



THE CIVIC PROGRAM

Civic Architecture for the Immersive Internet

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Questions concerning virtual civic spaces of the 21st century, on which Diploma 2: The Civic Program is based.

If planetary scale virtual environments are soon to become an extension of our civic spaces, who will ensure that they are built on shared civic values?

We are a generation born into commercially driven digital congregations. Will we be ready for radical change if necessary or are we already accustomed to a potentially dangerous digital way of life?

Physical civic spaces are constructed based on physical access with our bodies. How do we create meaningful virtual civic spaces when access is not physically mediated, restricted or open as we can travel any distance instantaneously?

How do we develop humane regulations that ensure a healthy virtual civic society? And how do we enforce them?

Can we build virtual civic spaces with driven solely by market forces?

Can civic spaces become meaningful if they do not require significant effort to be built? Or would we be otherwise building an endless archive of meaningless Junk Space?

Physical civic spaces are often framed by symbolic details or arrangements which help bind a shared sense of civic behaviour, in some cases over generations. Should virtual civic spaces aim to achieve the same and is this even possible?

In a time when even political participation is done in the virtual (online polling/petitions etc), how do we ensure that our collective efforts are not used for purposes which were initially not intended?

Virtual spaces cannot be passive and require constant monitoring and maintenance to function. They can therefore never be truly free. Do we need to build virtual civic spaces which are self sufficient and passive in order to achieve free and open virtual civic spaces?

What is the role of physical civic space in the 21st century when meaningful social connections are made with others with whom we never share the same physical space?

Can we build virtual civic spaces on the same set of universally-accepted rules as outlined by The Universal Declaration of Human Rights from the mid 20th century or do we need a new set of rules?

As we build the civic spaces of the future in environments of mixed reality, what can we learn from the way in which physical civic spaces have been governed in the past?

Can we build a comprehensive model for virtual civic spaces based on trust and solidarity in which the inhabitants have nothing to lose?

In virtual civic spaces we do not see with our own eyes but with virtual eyes built and controlled by the host or owner of the space. How can we then make sure that what we see is not misleading?

How do we ensure that the vast computational (and therefore financial) costs of generating virtual civic spaces does not create class divides?

Our digital lives are already shared with countless artificial intelligent entities. As we transition into spatial computing and the immersive internet how do we ensure that we are not manipulated or misled by agents we trust?

INTRODUCTION



Whoever you want to be and whatever you wish to be a part of, you can (probably) do it or find it on the Internet. It gives context to the desires, opinions and beliefs that cannot find a place in the physical world and provides access to ideas held back by social norms. As the Internet moves the world, we move into it, immersing ourselves in its possibilities to transform life. As we slip through the screen, we emerge on the other side, within the Immersive Internet enabled by recent developments in AR/VR technology.

The Immersive Internet is not a novel initiative. It is the inevitable metamorphosis of the WWW as it gains a new dimension. Once we have brought our bodies and senses into a partially or fully simulated reality, we are having an architectural experience. Who is designing these buildings? What are their functions and their natures? And, most importantly, why go to the trouble of constructing architectural enclosures when there is nothing to be physically sheltered from? The fact that early citizens of the Immersive Internet are creating such spaces tells us that architecture is the answer; we just have to figure out the question. Architecture currently serves as a reference for structuring behaviour and social relations in the ever growing world of immersive social VR, via platforms such as VRchat or Facebooks, Oculus Venues. Online virtual Lectures take place in rooms with typical theatre layouts and virtual raves happen in nightclubs or forests. This seems like a lost opportunity to explore what could be possible in this new environment— however, it does point to a very

interesting future in which architecture is conceived as a shelter for the mind and, in turn, for social relations. However, in a place where one can walk through walls, mute people or switch entire spaces off at any given time, what kind of social behaviour is to be expected?

Civic space fulfils the shifting and ambiguous role of structuring collective life. Without civic space, there can be no democratic society and without a civic Internet, there can be no Immersive Internet as the right to associate, assemble, and freely express views are the fundamental principles upon which it is founded. The role of its architecture shall include giving shape to the values and aspirations of its communities, and its success shall be measured by how these are inspired, supported, and experienced.

