Ubiquitus (digital) repositories in the design studio

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1. Xian Jiaotong Liverpool University
2. Cardiff University

image credits: T.Dounas - Utopia, 2008

1/2 PART OF

XJTLU

Teaching Development Fund
"Digital Drawing as a Generative System"

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Teaching Development Fund
"Digital Drawing as a Generative System"

Aims:

-Ascertain the use of digital notebooks as an organizational feature of studies in structuring students' capacity to think, schedule and produce visual imagery in architecture.

-Document the conceptual architectural development of students at the Final Year project level

- Inform the development of a digital tools curriculum at the department of architecture

Users

Community

Surveyors

Facilities

CLIENT

Architects

Civil Engineers

Planning Staff

DESIGN

MODEL

Mechanical

Construction

BUILDER

Landscape

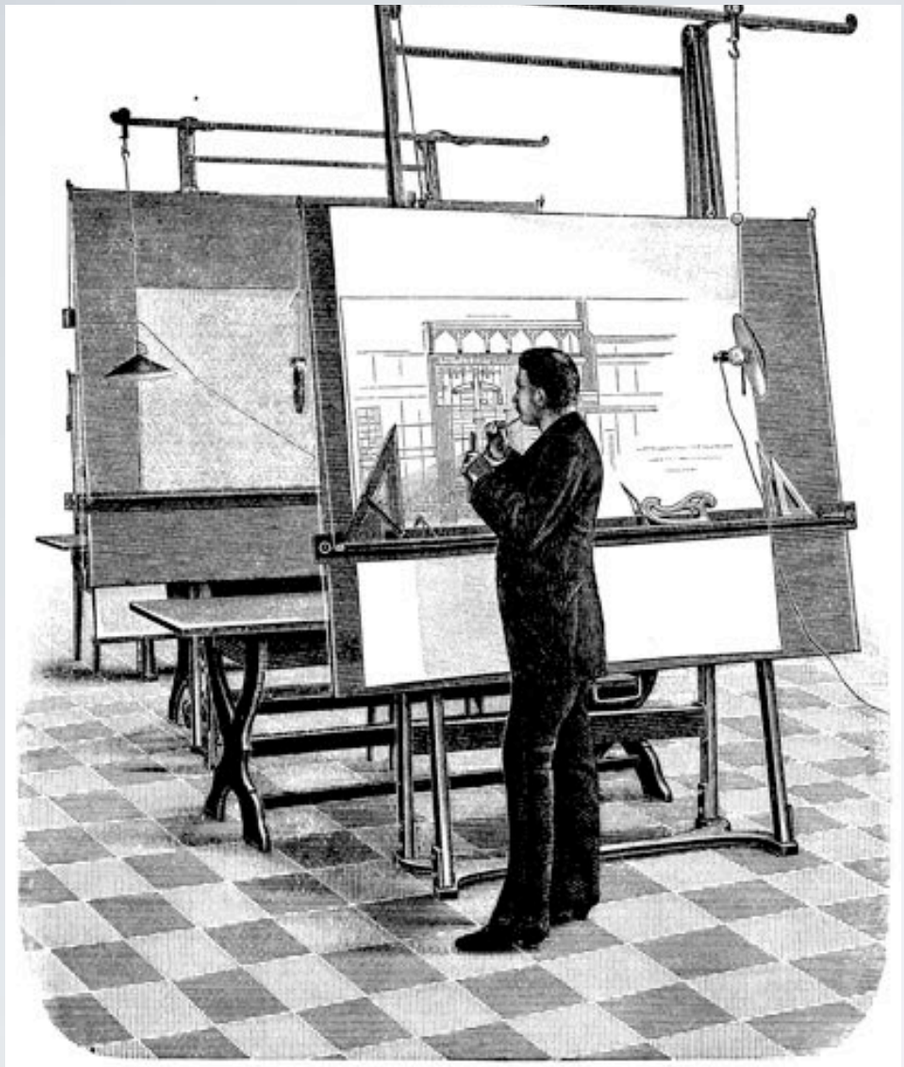
Contractors

Visualization

Cost Estimator

Daylight & Energy modeler

HOW AN 'AEC' TEAM WORKS



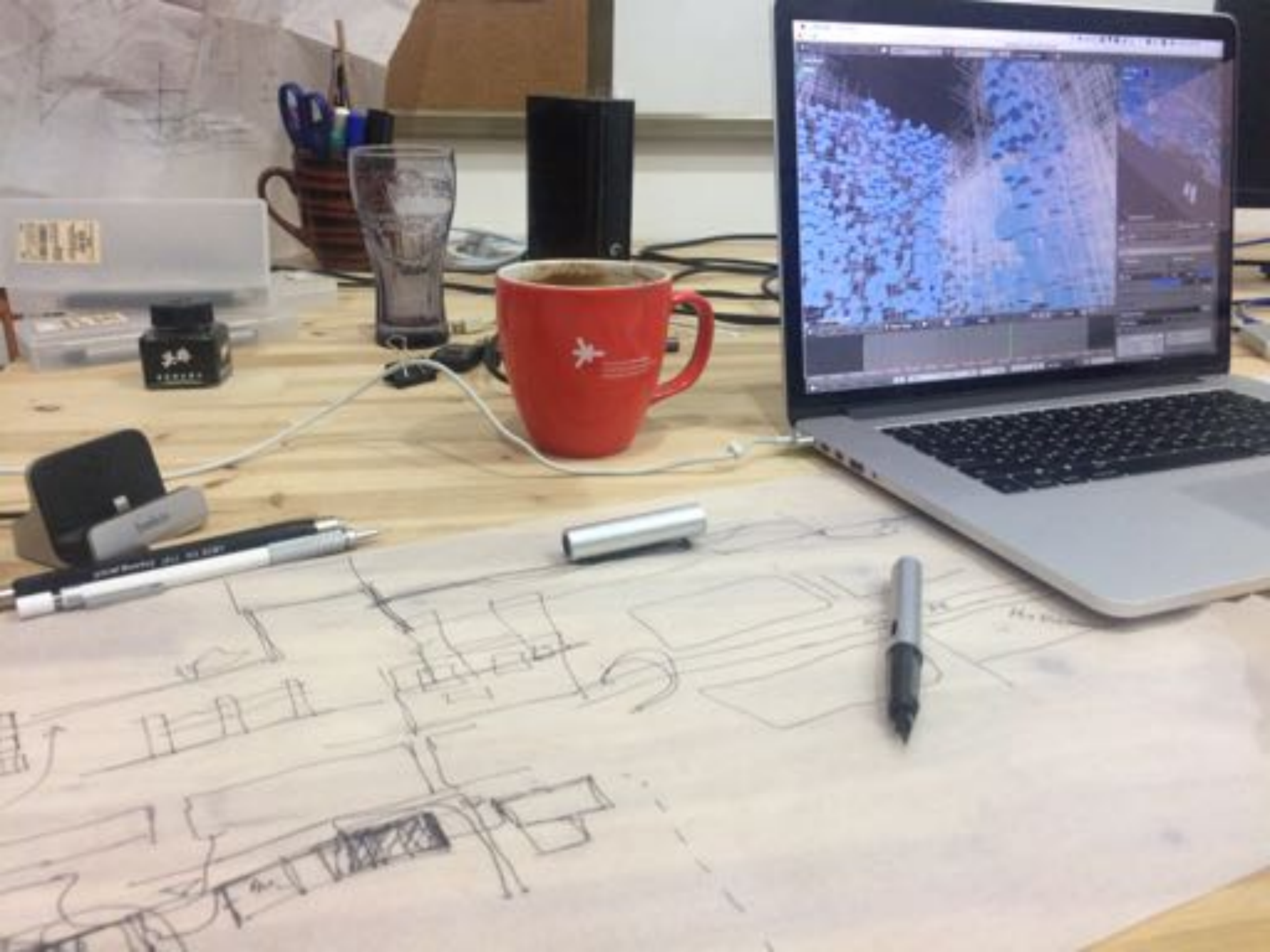
Architect - Gentleman from Teknsik Ukeblad technical journal 1893

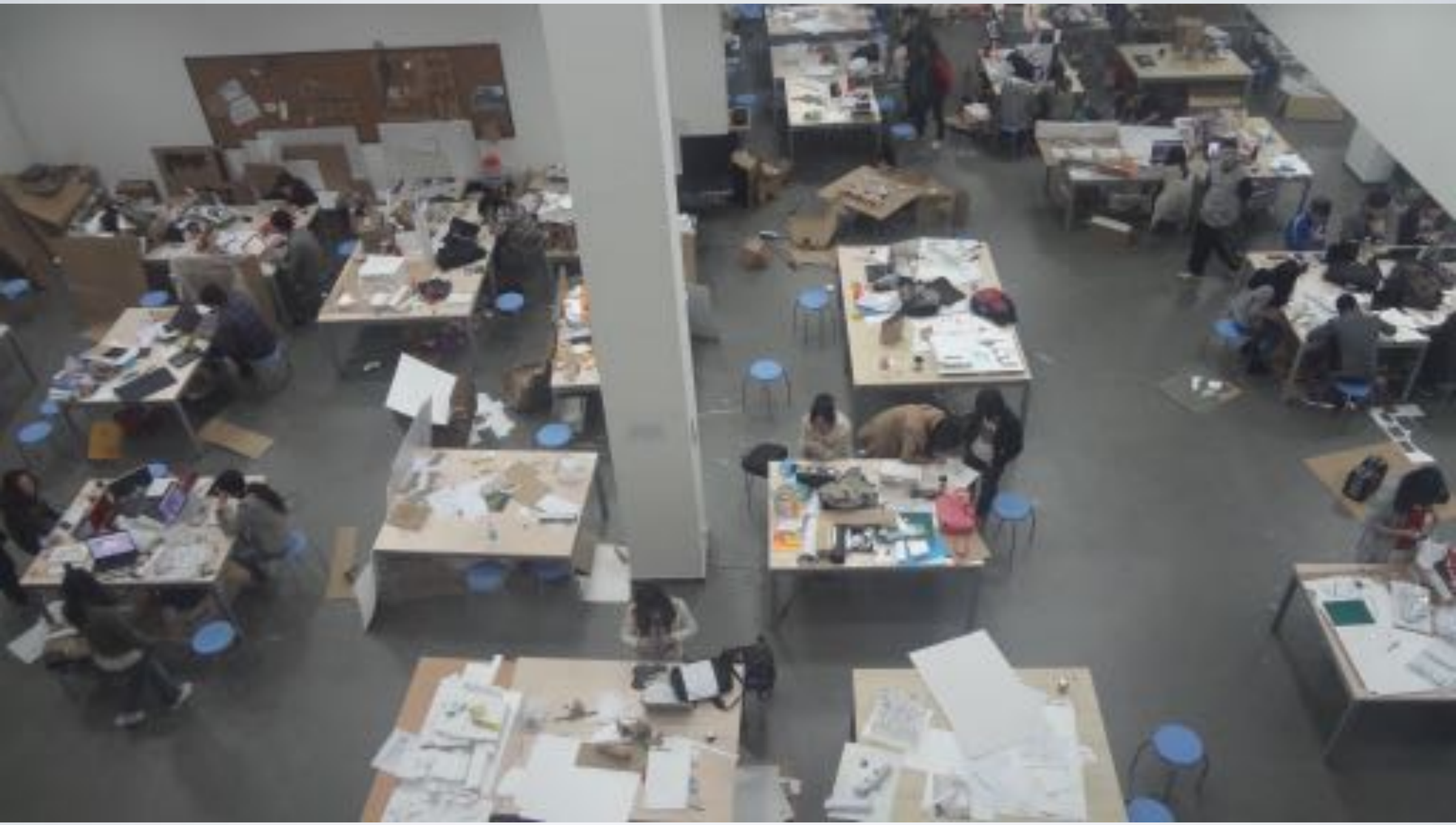
Ivan Sutherland - Sketchpad,
Vision and Realities of Hypertext and Graphical User Interfaces, http://www.mprove.de/diplom/index.html

