

# Paper Engineering

# Location, folds

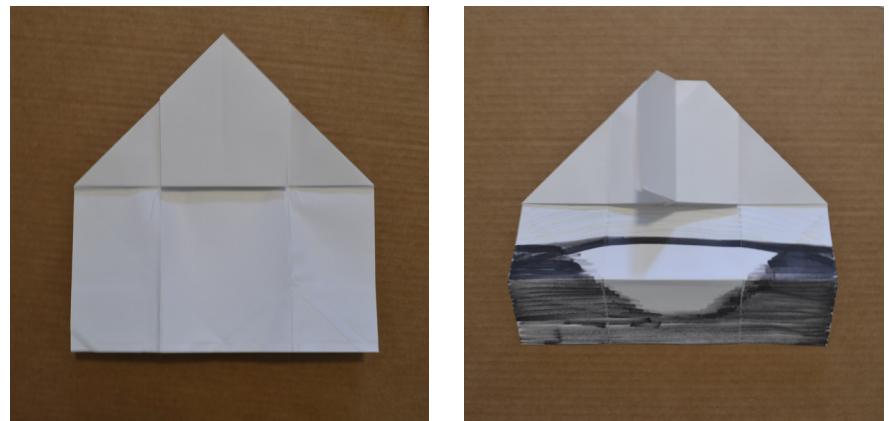
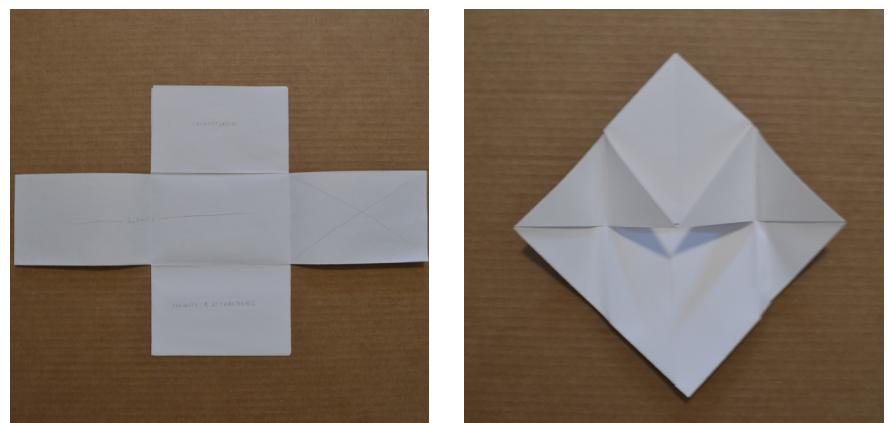
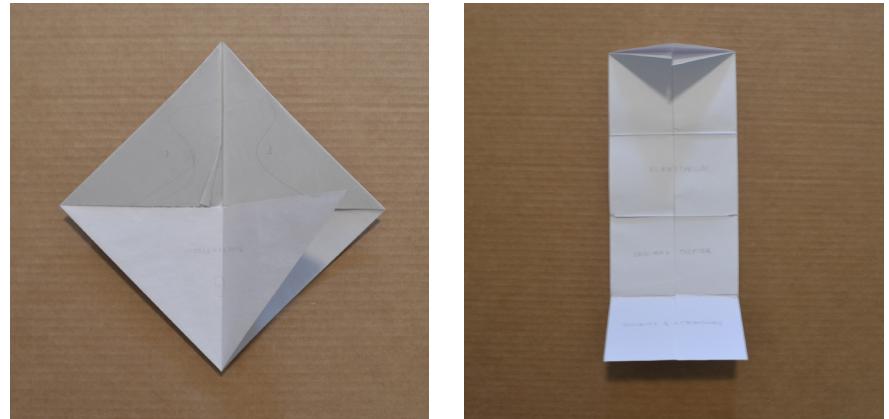
The only place that I had been to on the list was the Gateway Arch, but I decided to choose the Saint Louis Science Center since its glowing Planetarium always intrigued me when I drove by it at night. After doing some quick research to gather all of the basic elements I would need, I dove right in to making folds.

