

Time and Architecture

While built form is manifest in space it is occupied in time - architecture is inhabited by bodies in motion and within an environment that is in a constant state of flux. Students are invited to engage with research informed design that utilizes digital technologies to foreground two ways of considering architecture as a temporal construct.

The first builds on a long tradition in which architecture is conceived in terms of temporal sequence. Bois and Shepley's "A Picturesque stroll around Clara-Clara" traces a genealogy of the "peripatetic view", from the Greek revival theories of Leroy, the multiple perspective of Piranesi, Boulees's understanding of the effect of movement, to the Villa Savoye where architecture is best appreciated, according to Le Corbusier "on the move" ¹. Such approaches can be captured by the statement: static architecture plus mobile observer results in a temporal sequence of form, space, surface and the event of occupation.

The second approach to designing for time considers architecture which is literally kinetic, with a focus on the zone between exterior and interior, the building envelope or skin. As evidenced by intelligent skins, the possibilities are for a responsive membrane that adapts to changing environment conditions and user occupancy. Media facades by contrast, are driven by an interest in the recasting of architectural surface as a zone of interactivity, with the potential to engage users with public art works or embed socio cultural information. The introduction of kinetics either as a mechanism to improve environmental performance or as a new form of urban media that enlivens public space, provides an opportunity and a challenge for architecture. The opportunity is the ability to design ' *movement itself* ' ² as an integral part of architectural composition. The challenge is to achieve this by adding value to a building. If we are going to invest in expensive kinetic systems can these be orchestrated to provide an elegant kinetic response to environmental change? When these systems are not required to moderate a building skin, can they be re-purposed to provide opportunities for engaging kinetic art works?

Two design scenarios provide the context for the themes of temporal sequence and sustainable kinetic composition - a radical retrofit of the Commonwealth bank tower on the corner of Bourke and Elizabeth and the design of an urban promenade set in the docklands. Students are required to consider both for initial exercises of designing spatial sequences, composing kinetics and a technical study of how to realize a kinetic skin, before developing one of the sites as an individual program of occupation and performance over time.

¹ Bois, P. & Shepley, J.: 1984, A picturesque stroll around Clara-Clara, *October*, **29**, pp. 32-36.

² This a reference to the realist manifesto which was critical of the representation of movement as a series of static frames, as opposed to viewing movement in real time. Gabo, N. & Pevsner, A.:1920, The Realistic Manifesto, in BOWLT, J. (Ed.) *Russian Art of the Avant Garde: Theory and Criticism, 1902-1934*. New York, Thames and Hudson

Learning Objectives

- Capacity to work iteratively through a range of design ideas.
- Facility to critique and develop designs in relation to qualitative and quantitative criteria.
- Ability to use digital media to design temporal sequence and compose kinetics.
- Knowledge of the new compositional opportunities offered by kinetic systems
- Knowledge of construction systems that enable kinetics.

Assessment Criteria

Animation studies	Quality and range of designs. (20%)
Technical Study:	Ability to translate sketch designs to innovative and elegant technology. (10%)
Final Project:	Functional program considered in multiple time scales (15%) Quality of spatial sequence. (15%) Quality and performance of kinetic skin design. (15%) Design and delivery of presentation. (5%)
Critical dialogue:	Throughout the studio students are required to critically evaluate their own and fellow student projects using an online forum. The ability for self critique and the facility to enter into constructive dialogue on other students projects will form part of the assessment. (10 %)

Use of design software

NB. The aptitude and appetite for digital design as the means to extend creativity is essential.

There will be introductory computer workshops targeting particular skill sets, but students are expected to have reasonable 3D computer skills. The first exercise involves the animation of site photographs using Macromedia Flash and Esperient Creator. A second animation exercise will be undertaken in MAYA, where an animation script will be supplied – students are required to alter variables in a configuration text file to enable experimentation with a wide range of kinetic composition. Digital site models will be provided in MAYA, 3D Studio MAX, RHINO and Esperient Creator. Students can develop their designs in any of these, but design reviews will be undertaken using the Esperient real time modeling environment ³ (similar to a videogame engine), in conjunction with animations composited with site video (MAX batch rendering access is available to students to expedite animation production).

³ To view the features of Esperient Creator see <http://www.esperient.com/> Esperient software is available in the computer labs – NB avoid downloading the 30 day trial version on your home computer until later in the semester :-)

Timeline	Wed 1 to 3pm Computer Lab room 5.16	Fri 12 - 3pm Design Space 4th floor	
Week 1 Introduction	Interviews / reading	Seminar / discussion	
Week 2 Spatial sequence	Workshop / tutorial	Review	
Week 3 Spatial sequence	Workshop / tutorial	Review / Assessment	10%
Week 4 Animation studies	Workshop / tutorial	Review	
Week 5 Animation studies	Workshop / Tutorial	Review / Assessment	10%
Week 6 Technical Study	Tutorial	Review	
Week 7 Technical Study	Tutorial	Review / Assessment	10%
Week 8 Sketch Designs	Workshop / Tutorial	Review	
<i>Non-teaching week 30th Aug - 6th September</i>	<i>optional digital skills workshop</i>	<i>date TBC</i>	
Week 9 Sketch Designs	Tutorial	Review / Assessment	10%
Week 10 Developed Design	Tutorial	Review	
Week 11 Developed Design	Tutorial	Review / formative assess.	
Week 12 Presentation Design	Tutorial	Hand in final project	
Jury review		Review / Assessment	50%
Critical dialogue	<i>Through Out</i>		10%

Note on expected work load: This subject equates to a *minimum* of 20 hours a week ie 6 hours scheduled classes and at least 16 hours research and design outside of class. Given the required digital component of this class, students should in addition expect to spend extra time on developing applicable software skills.