architecture studio

image credits: T.Dounas - Utopia, 2008

Firefox





drawing as a thinking tool

20 students
2 tutors
2 groups
2 Final Year Projects

each student was given a tablet and a pressure sensitive pen

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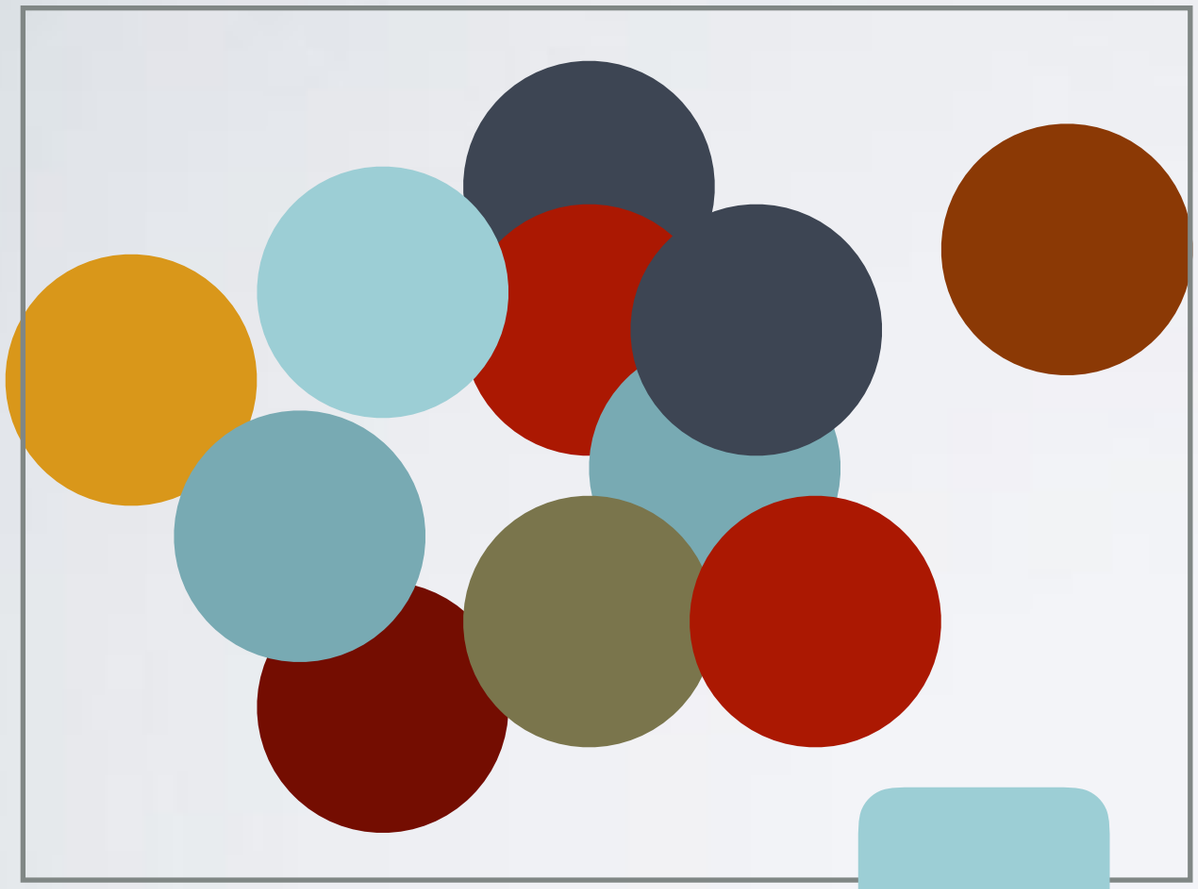
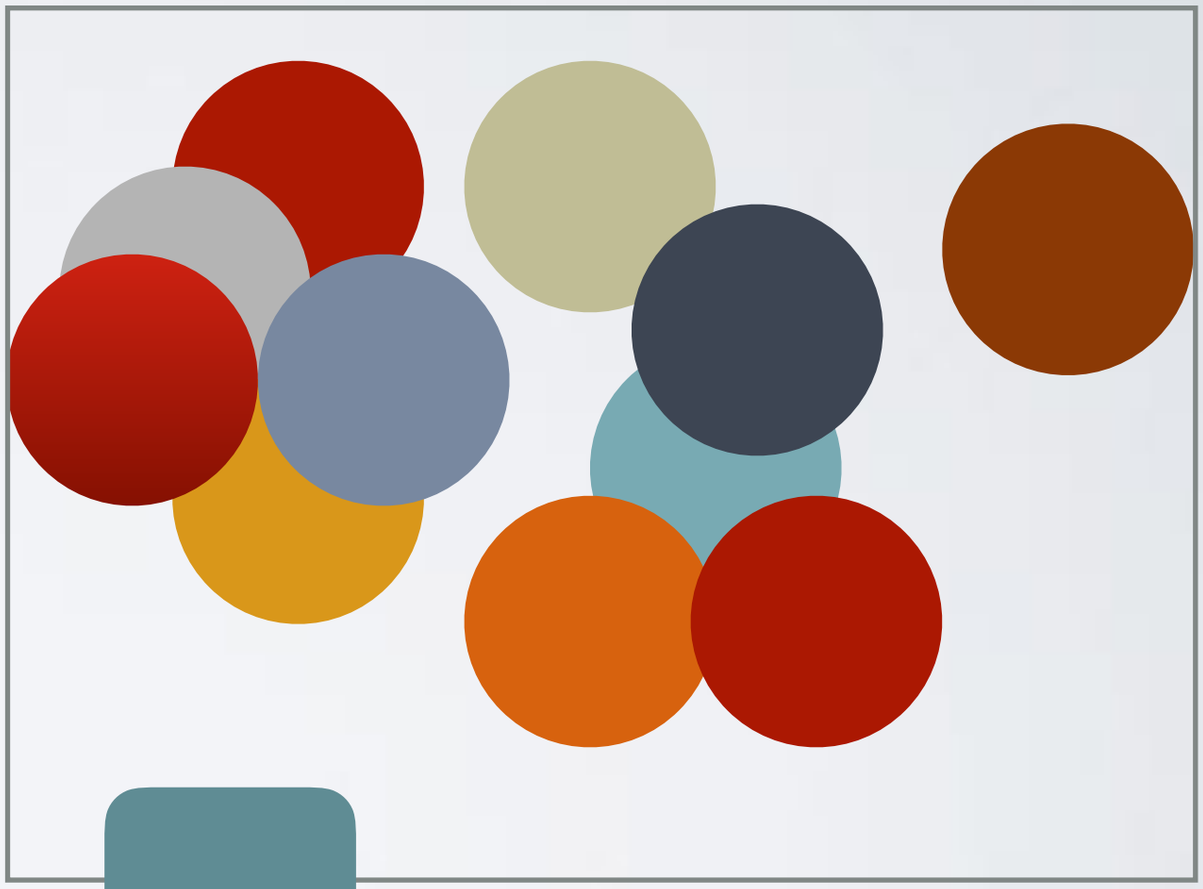
& an evernote account

