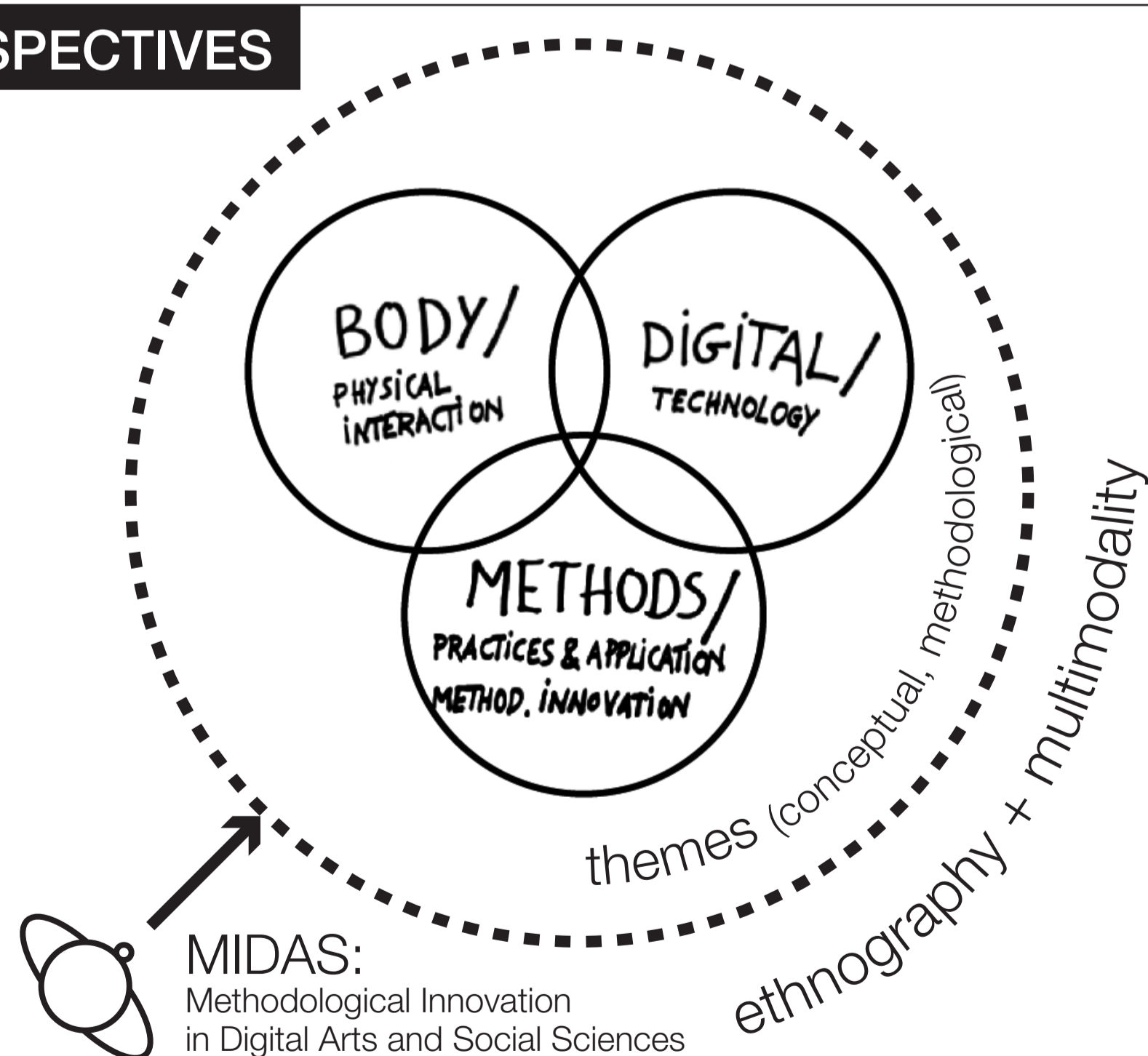
AIM AND OBJECTIVES

The MIDAS project aim is to map, exploit and extend the synergies between the digital arts and social sciences to develop an innovative methodological framework capable of capturing a holistic understanding of embodiment and technology. The project objectives are to:

