Digital Origami

An ancient Japanese proverb says: "If you meet a person that is able to make many items of different shape by folding up simple sheets of paper, don't think it is trivial, but try to learn."

Digital Origami. UTS master class students with Chris Bosse.
72 Erskine - Events & Exhibition, 18 May-01 June
featuring a Lighting installation by ERCO, and an Acoustic installation by Joanne Jakovich

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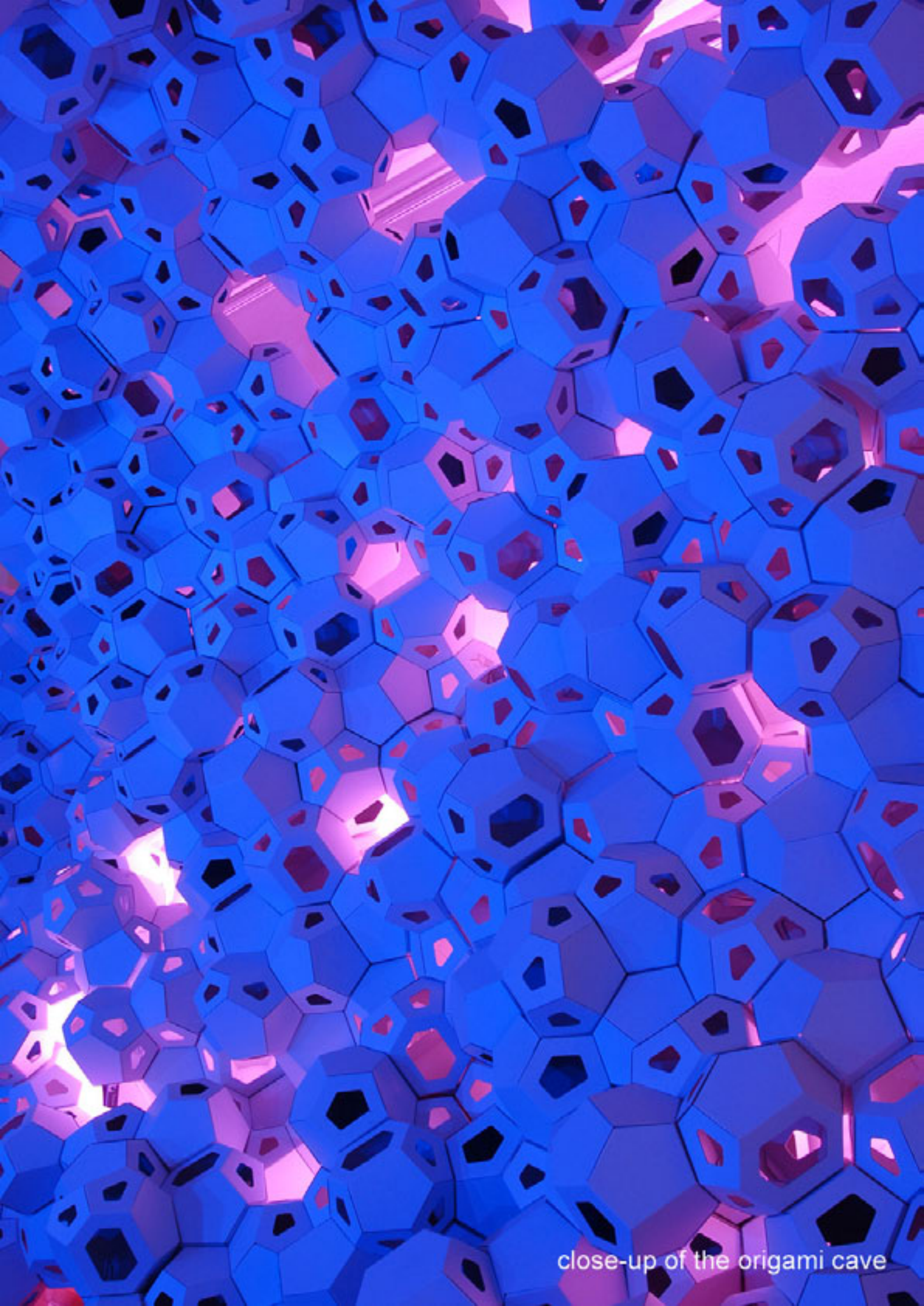
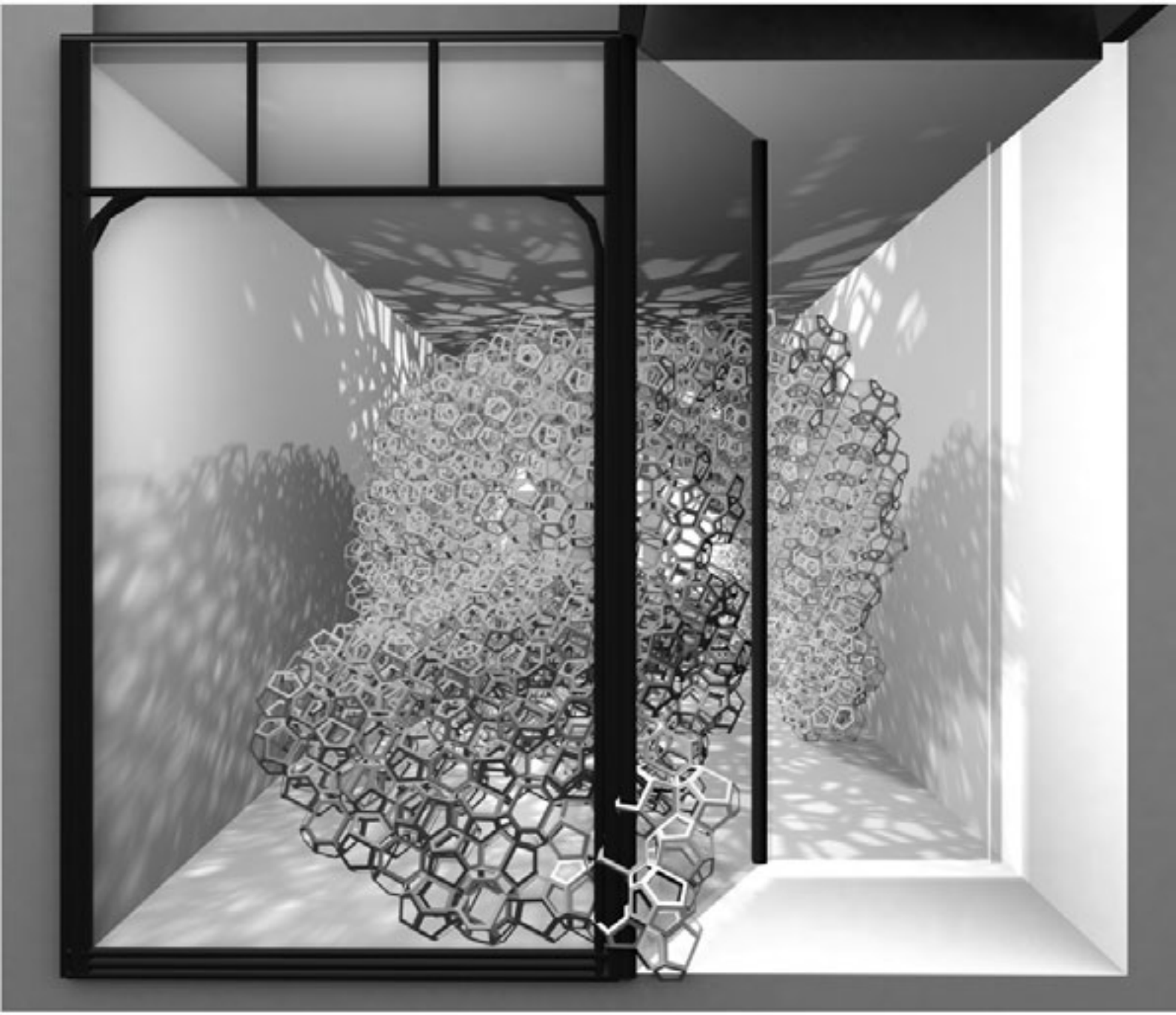
shopfront erskine street