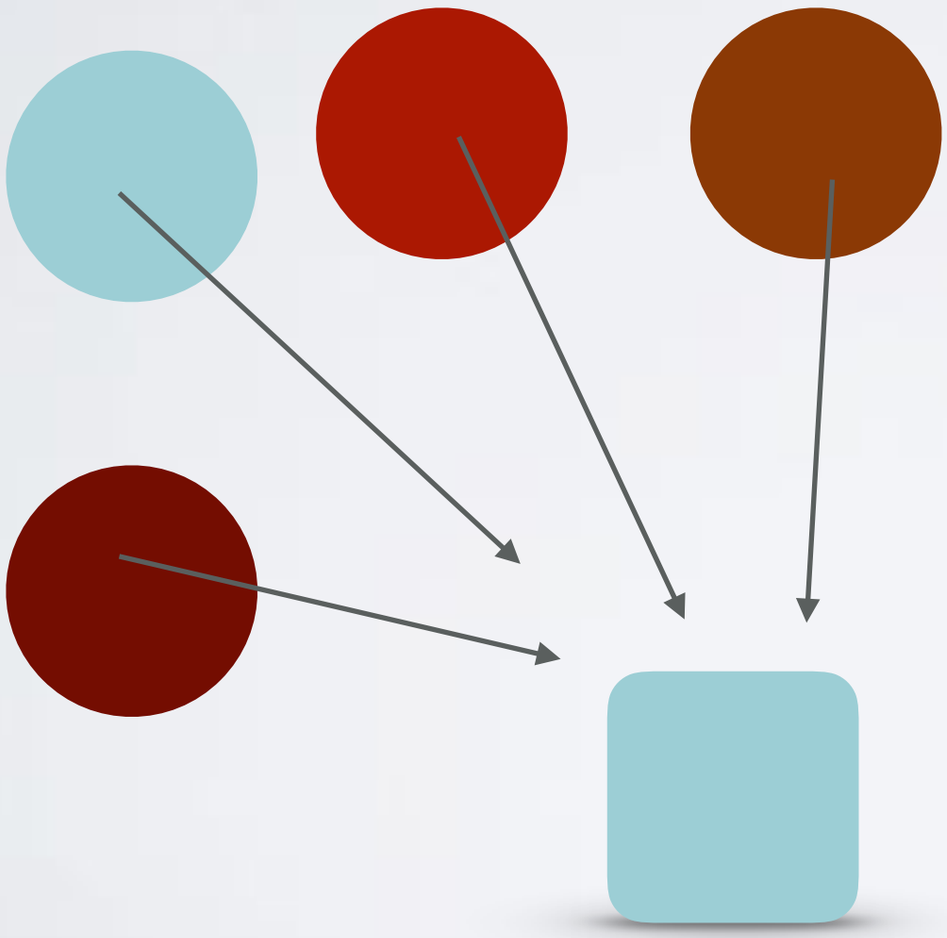
All students shared each others' notebooks

-Plus the tutors have instant access to everything, all the time, anywhere.



