

## REFLECTION PIECE: Whole Skin Locomotion

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The Whole Skin Locomotion project is the first research group I have had the opportunity to lead, and learned a lot from the experience. I learned how to handle and direct a group, I learned about setting deadlines and schedules, I also learned a lot about personal motivation. Academically, this project had close connections to the material I learned in ISIM, Mech Solids, Mat Sci, and Transport. I was initially surprised by how much of the project related to my course materials. By leading this project I was able to combine the topics from these different courses into a functional and exciting project.

I learned how to handle and direct a group of Oliners outside of their classes, a feat that is much more difficult than directing other people. This project was difficult to manage due to the level of independence and investment group members said they wanted, vs. what they actually needed. This led to deadlines being missed, and absences until both team members unfortunately, yet understandably, quit to work on school work. I now feel like I have developed a better understanding for managing a team, especially as related to personal investment. I think progress on the project was related to enthusiasm expressed, and the development of personal ideas. This aspect of the project made it difficult to make deadlines, and to order material, because not enough prior research had been done to justify it.

The project did a lot to support my academic development. I worked with test circuits and currents adjustment, to activate the shape memory alloy (SMA) just enough to not destroy it. I also was able to make free body diagrams, and use them to estimate which values would be most important, as well as to get rough estimates for the forces. This came in as a big aspect, when trying to work on the first direction, the incorporation of spring. The Mat Sci tools also served an important purpose of understand the material properties for the strange materials we used (SMA, and water snakes). I was also taking Transportation Phenomenon this semester, which allowed me to understand the fluid flow inside the membrane, an aspect that I would have otherwise made assumption about.

Unfortunately, due to a personal conflict from back home, I was unable to continue working on the project about half-way through the semester. This was quite difficult because I

think this is a fantastic project and I wanted to see significant progress be made. I learned a lot through trying to figure out the next steps for this project and hope someone else continues with it next semester.