I didn't realize that we weren't supposed to cut the paper, so a lot of the folds I made weren't directly usable. The ideas of uncovering, unraveling, and pagination informed the later folds though. In my folds I also did a rough mapping of where information would go and how it would be paced. The main fold that was the foundation for my final fold was based on an origami fold. I modified it to transform the triangular shapes into friendlier rectangles, so transferring the fold to the computer was not that difficult.



A handful of folds and iterations based on the top left fold

In modifying it, it became slightly more complex. I intended for that moment to be a folding out of a box to convey the idea of a closed space to an open one, but having people discover that maneuver was difficult (and it really wasn't that conceptually strong). Instead people immediately opened it but were still intrigued since it emulated a rocket. Since that complexity was present as one moment, I found that to be a point of intrigue without stepping into confusion (for most people). It was actually really exciting to see how the same process of iteration and synthesis was still applicable in this different way of working with paper.



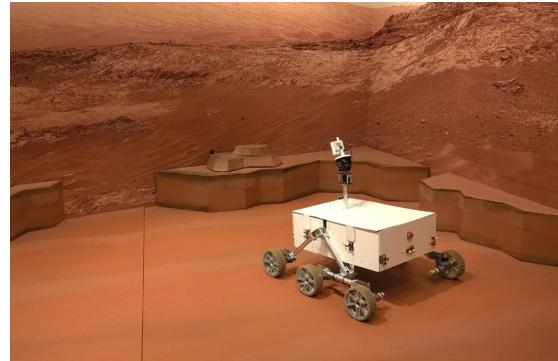
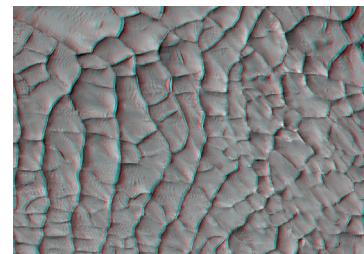
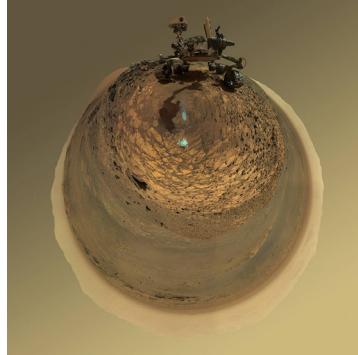
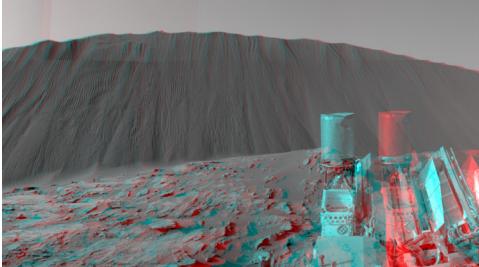
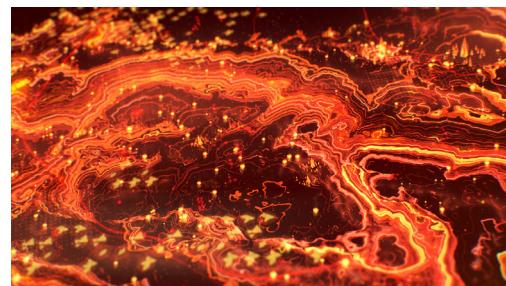
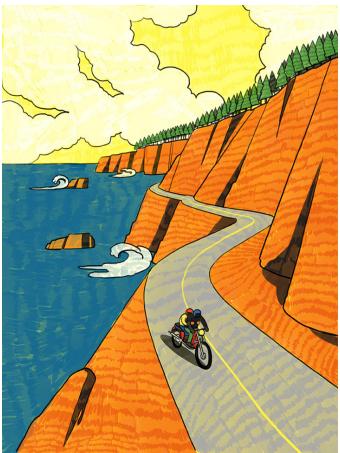
# Concept

