



Final Exercise: *Prototype & Retrofit*

Over the past month, you have applied some of your studies of technology around the body (the first “microboundary”) to the site of PG&E’s Substation I (the second “microboundary”).

But inherent to our problem with embedded technologies in architecture today is the seamless unity of these new boundaries, the connections that occur across scales, despite physical boundaries, and often in defiance of appearances.

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In the coming weeks, you will develop a full architectural proposal, programming and designing the entire site’s transformation; and complete the construction of your electronic prototype. Use these various documents (drawings, models, video, web, etc.) to **connect scales**, and to explain how they add up to a **retrofit** in response to these current conditions of microboundary. In each, explore your own project’s answers to questions that have been in discussion throughout our semester, such as:

- What new attitudes to **materials** are afforded by the introduction of sensory and responsive electronics into building?
- How might these attitudes get beyond mere conservation and address a cultural shift? How does your project suggest new opportunities for architecture’s relationship to **programming**? To the aesthetic, visible life of materials and of technology in the building? In short, what does “**utility**” look like in your retrofit of this building?

You may use this project to address – to deny, to welcome, or even to destroy – the apparent contradictions that have come up in considering the substation itself. These can include the following site characteristics:

- unique / ubiquitous
- single physical location / node on the vast network
- weak / strong
- dominant of site / inaccessible

Deadlines

In preparing the following, re-read also the brief from the previous month's work. As this is an advanced studio with a heavy emphasis on individually guided primary research, each project has developed in different directions. Review the goals for the past phase of work to see where your own project is needing immediate focus as you plan your work ahead.

April 1:	Mid-Review for Final Prototype
April 3:	Programming: Plans / Sections indicating program for all spaces of the building, including the adjacent parking lot, the side yard, and the two rooftops
April 8:	Final completion of electronic prototype*
April 10:	Final Project Mid-Review: Locate your prototype within programming drawings Scale (TBD) sectional building model
April 25:	Final Review

* The Prototype: this deadline is for the functioning electronics only, after which you may continue to develop a chassis, housing, architectural surface or other full-scale model for the prototype.

Remember that your prototype may serve as a full scale building detail, or as an abstract spatial, electronic construction that captures the *experience* of the technology you've studied. This latter example can be very self-referential.

Final Requirements

A list of required documents for your final review will be issued by April 8.

Based on feedback from our last review, some new focus is to be made by everyone on the following:

1. Document your primary research into technologies (for most of you, this is from the start of the semester)
 - o explicitly show the subject and discuss its source and your analysis or observations
2. Update your website
 - o to include the above research documentation
 - o add hyperlinks to your research sources, and to others in the studio as appropriate to your work

You can anticipate final review requirements to include all of the following:

- Full-Scale Electronic Prototype with explanatory diagrams or video / animation
- Programming Diagrams – indicate program for all spaces of the building, including the adjacent parking lot, the side yard, and the two rooftops
- Site Plan
- Site Section
- Building Plan (minimum 1, scale 1/16"=1'-0")
- Sectional building model (minimum scale 1/4"=1'-0") or material detail
- Building animation
- Material studies / mockups
- Other background studies, such as site drawings, photographs, sketches, system diagrams, writings, sound recording, voice recording