

Agents of Spatial Influence: Process Reflection

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PROCESS SKETCHES

The journey map reveals that my process has been about searching from various methodology a common thread with which to engage a particular subject. It appears my subject of interest has always been how human thinking influences how we interpret, perceive, and take action. I appear most inspired when the method fits the form of the creative work, making decisions based on where the design is leading rather than how the method constrains the search. I appear to be constantly seeking new information, making big changes in career path (from engineering to neuroscience to design) based on big ideas of where big changes in society are coming from and where human inquiry is going. Lately I appear to have refined the approach so that big changes are tempered by focus on specific and narrow topics that are explored in-depth from many angles.

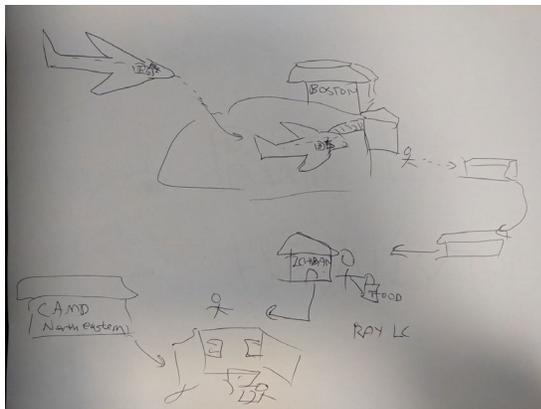


Figure 1: Journey map micro level. My current work flows involves arriving in Boston to pick up food and teach at College of Art, Media, and Design in the classroom.

The designer intentions shows that the artifacts I created with my work are sometimes omitted from the academic paper presentation. As such, I can do a better job converting those design intentions into descriptions of the design both verbally and in visual form. If I look carefully, it appears that I'm more intrigued by the robot gestures than the spatial aspects, since the latter is harder to show in an installation. I feel like the installation aspect is demonstrated by gestures and scientific aspect is shown by the spatial influence area. They do complement each other.

The design brief comments I got are interestingly geared towards audience specification, how that interacts with what is presented, and clarification of what I'll actually show. This also mirrors my own current confusion about what to focus on, as the physical chair by itself with a simple interaction does not justify

an installation. This also comes across in the "affect on others" sketch, which shows that I don't have a very good grasp of what I want to elicit. Part of me just wants to elicit curiosity, but another part wants to show audiences what a future is like with technologies that are embedded in our homes. I'm moving towards an understanding that performance is necessary to show it.

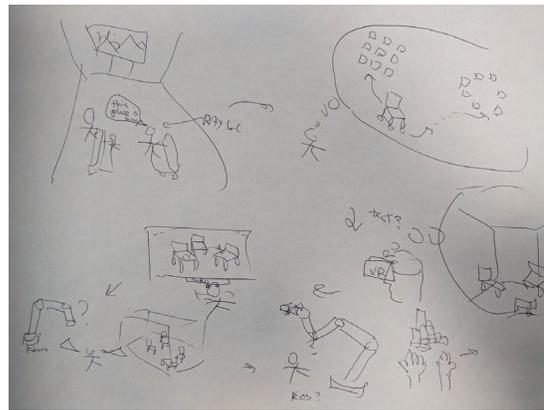


Figure 2: Designer intentions. I was inspired while being in a room with moveable furniture to think what would happen if furniture were arranged differently. Based on that idea, I tested people in 2D and virtual environments where they are paying attention to and how surprised they are by interactive gestures of chairs. To understand how the gestures affect people as well, I'm conceiving of a robotic arm that interacts in space and how that works with the spatial influence of the arrangement of chairs to affect perception.

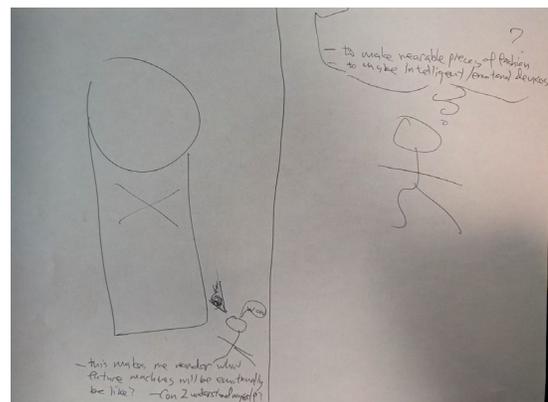


Figure 3: Affect on others. My own conception of using wearable devices and machines to influence people emotionally is instantiated into an installation that imagines how future machines will affect humanity, and how that allows people to understand themselves.

FUTURE PROCESS

To make my work more specific, here are some possibilities:

1. Plan to incorporate VR into the chair experience. For instance, can the chair in reality also be mapped in VR? Can the physical chair also move as it does in VR? Can we have both physical and virtual artifacts in the experience?
2. Can we incorporate performance in the physical chair? Instead of audience interaction, can we relate the interaction as in the video prototypes, so allow someone to perform with the chair to get across the idea of the chair's intelligence? This is more like the Urs Fischer Chair motif, but performed in a unique style of evoking particular kinds of emotions in performance. Topics may consist of dominance, rejection, attachment, and other human elements yet to be explored in furniture robots.
3. Can we extend the interaction to two chairs playing with each other, with or without human. One interesting question is whether machine interaction amongst themselves can be affected by human interaction, that is whether the way we are detected by the chair can change how they localize themselves. For example, if it sees that we are not engaged with each other, perhaps it places itself next to a coffee table to make us sit down and talk to each other. However, doing this in VR is much more feasible than physically.

To limit the extent of the thesis, one way may be to simply limit the technologies that can be used. If we're limited to physical chairs, then we can only do certain types of interactions easily. I think we'll be able to detect human poses and possibly faces and little else unless we're capturing human motion. I do feel that my work is very specific as it is, however.

The form of the piece is not absolutely necessary because people are not sitting on the chair. The fundamentally important thing about the chair is that it is to be sat on, so perhaps I can only show this by having actors portray it. The issue is that we don't currently have the technology to create precise movements coupled to fine-tuned user interaction. To accomplish this may require outside help with Ph.D. level work to accomplish motion capture and fine motor control. As it stands today we can only move chairs and rotate them a bit. This limits what we can do feasibly in an installation physically. However if we perform the exhibit as opposed to allow audience interaction, it may give us a way to overcome that lack of technology.

In general the issue appears to be that the chair form limits a bit what I want to say in regards to machine intelligence. On one hand I want to say that machines can mimic our emotions and gestures to allow better communication between us, but on the other hand I want to provoke human reaction by surprising gestures and arrangements. Other than giving chairs gestures with which to deal with the human world, what else can they do to show human audiences that chairs can remap our experience in the world simply by their presence in certain locations? Perhaps again I have to show this in performance rather than interaction.