

Lower-Body Fitting Robot

Haosen (Russell) Xing

06/2017

International Design Institute, Zhengjiang University

Objective:

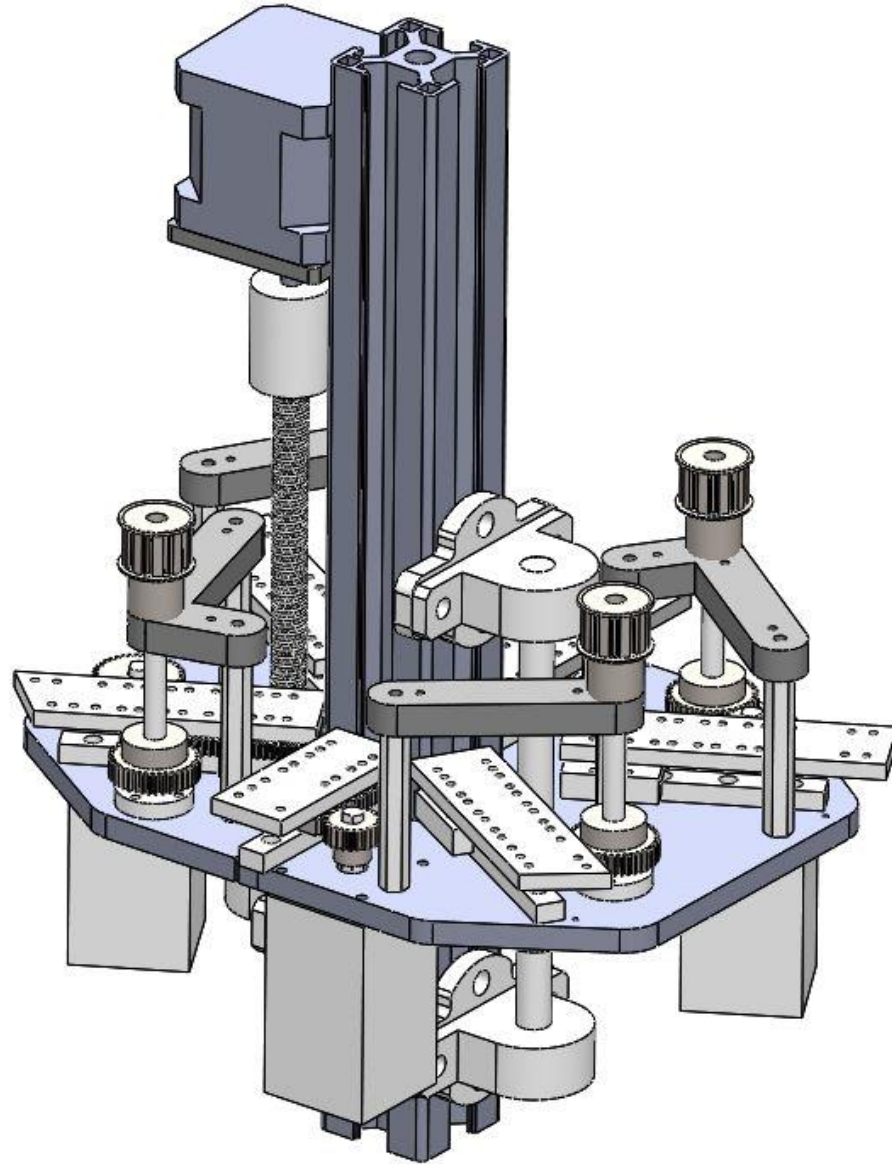
This individual project was a part of the Fitting Robot mannequin Project, whose goal was to make clothes shopping easier and more convenient for the consumer and loss free for the seller. It focused on the development of a robotic mannequin of the female lower body, which could reshape into different shapes and sizes that a woman's body can be.