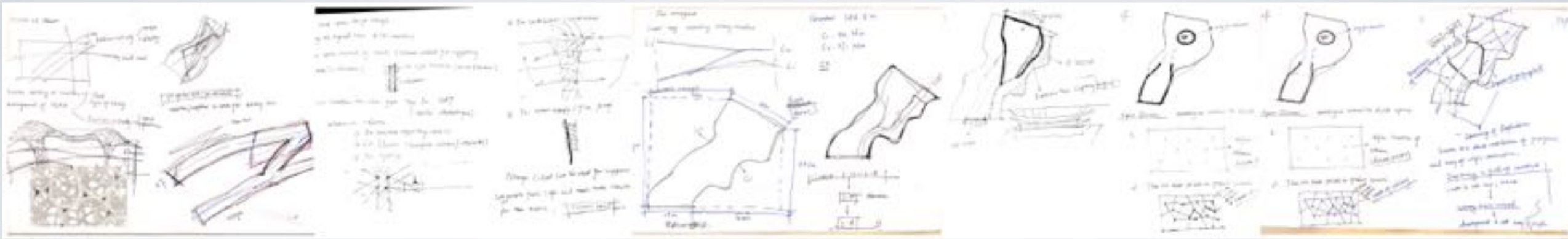


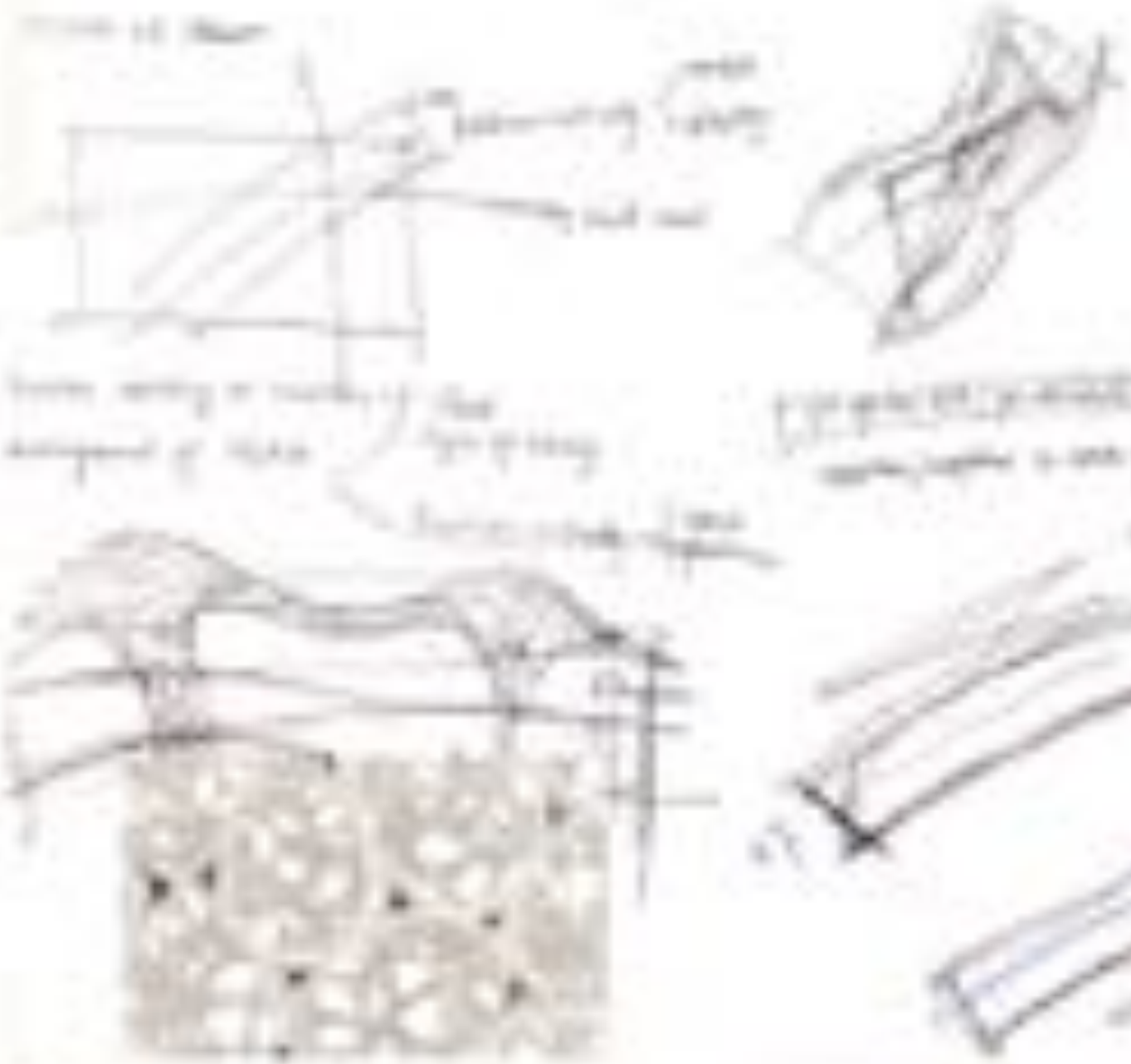
record
EVERYTHING

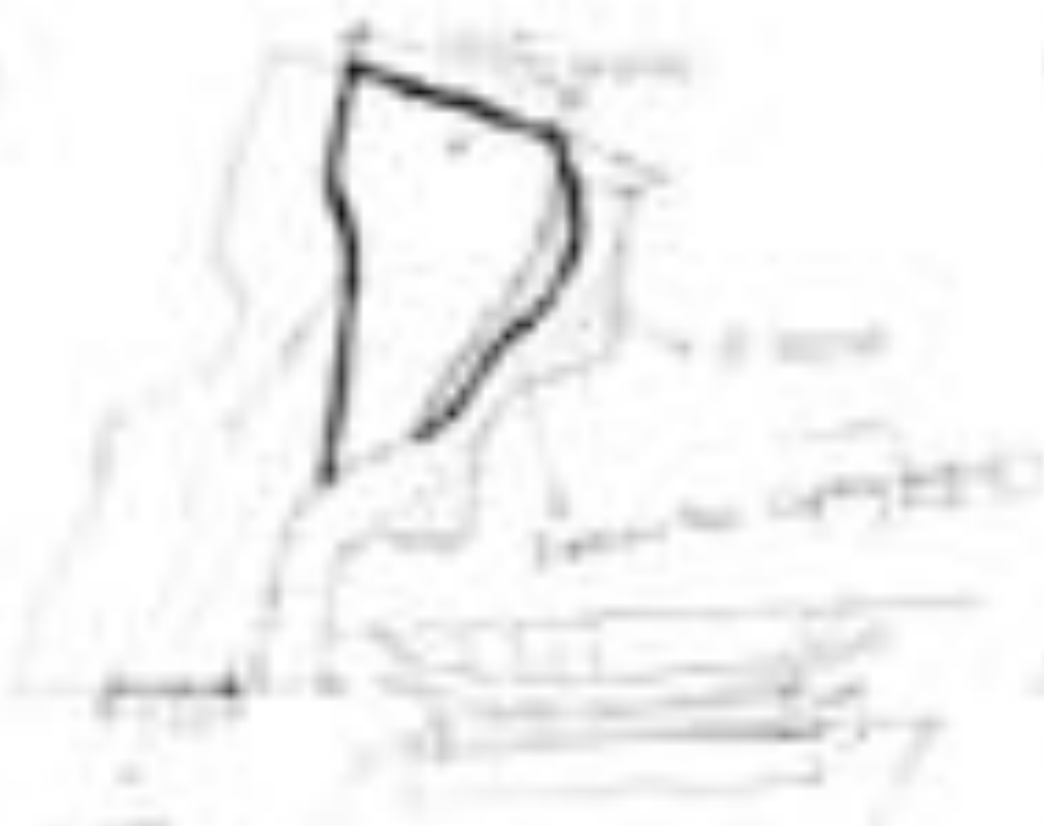


All devices allowed
(including paper)

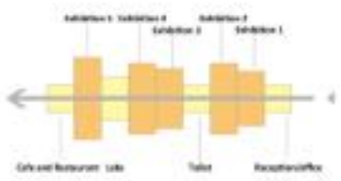
paper



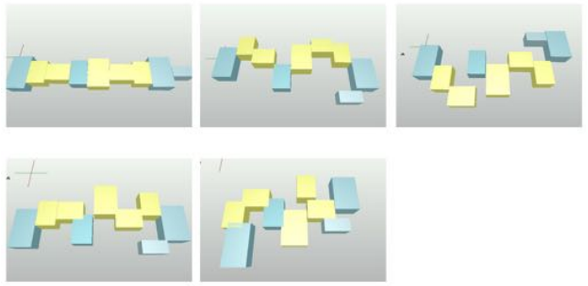




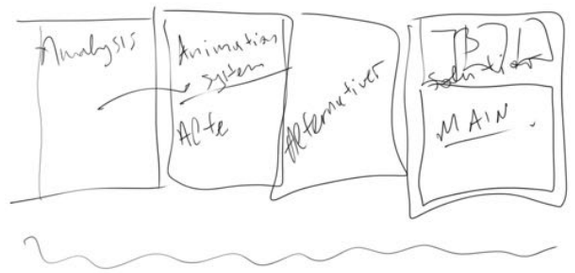
Initial conceptual model



Animation results re-fed into the digital model of the building:

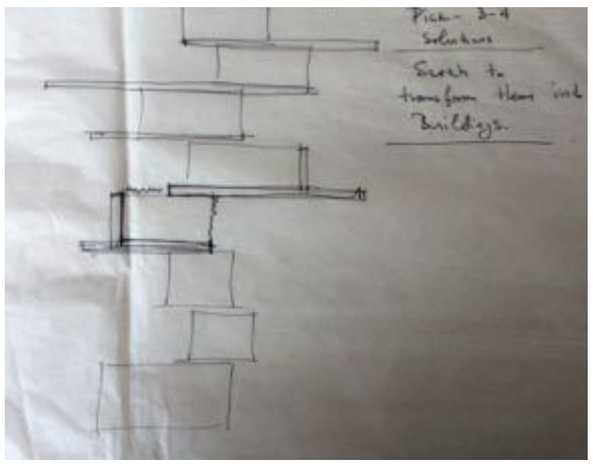