Following the Brexit vote and the 2016 US election it is becoming increasingly clear that the internet - upon which so much of our lives rely— may be deeply flawed in this regard of civic values. Mounting fear that we might have built the largest privatized surveillance machine ever imagined is on the rise, with sovereign online identity and the dismantling of tech companies currently offered as a campaign promise from one of the leading candidates for the US election. The need for a regulated, secure and fair simulated reality is increasingly an issue of mainstream consensus.

We seek to create visions for civic spaces in the immersive internet. Learning from the rich history of civic architecture and embracing the idea of a future of overlapped realities we will shape spaces of mixed nature (physical and virtual) that acknowledge and respond to the awesomeness and awfulness of our inevitably technological lives.

Image: The Ideal City, Fra Carnevale. Circa 1480

CIVIC

To define civic architecture requires first defining the notions of public and private. These are categories often thought of as concerning law, politics and economics, however they go much deeper and are, at their core, defined by behaviour (precisely gender and sexuality) and language. This argument is well established by Michael Warner in his book *Publics and Counterpublics* where he concludes that "being in public is a privilege that requires filtering or repressing something that is seen as private". The idea that one can *be* in public implies that there is a space defined as such, and therefore a spatial distinction between the private and the public. Warner illustrates how the early western notion of public was almost solely spatial, establishing boundaries between the private and public, and how modern culture has added complex layers of abstract meaning while keeping the idea of physical boundaries. This is often misleading, as we expect a simple definition of private and public (much like the sharp edge between colours in zoning diagrams), when in fact the term also refers to social context, kinds of feelings, and genres of language. As Warner further exemplifies: "A private conversation can take place in a public forum; a kitchen can become a public gathering place; a private bedroom can be public and commercial space, as in a hotel; a radio can bring public discussion into a bathroom, and so on."

From the idea of public emerges the notion of civic space, intrinsically linked to politics. As Jaron Lanier explains in his article *Why is the city square square?*, "It's not uncommon, today, to use the city square as a metaphor for democracy, but squares predate democracy. They signified power before they signified fairness. First came Athens for survival, then came the Athens of ideals. [...] The square originally meant submission in exchange for safety *before* it meant democracy."

Today civic spaces embody our aspirations and values as a collective, while the issues of safety and protection have become nearly invisible to us on a day to day basis. At their best, civic spaces support the sense of community within the group of people that makes use of them. Over time one cultivates a sense of care and commitment similar to that dedicated to our homes, without necessarily having any formal claim of ownership over them. Civic space belongs to the *public* but it does not belong to *you*. And to further complicate matters, civic spaces are managed by institutional bodies that are, in some cases, private (as is the cases for POPS). Civic architecture takes so many formal and legal configurations that its definition, physical and legal, remains ambiguous to this day. This leads to confusion and surprise when in moments of conflict power is exercised, tarnishing our confidence in civic spaces and creating a sense of discomfort and vulnerability. This feeling that has occurred repeatedly throughout history in physical civic spaces has been recently replicated in online media, this time threatening the privacy of our technological persona.

Later in the above mentioned essay, Lanier goes on to highlight the issues with the parallels made between the city and the internet, the city square and the online forum, or civic space and social media. He revisits the shift from one-way links to two way links in the early days of the internet, which has led to today's top-down model dominated by a handful of tech giants. Lanier leaves us with an understanding of the internet as the wilderness in need of a *city* in order for us to "settle into a comfortable shape". Intended as a metaphor, one can't help but see literal meaning in his words since, as we set foot in worlds where the physical systems of behaviour and language that established our spatial notions of civic space are virtually replicated.

VIRTUAL

There are today countless public and private spaces with tens of thousands of inhabitants accessible through immersive VR technology. They are commonly referred to as “social vr platforms” and are, in broad terms, inhabitable versions of platforms such as Second Life, launched in the early 2000s and reaching its peak user base in 2013.

