

FINAL PROTOTYPE BOM					
Item No.	Part Name	Description	Quantity	Unit Cost	Extended Cost
1	Ball bearing	0.625" R4-2RS	1	\$5.00	\$5.00
2	Acrylic	1'x 2'x ¼"	1	13.45	13.45
3	Spoon	3D printed	1	0.00	0.00
4	Brim and ridges	3D printed	1	0.00	0.00
					\$18.45

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PRODUCTION BOM					
Item No.	Part Name	Description	Quantity	Unit Cost	Extended Cost
1	Ball bearing	0.625" R4-2RS	1	\$2.02	\$2.02
2	Stainless Steel	round bar (0.750)	1"	\$7.90/ft (\$10.42 CAD)	\$0.87 CAD
3	Metal Spoon	Standard tbs	1	\$2.00	\$2.00
4	Material of plate	Calcined China Clay	1	\$3.50	\$3.80
					\$8.69

Client meet

- When we met our client we discovered that tremor wasn't the main concern but rather her it was joint problem which prevented wrist rotation and finger movement. Because of her condition, she was prone to spill food on herself. Additionally, she doesn't have much strength in her arm making stabbing her food very difficult.

Ideate

- We came up with a new way to look at the problem in which we divided the tasks into two parts. A spoon that provided rotational stability, and to decrease the force required to stab food.

Client meet

- Our client showed a concern at the ball at the end of the utensil. Additionally we discovered our original client used an attachable rim for her plate for rotational purposes which allowed her to access her food.

Prototype

- We implemented our first prototype spoon after our meeting with the customer. The prototype is a 3D printed spoon with simple mechanism using ball bearing for the spoon head rotates freely, we used another ball bearing as weight to make sure the spoon head is always facing up. We also designed a plate that could rotate to take food on the other side of the plate. A sticky pad below one side of the edge would stop this rotation when force is applied. Ridges on the plate top will help to hold food in place.

Client meet

- During our last meeting with our client, we could not show a physical model of our plate but only a 3D drawing. The spoon seemed to please our customer but some remarks were made. The customer found that our spoon's handle was too small and that the length of the handle was too short for its comfort. Also, the bowl was too low compared to the position of the handle.

Final prototype

- we have rectified the details necessary for our spoon. We have adjusted the length of the handle, so that the height between the handle and the bowl is reduced. In addition we make a thicker handle. We also think that a steeper bowl would look our prototype like a real spoon.
- With the resources available, create a prototype that is close to the final product in terms of functionality.