Feedback sketch:



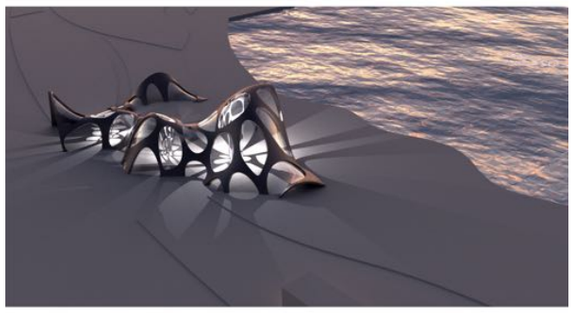
Feedback from 3rd crit

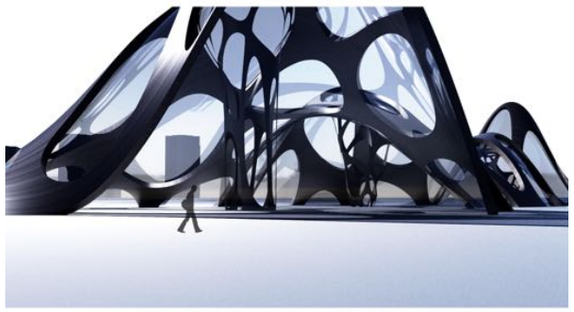
- [ ] Site plans larger and clearer
- [ ] Positioning on site_maybe needs photos-functions on site? use lake?
- [ ] Sample volume rationalisation
- [ ] Space program_entrance
- [ ] Poster need a little bit of 3dimensionality
- [ ] Fabrication of facade
- [ ] Big space as flexible space to take them
- [ ] Take them in structure
- [ ] better rythm