Social VR platforms such as BigScreen VR, VRChat, Sansar, High Fidelity or Mozilla Hubs are pioneers of the immersive world that is expected to become widespread with the arrival of 5G and the mainstream headset or glasses. These social spaces have emerged out of a natural evolution of the assembly space online. The chat room and later social media have become powerful extensions of physical forms of assembly in public space. However the disembodied presence, delayed response and shifting identities presented by text-based platforms takes away accountability and its consequences in civic behaviours (or civility) and trust. Embodiment brings body language and the social codes associated with it, which are very much attached to the architecture and specific cultures around them. It is only natural that current VR spaces are replicas or mashups of physical ones, as we are replicating the interactions we would otherwise have in the flesh, if it weren't for the distance between us.

Virtual : having the attributes of something without sharing its physical form.

Perhaps virtual spaces and social interaction within them will eventually evolve beyond recognition and become a completely new *thing* in their own right; however, that can only happen through a gradual evolution of what we now know and understand. Which brings up the notion of what is virtual per se: having the

attributes of something without sharing its physical form. The virtual cannot exist without another, and even if it can evolve far from its source of reference, it will only be virtual for as long as it is understood in relationship to its source.

Text about frescoes? San Gimignano, Andrea Pozzo

Virtual spaces are perceived audio-visually, however they are experienced multi-sensorially. This has to do with how other senses are triggered in association with what we see and hear. Thus, the richer our library of haptic sensations, the better we will be at auto-completing virtual worlds.

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The virtual, which is by definition referential, must therefore embrace such referential nature in order to communicate to the many and not the few, and with as much depth as possible. The architecture of immersive virtual worlds serves the purpose of communicating to the human mind, tapping into past memories to create an experience that is completed across time.



Image: Gathering in High Fidelity, social VR. 2016

OUTLINE

During Term 1, we will study existing civic spaces in physical and virtual reality, looking at them from 3 angles, architectural, political, and social, tracing back historical development and precedents – emphasising on its intersection with media, identifying the typologies that it fits into, and studying the significant events and everyday use of it during its lifetime. We will together analyse the findings of the studies done by each student and establish patterns and predictions.

The study of physical civic spaces must include one which can be visited in London. The study of virtual civic spaces must be done in person, meaning that each student must engage directly with the space and its inhabitants. At the end of term 1 each student will identify a topic of interest that informs the type of civic space they aim to create in architectural and social terms, and the values and ideas it stands for.

During Term 1 Real-Time and VR software will be introduced. Each student will design a social virtual space to test against the public. The structuring and formalisation of this experiment will be devised on a case-by-case scenario.

During Term 2 students develop their individual designs for civic spaces in the immersive internet. This involves defining a site that can be specific or generic: a specific site is a particular place in the physical, the virtual, or both; a generic site is a physical or virtual architectural civic typology.

The designs for civic spaces in the Immersive Internet must address:

1. –physical and virtual– formal and material aspects such as: geometry, size, colour, and texture;
2. cultural, behavioural, and perceptual issues such as: the relationship to the history of the place and/or type, stylistic associations

through materiality and ornamentation, overlay of physical and virtual elements;

3. and normative aspects such as: law establishment, enforcement, and surveillance, translation and/or transgression of established social codes and decorum, user and creator protocols, issues of territoriality in the virtual such as access, control, and ownership, laws concerning use, behaviour and commercialisation.

The above aspects contain multitudes, and each of them carries a considerable degree of complexity. Students are advised to identify those which have the greatest impact on the nature of each of their projects and focus their attention, while necessarily addressing most of them.

Term 3 will be fully dedicated to finalising presentation materials.

Students are encouraged to develop methods of representation best suited to their projects. The outputs listed below will serve as a guideline to help structure each term:

Term 1 - Output

Orthographic drawings (plan) and diagrams that connect the architectural, social, cultural and historical elements of each case study as one cohesive representation.

Documentation of the tests conducted in the virtual space purposely designed.

