CONNECTIONS: EXPLORING HERITAGE, ARCHITECTURE, CITIES, ART, MEDIA

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WAVES: Crosscurrents of Art, Technology & Environment

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INTRODUCTION

Digital displays and projections are spreading across our cities in an almost dystopian manner. As if living in a *Blade Runner* movie scene[1] or *Snow Crash* book section,[2] digital screens and visuals are embedded in our cities and the architectural structures we inhabit. Media architectures have proliferated in public spaces across the world but are mainly used for advertising. The costs associated with installing, running and maintaining these technologies are high, therefore they are predominantly used as marketing platforms by businesses that can afford to run them or purchase advertising time on them. However, these displays can be used to enhance the aesthetic experience of our built environments and challenge established cultural ideas, as for example Pipilotti Rist's *Open my Glade* (2017)[3] and Jenny Holzer's *Projections* (1996 - Ongoing)[4] have shown.

Since media displays, both screens and projections, are content hungry and increasingly present in today's built environment, it makes sense to train the next generation of creative industries workers to produce artworks for these platforms. Hence, could we use such platforms at our institutions as teaching tools and to present artworks and students' creative endeavours rather than advertisements?

Higher education institutions can provide access to these technologies by setting up their own displays and projection systems on campus, and using them as learning platforms that would otherwise remain inaccessible to students. In this paper we discuss that approach, the setting up of the learning initiative and the challenges we have encountered. We believe that by offering access to such platforms on campus we are democratising students' access to the technologies used by media and advertising industries while also improving their learning experience by displaying their artworks in public.

The WAVES exhibition gives students the opportunity of presenting their work internationally and in the public realm - outside the classroom context and away from small screens - which in turn motivates them to produce higher quality artworks; it is not just coursework or a mere exercise in content creation, they are invited to design for a specific context.[5] To discuss our media architecture education project WAVES in detail, we first have to introduce the platforms that have enabled this ongoing collaboration. A short description of the two sites and the institutional support should suffice.

Media Art Nexus (MAN) at Nanyang Technological University Singapore is a platform for curating and promoting media art content by emerging and established local Singaporean and international artists. In doing so, MAN has become the only non-commercial urban media screen in Singapore dedicated to consistently growing art content. One of MAN's goals has been to exchange created art content and interact with international universities, art institutions, collectives and research institutes.

Gulbenkian Media Façade (GMF) is an integrated outdoor media platform that maps projections onto the façade of the Gulbenkian, the University of Kent's Arts Centre. It is the first permanent outdoor projection mapping platform in Canterbury, accessible on campus to locals, visitors and university communities. It is part of the Gulbenkian's long-term strategy to bring digital technologies into the arts, and engage with local, international, emerging and established artists and communities.

For the WAVES exhibitions (see Figure 1) we have brought these two platforms together to deliver a cross-continental urban media project, building a sense of community beyond physical space and using art to develop global awareness and cross-cultural audiovisual exchanges. Through a number of briefs over the years, the artworks produced by students (which we selected for the exhibitions) have addressed themes such as historic and literary imaginaries, science and environmental issues.



Figure 1. WAVES 1.0. exhibition video teaser at MAN, NTU-Singapore (2018). Logo by Alice Diana Isacila (EDA). Video teaser by Sam White (EDA). Image credit: Quek Jia Liang (NTU-ADM).

MEDIA ARCHITECTURE ACROSS CONTINENTS

We are aware that working with large media architecture displays from an artistic rather than solely commercial point of view is not new and below are some examples. However, our contribution is mainly pedagogical: offering students the unique learning experience of producing artworks for the public realm and displaying them on media architectures that are comparable to the commercial media displays for which they might one day be paid to produce content for.

Media architectures are not only offering future creatives spaces where to present content produced for clients, they are also "expanding the field of contemporary public art,"[6] enabling artists to develop participative and interactive art forms in public that are aesthetically beautiful and increase awareness of society's needs and critical issues.

Early initiatives such as Mirjam Struppek's Urban Screens project[7] are to be commended for working with screens across the world to transform media architecture displays into creative events rather than advertising platforms. Also, the proliferation of light festivals based on the original *Fête des Lumières*[8] (Lyon, France) are worth mentioning. These festivals attract a great number of visitors and result in substantial revenue for the host cities, as the Durham city Council report shows.[9]

Commercial urban screens and media façades are on the rise in Asia. In Singapore for instance, Changi Airport recently commissioned Moment Factory (Canada) to design and implement two architectural installations for Terminal 4, which led to another commission at the Singapore Zoo that culminated in the *Rainforest Lumina* installation (2018). The high production value of these works is indisputable, but why are institutions (not only Singaporean but across the world) commissioning international studios instead of local artists to generate content for their media architectures?[10]

For instance, the presence of international design offices in Singapore has brought forward demands for locally-trained interdisciplinary artists who possess a new set of skills. And given the demand for talented media producers in cities across the world such as Singapore and London, we believe it is pertinent exploring how higher education institutions can support new generations of creatives, who will be key *actants*[11] in future digital content creation, to develop those design skills.