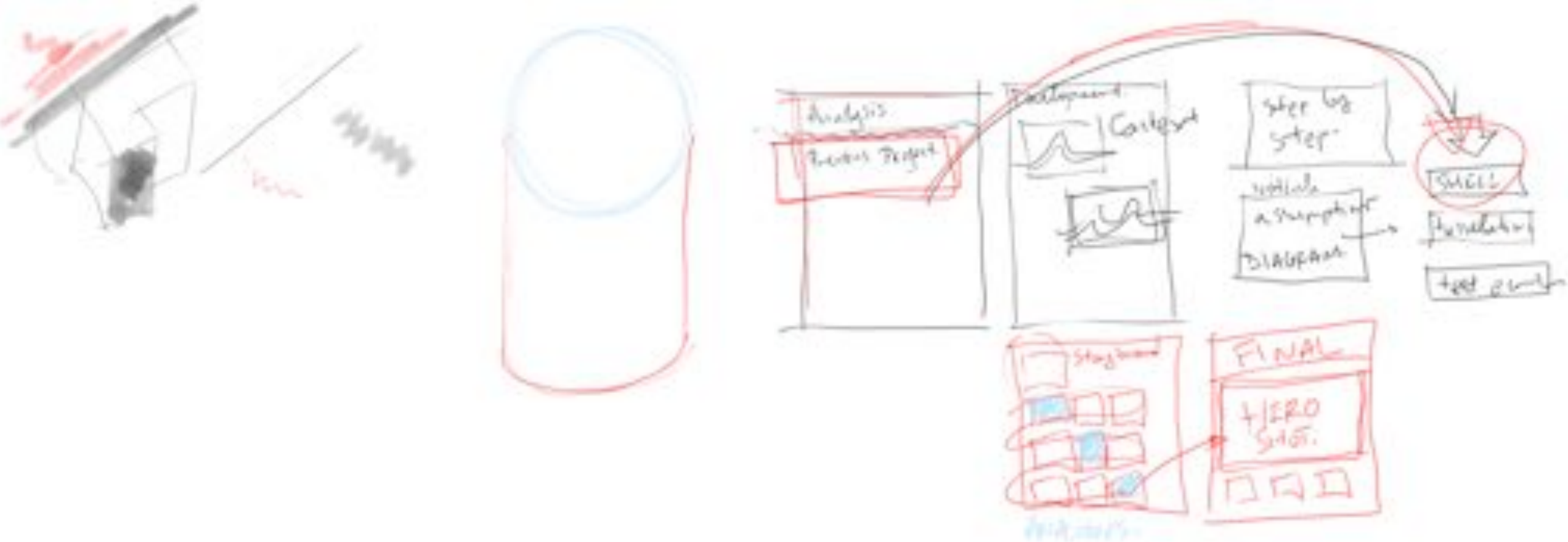


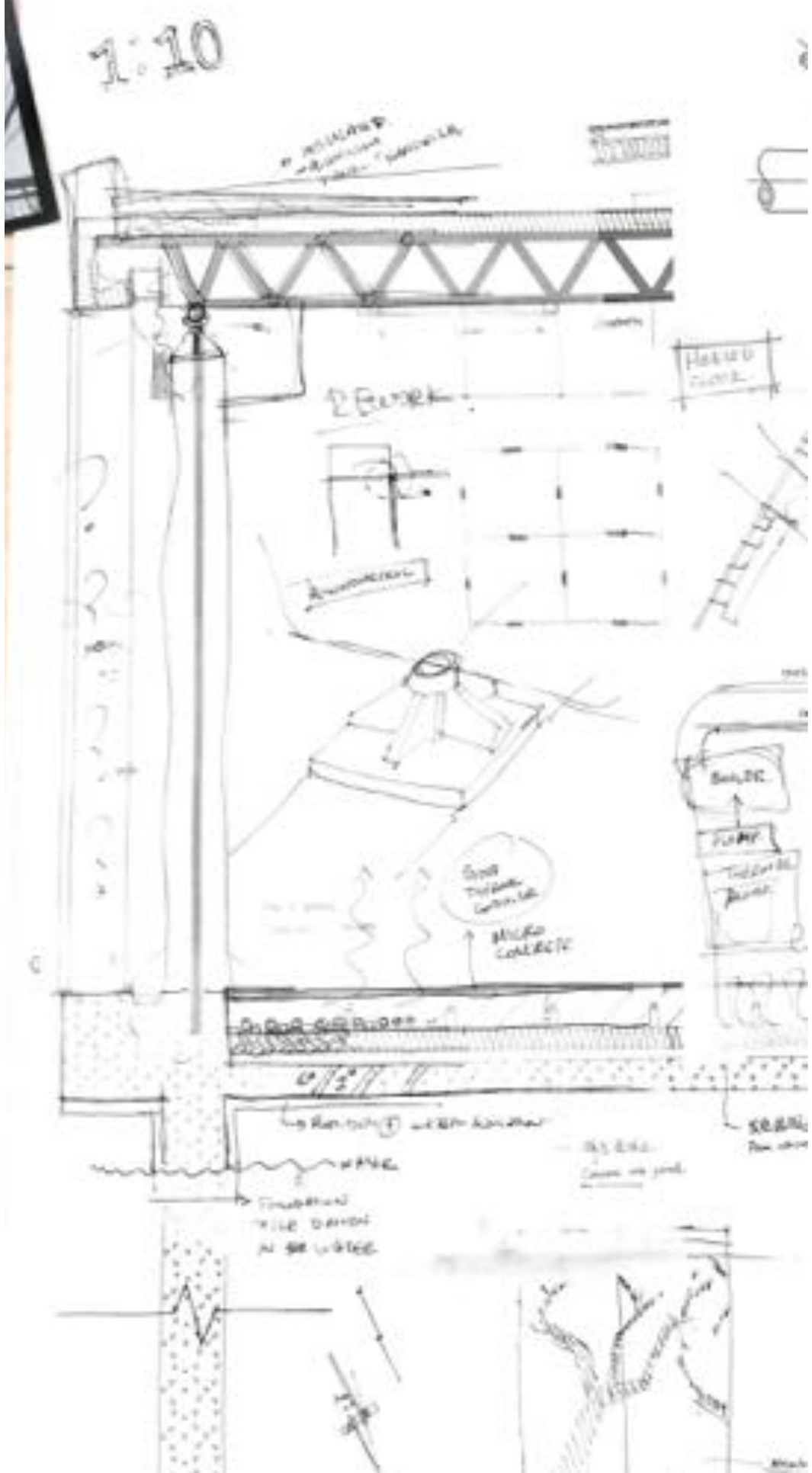
Student B

[Development on purely digital means, with tutor feedback using the student's own digital models:]