close-up of the origami cave


interactive light changes

interior view origami cave



digital rendering

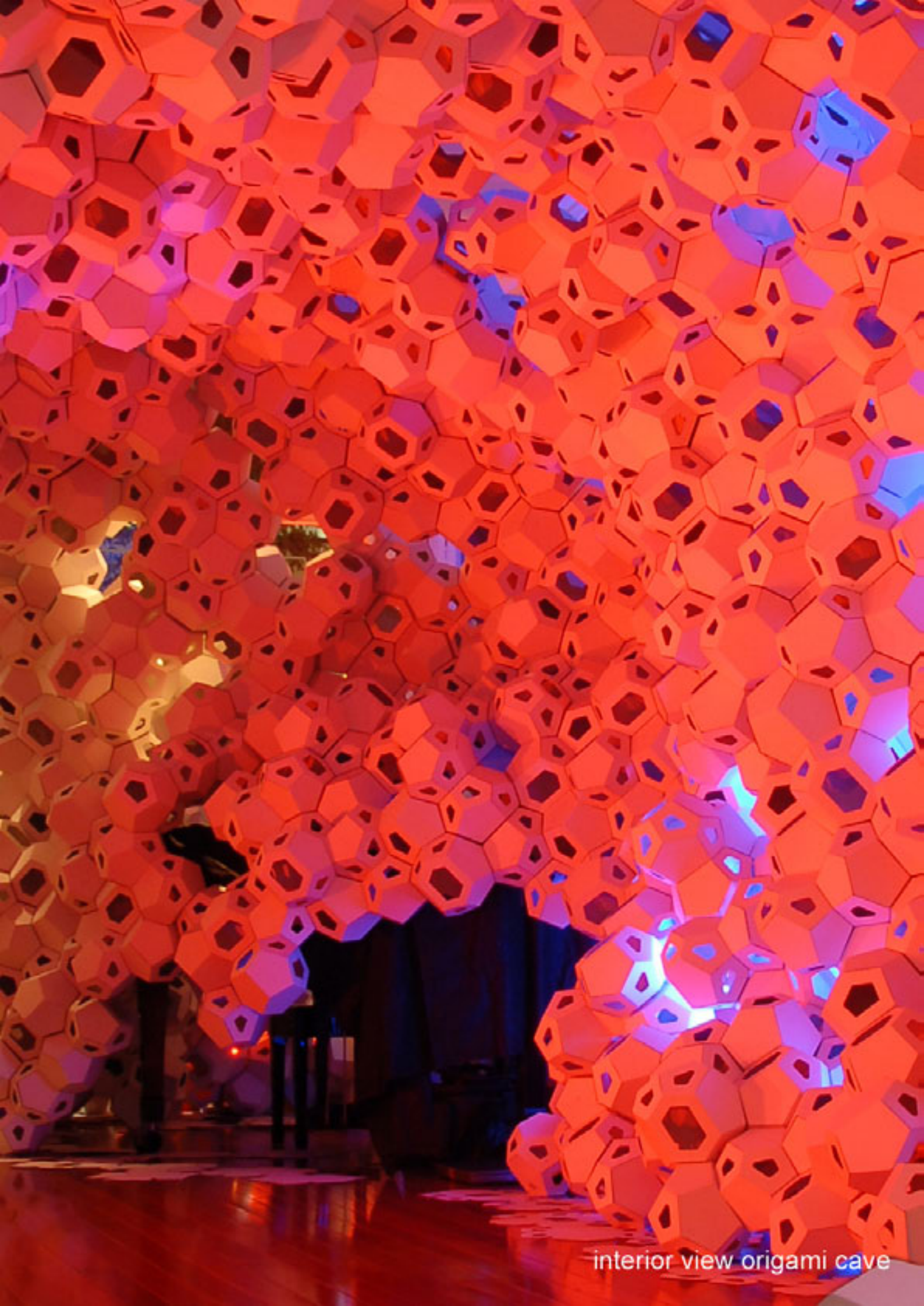
the 2 basic molecules

under construction

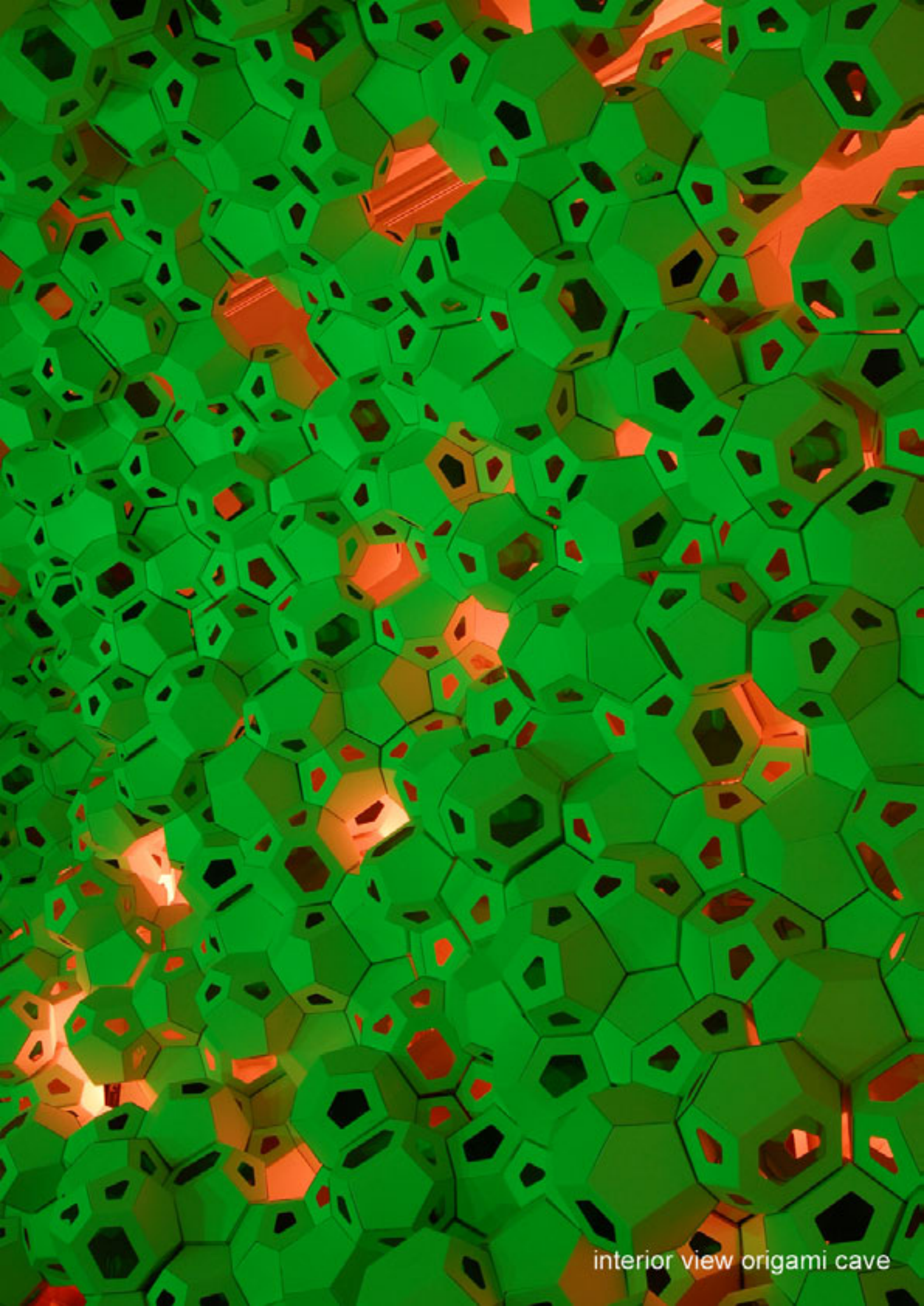

under construction

detail molecular sculpture

Visitors on Erskine Street



interior view origami cave


interior view origami cave

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Text: Chris Bosse, PTW architects

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The “first wave” of digital architecture hit the world in the mid nineties. 90 percent of all final projects at my faculty were hand-drafted on tracing paper and out of balsa wood. Three years later, for my masters project, 90 percent of my fellow projects were digital. The digital revolution happened fast. However, with this first wave, there was no gravity, nothing for the senses and very little constraints. Thus architecture divided between the digital visionaries and the ‘real’ architects who build. In today’s second wave ‘the digital’ enables us to conceptualise *and* build in an entirely different fashion. The computer now enables that which divided us: to build stuff.

The Stuttgart Mercedes Benz museum for example isn’t based on elevations and plans, but 3dimensional spatial experiences. It was conceived 3-dimensionally, through movement and not in elevation, plan and section. Such skills, at the interface of digital (or hybrid) design and manufacturing, is what we want to teach the future generations of architecture. And we want to make them experience it.

The digital masterclass program at UTS under Anthony Burke has been doing that for several years now and in the tradition of inviting guest lecturers for short but highly intensive masterclasses, this year they invited me.

In this years masterclass we didn’t just want to see another crazy flythrough or rendering. We wanted to realize concepts. We asked the students to study and research current trends in parametric modeling, digital fabrication and material-science and apply this knowledge to a space-filling installation.

The aim was to test the fitness of a particular module, copied from nature, to generate architectural space, with the assumption that the intelligence of the smallest unit dictates the intelligence of the overall system. Ecosystems such as reefs act as a metaphor for an architecture where the individual components interact in symbiosis to create an environment. In urban terms, the smallest homes, the spaces they create, the energy they use, the heat and moisture they absorb, multiply into a bigger organisational system, whose sustainabilty depends on their intelligence.

Out of 3500 recycled cardboard molecules of only two different shapes the students have created a mindblowing reinterpretation of the traditional concept of space. The pain and pleasure to face practical problems (including gravity), translates in such a dynamic, that the project has already exceeded all expectations. At the time writing this, 25 young architects climb upside down through the art-gallery, enthusiastically exploring the Cartesian space and interpreting their own 3d drawing into real , 3dimensional and physical space. Isn’t that what architects do?

Utilitas, firmitas, venustas. digitalitas. Hey Vitruvius, you didn’t tell us about this one!

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