❶ Describe the methods, concepts, practices and processes used to research embodiment in digitally assisted arts (performance, fashion, design), and social sciences (medical simulation, mobiles for education, online games);

❷ Identify in detail points of methodological connection and synergy across this multidisciplinary terrain;

❸ Experiment how to integrate and exploit these methodological synergies and approaches to evaluate their applicability to embodiment research across the digital arts and social sciences;

❹ Design training and capacity-building resources to support methodological innovation across the boundaries of the digital arts and social sciences (e.g. online papers, training resources, workshops).
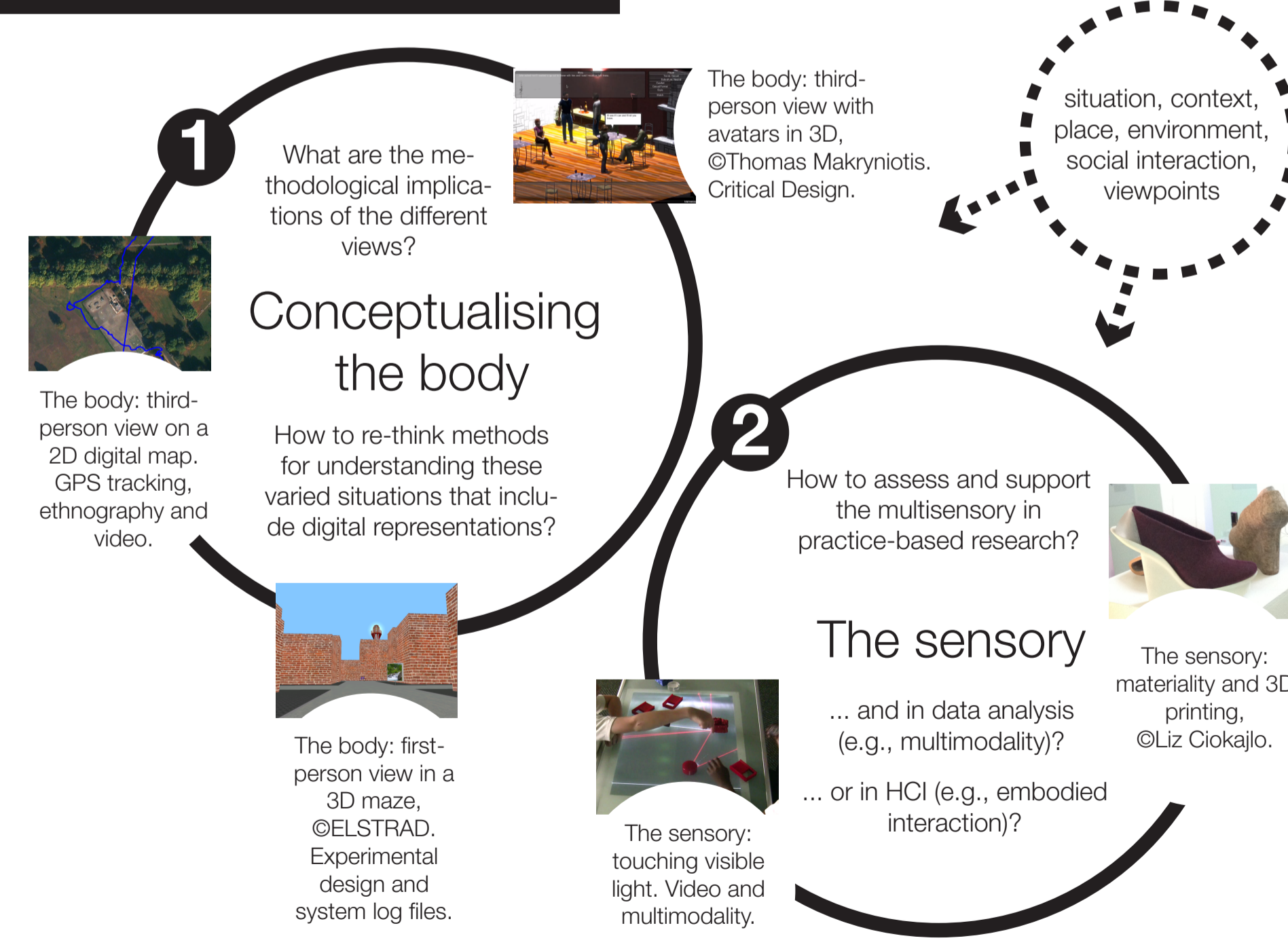
CASE STUDIES

