

# RESEARCH PROPOSAL

## ASSIGNMENT

Each team should create a one-page Research Agenda and a one-page Research Topic, and also compile supplemental materials. The goal is to begin specifying both a methodology and an advanced topic of research as soon as possible to ensure the maximum amount of time for experimentation and prototyping.

## RESEARCH AGENDA

Your Research Agenda is a high-level outline of goals and guiding principles for your investigation. It should be clear and precise yet allow for interpretation based on your later findings. It can describe what you want to avoid as well as what you want to achieve.

Below is an example of the type of guidelines you might set for your team, but you should create your own agenda.

### *COMMON ARCHITECTURAL ELEMENT*

*We will take as our starting point a common architectural element such as a wall, a column, or a floor.*

### *MOVEMENT*

*We will create architecture that has the ability to move and change form.*

*We will focus on material actuators as opposed to mechanical actuators.*

### *SPATIAL IMPACT*

*We will create physical transformations that affect not only the surface but also the spatial capacity of our element.*

*We will go further than previous responsive multi-media artwork that affects only visual or auditory properties embedded in a static surface.*

### *REALIZATION*

*We will build it.*

*We will not be limited to computer models and animations.*

## RESEARCH TOPIC

Your Research Topic is a description of the specific element you will investigate deeply through the creation of weekly functioning prototypes. In most cases, your research should focus on **only one** of the components of responsive kinetic architecture—Input, Processing, or Output—and not on all three. Because of the nature of our systems, it should be possible to work by swapping out one component from the original prototype and keeping the others close to their current state. This will simplify the range of problems encountered and allow for more progress on your narrow topic.

One example would be to focus on Input and investigate biometrics as a specific type of advanced sensor. Please see past class blogs for other examples of topics.

For your Research Topic, create a one-page outline. Address the issues of potential usefulness (in general, why might this topic make an interesting contribution to responsive

kinetic systems?), viability of the research topic within this class (can you obtain the necessary materials and integrate them with our existing systems?), and uniqueness (have other people tried this in architecture? what could be your unique angle or contribution?).

In addition to this general one-page description, bring in supplemental material that includes physical samples; manufacturer and vendor information; technical specifications of products; relevant web sites, books, and magazines; and a list of potential people to contact for advice and questions.

It may also be helpful to outline the first experiment and prototype that you plan to create the following week.