Term 2 - Output

Designs for civic spaces in the immersive internet, necessarily including the definition and in some cases referencing the design of their physical counterparts. The design will be presented through conventional architectural representation methods (drawings and models) as well as a conclusive VR film also produced and made available as a regular film.

UNIT STRUCTURE

To design for the virtual means to conceive of spaces whose purpose and character we cannot quite fully grasp yet. Projects will therefore require careful observation of the use and behaviour of people in civic environments, combined with logical speculation of how this might evolve. We cannot rely solely on existing problems to solve; rather, we have to foresee the problem to act upon. This speculative approach can only come from the careful observation of the actual, tracing the line of "how it came to be" in order to construct the path of "what it might become". We ask students to commit to and stand behind ideas of an *online* future that should be backed by references as much as by personal relatable experience.

Even if these ideas are quite personal and individually studied, they will greatly benefit from collective discussion and sharing of ideas and resources within the unit – but also outside of it and beyond the school itself. Reaching out to others, (professionals, academics, users, etc.) will be a crucial part of your studies and design development during your diploma as well as being essential to your future career.

We will have different types of group sessions within the unit as well as with invited guests. These will take the form of city walks, site visits, seminars, juries and a symposium. There will be different degrees of participation depending on the event, some of which will be fully organised and run by the students.

SEMINARS

- The Reference
- Publics and Counterpublics
- The Public Square
- The Augmented City
- Making Cities
- On Liquid Modernity

WALKS

- Civic Space in Victorian London

- The British new towns. A model for civic society.

VISITS

- Victoria and Albert Museum
The role of free museums in the age of the internet.
- The Barbican
Socialist Utopia
- The Ring of Steel
The City of Londons invisible defence system.
- London's POPS
The effects of Privately Owned Public Spaces on London's Civic spaces.

JURIES

- Term 1 End of Term Jury on Week 12
- Term 2 Midterm Jury on Week 6
- Term 3 End of Term Jury on Week ?

SYMPOSIUM

A symposium will take place in Term 2, details TBD.

WORKSHOPS

Several workshops will take place throughout the year introducing modelling and representation methods and tools as well as filmmaking techniques such as: editing, script writing, video editing, VR films and content curation.

TECHNICAL STUDIES

Fifth year students develop their Technical Studies based on physical or virtual technical aspects significant to the project. The area of the project studied in ETS must be of great significance to the design and become a study topic in its own right. Students are encouraged to think broadly about the technical topics that an architect should be knowledgeable of today beyond structural, material and environmental studies. Diploma will be submitting with "option 2" in the third term.

SCHEDULE

We will meet twice a week:
on Tuesdays as a group
on Thursdays for individual tutorials*
(*TBC based on the schedule of Core Studies)

During Term 1 we will additionally meet on Mondays for extra Walks, Seminars or Visits. In extraordinary circumstances we might meet on a weekend.

Below are the key dates of each term:

TERM 1

09.23 Term 1 starts
09.26 Units Confirmed
09.27 First Unit Meeting
(time and location tbc via email)
10.18 Open Evening
11.01 Open Jury
12.11 Final Jury
(tentative date)
12.12 Term 1 ends

TERM 2

01.06 Term 2 starts
Progress Reviews
01.10 Open Day
02.07 Open Jury
02.12 Final Jury
(tentative date)
03.04 ETS5 Option 2 Jury
(tentative date)
03.11 4th Year previews
03.12 4th Year previews
03.18 5th Year Previews
03.19 5th Year Previews
03.20 Term 2 ends

TERM 3

04.20 Term 3 starts
04.22 ETS5 Option 2 Final Submission
05.07 Open Jury
05.14 Final Jury
(tentative date)
05.28 5th Year Diploma Committee
05.29 5th Year Diploma Committee
06.03 4th Year Reviews
06.04 4th Year Reviews
06.10 5th Year Reviews
06.11 Year Reviews
06.12 Diploma Honours
06.17 AA Final Examination
(ARB/RIBA Part 2)
06.19 Projects Review Opening

TRAVELLING

Please note that there is no unit trip scheduled for the academic year. Students are encouraged to travel for the benefit of their individual work.