I started off with a fairly broad idea of just wanting to showcase all that the Science Center had to offer, but in doing that I didn't have a specific theme to work off of. It was slightly confusing since it sounded like the professors didn't want us to focus on one exhibit but that ended up being what a lot of people did in a way. In that sense I felt I didn't quite succeed in my concept; it was difficult to balance what the Science Center was as a whole without being vague and having to highlight an aspect of it. This way of thinking about a concept has confused me the whole semester, and I still don't really understand what the professors mean in finding the one nugget without losing sight of the greater whole. Trying really hard to explicitly find that one moment doesn't really work for me; instead it seems to naturally crop up as I make and refine. Of course there has to be some intent as a starting point and basis for judgment, but does it have to be so specific from the start?

I learned that the idea and concept also has to go through the same process of refinement and that trying to define it concisely early one isn't completely possible if I haven't made much yet. I've also noticed that I have a hard time articulating what my intent specifically is until the end or after stages of making. I think I often

work intuitively then post-rationalize. When something feels right or wrong, there is a reason why, and sometimes that reason takes time to explicitly realize. I often got stuck in trying to narrow my concept in the beginning of previous projects, and that resulted in me being stuck in a black hole of thinking and lack of making. For this project, I almost tried ignoring my concept to let it play out; that helped incredibly. It was difficult ignoring some of the expectations for each class but I had to listen to how I work in order to not get stuck. And often, what I make starts to speak for itself. That's what a communication design object should be doing.

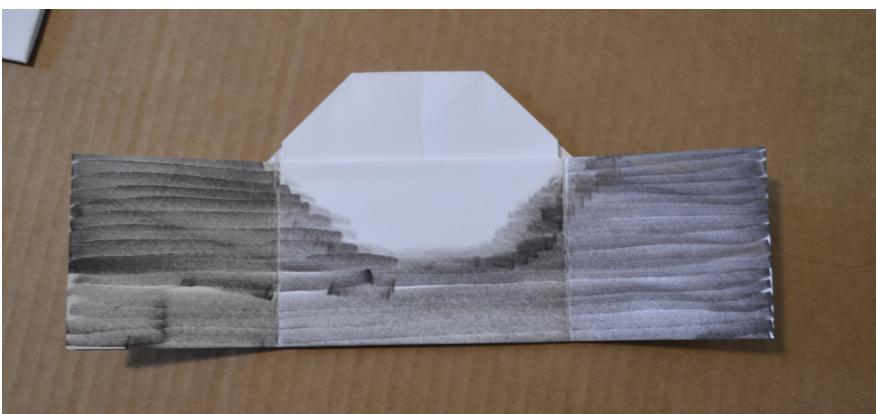
My concept went from an overview of the Center's offerings, to one encompassing all of the space related attractions, and then finally a Mars itinerary—specifically a journey to Mars.



# Visual research

In my earlier concepts I considered doing a fold that addressed different audiences, one of which was children. In my visual research I looked at a lot of color, some illustration, and satellite/rover images of Mars. I thought about doing a fun, illustrative style but a professor suggested that I could still capture an audience's attention with a more sophisticated style. Using found images made things easier but I still feel constrained by them. That means I just need to develop my skill in manipulating them. I ended up going toward a sci-fi, radar/digital route, reflecting the digital simulations that the Mars: Mission exhibit has.

