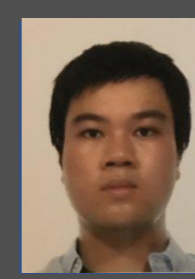


MEng Innovation by Design

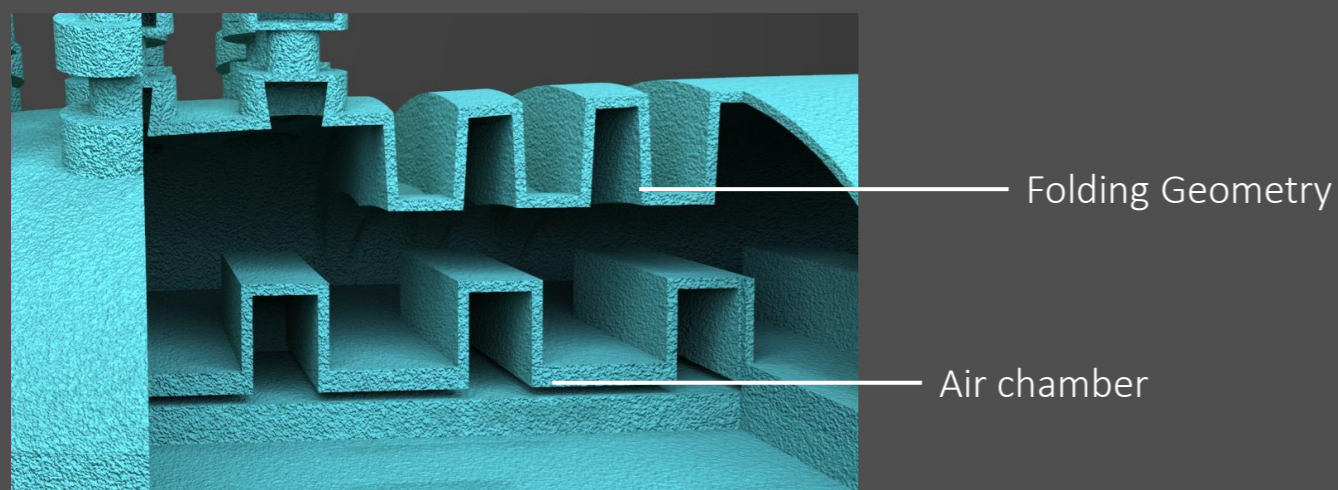
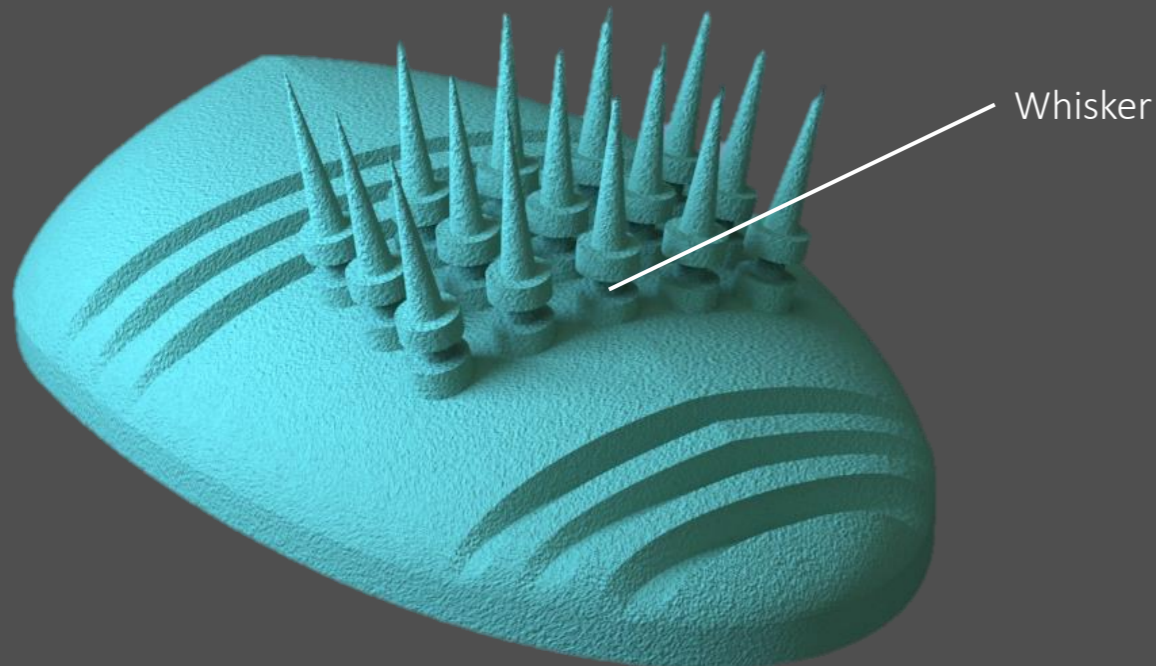
2019/2020 Ideate-Prototype-Realize



