

STEM 2021

CEC GRABBER

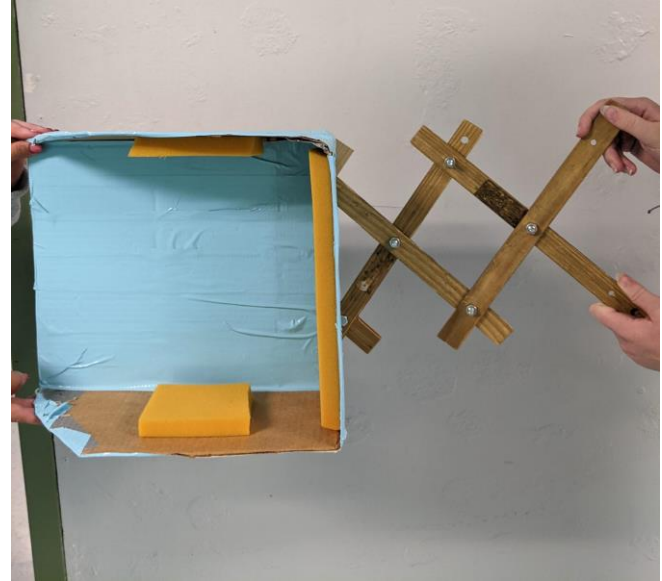
Medway Middle School

OUR PRODUCTS

Our products help people who are paralyzed get things in and out of the fridge easily. The first model is larger, and more equipped for picking up large items, such as milk, or large jars.

Unfortunately, we were limited to cardboard and rulers, meaning that durability is not perfect. We were inspired by the movement of scissors while designing the handle of our invention.

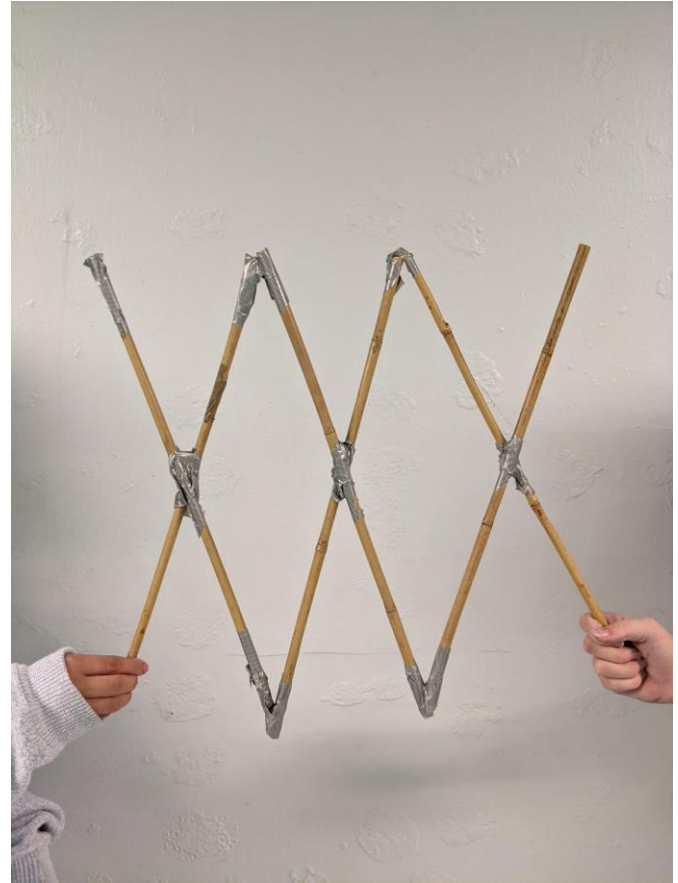
We decided that a bucket-like scoop would be best for picking things up. Eventually, we would love to add a “grabber” component to our design. However in the short school week we had, there was not enough time.



EXTEND HANDLE

As stated, we were inspired by scissors. Our first model of this handle was made out of bamboo sticks and duct tape. This was not ideal as it couldn't move easily.

Later, we made the extend handle out of rulers, bolts, and nuts. This was much more efficient and far stronger.

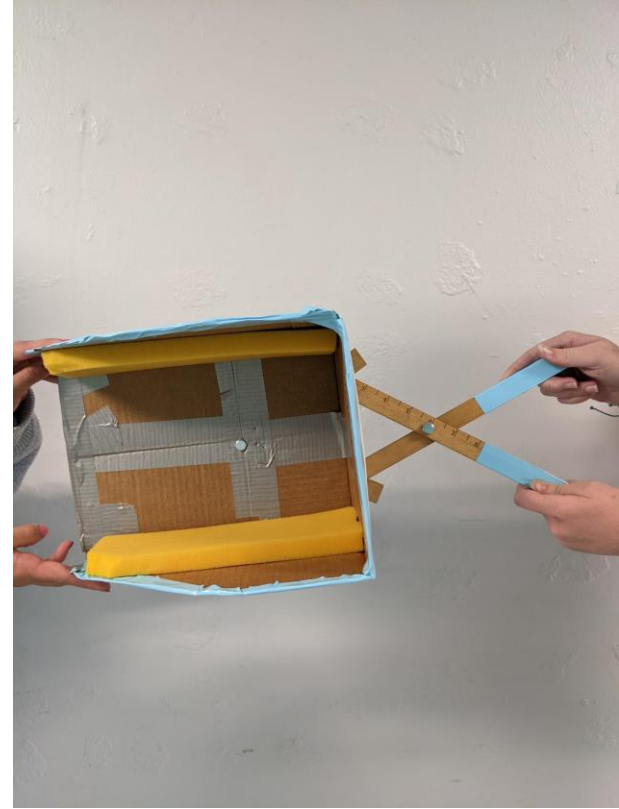


PRODUCT 2

The next product is similar to the first, yet smaller. It is ideal for grabbing smaller objects, fruits, vegetables, things similar to that.

It seems to be more durable than the larger design. We believe that this is the case because it has less rulers attached, and is more effectively secured.

We added a foam lining to both products to help protect any fragile groceries.



PAIN POINTS

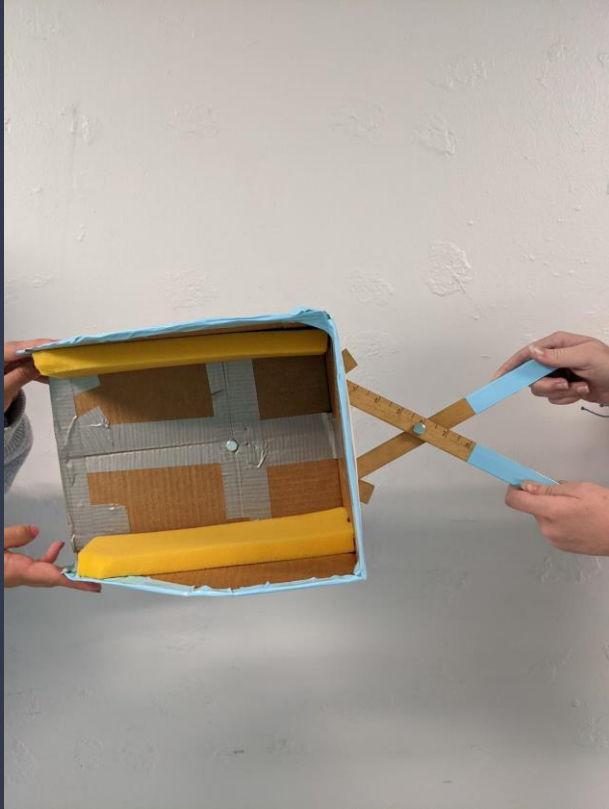
- Objects falling out
- Shelves are too high
- Having to move and find things
- Door hitting
- Inability to balance on crutches
- Difficulty with core strength and bending up and down
- Small space in fridge
- Needs to be compact in order to easily store

We were able to successfully address the majority of pain points we came up with. Our invention best helped create a easy way for people with disabilities, such as paralysis move around easily as our invention does not take up a lot of space in is able to compact or contract. They are able to “nest” inside of each other creating a fairly portable object. Very little movement is required in order to operate solving the problem of having to repetitively move up and down.

TRIALS



Summary



To summarize, our product works fairly well. Our biggest struggles were durability and creating an extending handle. Given more time and stronger materials, we believe that CEC Grabber could make real change in everyday lives of people living with paralysis. This week was full of laughs and we truly learned a lot.

Thank you!