Team C
Angelina Barone, Mira Faizul, Dan Haikal, and Ranga Rutiser Sundar
April 22, 2022

Project Budget

The project had a fixed budget of $50 for prototype development. Due to technical limitations of the Makerbot 3D printers, the two bristle prototypes were printed (with approval from Dr. Casale) through the Ohio State University Innovation Studio at Pomerene Hall, 1760 Neil Avenue Building 067, Columbus OH 43210. The Innovation Studio offers free 3D printing and laser cutting to OSU students. For the purposes of the prototyping budget, these prints will be counted using the same prices specified by the FE Prototyping Store: $5 plus $0.40 per cubic inch for 3D-printed items and $3.50 plus $0.07 per square inch for laser cut items [1]. The volume and area measurements are obtained from the SOLIDWORKS models created of the brush [2].

Part No.	Description	Source	Manufacture	Volume/Area	Price
7	Bristle Proto 1	Innovation Studio	3D Print	1.24 cu in	$5.50
7 rev 1	Bristle Proto 2	Innovation Studio	3D Print	1.24 cu in	$5.50
4,5,6	Backplate and supports	FE Store	Laser cut	12.98 sq in combined	$4.41
1	Hinge linkage	FE Store	3D Print	0.34 cu in	$5.14
2	Horizontal pivot	FE Store	3D Print	0.54 cu in	$5.22
Total					$25.77

Any additional parts, such as bolts, zip ties, springs, and the handle, were sourced independently or fabricated using existing materials, and are of negligible cost.

References

[1] Ohio State Fundamentals of Engineering Program, “FE prototyping store information guide.” [Course documentation]. Available: https://buckeyemailosu.sharepoint.com/:b:/s/ENG-EED/EUARKNe5l39NoO5s8rGrnOgB061U5rJNFzp0YscIhYwdtw?e=55pgzA. [Accessed April 22, 2022].

[2] L. Barone, M. Faizul, D. Haikal, & R. Rutiser Sundar, “Pet brush project SOLIDWORKS models,” April 2022. [Online]. Available: https://github.com/rutisersundar1/ENGR1182GroupC/tree/main/SOLIDWORKS%20Models. [Accessed April 22, 2022].