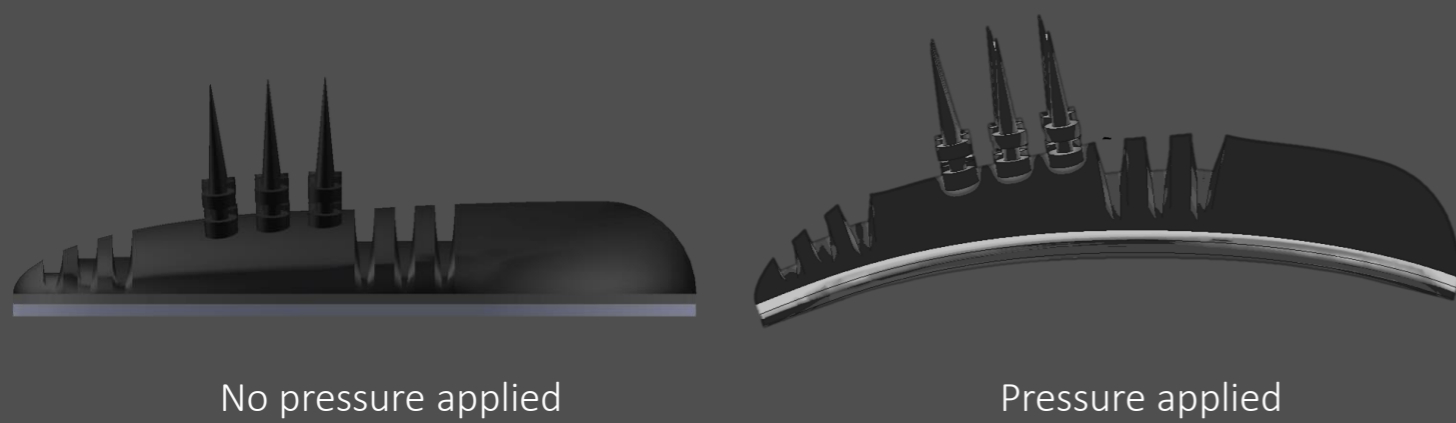
< Guinvarajudizantandale > | Student
 < PaloniKedivisArvanhoe > | Advisor