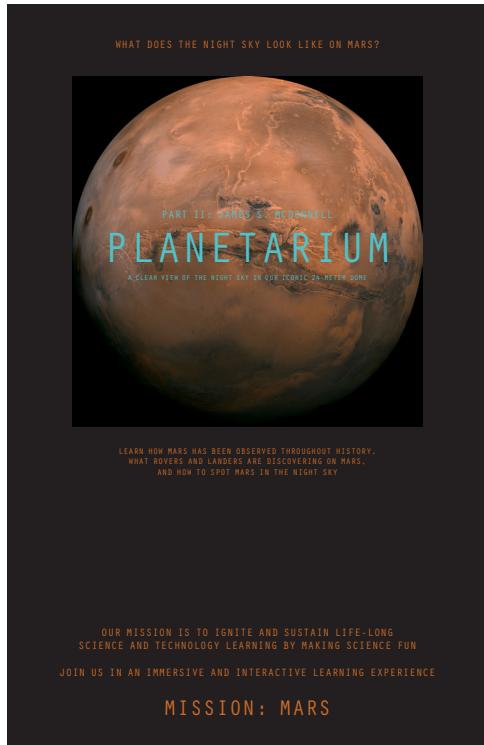
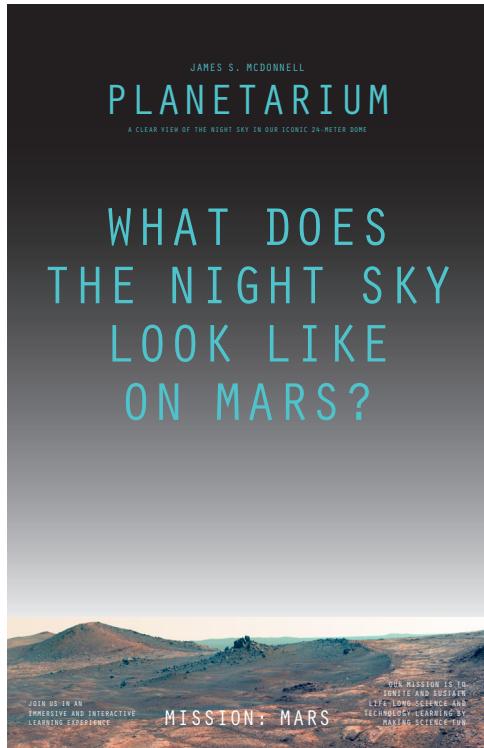
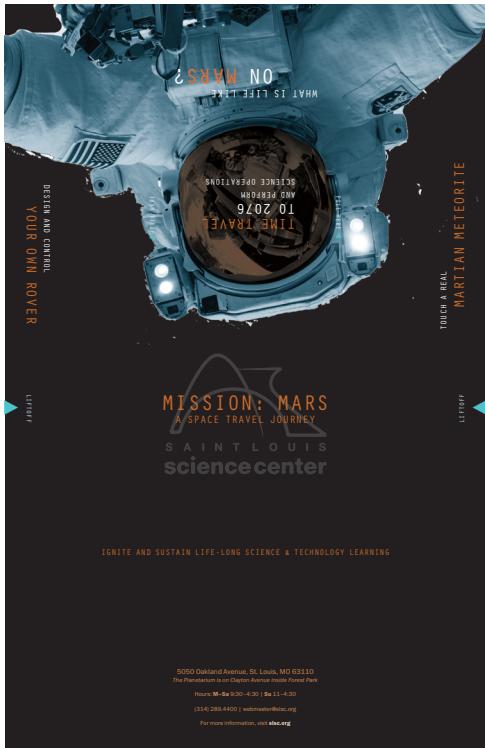
Originally I also chose a lot of illustrations that exaggerated depth and exhibited a large sense of space. This technique made its way into my concept. Again I learned the importance of looking at a large set of sources.



# Sketching

I thumbnail/worked out the pacing directly in my folds since the outcome and effect was immediate. Working in this way also developed and solidified my understanding of how placement worked with the folds and the final flattened stage. It also allowed me to see what panel shapes weren't working. This was crucial in developing the fold but also the pacing and information. I continued this way of directly marking on my folds instead of jumping straight on to the computer. It's a much more efficient way of working for me. Something about the computer causes me to zoom in on the small details that distract from developing the big picture.

This slightly different way of working reflects how different projects and their physical formats require different ways of working and iterating. At first I tried diagramming the folds and thumbnailing panels, but that was inefficient. I'm glad I saw that that wasn't working and switched modes, because that means I've learned from past projects that every project has a different solution, a different context, and requires a different way of working. There is no one, linear way. The main consistency is relentless iteration.