LEARNING PROCESS

Beyond course outcomes

With WAVES, we provide two digital arts training platforms for Singapore- and UK-based students. The platforms are pedagogical tools beyond the classroom; they are safe learning playgrounds for

experimentation where students can be creative and design content for two media architectures. The format for which students have to design differs from the desktop-screen size they are used to. We require them to consider the architectural dimensions of the sites and the typology of these spaces.
Our teaching methods allow students to experiment and make mistakes, which is crucial for meaningful cognitive development and deep-level learning. As Oscar Wilde puts it: "[e]xperience is the name we give to our mistakes;"[12] we learn when struggling and trying again. In their study, Moser *et al.* demonstrate that when people believe they can learn from mistakes (growth-mindset), brain regions are activated by the realisation of having made a mistake.[13] From a pedagogical perspective, this is key. Our students need to be made aware that individual performance is improved when they do not get things right straight away, but when they try different ideas and put them to test. Similarly, Susan Greenfield refers to the plasticity of the brain when discussing the uniqueness of individuals and how brain connections are modified over time as individuals engage with things and experience the world around them.[14] Learning happens along the way. Brains are dynamic entities capable of transforming their connections and adapting.
We harness these ideas to support our pedagogical approach. Already in *Being Digital* (1995), Nicolas Negroponte argued that in the digital domain knowledge is acquired by "finding out for oneself"[15] and this applies to all aspects of learning. Our students can choose what they want to create and what they need to learn to do so. Sometimes this involves learning a new software, other times exploring analogue techniques that are then digitised and further developed in post-production.
Our students are provided with guidance on conceptual and aesthetic aspects of the artworks, while the technical skill development is student-led. We advise them that they need to be "self-programmable"[16] autonomous learners and that there is little to be gained from a *passive-information-transfer* approach. Ultimately, we are preparing students to face challenging, highly demanding computer-mediated professional and social environments where individuals are expected to re-wire themselves, and continue developing their skills and knowledge throughout their working lives.
For three years, we have embraced this learning and teaching model, sharing a passion for integrative and interdisciplinary learning, discussing the performance of our cohorts, being virtually present in each other's class, reflecting on our teaching approach, and planning our collaboration every year.

Learning and Teaching context

Even if only time-based, creating artworks for urban spaces is a complex task that requires a mix of knowledge (i.e. media, aesthetics, technology). With this in mind, both courses aim for students to:

- Develop a core competency in urban media production
- Enrich the local cultural scene with the creation of original artworks
- Explore different toolsets for authorship using industry-standard software
- Design within the context of media systems and architectural projections
- Consider the impact of public art on audiences and social interactions

With WAVES, we have sought to bring to mind: 1.) the perspective of student artists in an increasingly globalised world; and 2.) a pedagogical perspective where learning takes place across disciplines, borders and in public. Through these two angles students have a chance to share an international stage and help out with the exhibitions by designing relevant materials (e.g. website, posters, logo, photos), in line with the given themes and using content from the selected artworks.

Visual stories for transient viewing

Since the collaboration began, we have proposed a variety of briefs for students to experiment with. The themes addressed: heritage, climate emergency, quantum physics, and global interconnectedness. Independently of whether students tackled the same brief or not, both cohorts faced the challenge of producing audiovisual stories to be displayed in two spaces where viewers are mainly in transit. Each platform has a different aspect ratio and typology, and is integrated on campus, embedded in the built

environment, visible to staff, students, locals and visitors. MAN is a long media wall in a semi-indoor corridor-like space (see Figure 1) and GMF is a curved projection surface in an open space (see Figure 2). Both platforms are unlike white-cube exhibition spaces[17] and, therefore, the artistic content has to be visually compelling: a moving painting that draws the attention of passers-by.



Figure 2. Audience at the Gulbenkian Media Façade (GMF). Images credit: Rocio von Jungenfeld.