What

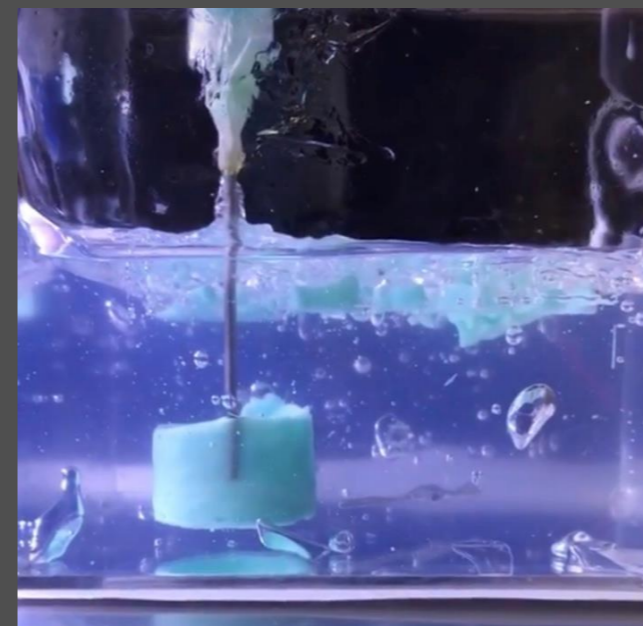
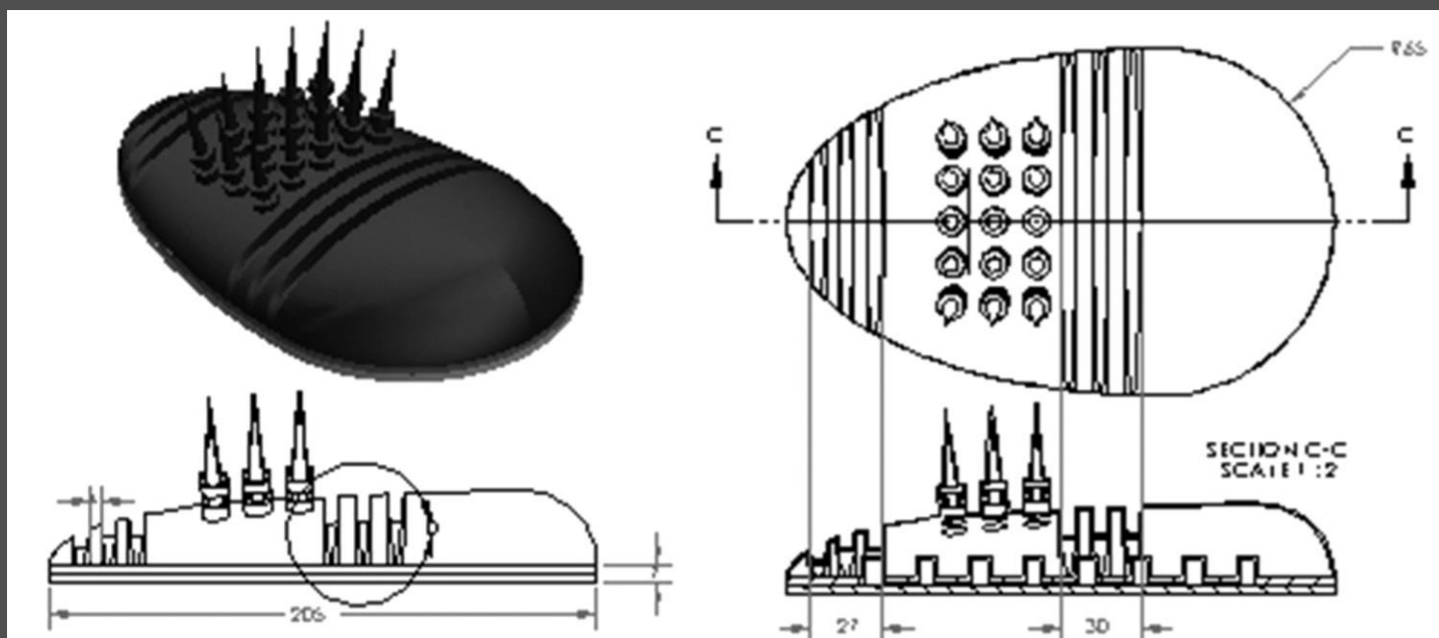
Soft robot inspired by hedgehog with intentions to aid in relaxation through the use of acupuncture.



When an air is supplied in the air chamber, air gets trap inside the chamber, allowing for the the air chamber to expand which eventually allowing the soft body to bend, thus moving the whisker to create a poke movement.

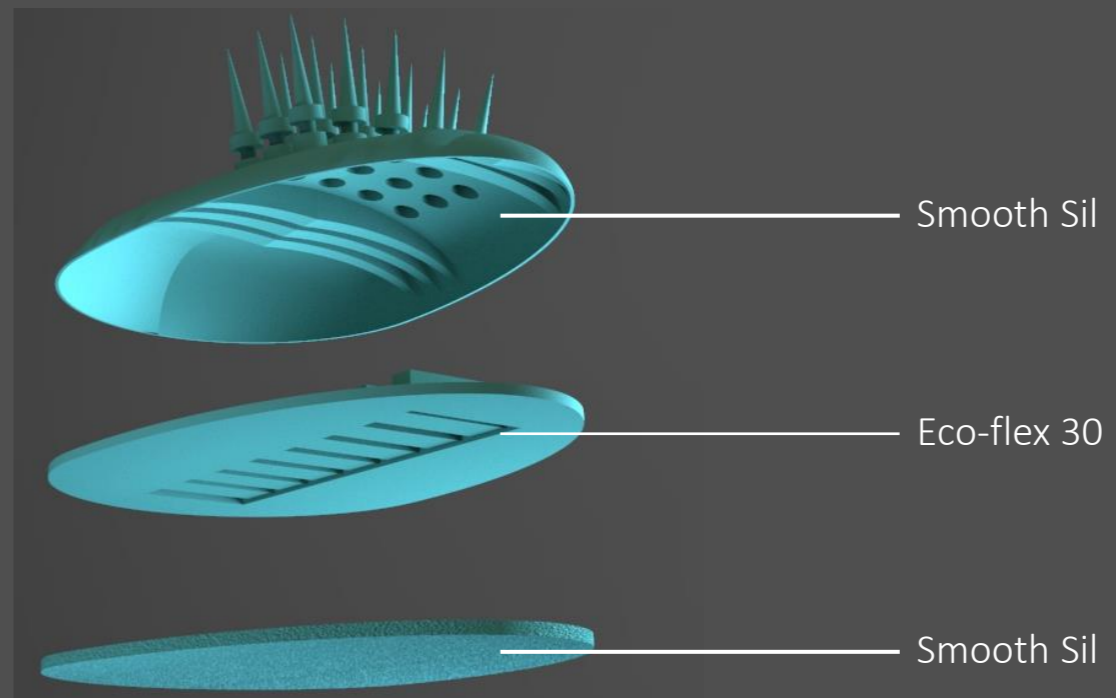


Method of production and material



The robots uses 2 different material such as Eco-flex 30 and Smoothsil which are printed in hydrogel support bath.

