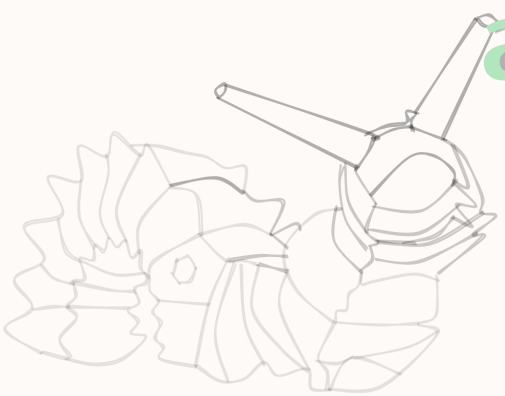
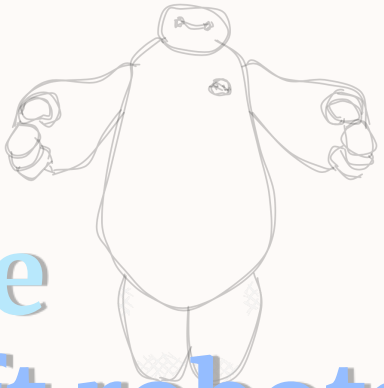
hugging and inflatable soft robots





I have used an interaction-focused perspective to explore human-scale inflatable soft robotics. This project is a contribution to “understanding users” which is a typical track in HCI which revolves around investigating human behaviour and technologies through empirical studies. The outputs from the project are:

- A design space. This contribution goes beyond a traditional background chapter by proposing a framework to characterize the area of soft robots and highlights gaps in the field.
- A bodystorming study (N=6) showing inflatables are a naturally good choice for investigating hugging interactions.
- A focus group study (N=12) showing that there are underlying rules governing what shapes are huggable, which may differ from that which is "appealing" or "cute".
- A controlled user experiment (N=28) confirming the analysis that resulted from the focus group study that inflatables with protrusions are significantly less huggable than those without.
- The design and implementation of a working prototype that instantiates some of the findings revealed in my studies. Note this part goes beyond the typical understanding user contribution: I wanted to produce a working prototype to demonstrate some of the potential experiences such robot could create.