# Initial digitalized versions

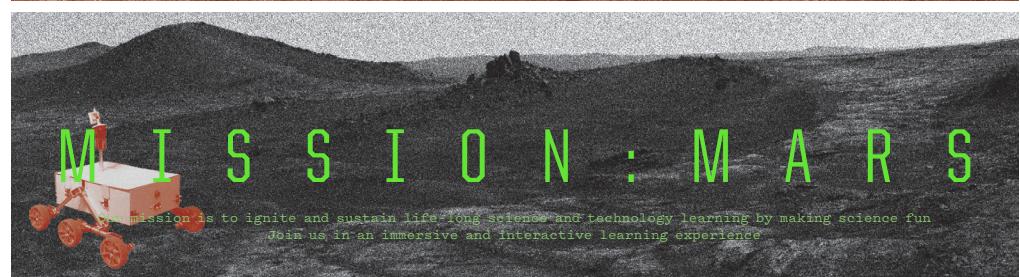
The logistics of digitizing the fold was fairly straightforward for mine, so I started considering a visual style and I furthered the pacing and placement of elements.

In this stage I was working primarily off the box model, but as two flattened sides, things weren't quite working in terms of orientation. After crit and seeing that people weren't discovering the box, I adjusted the panels to fit the way people were interacting with the fold. Since their inclination was to open the fold immediately (reacting before reading), there wasn't that much I could do to control that without being negatively disruptive and direct. One issue I did have though was that a majority of people weren't turning the paper around to look at the other side. I had to create more contrast, in terms of scale and color, between the two sides to help signal that.

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## MISSION: MARS



# Refinements

The refinements were focused on solidifying the orientation to reduce the amount of unexpected upside down sides. There was also a lot of editing copy, adding and removing. Another significant development was establishing a color scheme. I use black as a background too often, and I had also been using orange and turquoise a lot in other projects. The final color scheme worked better with the dusty rust orange of Mars and added a sense of expedition and adventure when paired with an electric, radar red. I also worked on addressing the contrast between the two sides.