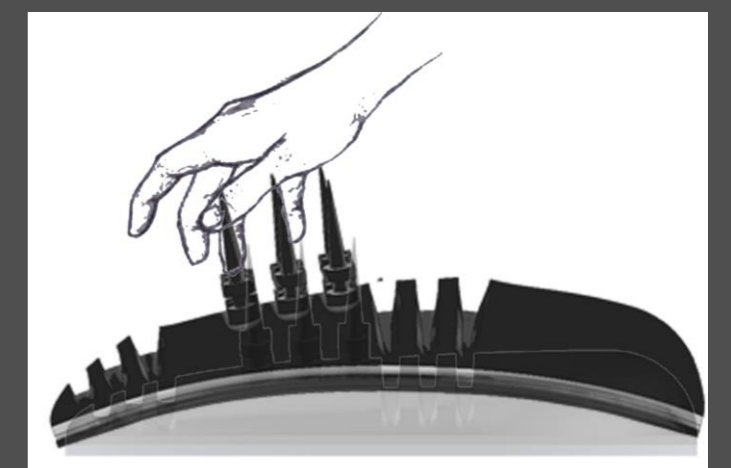
Depending on the speed of the print, the "thickness" of the material will change.



The parts are then combined with one another with epoxy glue, with the eco-flex 30 being sandwiched in between the parts.

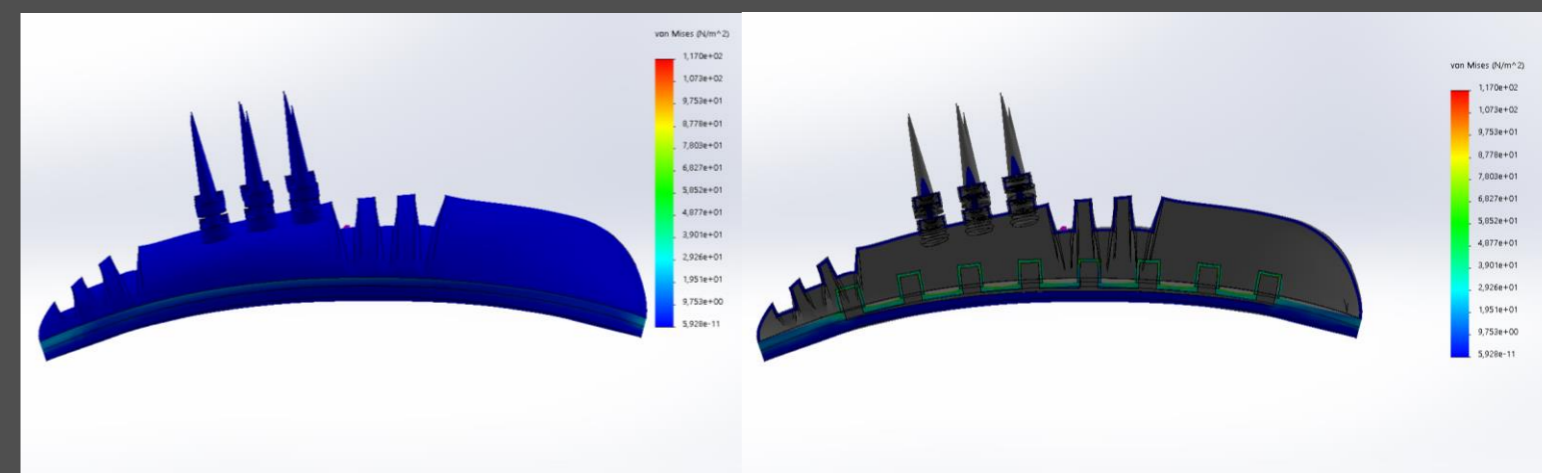
Why

The idea is to have a soft robot that is inspired by a hedgehog and by combining the special feaature of hedgehog spikes, acupuncture and massage, user would be able to relax themselves simply just by having their palm being poke or having their palm stroke by the robot.



How

By combining two different material that have different rigidity, it will allow the body to have movement that mimics the curl movement of a hedgehog.



User will have their hand palm to be poke at specific area. When having this area of the palm poke, it will cause a reaction for the users to relax and de-stress themselves.