Procedures:

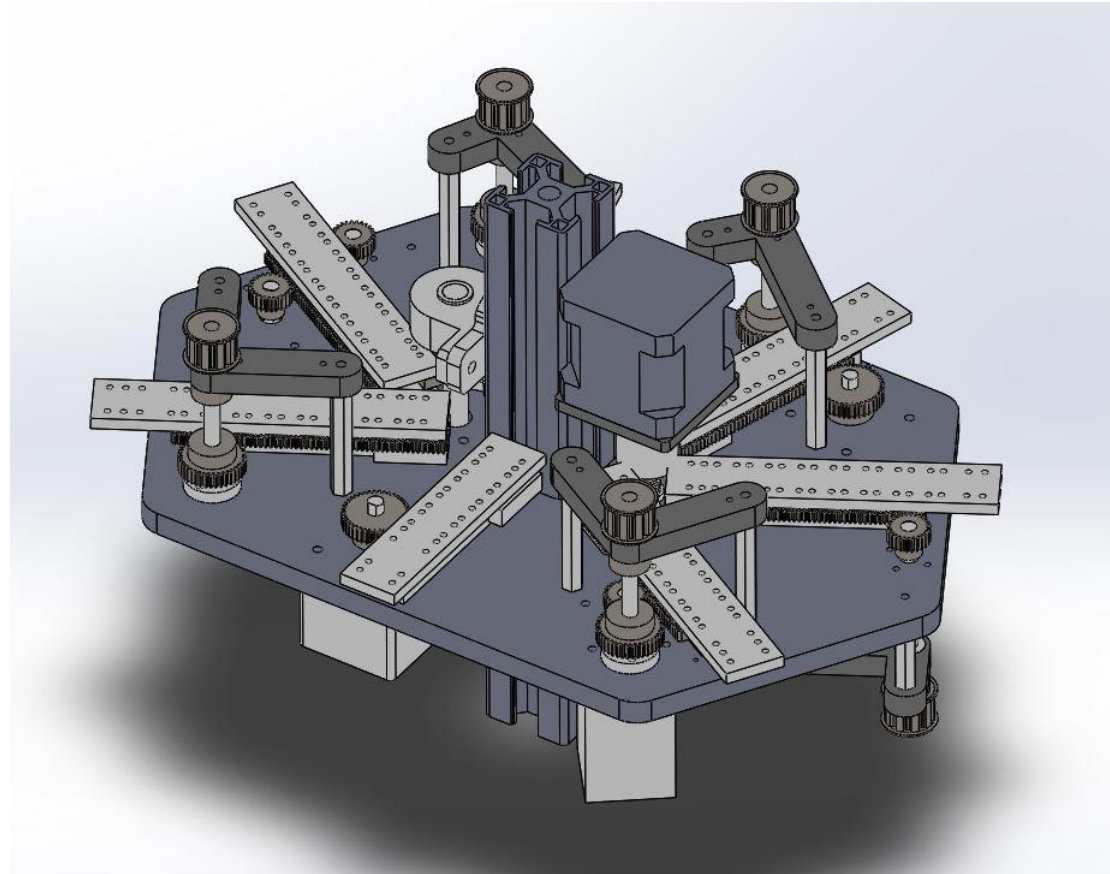
1. Design and manufacture a feasible and cost-effective mechanical structure. (Finished)
2. Using Arduino-controlled stepper motor to simulate the change in shape and size of the lower torso. (On-going)
3. Design a Graphical User Interface (GUI) for users to type in their critical lower body data which can be sent to the online clothing retailer. (Planned)
4. The apparel can be dressed on once reshaping is finished. Customers will receive the pictures. (Planned)

CAD Design:

waist



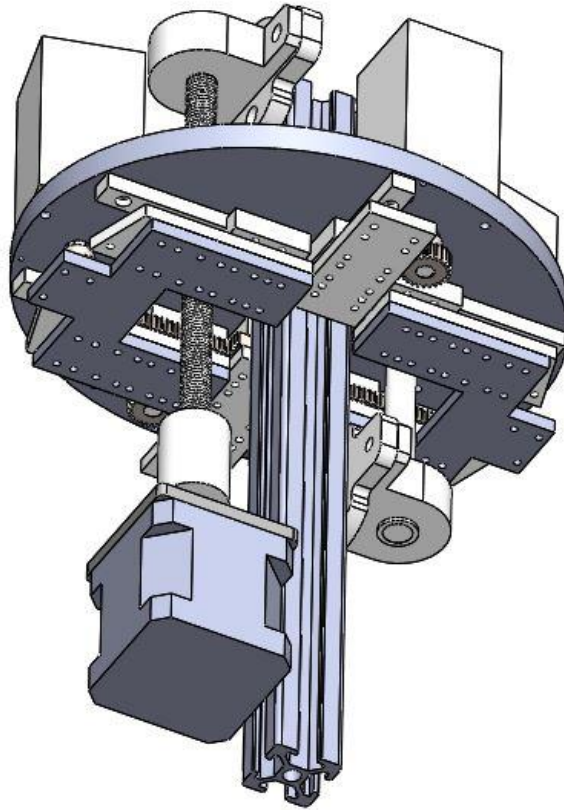
CAD Design:



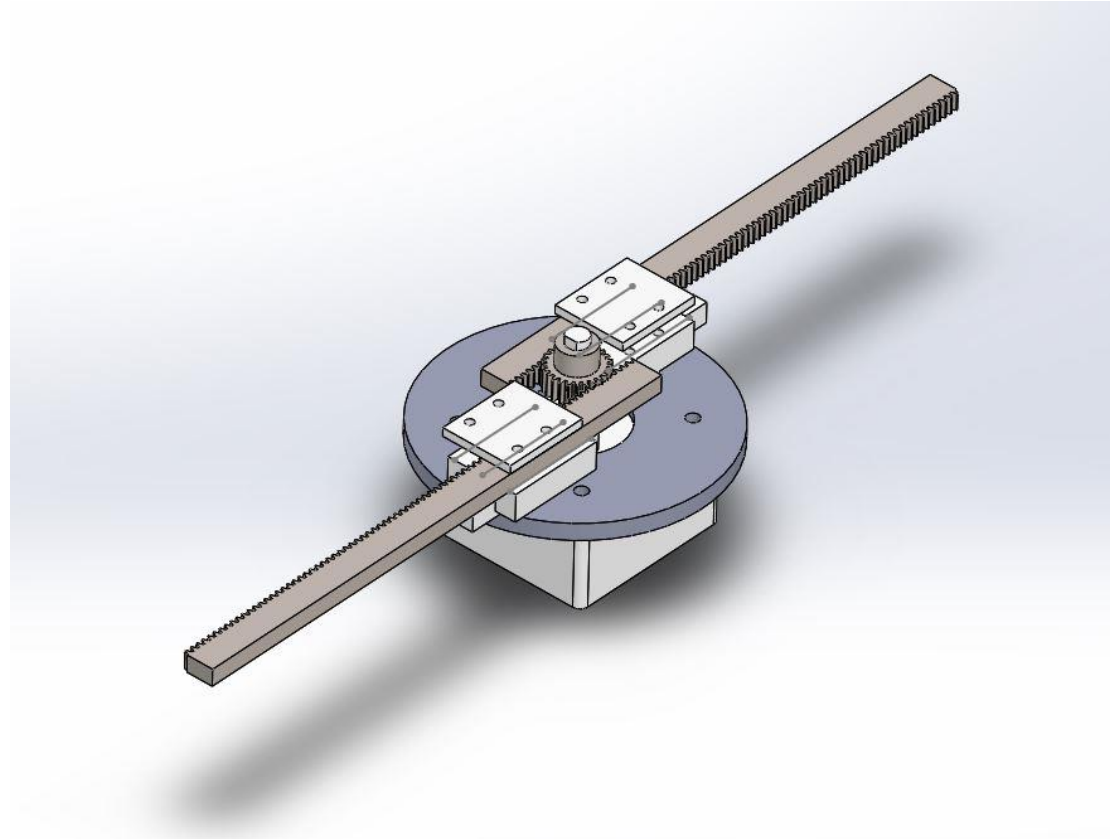
← hip

CAD Design:

thigh



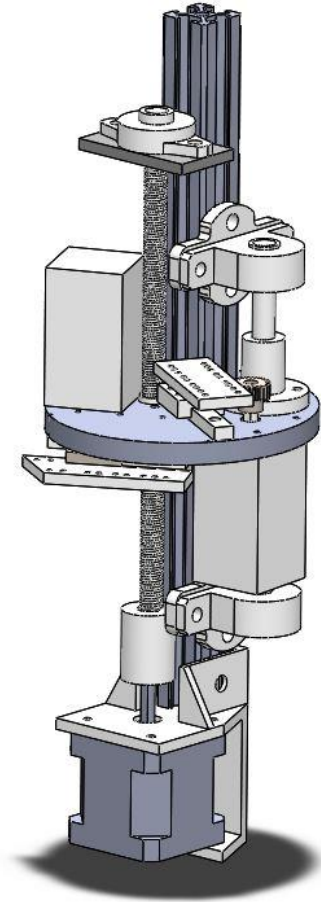
CAD Design:



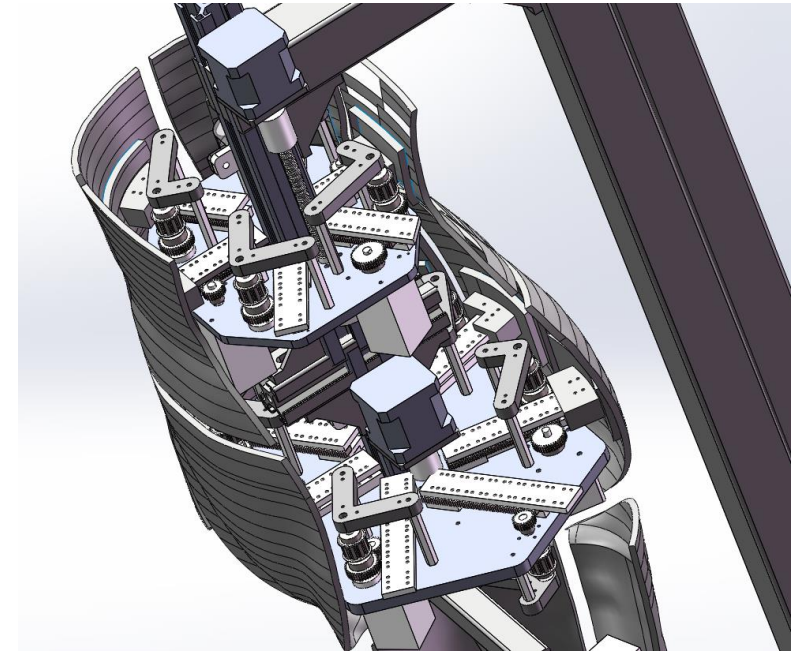
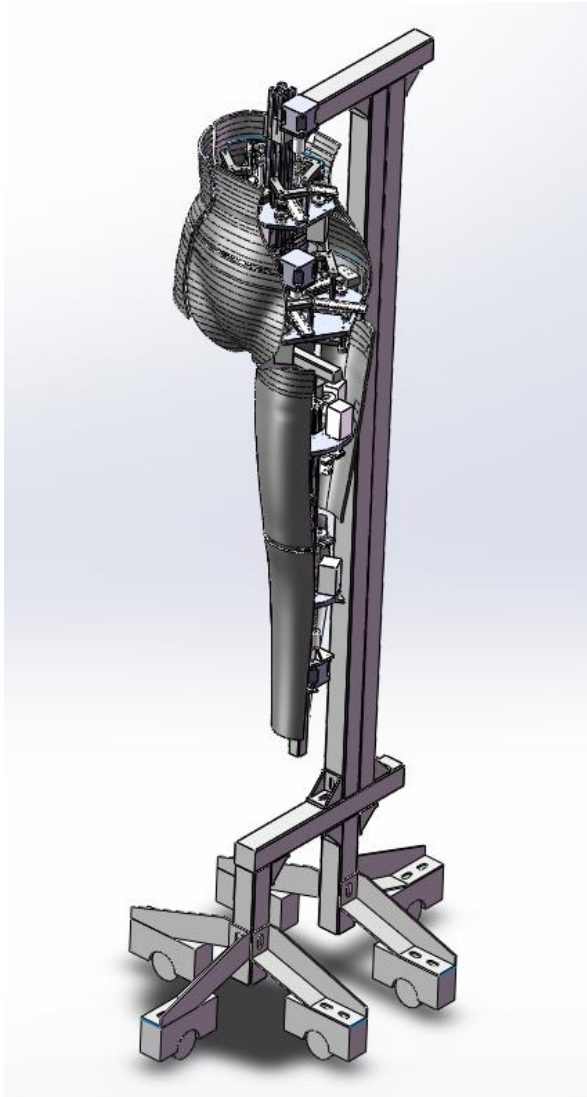
knee

CAD Design:

calf



Overall CAD Design:



Control Diagram:

