

Abstract: Sense of Participation in Real Time Monitoring Systems

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This paper explores how the sense of participation is influenced by real time monitoring systems in everyday participation practices in hybrid network environments. In social and mobile networks, and in many online services, individual behaviour is monitored and instant feedback is provided to system participants. For example, advertising on websites adapts to user surfing behaviour within seconds, GPS systems indicate traffic jams immediately on the basis of information they receive from navigation systems in people's vehicles, financial deals on the stock market immediately influence next deals, mobile applications augment physical environments with information on possibilities for entertainment when moving through the city based on information received from participants in a system. Real time monitoring systems are an inextricable part of individuals' participation in everyday routine activities. Systems have become participants in their own right in communities of people (Brazier and van der Veer, 2009).

This paper explicitly does not focus on the effect of storing and retrieving large data sets over time. It focuses on how individuals' sense of participation when performing presence, and giving signification to participatory practices with self, others, and things in time, place, and context within these monitored and hybrid network environments. To explore the sense of participation in real time monitoring systems two concepts are introduced. First the concept of the *third witnessing perspective* (Nevejan 2012) is elaborated upon to better

understand how real time monitoring systems affect participation practices. Secondly the notion '*migration trajectory*' (Bohorquez, Nevejan, Brazier 2013) is introduced to better understand how people experience participation practices in hybrid network environments. On the basis of these two theoretical concepts this paper discusses results of in depth interviews with experts on their daily participation practices.

Third witnessing perspectives emerge when many participants feed a system with large quantities of distributed data in real time, and when the results of systems' operations with these data are instantly sent back to its participants. Technology provides the platform upon which participant's input is transformed into a 'real time' representation of the participation practices of all participants at a given moment in time over time. This representation of all participatory practices triggers individual behaviour to adapt. These adaptations also become part the real time ever changing representation of all participatory practices in the real time monitoring system. The simple definition of participation is to be part of a larger whole, with the ability to act and take responsibility. In this paper the real time monitoring system, including its participants, is the larger whole. Participants are constantly adjusting their performance and significations while interacting with the larger whole.

Third witnessing perspectives shape the way individuals perform presence and give significations to values of trust, engagement, autonomy, and attachment. They ultimately define the more or less permanency and consistency of individuals' participatory practices and experience. Not only individuals but also larger organizations, governments, and business organizations can act upon the information and communication that third

witnessing perspectives provide. Being observed and recorded in routine activities by larger organizations raises paradoxical feelings of more or less certainty and security. Individuals may perceive real time monitoring systems as beneficial and as a threat simultaneously. The concept of participant migration trajectory is introduced to understand experience in participation practices.

A migration trajectory is defined as an episode of time in which individuals perform presence and give significations to their own and others' trajectories in hybrid network environments (Bohorquez, Nevejan, Brazier 2013). The sense of participation develops through participation practices and migration trajectories. The sense of participation in migration trajectory, is influenced by feelings of permanency and consistency when an individual participates in multiple worlds simultaneously.

The concept of migration trajectory relates to three dynamics. The first dynamic addresses having presence as the capacity to steer towards wellbeing and survival (Riva, Waterworth & Waterworth 2004). This dynamic is explored by asking the question *Where do I go now?*. The second dynamic addresses directing presence towards the world. Presence is treated as readiness to act towards and with the world in the everyday (P. Turner 2010). This dynamic is explored by asking the question *Do I feel I have other possibilities?*. The third dynamic addresses having a sense of possibility and is central for the incorporation of existential feelings in day-to-day life (M. Ratcliffe 2005). This dynamic is explored by asking the question *Does it make a difference to my world?*.

These three fundamental existential questions provide the grounding for the concept of migration trajectory (Bohorquez, Nevejan, Brazier 2013).