Case Studies	Digital Performance, Centre for Contemporary and Digital Performance, Brunel University	Digital Fashion,Fashion Digital Studio, London College of Fashion, University Arts London	Information Experience Design, Royal College of Art	Embodiment & Learning, London Knowledge Lab, Institute of Education	Psychology & Development, CoGDeV Lab, Institute of Education
Available Research Methods	Practice-based research, Artistic and critical analysis, Ethnography, Philosophical and material culture methods, Audience studies	Design methods, Critical design methods, Speculative design, User centred design, Participatory design, Rapid prototyping	Visual ethnography, Digital curation, Visualisation (2D/3D), Cultural probes, Experience prototyping, Practice-based research, Hacking, making and breaking, Critical design	Interactional analysis, Cognitive analysis, Multimodality, Interviews, Observation, Video, Participant drawing, Quai-experimental techniques	Statistical analysis, Visualisation (2D), Controlled experimental tests
Routine Use of Technologies	Motion capture, Programmable interactive 3D digital environments (e.g. Isadora), Robotics, Interactive wearables	3D-printers (plaster, resin), Body, hand and foot scanners, Virtual garment prototyping	Mobile and geographical information systems, Sensor/actuator technologies, 3D-printers (wax, resin, paper)	Tangible technologies, Mobile and geographical information systems, Sensor/actuator technologies	3D virtual environments, Statistical packages
Observed Events (Phase I)	Lectures on research methods, Group and individual rehearsals, Workshops, Performances	Lectures on research methods, Technical demonstrations, Workshops, Students' presentations, Fashion events	Lectures on research methods, Students' presentations, Departmental meetings, Workshops, Art exhibition events	Group meetings, Researchers' presentations, Research projects meetings, Procedures of data collection and analysis	Lectures on research methods, Departmental meetings, Group meetings, Procedures of data collection and analysis

PERSPECTIVES

MIDAS: Methodological Innovation in Digital Arts and Social Sciences

ILLUSTRATIVE THEMES

1 What are the methodological implications of the different views?

The body: third-person view with avatars in 3D, ©Thomas Makryniotis. Critical Design.

situation, context, place, environment, social interaction, viewpoints

The body: third-person view on a 2D digital map. GPS tracking, ethnography and video.

Conceptualising the body

How to re-think methods for understanding these varied situations that include digital representations?

The body: first-person view in a 3D maze, ©ELSTRAD. Experimental design and system log files.

2 How to assess and support the multisensory in practice-based research?

The sensory

The sensory: materiality and 3D printing, ©Liz Ciokajlo.

... and in data analysis (e.g., multimodality)?

... or in HCI (e.g., embodied interaction)?

The sensory: touching visible light. Video and multimodality.

LOOKING FORWARD

■ MIDAS responds to the challenge to develop effective and progressive methodological approaches for understanding embodiment and technology.

■ MIDAS explores the methodological implications of emerging themes and the potential benefits to the HCI community for future design, analysis and evaluation of computing systems.

■ MIDAS is exploring the potential of these themes to re-conceptualise the body and the digital.

■ MIDAS is gathering up innovative methodological approaches for embodiment across its case studies to experiment with and inform a methodological framework for the arts and social sciences.

■ Understanding the sociological and cultural underpinnings of these practices will inform how and the conditions under which methods can be productively combined across the arts and social sciences.