

# Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences



<b>Graduation project</b>	
Title of the graduation project	The Cultural Machine
<b>Goal</b>	
Location:	Rotterdam / The Hague metropolitan area (with inclination towards Rotterdam West)
The posed problem,	<p>The increasing possibilities of the ubiquitous world of the (internet of things) IoT, will not only be installed in our environment but also be attached to the human body. Generating services in which the participant has become as connective to its surrounding as the devices installed to serve them. Thereby expanding the reliance on the rapidly developing algorithms to advise and even control, human's daily lives, also known as algorithmic governmentality. This new agency, that is participating/governing (in) present days ecologies, require a certain input in the form of data. Which depending on the agency's responsibilities and services could exist out of personal data, generating and the whole scale of technical, practical, social and ethical challenges. As these developments transition from the 'realm of artefacts' into the 'realm of architecture', it becomes the responsibility of the architect/spatial designer how to deal with this apparatus and the associated challenges. Unfortunately, the adaptation of these artefacts are predominantly focused on the optimization of efficiency, cost and sustainability, thereby ignoring the socio-spatial matters of architecture in terms of interactions between its inhabitants.</p>
research questions and	Is (personal) data driven design capable of generating a suitable communal living situation for the digital generation?
design assignment in which these result.	<p>To focus on the challenges that are taken place by these recent digital developments in the realm of architecture. The design assignment will try to emphasize the frictions between varying – human/non-human- actors that operate in a semi-private / communal environment.</p> <p>The project will focus on multiple aspects of the built environment in a digitally enhanced sphere:</p> <p>The indirect influences of the digital apparatus, causing an evolution of existing architectural typologies, to assist with the emerging costumes and habits of the digital generation. With the endorsement of digital devices to 'nomadic' lifestyles, trough the disconnection of dependability to a single location. Transitions of operations from assigned locations to more ambiguous spaces. Encouraging the new generations to become less materialistic to physical properties and transcend towards condominium lifestyles.</p>

	<p>Thereby setting a stage for the emphasis of the project on the direct development of the digital apparatus onto the built environment and its challenges towards (personal) data and algorithmic governmentality in such new typologies.</p> <p>The design will focus on interaction design and socio-spatial matters, with the varying – human/non-human- actors on the various scale of a design project.</p> <ul style="list-style-type: none"> <li>• On the macro-scale: The adoption of algorithmic/computational design of organizational optimization of a condominium structure, both spatial and network wise, including the embedment of such typology into the existing/ future (urban) fabric of Rotterdam West.</li> <li>• On the meso-scale: The sense of selfhood and place in such a transparent and fluid environment controlled by algorithms and personal data.</li> <li>• On the micro-scale: The interaction design of digital enhanced objects/artefacts in the built environment, emphasizing on the social-material, ethical challenges.</li> </ul> <p>The Rotterdam/The Hague metropolitan area (with an inclination towards Rotterdam West) has been selected as the location for the project on terms of its focus on technological innovation, establishing an increasing amount of start-ups and larger institutions. Thereby creating a high demand in temporal housing in the region from the various international academic/governmental/private institutions and its shortage in affordable (Student) housing in general.</p>
<p>[This should be formulated in such a way that the graduation project can answer these questions. The definition of the problem has to be significant to a clearly defined area of research and design.]</p>	

## Process

### Method description

Literature Review: To formulate a theoretical framework from which to start the design process. With the emphasis on matters of personal data and interaction design in a digital enhanced built environment

Computational based design: to speculate the dynamics of the opportunities and challenges of the adaptation of personal data in an digital enhanced built environment

### Literature and general practical preference

#### *Personal Data:*

Hepp, Andreas & Breiter, Andreas & Friemel, Thomas. (2018). *Digital Traces in Context. An Introduction. International Journal of Communication.* 12.

Kitchin, R. (2014) *The Data Revolution: Big Data, Open Data, Data Infrastructures and Their Consequences.* London: Sage

Kitchin R, Dodge M (2011) *Code/space: software and everyday life.* MIT Press

Lupton, D. (2016). *The Quantified Self.* Hoboken, NJ, Verenigde Staten: Wiley.

Ratti, C., & Claudel, M. (2016). *The City of Tomorrow.* Amsterdam, Nederland: Amsterdam University Press.

Schnädelbach, H., & Kirk, D. (2019). *People, Personal Data and the Built Environment.* New York, Verenigde Staten: Springer Publishing.

Townsend, A. M. (2013). *Smart Cities: Big Data, Civic Hackers, and the Quest for a New Utopia.* -: W. W. Norton.

#### *Recommendation Algorithms:*

Finn, E. (2017). *What Algorithms Want.* Amsterdam, Nederland: Amsterdam University Press.

Steenon, M. W. (2017). *Architectural Intelligence.* Amsterdam, Nederland: Amsterdam University Press.

Intellectual Deep Web. (2019, 30 november). Manuel DeLanda - *The Origins of Artificial Intelligence.* Accessed from [https://www.youtube.com/watch?v=a1lIXpu\\_MgM&t=590s](https://www.youtube.com/watch?v=a1lIXpu_MgM&t=590s)

Greenfield, A. (2018). *Radical Technologies: The Design of Everyday Life.* -: Verso.