First, *where do I go now?* This question refers to being ready to act to experience a geographical presence mobility and distribution of its actions (physical, mental, and digital) when they acknowledge the sense of open-ended possibilities that networks facilitate in real time communication. The infinite number of possibilities that networks facilitate perpetuates the readiness to experience the uncanniness of the whole world. It steers presence mobility and demands for new physical and emotional adaptations for it alters conventional forms to approach a diverse number of worlds simultaneously in the everyday.

Second, *do I feel I have other possibilities?* This question refers to the decisions that create the multidimensionality of the individual by performing presence in hybrid network environments. Do individuals feel they have the possibility to choose with whom, with what regularity, in which place, and in what context to perform and negotiate their presence in day-to-day interactions. The fact that an individual approaches presence as ready to act, in an overwhelmed number of other possibilities that networks facilitate, mandates an examination on how individual choices relate to internal expectations, serendipitous acts, or external forces. This question also explores how individuals perform presence and give signification to their interactions when they feel to have no other possibilities but participating in monitory systems.

Third, *does it make a difference to my world?* How individuals steer towards wellbeing and survival, reflecting on the signification is core to this aspect. This question relates to feelings but also to a sense of reality and situatedness

(Ratcliffe, 2005). Analysis of migration trajectories provides insight in how individuals participate in multiple contexts with more or less permanency and consistency simultaneously in day-to-day life. This question exposes how the individual(s) self-interest primes or not more or less permanency and consistency of participation practices when it perceives the sense of possibilities offered when being monitored in real time.

In the analyses of the responses to these questions the connection between migration trajectories and the third witnessing perspective is made. For example most automotive navigation systems are real time live monitoring systems. *Where do I go now?, Do I have other possibilities? and What does an automotive navigation system contribute to my world?* shed light on how experts experience the contribution of such systems to their everyday participation practices. This experience is also influenced in a real-time monitoring (participatory) system by the question *What do I contribute to these systems?" and what does that contributing contribute to my world?* To understand the dynamic between an individual and an automotive navigation systems, it is necessary to understand the third witnessing perspective that a system provides. For a system such as TomTom, the third witnessing perspective is generated by a Geographical Information System to which participants deliver data about their traffic routes, that form the bases for shared maps that are created which indicate traffic jams for example. Also the interface of input and output in the vehicle contributes to the experience of the third witnessing perspective.

Results of this study identify everyday factors that influence the sense of participation in systems in which real time monitoring systems play a significant

role. Migration trajectories and analysis of presence through a third witnessing perspective are the means.

Bibliography

Barglow, R. *The Crisis of the Self in the Age of Informatics: Computers, Dolphins and Dreams*. London: Routledge (1994).

Bohorquez, L. et al., "Sense of Participation as Migration Trajectories" Paper presented at the Fourth International Transforming Audiences Conference London, Sept. 1-2, 2013.

Brazier, F., and van del Veer, G. *Interactive Distributed Networked Autonomous Systems: Delegation or Participation*. In: *Proceedings of the Human Interaction with Intelligent and Networked Systems Workshop Florida: HINNS* (2009).

Brazier, F. "Participatory Systems: Inaugural Speech" Delft University of Technology 2011.

Castells, M. *The Rise of the Networked Society*. Oxford: Blackwell Publishing (2009).

Castells, M., et al., *Mobile Communication and Society: A Global Perspective*. Cambridge, MA: MIT Press (2007).

Couldry, N. *Media, Society, World*. Cambridge: Polity Press (2012).

IJsselsteijn, W. and Riva, P. *Being There, The experience of presence in mediated environments*. Amsterdam: IOS Press (2003).

IJsselsteijn, W. "Presence in Depth" (Ph.D. Dissertation Technische Universiteit Eindhoven 2004)

Ling, R. *The Mobile Connection: The Cell Phone's Impact on Society*. San Francisco, CA: Morgan Kaufmann Publishers (2004).

Madison, G. *The End of Belonging*. CreateSpace Independent Publishing Platform (2009).

Madison, G. (PhD diss., "Existential Migration: Voluntary Migrants' experiences of not being-at-home in the world" Saarbrücken: LAP LAMBERT Academic Publishing AG & Co. KG 2010).

Nevejan, C. "Presence and the Design of Trust" (Ph.D. Dissertation. Amsterdam: University of Amsterdam 2007)

Nevejan, C., and Brazier, F. "Granularity and Reciprocity" *Journal AI & Soc Knowledge Culture and Communication* 27 (1): 129-147 Springer (2012).

Nevejan, C., and Brazier, F. "Presence and participation: Values for Designing Complex Systems" Delft: Report Delft University of Technology, (2012).

Nevejan, C. *Witnessing You: On Trust and Truth in a Networked World*. Delft: TUDelft (2012).

Rapport, N., Dawson, A. *Migrants of Identity, Perceptions of Home in a World of Movement*. Oxford: Berg Publ. (1998).

Riva, G., et al., *The Layers of Presence: A Bio-cultural Approach to Understanding Presence in Natural and Mediated Environments*. *Cyber Psychology & Behavior* 4(7), 402–416 (2004)

Rouse, J. "Practice Theory" *Handbook of the Philosophy of Science.*"Volume 15 Elsevier BV. (2007).

Rotman, B. *Becoming Beside Ourselves: The Alphabet, Ghosts, and Distributed Human Being*. Durham & London: Duke University Press (2008)

Tuan, Y.F. *Escapism*. Baltimore: The Johns Hopkins University Press (1998).

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Luis Bohorquez constructs conceptual frameworks to explore individuals' participation practices in complex day-to-day participatory systems. His multi-faceted education and work experience is grounded in six countries—in design, R&D, strategic development, multidisciplinary data visualization, sustainability, philosophy, STS, sociology and media studies. Bridging different domains and people is fundamental to his work. Besides his consultancy work his current academic research is as PhD fellow in the participatory systems initiative—Delft University of Technology—TUDelft

Education

PhD Researcher in Science and Technology- Participatory Systems TUDelft Delft University of Technology-(2012-Present) - Delft, The Netherlands

MSc. in Philosophy of Science, Technology and Society University of Twente. one year (2009-2010) – Enschede, The Netherlands

Master in Design and Multimedia Communication (2001-2002) The Communications Art Institute – Madrid, Spain

Master in Marketing (1990–1992) Universidad Regiomontana – Monterrey, Mexico

Bs. in Industrial Design (1982–1987) Universidad Autonoma de Nuevo Leon- Monterrey, Mexico

Academic Writings

Sense of Participation Paper presented at conference Media in Transition 2013

MIT – Massachusetts Institute of Technology, Cambridge, MA.

Sense of Participation as Migration Trajectories Paper presented at The Fourth

International Transforming Audiences Conference 2013

Centre for Social Media Research at the University of Westminster's Communication and Media Research Institute. London, UK.

Work Experience

Sept. 2006 to Dec. 2009

Sustainable Design Platform- FLOOV Visionary Design - Founder and Director (Spain - Netherlands). - First sustainable design consultancy and platform in Madrid.

Istituto Europeo di Design in Madrid- Teaching Design for Sustainability Courses and workshop

Circulo de Bellas Artes of Madrid – Sustainable Design Courses for Professionals.

Dutch Design Week 2009 – Sustainable Design workshop.

IE Business School Madrid - Sustainable Design conferences

Sept. 2001–August 2006

IDEAMAPS (sold to Xplane EMEA) - Madrid, ES - Founder and Operations Director - Multidisciplinary data visualization: consulting, art direction and management.

Clients: Vodafone, Endesa, La Caixa, Enagas, Orange, British Telecom, Grupo Prisa.

April 2000–Dec. 2000

EXPORT ENTERPRISES S.A. Paris, FR

Consultancy business firm dedicated to international business development focus in Spain and Latin America.