A PICTURE IS WORTH 1000 WORDS

In this section, we present a selection of artworks produced by students. They are diverse in terms of their audiovisual and technical approach. We are including some of the most accomplished artistic and technical experiments that resulted from the first WAVES exhibition.

Student Artworks at MAN (NTU-Singapore)

In this subsection, all images (Figures from 4 to 11) are credited to Quek Jia Liang.

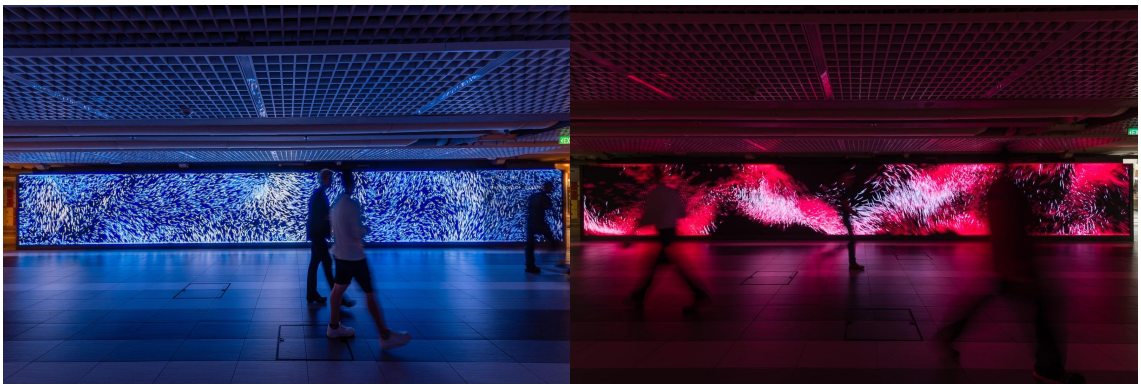


Figure 3: 'The Flow of Violence' by Sylvester Tan (ADM, Singapore).



Figure 4: 'The Sea Monster' by Yee Hui Wong (EDA, UK).

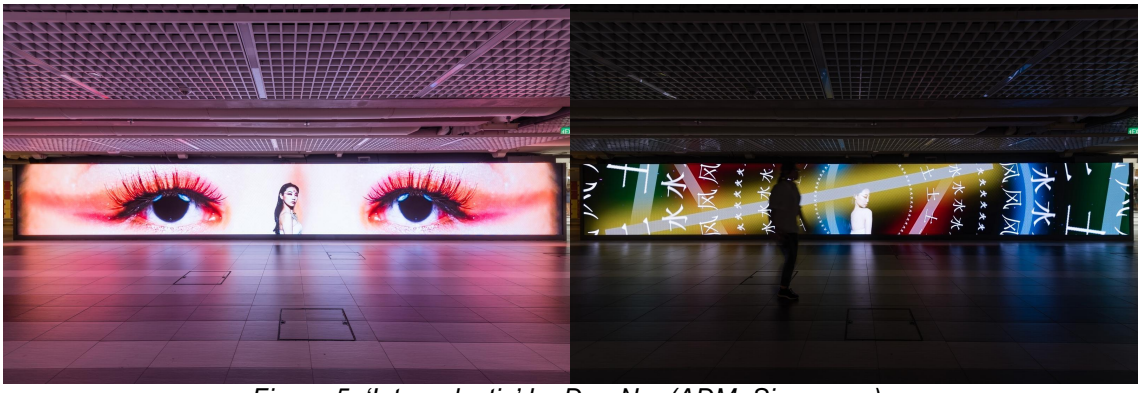


Figure 5: 'Intergalactic' by Dan Ng, (ADM, Singapore).

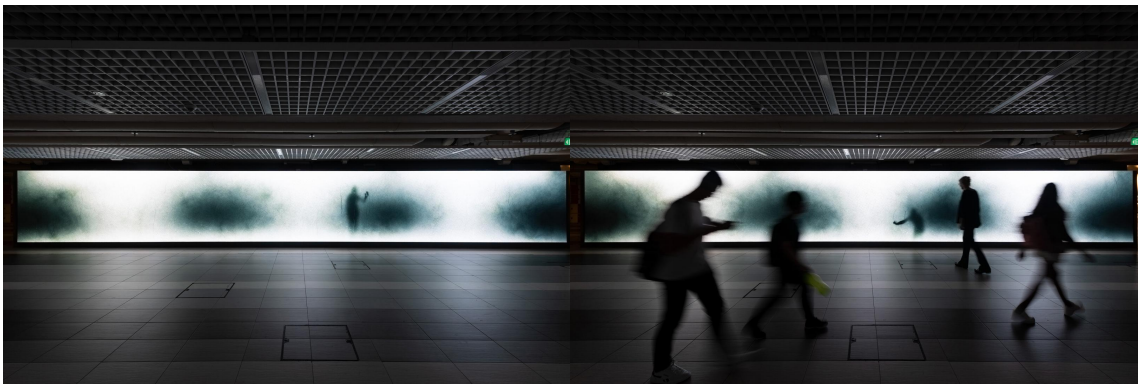


Figure 6: 'Is Anyone There?' by Sam White (EDA, UK).