Kitchin, R. (2014) *The Data Revolution: Big Data, Open Data, Data Infrastructures and Their Consequences.* London: Sage

Kitchin, R. and Lauriault, T. (2014) *Towards critical data studies: Charting and unpacking data assemblages and their work.* Social Science Research Network. [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2474112](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2474112)

#### *Philosophy / Social materiality:*

Doyle, M. R., & Savic, S. (2019). *The Ghost of Transparency.* Basel, Zwitserland: Birkhauser.

Erickson T, KelloggWA (2000) *Social translucence: an approach to designing systems that support social processes.* *ACM Trans Comput-Hum Interact* 7(1):59–83

Erickson T (2008) *Social systems: designing digital systems that support social intelligence.* *AI Soc* 23(2):147–166

Gilbert E (2012) *Designing social translucence over social networks.* In: *Proceedings of the SIGCHI*

Hepp, Andreas & Breiter, Andreas & Friemel, Thomas. (2018). *Digital Traces in Context. An Introduction. International Journal of Communication*. 12.

Latour, B. (2005) *Reassembling the Social: An Introduction to Actor–Network Theory*. Oxford: Clarendon

May, J., & Latour, B. (2019). *Signal. Image. Architecture*. Amsterdam, Nederland: Adfo Books.

Lupton, D. (2015a) *Digital Sociology*. London: Routledge

Lupton, D. (2014) *The commodification of patient opinion: The digital patient experience economy in the age of big data. Sociology of Health & Illness*, 36 (6): 856–69.

Adaptive design :

Carmo, M. (2017). *The Second Digital Turn*. Amsterdam, Nederland: Amsterdam University Press.

Ratti C, Claudel M (2015) *Open source architecture*. Thames & Hudson, London

Kitchin R, Dodge M (2011) *Code/space: software and everyday life*. MIT Press

Lupton, D. (2016). *The Quantified Self*. Hoboken, NJ, Verenigde Staten: Wiley.

Ratti, C., & Claudel, M. (2016). *The City of Tomorrow*. Amsterdam, Nederland: Amsterdam University Press.

Schnädelbach, H., & Kirk, D. (2019). *People, Personal Data and the Built Environment*. New York, Verenigde Staten: Springer Publishing.

HBI/HCI:

Alavi, Hamed & Churchill, Elizabeth & Kirk, David & Nembrini, Julien & Lalanne, Denis. (2016). *Deconstructing human-building interaction. interactions*. 23. 60-62. [10.1145/2991897](https://doi.org/10.1145/2991897).

Alavi, Hamed & Lalanne, Denis & Nembrini, Julien & Churchill, Elizabeth & Kirk, David & Wendy, Moncur. (2016). *Future of Human-Building Interaction*. 3408-3414. [10.1145/2851581.2856502](https://doi.org/10.1145/2851581.2856502).

Alavi, Hamed & Churchill, Elizabeth & Wiberg, Mikael & Lalanne, Denis & Dalsgaard, Peter & Fatah gen. Schieck, Ava & Rogers, Yvonne. (2019). *Introduction to Human-Building Interaction (HBI): Interfacing HCI with Architecture and Urban Design. ACM Transactions on Computer-Human Interaction*. 26. 1-10. [10.1145/3309714](https://doi.org/10.1145/3309714).

Dalton, N. S., Schnädelbach, H., Wiberg, M., & Varoudis, T. (2016). *Architecture and Interaction*. New York, United States: Springer Publishing.

Jäger, N., Schnädelbach, H., Hale, J., Kirk, D., & Glover, K. (2017). *Reciprocal Control in Adaptive Environments. Interacting with Computers*, 18. <https://doi.org/10.1093/iwc/iww037>

Karyda, M., Rodríguez, I., & Lucero, A. (2018). *Gifting Interpretations of Personal Data. Extended Abstracts of the 2018 CHI Conference on Human Factors in Computing Systems*, 8. <https://doi.org/10.1145/3170427.3188552>

Schnädelbach, Holger, Jäger, N., & Urquhart, L. (2019). *Adaptive Architecture and Personal Data. ACM Transactions on Computer-Human Interaction*, 26(2), 1–31. <https://doi.org/10.1145/3301426>

## Reflection

1. What is the relation between your graduation (project) topic, the studio topic (if applicable), your master track (A,U,BT,LA,MBE), and your master programme (MSc AUBS)?

The Explorelab establishes freedom of exploring a student's fascinations that cannot easily be associated with any other more defined/specific studios in the Architecture track. Without the constraints to a general topic, it allows this

particular fascination of the project to be explored to its fullest potential. In terms of relationships with the master and the architecture track; as the ubiquitous world of the IoT becomes a dominated factor in the built environment, part of the architects' responsibility is to deal with adherent challenges related to a socio-spatial and socio-materiality matters. Thereby integrating Human-Computer interface (HCI) expertise into the architectural discourse, as the interaction with computational devices becomes relevant.

2. What is the relevance of your graduation work in the larger social, professional and scientific framework.

The overall topic of graduation is a critical perspective on the societal impact of the gradual externalization of functions, towards these ubiquitous devices and their adherent algorithms. This reliance on the artefact that mankind has come to establish has gained serious effects on society, from altering entire conducts of living to even a gradual eradication of human thinking. Even though the topic has been discussed by many varying scholars and practitioners over the past decades. The recent innovations/developments that moved into the built environment have required a new perspective onto the existing architectural/societal/scientific framework. As the gradual adaptation of algorithms and the abundance of data have caused a shift into a more quantitative/computational approaches of practice and research.