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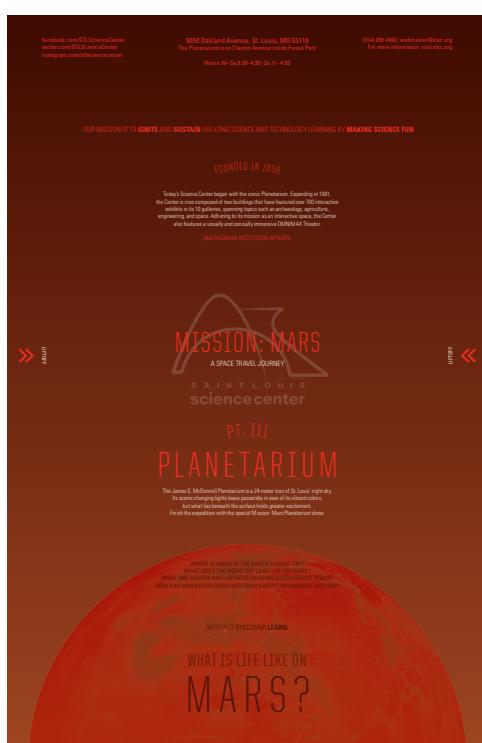
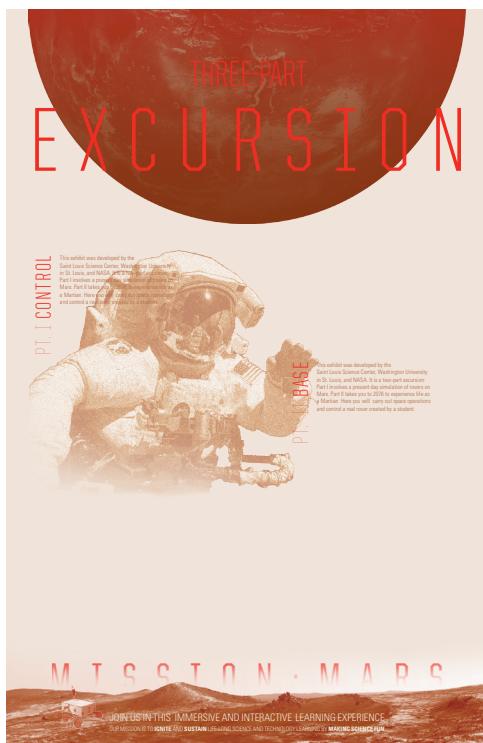
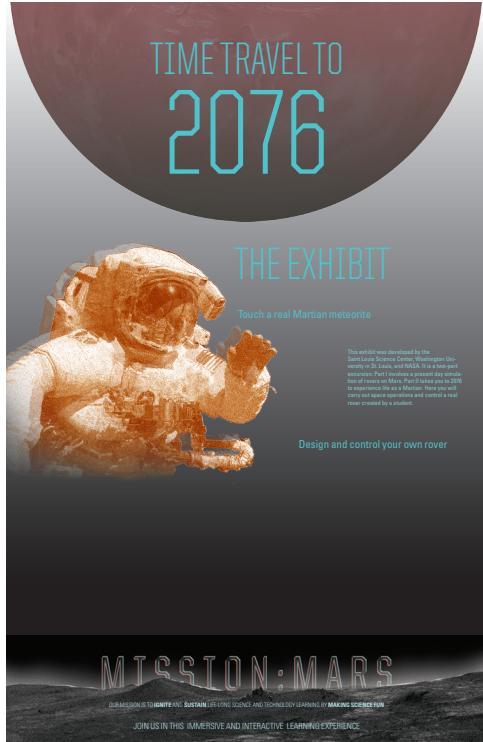
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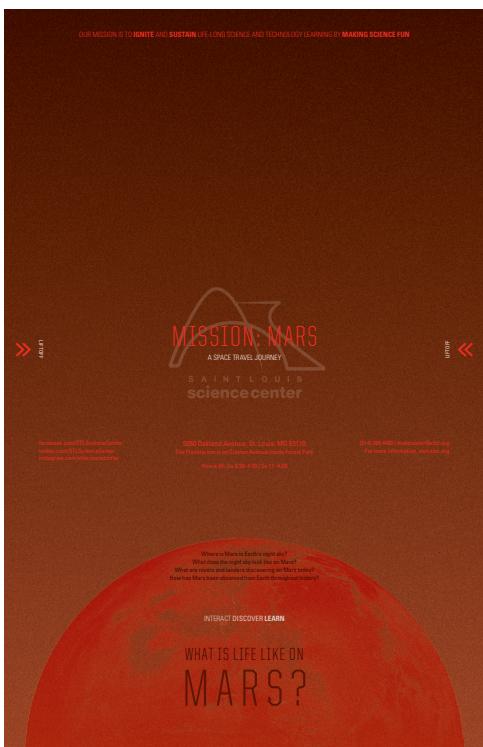
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# Conclusion

In the final class, I watched how people from the illustration group and others who hadn't seen my project interacted with my project. People were flipping to the backside. I wondered if people who were in the design group had biases in how they interacted with other people's folds. If their fold wasn't designed to be viewed on both sides but simply unfolded, would they not think to flip other people's folds? Because of this, I'm still unsure if I resolved the front/back issue. Otherwise, people were quite amused by my fold, and as long as they saw how it unfolded, they were able to fold it back. I also designed the info to still fit with the box model, so people who discovered that were even more excited, which fits in with what the Science Center is all about: hands on discovery and learning. Some were impatient and gave up when they couldn't figure out how to fold it back though. I wonder that if a handful of college students can't figure it out, would children have a lower success rate in interacting with the fold? Whatever the answer, I'd rather make something a bit challenging rather than safe and straightforward.