SELECTED GLOSSARY

6DoF: (Six degrees of freedom) refers to the freedom of movement of a rigid body in three-dimensional space. It is used in virtual environments to describe the movements of avatars.

Bummer: An acronym coined by Jaron Lanier that stands for: "Behaviors of Users Modified and Made into Empires for Rent" describing the non-civic and harmful financial foundations of social media and digital surveillance economy.

Echo Chamber: In the news media echo chamber is a metaphorical description of a situation in which beliefs are amplified or reinforced by communication and repetition inside a closed system.

Global Village: describes the phenomenon of the world becoming more interconnected as the result of the propagation of media technologies throughout the world. Coined by Canadian media theorist Marshall McLuhan.

Immersive Internet: Describe the concept of a future iteration of the internet, made up of persistent, shared, three-dimensional virtual spaces linked into a perceived virtual universe. Synonyms: Metaverse, Immersive WEB

Legacy media: Pre-digital media such as radio, television, and especially newspapers. With legacy media, the receiver does not contribute or interact with the content and remains totally passive. (Informally used in tech circles)

Locomotion: Used to describe movement from one place to another (locomotion) within a virtual reality environment.

Open web: Informal term which encompasses technical concepts like open-source code and open standards. It also encompasses democratic concepts like free expression and digital inclusion.

Paywall: (on a website) an arrangement whereby access is restricted to users who have paid to subscribe to the site.

Planetary-Scale Augmented Reality: A virtual coordinate system which persistently maps the entire planet with coordinates at submillimeter precision for consistent augmented content.

Self-Sovereign Identity (SSI): Informal term for individuals or organizations having sole ownership of their digital and analog identities, and control over how their personal data is shared and used.

Skin: Used in virtual environments like games and social VR to describe the appearance of an avatar in its entirety.

Social VR: Online virtual platforms accessible through virtual reality headsets where users interact with each other through avatars which channel the voice and body language of the user to others. In most of these platforms the users create their own environments.

Spatial Computing: Broad term used to describe the way we interact with computers in our surroundings. In spatial computing, machines are no longer contained to a single location, but instead occupy the space around us. This applies equally to devices in the physical world, or to virtual reality settings.

The Stack: "An accidental megastructure" of planetary-scale computation layers that make up the entirety of our digital world. Coined by Benjamin Bratton in his book *The Stack on Software and Sovereignty*.

Walled Garden: is a closed digital ecosystem in which all the operations are controlled by the ecosystem operator.

RESOURCES

Books

2018. BAIENSON, Jeremy. *Experience on Demand: What Virtual Reality Is, How It Works, and What It Can Do*. W. W. Norton & Company
2018. OLGATI & BREITSCHMID, Valerio & Markus. *Non Referential Architecture*. TenderBooks
2018. LANIER, Jaron. *Ten Arguments for Deleting Your Social Media Accounts Right Now*. Vintage
2017. ARIEFF, Allison. *The Future of Public Space*. Metropolis Books
2017. LANIER, Jaron. *Dawn of the New Everything: A Journey Through Virtual Reality*. Penguin Books
2017. WILLIAMS GOLDHAGEN, Sarah. *Welcome to Your World: How the Built Environment Shapes Our Lives*. Harper Collins Publishers
2016. COLOMINA, WIGLEY, Beatriz, Mark *Are We Human? Notes on an Archaeology of Design*. Lars Müller Publishers
2016. BRATTON, Benjamin. *The Stack - On Software and Sovereignty*. MIT Press
2015. JOEKALDA, TALI, TUKSAM Johanna, Johan, Siim. *Interspace. Essays on the Digital & the Public*. Lagemik, Estonian Center of Architecture
2013. GRIMSHAW, Mark. *The Oxford Handbook of Virtuality*. Oxford Handbooks
2008. DOESINGER, Stephen. *Space Between People*. Prestel Publishing
2007. VON BORRIES, WALZ, BÖTTGER Friedrich, Steffen, Matthias. *Space Time Play*. Birkhäuser
2002. BRIGGS, BURKE, Asa, Peter. *A Social History Of The Media: From Gutenberg To The Internet*. Wiley Publishing
2002. WARNER, Michael. *Publics and Counterpublics*. Zone Books
2001. HORROCKS, Chris. *Marshall McLuhan and virtuality*. Icon Books
2000. KOOLHAAS, CHUNG, Rem, Chuihua Judy. *Harvard Design School Guide to Shopping*. Taschen
1977. VENTURI, SCOTT BROWN, Robert, Denise. *Learning From Las Vegas: The Forgotten Symbolism of Architectural Form*. MIT Press
1968. MCLUHAN, FIORE, Marshall, Quentin. *War and Peace in the Global Village*. Bantam Press
1967. MCLUHAN, Marshall, *The Medium Is the Message*. Bantam books
1966. HALL, Edward. *The Hidden Dimension*. Penguin Books
1922. MYERS, HEHEMANN, PEETS, Thomas, Werner, Elbert. *The American Vitruvius: An Architects' Handbook of Civic Art*. Architectural Book Publishing