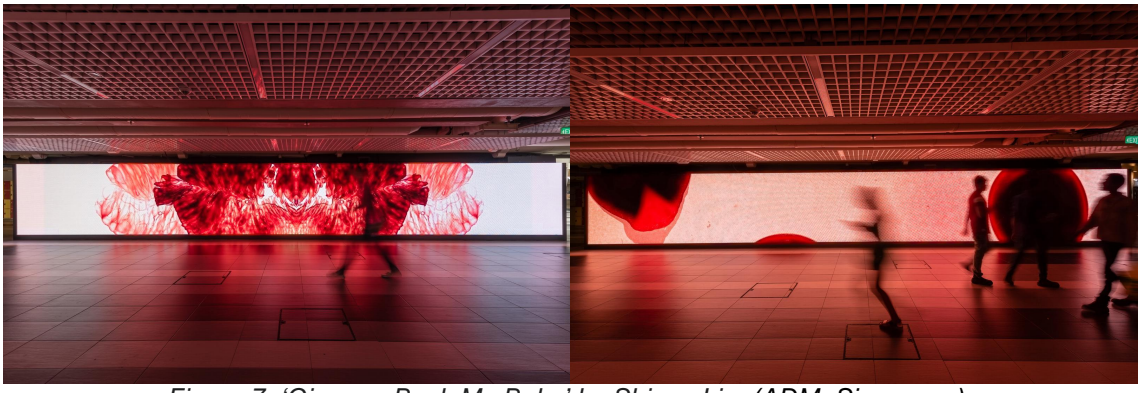


Figure 7: 'Give me Back My Baby' by Shiayu Lin, (ADM, Singapore).



Figure 8: 'What is Natural?' by Eleana Gabriel (EDA, UK).

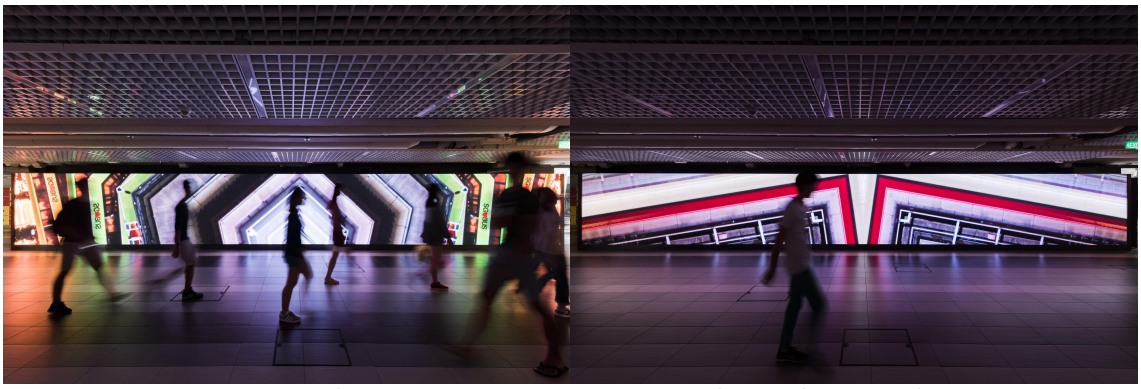


Figure 9: 'Streak' by Al Azmir Bin Ibrahim, (ADM, Singapore).