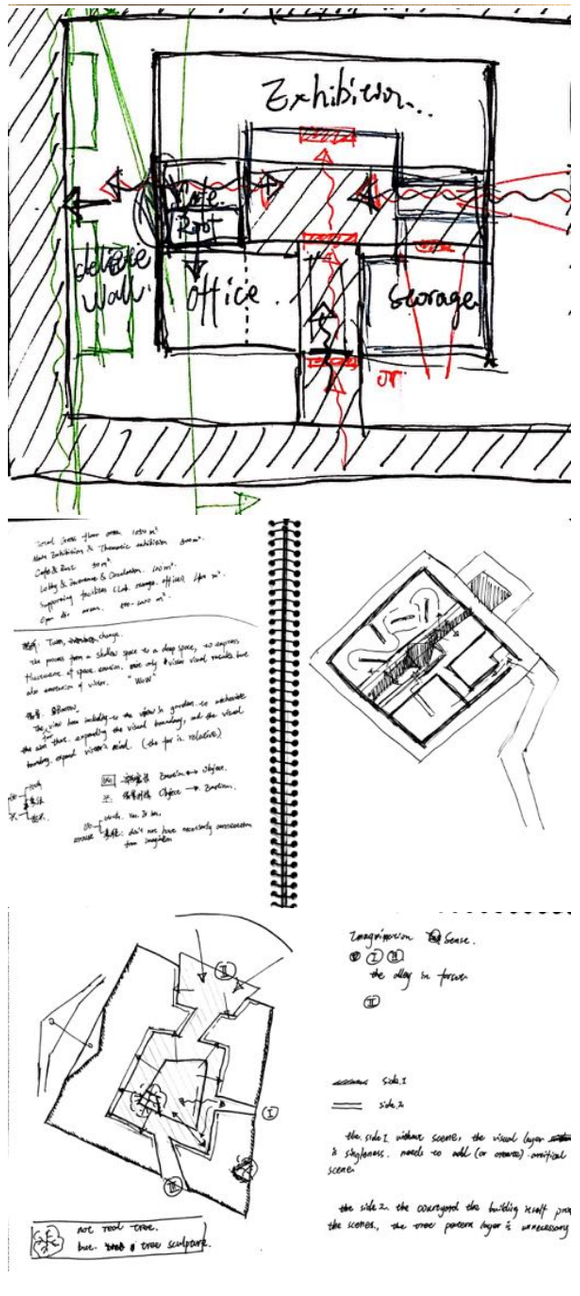


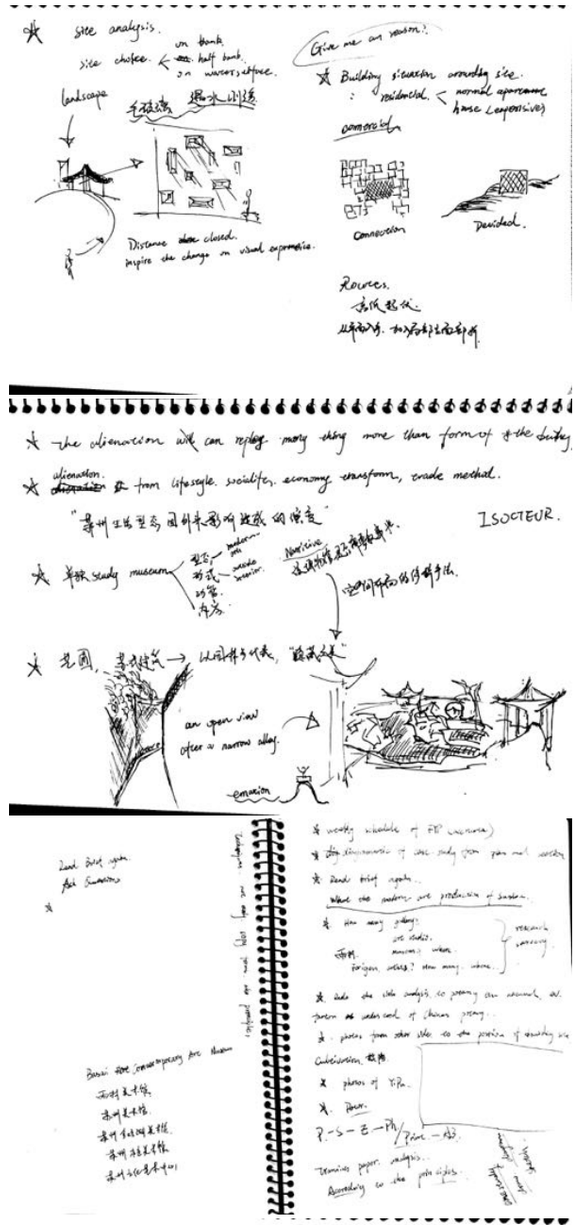


Student D

[the student developed a big part of the research on the project on a paper notebook and then uploaded unto Evernote for feedback]

Sketches:





We started the project with high hopes that the tools were now in place to develop completely digital processes in the architectural education studio. However the **students were also too entrenched in modes of operation and organization of production suited in analog processes.**

This effectively communicates that **habits are entrenched and difficult to break**, thus making any such experiment in curriculum design one that would have most effectiveness if **introduced early and en mass in architectural education**

On the other hand the experiment did show that the students responded positively when provided with a documentation system that captures all information in their design process

in most cases the students revealed through their lack of experimentation with the system that they still were trying to hit a final target at the end of a linear thinking process, rather than the most realistic design process of trying, failing and going back again to try again

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student commented positively in creating their final presentation by having a consistent format and archive for all of their work, as it was already digitized and ready to be placed into production

Q&A