
Composing our urban interactions : the Universal Composition Lab at UCL

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Abstract

This paper will present the formation of a new multidisciplinary laboratory at the University College London, called the Universal Composition Laboratory (otherwise known as 'UCL-squared'). With the aim to improve the accessibility of our cities to all, it promotes a multisensorial approach to its design in space and time. This paper will introduce the concept of Universal Composition and discuss the 6 main principles behind it. It will discuss our current projects and also introduce the parallel formation of a new transdisciplinary Masters degree, which hopes to transcend the disciplinary approach of most universities towards the transdisciplinary, collaborative composition of our future urban interactions.

Author Keywords

Urban interaction design; universal design; universal composition; multisensorial design; transdisciplinarity

Introduction

The design of our cities often causes more pain than pleasure. They can be a struggle for the average citizen – getting to where we have to be on time, fighting crowds and traffic jams, trying to interpret signs and signals. The inherently visual practice of design has traditionally privileged the sense of sight – leading to urban environments which are heavily reliant on visual

means for navigation. However, how do those who cannot see navigate, not to mention enjoy, such cities?

Urban interaction is a problem not only for the visually-disabled, but for numerous other citizens who are disabled in some way. However, everyone should have the right to access a city's services, and urban design should ideally promote, rather than inhibit, social equality. We are approaching this challenge by developing a process, which we call 'universal composition'. Universal Composition is a way of describing multisensorial design in space and time, and thus embraces the question of how to make our interactions with our environments as beneficial as possible whatever our capabilities and needs. The Universal Composition Laboratory [1] at University College London [2] – otherwise known as 'UCL-squared' – was formed to address these issues. This paper will introduce the 6 main principles behind it, before discussing some current projects and explaining its role in the formation of future urban composers.

1. Universality

Behind the term 'universal composition' is that it promotes inclusivity and is accessible to everyone. The term 'universal design' has been used by architects and designers to mean "the design of products and environments to be usable to the greatest extent possible by people of all ages and abilities" [3]. However, rather than viewing the urban environment as a static built object, we view it as a dynamic one of urban systems connected in time and space. We apply this view to everything with which we interact (physically or sensorially, directly or indirectly), to everywhere that these interactions might occur,

including contexts of culture, aesthetics, engineering and time, while addressing the abilities of everyone.

2. Composition

Through the term 'universal composition', we hope to emphasise two issues. First, the sense of bringing together many concepts, perspectives, characteristics and elements of the problem being faced and the potential for solutions to its challenge. Composition implies bringing together disparate, otherwise unconnected, elements for a single purpose and our intention is to open very wide the interpretation and definition of the problem and the means at our disposal to solve it. Secondly, the fact that, even when implemented, a design continues to evolve with time. Composition, used most commonly in relation to music, highlights this temporal dependency, which is critical to composing our urban movements and interactions. Thus rather than designing, we propose the 'composition' of our urban interactions – from detailed urban design experiences to transport flows – in space and time. Like a piece of music, we anticipate that such a compositional approach will lead to an urban environment greater than the sum of its design parts.

3. Products-and-processes

In the composition of dynamic interactions and evolving environments, we thus aim to shift the perspective of the urban environment from being viewed as an object, to being seen rather more as a process. Each urban intervention, whether a piece of street furniture or a new tramway, is both a product and a process. For example, a bus stop is traditionally conceived as a static design element, i.e. product, while functionally it is a part of a dynamic process i.e. the bus system itself.

Thus we hope to shift the focus of urban design elements as an end in themselves, to elements within a dynamic and evolving process, i.e. they are simultaneously a product and process.

4. Multisensorial

Integral to our compositional approach is the realization that our reality, current or future, is defined by our perception of it. We can only understand the world that we are able to perceive, and each of us has our own version of 'reality' according to the power of our individual senses. Many of us are disabled in one or more of our main senses of sight, hearing, taste, touch and smell. Thus addressing more of these senses would help contribute towards creating more accessible environments. In composing multisensorial environments, synesthesia – the simultaneous linking of multiple senses [4] - can also assist us in composing a multisensorial world.

However, there are many other senses that inform our perception, such as the sense of right and wrong. At the Universal Composition Laboratory, we question what is a sense and ask how we can design environments which 'feel' good rather than simply 'look' good. In order to do so, we propose a multisensorial approach informed by neuro and cognitive science while utilising creative HCI technologies. The goal of universal composition is to create a future city which is perceivable and understandable to everyone.

5. Transdisciplinarity

The composition of such multisensorial interactions must be informed by a wide range of expertise – from architecture, urban design, and engineering, to music, art, neuroscience and human computer interaction

design. UCL-squared hopes to compose future urban interactions by transcending disciplines.

As an academic institution, we are currently in the process of developing a transdisciplinary post-graduate Masters degree (envisioned for September 2015) aimed at connecting graduates and professionals of any discipline(s), informing a more comprehensive view of the world. We hope that exposure to a broad range of disciplines will help promote learning between them, leading to the development of a common language. Graduates would implement interactive and transdisciplinary design interventions in society, which will inform both design research and application.

6. Collaborative

Finally, we are convinced that we cannot compose equitable and meaningful environments without community involvement. In order to make a positive contribution rather than unwanted imposition, we aim to work collaboratively with society. With communication being the key to understanding, we employ a diverse range of representation techniques, including music, drawing, dance and film, in order to effectively engage with as many people as possible. By doing so, we hope to better understand society's aspirations and thus design for them.

Current projects

While a relatively recent initiative, we have a number of projects in progress. With the collaboration of Transport for London, many of these have been bus oriented. We participated in the Day of the Bus event on the 22 June 2014 in Regents Street by composing a number of multisensorial, interactive interventions to 2 existing bus stops. [5] These included the composition of a

musical bus stop with musical chairs and percussive signage, as well as allowing the public to 'design their own' bus stop. We are currently composing a colour-changing bus sculpture as part of the London Bus Sculpture trail, which will respond to its environment and change colour from night to day and with human touch. In the near future, we intend to recompose the bus stop at UCL's main entrance on Gower Street into an 'edible' bus stop which not only looks good, but tastes, smells, sounds, and feels good depending on the time of day and the seasons. While celebrating – and challenging – the role of this everyday urban element in our urban environments, we hope that such interactive interventions will help present other

Acknowledgements

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References

- [1] Universal Composition Laboratory. www.cege.ucl.ac.uk/arg/ucl-squared.
- [2] University College London. <http://www.ucl.ac.uk/>

everyday urban design elements in a new light. Furthermore, these projects are examples of how academia, public authorities and the community can all play a part in the composition of our future urban environments.

Conclusions

The Universal Composition Laboratory hopes to compose future urban interactions through a universal, multisensorial, transdisciplinary and collaborative approach. Through our projects, we aim to reconnect people with their environments by bridging the gap between perception, disciplines, research and society.

- [3] Story, M. F., Mueller, J. L., & Mace, R. L. (1998). *The universal design file: Designing for people of all ages and abilities*. Raleigh, North Carolina State University.

- [4] UK Synaesthesia Association, <http://www.uksynaesthesia.com/whatis.html>

- [5] Transport for London. <http://www.tfl.gov.uk/campaign/our-events>