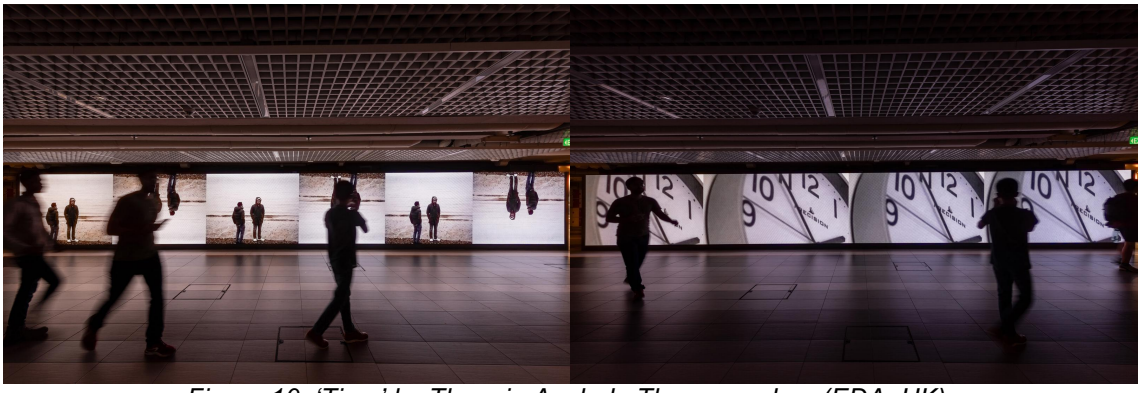


Figure 10: 'Time' by Thanuja Anshela Tharmaseelan (EDA, UK).

Student Artworks at GMF (UoK, Canterbury)

In this subsection, all images are credited to Lesley and Michael Langman.



Figure 11. From top left to bottom right: Yee Hui Wong (The Sea Monster, EDA); Sylvester Tan (The Flow of Violence, ADM); Dan Ng (Intergalactic, ADM) and Eleana Gabriel (What is Natural? EDA).

BENEFITS AND CHALLENGES

Exhibiting student's artwork in public has proven to be a valuable learning and teaching strategy. We noticed the quality of students' artworks rise when presented in an international and public context.

Students who were involved in WAVES 1.0. encouraged us to continue offering this opportunity to new students. Three EDA students involved in the first WAVES decided to further explore the creative potential of projection mapping and produce their final year project for GMF (Gulbenkian's 50th Anniversary). The resulting project won them the EDA Prize for Innovation and Creativity 2019 (University of Kent) which shows that working alongside international peers in Singapore and having their artworks displayed as part of the exhibition had a positive influence on their motivation to learn.
The main learning and teaching challenge we face has been timing. Being in different time zones has meant we could only occasionally teach together (teleconferencing). Also, with semesters starting and finishing at different times, we had to carefully consider when the exhibitions could take place. The first time, we settled for August, while the second and third times we programmed the exhibitions for May. A different approach was needed for the third iteration due to *COVID-19* (May 2020): the artworks were live streamed online and remediated on the spot in the form of an arts intervention.[18]
Another challenge has been deciding whether to show students examples from previous years or not. Experience has shown that when given examples, students tend to play it safe, basing their approach on these examples rather than pushing boundaries, experimenting and following their own creative vision. Greenfield argues a person's ability to take risks during learning and the learning environment in which they grew up are interconnected.[19] She discusses that digital technologies are changing our brains so if students' childhood is regulated by the immediacy of digital screens and little space for cognitively developing imagination and storytelling (projecting alpha and theta wave states) in physical environments, then when it comes to imagining what the digital artworks they are creating could look like on a building or large-scale display becomes problematic. Basing ideas and projects on existing artworks is not a problem *per se* as long as sources are acknowledged. For this, however, students have to be aware of ethical and copyright implications (e.g. Copyright)[20] and that copying without acknowledging they are standing on the shoulders of giants and peers is not acceptable.

NEXT STEPS AND RECAP

The international collaboration has become particularly relevant under the ongoing *COVID-19* situation, where students and academics have to work together while keeping the distance. Our experience of participating in each other's teaching environment via teleconferencing and sharing an international asynchronous exhibition is an approach that we will continue to explore and which we are certain will benefit students during these strange pandemic times.
The collaboration has also made us consider different styles of teaching and modes of communication that are not presential. We are looking into the potential of making the project expand into a joint accredited course between the two institutions and setting up a research lab. This will enable the project to grow as an international network for education and academic exchange.
As Peter Weible posits "globalization and digitization have not only changed the world but also the function and context of art along with the way art is presented."[21] Digital art projects such as WAVES have the potential for presenting artworks in innovative ways, and training new generations of artists to be bold and create compelling artworks for media architectures.
WAVES has brought communities of student artists together on a small scale and at low cost, which kept the project independent and allowed for creative freedom. What we learned is that it is rewarding to set up the stage through "cross - currents" of different themes and sites for two completely different experiences one to be presented during the day and another at night. Despite all the odds, when presented together in a curated manner, the themes that students explored in their artworks complemented each other. In the future, however, we should make an extra effort to encourage students to be more mindful of the location, passers-by and site.

Acknowledgements

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