1902. SITTE, Camillo. *The Art of Building Cities: City Building According to Its Artistic Fundamentals*. Martino Fine Books

ARTICLES / ESSAY

2019. ROSEDALE, Philip. *Parts List for the Metaverse*. [High Fidelity Blog](#)

2018. MATSUDA, Keiichi. *Mirrorworlds*. [Leap Motion Blog](#)

2015. FURLAN, Rob. *A Maker's Guide to the Metaverse*. [Singularityhub.com](#)

2010. MATSUDA, Keiichi. *DOMESTI/CITY - The Dislocated Home in Augmented Space* [Bartlett School of Architecture](#)

AUDIO/VIDEO

2019 - - *Congress holds hearing on use of persuasive technology on the internet* – 06/25/2019 CNBC Television

2019. HELLER, Brittan #789: *Human Rights in the Metaverse: Brittan Heller on Curtailing Harassment & Hate Speech in Virtual Spaces*, Voices of VR Podcast

2019. HELLBERG, LESMES, Fredrik, Lara #800: *How VR is Changing Architecture Education & The Symposium on the Architecture for the Immersive Internet at the Architectural Association*. Voices of VR

2019 - - *Architecture of the Immersive Internet*. AAschool Lecture Archive

2018. PERSZYK, Danielle. #657: *Using Neuroscience Theory for Experiential Design + The Nature of Consciousness*. Voices of VR Podcast

2018. MATSUDA, Keiichi #639: *AR as the Democratization of Architecture, Hands-On Spatial Computing, & Leap Motion's North Star AR HMD*. Voices of VR Podcast

2018. LANIER, Jaron. #136 - *DIGITAL HUMANISM*. Making Sense Podcast

2018. LANIER, Jaron. *How We Need to Remake the Internet*. TED Talks

2018. GOYER, Nicolas. #697: *A Tour of Phenomenological Philosophers & Embodied Insights into VR*. Voices of VR Podcast

2018. COJOCARU, Andreea. #719: *The Phenomenology of Architecture & How VR is Revolutionizing Spatial Design Intuition*. Voices of VR Podcast

2017. LANIER, Jaron. *You will love this conversation with Jaron Lanier, but I can't describe it*. Ezra Klien Show

2017. LANIER, Jaron. #600: *Jaron Lanier's Journey into VR: "Dawn of the New Everything"* Voices of VR Podcast

2017. ROSEDALE, Philip. #533: *High Fidelity is Architecting for VR Privacy with Self-Sovereign Identity*. Voices of VR Podcast

2016. ALTBERG, Ebbe. #360: *Open vs Closed Metaverse: Project Sansar & The New Experiential Age*. Voices of VR Podcast

2016. BRATTON, Benjamin. *Presentation of The Stack*. SCI-Arc Media Archive

2015. ROSEDALE, Philip. #173: *Philip Rosedale on creating the metaverse by linking virtual worlds together with High Fidelity*. Voices of VR Podcast