Oct. 1997–Dec. 1999

VITRO S.A. is one of the largest glass manufacturer in the world (Dallas, USA)

Strategic New Product Development Manager

Conceptualization, management, development, prototyping and packaging.

Feb. 1992–Sept. 1997

VITRO S.A. - Monterrey, MEX

O.E.M. Product Development Manager (International market)

Responsible for engineering product development. Production processes, molding engineering, quality and assurance engineering, testing and prototyping, first production assessment, and bridging sales and production negotiations.

Mayo 1989–Jan. 1992

VITRO S.A. VitroTec: R&D Division - Monterrey, MEX

Engineering Design Research

Responsible for research and analysis of glass manufacturing processes.

Oct. 1988–April 1989

GM General Motors - ELPASO TX, USA

Engineering Design Electronics

Sept. 1986–June 1987

CARTON TITAN S.A. Monterrey, MEX

Packaging Designer

Curriculum Vitae Caroline Nevejan



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FORMAL EDUCATION

2007 PhD University of Amsterdam
1986 Master Communication Science (doctoraal), University of Amsterdam
1984 Bachelor Social Science (kandidaats), University of Amsterdam
1976 Atheneum Beta, Utrecht
1975 Alliance Française, Switzerland

CAREER

2010- Tenured Researcher, Participatory systems, Dept. of Technology Policy and Management, Delft Technical University
2007– 2009 Fellow with Intelligent Interactive Distributed Systems group, Dept. of Computer Science, VU University Amsterdam
Fellow with the Primavera Research program of the Business School of the University of Amsterdam
2005 – 2007 PhD “Presence and the Design of Trust”, Amsterdam School of Communication Research (ASCOR), University of Amsterdam. Supervised by Professor Cees Hamelink, Professor Sally Wyatt
2005 – 2007 Fellow with Computer Science, University for Professional Education Amsterdam.
1999 – 2004 Director Research and Development, University for Professional Education Amsterdam.
1995 – 2007 Research Fellow of Performing Arts Labs (UK), foundation for artistic research
1994 – 1999 Co-founder and director Waag Society, independent media lab, Amsterdam
1988 – 1999 Program director Paradiso, musical venue and international conference site

Prestigious and invited formal affiliations:

Current: Crown Member Dutch National Council for Culture and the Arts (Raad voor Cultuur)
Board member Foundation for Democracy and Media
2004 - 2005 Core member Amsterdam Arts Council
2002 - 2004 Design team and program committee Digital University of the Netherlands
2000 - 2001 Assessor multimedia masters Trinity College, Dublin, Ireland
1997 - 1998 Reviewer I3 program, European Commission
1997 - 2002 Chair and Member of the Board of Doors of Perception, Amsterdam

- 1995 - 1995 Committee on Media-Education Ministry of Education, Culture and Science
 1995 - 1997 Board member Amsterdam Cultural Studies, Amsterdam

Prize

National Rotterdam Design Prize 1997 for The Reading Table for Old and New Media

Scientific Affiliations:

- Advisory Board: AI & Society, Journal for Knowledge, Culture and Communication. Springer London.
- Member International Society for Presence Research
- Member of Advisory Board Faculty of Education, University of Amsterdam

Research Funding

- 2011 - 2013 European Institute of Technology (EIT), ICT Labs, ICT Human Mediated Activities, Project: Mediating Presence (my role is principal investigator, with Charlie Gullstrom, KTH Stockholm). Budget 2012: € 220.000, Budget 2013: €305.000
- 2009 - 2010 Netherlands Foundation for Visual Arts, Design and Architecture: Artistic Research. Project: Witnessed Presence (my role is principal investigator, budget € 50.000)
- 2008 Foundation NLnet (my role is principal investigator, budget € 30.000)

PhD committees:

- 2011 Enrique Gomez-Illata Cazares. "*Mexico and the Global Problematic, Power relations and Communication in Neoliberal Mexico*", University of Amsterdam (pending)
- 2010 Dr. Charlie Gullstrom. "*Presence Design, Mediating Spaces Extending Architecture*", KTH Royal Institute of Technology, Stockholm

Academic references to professional work:

Thackara, J., 2005. *In the Bubble, designing in a complex world*. MIT Press, USA.

Castells, M., 2003. *The Internet Galaxy*. Oxford University Press, UK,

Lovink G., 2003. *Dark Fiber* MIT Press, USA

Caenepeel, M., 2001. *Spring issue I3 Magazine*, The European Network for Intelligent Information

Collaborations:

- 2012 Professor Kitty Zijlmans, University of Leiden, on artistic research
- 2011 Professor Catholijn Jonker, Delft University of Technology, on negotiation in mediated contexts
- 2010 Dr. Charlie Gullstrom, School of Architecture, KTH, Royal Institute for Technology, Stockholm Sweden – on mediating presence
- 2009 Dr. Satinder Gill, Centre for Music and Science, Cambridge University – on tacit knowledge and rhythm
- 2009 Professor Frances Brazier, Delft University of Technology – on participatory systems
- 2009 Professor David Benyon, Napier University Scotland, on presence research
- 2009 Dr. Aditya Dev Sood – Chicago University – Virtues in Witnessed Presence
- 2008 Professor Paul Wouters, Professor Sally Wyatt - Netherlands Royal Academy of Sciences – On communicating and visualizing social science
- 2008 Dr. Vibodh Parthasarathi – Jamia Millia University New Delhi India – on Internet Governance, in the context of World Summit on the Information Society (UN)
- 2005 Professor Patrick Humphries & Garrick Jones, London School of Economics – on developing methodologies for collaborative authoring of outcomes

- 2002 Professor Luc Steels - Sony Research Paris/Vrije Universiteit Brussel – on the future of learning
- 2001 Professor Sugata Mitra – Newcastle University UK - on self-organization in learning processes of children using public interfaces to Internet technologies
- 1999 Professor Stephen Heppell – Ultralab, Anglia Polytechnic University, UK – on new learning strategies for children using information technologies
- 1996 Professor Ezio Manzini, Domus Academy/Polytecnic Milan, Italy – on integrating information technology with ecology for sustainable product and service design
- 1995 Professor Derrick de Kerckhove, McLuhan Program Toronto - on mediating presence and emerging collective intelligence
- 1994 Professor Jan Nederveen-Pieterse & Professor Philomena Essed – on decolonization of the imagination
- 1993 Professor David Garcia, University of the Arts London - on tactical media
- 1990 Professor Gerard de Zeeuw, Center for Cooperative Technology, University of Amsterdam – on designing networks for collaboration and support
- 1989 Professor Geert Lovink - Center for Networked Cultures, Amsterdam, The Netherlands – on the emerging network society

Selection of Invited Lectures

- 2013 Open Plenary: Participatory Dynamics for change. World Social Science Forum, Montreal
- 2012 Producing Presence, KTH Stockholm
- 2012 Being and bearing Witness in Communities of Systems and People, Unlike Us, Institute for Network Cultures, Amsterdam
- 2011 Climate for women in science: a lifecycle approach. TU Delft
- 2010 Designing presence and trust in the process of interaction, KTH Stockholm
- 2010 Interdisciplinary Research, creating Being-Here.net, IN3, Open Universitat de Catalunya
- 2009 Utopian Practices, The Virtual Knowledge Studio (KNAW) and the Arts and Genomics Centre of the University of Leiden.
- 2008 Can You See What I Know, Royal Netherlands Academy of Arts and Sciences
- 2008 Samizdat in the Technological Jungle, Centre for Culture, Media and Governance, Jamia Millia Islamia University, New Delhi, India
- 2007 The New Balancing Act, Press and Press Support in a Digital Age, The Hague
- 2007 A continuous trade-off between Presence and Trust, DECIS Lab, Delft
- 2005 The social responsibility of the engineer, ALE, TU Delft
- 2005 Being a catalyst, London School of Economics, Social Psychology, London
- 2004 Innovation in India, Surf, Utrecht
- 2004 Designing experience, Design Academy Eindhoven
- 2003 Structural design in education, DoorsEast, Bangalore, India
- 2003 Distant learning, WACE, Rotterdam
- 2003 The pace of change, Infodrome, Dutch ministries and Parliament
- 2001 The new media mixes, BBC Imagineering, Sevenoaks, UK
- 2001 Integrated Learning environments, Future of Learning, Sony Research Paris
- 2000 How to design learning environments for children, CHI 2000, Rotterdam
- 1999 Children are citizens, Doors of Perception on Play, Amsterdam
- 1999 In need for territorial waters for copyright, Erasmus Conference, Amsterdam
- 1998 The social agenda of MIT Medialab, Mind over Matter, Copenhagen
- 1995 Designing communities in Europe, TJ Watson, IBM, NY

PUBLICATIONS

Books:

Nevejan C., 2012. *Witnessing You, on trust and truth in a networked world*. Participatory Systems Initiative, Delft University of Technology, Delft, Idea Books Amsterdam (in print)

Nevejan C., 2007. *Presence and the Design of Trust*, PhD diss., University of Amsterdam.

Nevejan C., 2001. Onderwijsvernieuwing in de informatiesamenleving (*Innovating education in the Information society*), Hogeschool van Amsterdam

Journals:

Nevejan C. & Badenoch A., 2012. How Amsterdam Invented the Internet: European Networks of Significance, 1980-1999, in *Technology & Culture, The International Quarterly of the Society for the history of technology*, Johns Hopkins University Press (in review)

Nevejan C. & Brazier F., 2011. Granularity in Reciprocity, in *AI & Society, journal for Knowledge, Culture and Communication*, special issue Witnessed Presence, Springer (in print)

Nevejan C., 2011. Veiling Inside Out & Outside In, in *TeleTrust for networking bodies, RTRSRSCH journal*, Publication by ARTI research group at Amsterdam School of the Arts. Vol. 3 No. 2

Nevejan C., 2009. Witnessed presence and the YUTPA framework, in *PsychNology Journal 'Ethics in Presence and Social Presence Technology'*, volume 7 (1). www.psychnology.org

Nevejan C., 2008. Can you see what I know, in *KEHO magazine*, PEACH community EU

Editor of special issue

Nevejan C. & Gill S. 2012. Special issue on Witnessed Presence 2012, *AI & Society, journal for Knowledge, Culture and Communication*. Volume 27, Number 1. .

Book Chapters:

Nevejan C. & Brazier F., 2013. Presence and Participation: Values for Designing Complex Systems. *Springer Handbook series*, Springer (in review)

Nevejan C. 2011, In Time: between Emergence and Design. In *Next Nature*, Actar, Barcelona/New York

Nevejan C. 2011, Shapes, in *I read where I am, exploring new information cultures*, Valiz publications, Amsterdam.

Nevejan C. & Brazier F., 2010. Witnessed Presence in Merging Realities in Healthcare Environments, in *Advanced Computational Intelligence Paradigms in Healthcare 5: Intelligent Decision Support Systems*, Eds. Sheryl Brahnam and Lakhmi C. Jain. New York: Springer

Nevejan, C., 2010. Sensing the system, reducing moral distance from global climate change. In *We can change the weather, a 100 cases of changeability*. Editor: MarleenWijnants. VUB Brussels

Nevejan, C., 2010. Mas en Matilda, about the child's right to speak. In *The library of 100 Talents, It can be done*. NBD/Biblion Uitgeverij, Den Haag

Nevejan C., 2009. As ever and never before, in *Presence for everyone, a short guide to presence research*. David Benyon, Michael Smyth and Ingi Helgason (eds.), published by Centre for Interaction Design, Edinburgh Napier University

Nevejan C. 2009. Between Heaven and Earth, Between Heaven and Earth: On the Impact of Technology on Culture and the Arts. In *Mapping E-Culture*, Virtual Platform, Netherlands

Nevejan C., 2008. De vitale rol van kunst en design in de toekomstige tijd. In "*Crossover, Kunst, Media en Technologie in Vlaanderen*". Ed. Liesbeth Huybrechts. Publisher: Lannoo Campus & Instituut voor beeldende, audiovisuele en mediakunst, Gent, Belgium

Nevejan C., 2007. Orchestrating Uncommon Ground. In *(Un)common ground - creative encounters between sectors and disciplines*. Brickwood, C., Ferran, B., Garcia, D., & Putnam, T. (Eds.). Amsterdam: BIS Publishers

Nevejan C., 2003. Integrated Learning Environments in *Future of Learning*, editors M.Tokoro en L. Steels, Sony Research Paris, Published by IOS.

Nevejan C. & Riemens P., 1995. Vital Information for Social Survival, in *Jubilee issue of Chitrabani*, Calcutta, India

Conference papers:

Bohorquez L., Nevejan C., Brazier F.. 2013. The sense of Participation. This paper is presented at 'MIT8 2013: public media, private media', Massachusetts Institute of Technology, Cambridge, USA.

Bansal L, Nevejan C. Brazier F., 2012. *Mobile stories: collaborative research on mobile technology*. This paper is accepted by 11th International Workshop on Internationalization of Products and Systems in Bangalore, India.

Nevejan C., 2011. Developing a Study-Site on Witnessed Presence. This paper is accepted by the *International Society for Presence Research Annual Conference – ISPR 2011*, Edinburgh

Nevejan C. & Brazier F., 2011. Time Design for Building Trust in Communities of Systems and People. This paper was accepted by *ICORD'11, International Conference on Research into Design*, Indian Institute of Science, Bangalore, 10-12 January 2011

Nevejan C. 2009. The New Balancing Act. In *Press and press support in a digital age*. The Netherlands Press Fund, AMB publishers Diemen.

Nevejan C., 2009. Spatiotemporal movements in communities of practice, in which human beings and autonomous systems participate. This paper was accepted by the workshop *Human Interaction with Intelligent & Networked Systems*, organized by the *2009 International Conference on Intelligent User Interfaces*, Sanibel Island, Florida.

Nevejan C., 2008. YUTPA: A Methodology for an Ethical Approach to Presence Design, in *The Ethics of Presence and Social Presence Technologies*, proceedings of the First European workshop Padua, Italy, 16 October 2008

Nevejan C., Doruff S., Gill S., Lavery B., Lundahl & Seidl, Brazier F., 2008. *Presence as Performance: Exploring Witnessed Presence*. Accepted panel for International Presence Conference Padua 2008.

Research sites

- Surfing the dissertation: Together with Mediamatic Lab I made an experimental environment which facilitates surfing through the dissertation. The dissertation was loaded into a database on paragraph level. As author of the text I attributed metadata to every paragraph. As result, one can surf through the dissertation and it still makes sense.
<http://dissertation.being-here.net>
- Witnessed Presence and Systems Engineering: On this site the source material is gathered and presented of an interdisciplinary exploratory study into Witnessed Presence. It shows 20 in-depth interviews with people from India, Great Britain and the Netherlands who are thinking out loud about how their personal and professional practice has changed because of technology. Coming from a variety of disciplines they elaborate first insights in fundamental dynamics of social structures in networked contexts. The site includes film fragments of the interviews.
<http://www.systemsdesign.tbm.tudelft.nl/witness>
- Collaborative research platform Being-Here: Publishes ongoing research into witnessed and mediated presence and creates a collaborative research platform at the same time. Interdisciplinary research between professional knowledge, artist research and academic papers are published in relation to one another. As of 2012 the European Institute of Technology assists in further developing this concept. The site is used as design platform for students.
<http://www.being-here.net>

Other publications

Co-author of publications of the Netherlands Council for Culture and the Arts between 2006-2013 (www.cultuur.nl)

Chair: Engineering Systems Foundations
Research: Participatory Systems Initiative
Section: Systems Engineering

Research focus

Foundations of design, engineering and management of participatory systems in human organizations and society: systems designed to support human participation. Participation in networked society, in which social technical ecological systems merge, requires presence, situational awareness, trust and the ability to act and interact at different levels of organisation. Integrity is key. In networked societies, network, networking, networked and network making powers are dependent on global coordination based on local interaction between systems. Locality is a leading principle, as is integrity and human experience. Research questions address the principles of witnessed presence, agency and awareness, collaboration, self-management and distributed coordination.

Design and analysis of participatory systems focuses on the behaviour of individual systems, their interaction, and organisational structure. The primary focus of our research is technology: technology as a system, an enabler, a catalyst. Theories, models, and research methods for participatory system design and engineering are subject of research

The multi-agent system paradigm provides a means to model, design, implement and evaluate the behaviour and robustness of many of such systems, most often large scale distributed systems (eg distributed energy management, dynamic supply chain management, crisis management). The AgentScape platform supports large scale distributed multi-agent based simulation to explore and analyse emergent effects of system behaviour during design, before prototyping. Distribution of processes and data in large scale systems is a core concern for participatory systems: integrity, dynamic distributed clustering, aggregation, robustness, security and complexity mandate technological solutions.

In other cases interaction and collaboration within and between systems, enabled by technology, is explored and analysed in real-life systems (virtual presence, visualisation, GDR, cloud-computing), requiring new technology to support interaction/collaboration, to acquire situational awareness and empowerment.

Publications

More than 200 academic publications, see for more information

www.participatorysystems.org/

Research Career

Full professor Foundation of Engineering Systems, Chair of Systems Engineering and Participatory Systems Initiative, Faculty of Technology, Policy and Management, TUDelft,	2009 - now-
Full professor Intelligent Interactive Distributed Systems, Department of Sciences, VU Amsterdam	2000-2009

Research director Stichting NLnet	2000-2008
Assistant/Associate professor, Artificial Intelligence , Department of Mathematics and Computer Science, VU Amsterdam	1991-1999
Researcher, Cognitive Science, Department of Psychology, VU Amsterdam	1983-1991
Scientific Programmer, Department of Psychology, VU Amsterdam	1981-1983

Board of Directors

Supervisory Board of Kennisnet	2013 - now
Board of Stichting NLnet Labs	2000 - now
Chair/member Board of LNVH - Network of Women Professors NL	2006 - now
Chair/member Board of Stichting ThinkQuest Nederland	2008-2010
Scientific Board ICIS - BSIK programme on Interactive Collaborative Information Systems	2006-2012
Board member, Secretary Stichting NLnet	1989-2007
Board member Stichting InterNLnet	2000-2003
Board of Commissioners of NLnet Holding BV	1996-1997
Board member Stichting NLUUG	1985-1995
Director EurOpen Ltd	1991-1993
Vice-chair Board EurOpen	1990-1992

University related advisory committees

• NWO (Dutch NSF) Interdisciplinary VIDI committee	2013
• NWO Smart Energy Systems Programme Committee	2011- now
• NWO Task force Scientific ICT infrastructuur	2010-2011
• Chair NWO Glance Research Programme Committee	2004-2007
• NWO Advies Commissie Informatica	2002-2007
• Programme Board Digital University NL	2002-2004

Education

Doctorate Amsterdam	Cognitive Ergonomics. Supporting the information retrieval process, VU
MSc Psychology,	Mathematics, specialisation Computer Science, minor in Cognitive teaching qualification Mathematics. Department of Mathematics and Computer Science, VU Amsterdam

