

# Dental Hygiene

## Team B

Keenan Lacey (Project manager and client contact)

Rodrigo Ojeda (Budget and schedule)

Meshal Alrashidi (Website developer and document manager)

# Project Description

- Design a dental triturator for international use
- Tritrator used to mix dental capsules
- NAU Dental Hygiene Department (Sponsor)



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[1] Dental Capsule

# Design Description

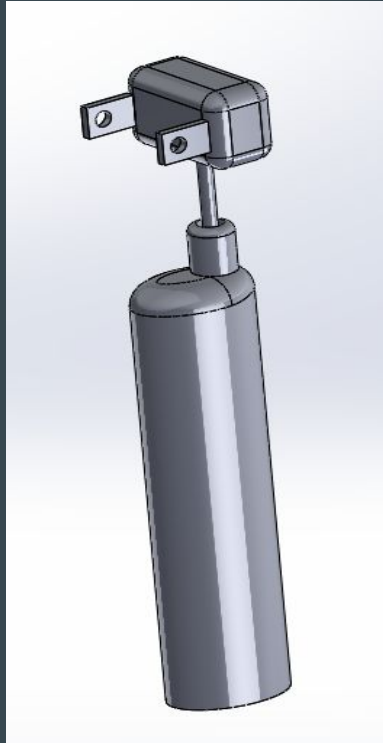


Figure 1: Final Design

Table 1: Bill of Materials

Number of parts	Part Number	Part Name
1	1	Black rubber stopper
1	2	Metal shaft
1	3	Plastic Metal shaft support
1	4	Plastic Figure 8
1	5	Plastic motor base
1	6	Motor
1	7	On Off switch
2	8	Batteries
1	9	Tooth Brush
1	10	Upper Base Electric toothbrush
1	11	Lower Base Electric toothbrush
1	12	Battery Plug
1	13	Capsule Attachment

# Design Description

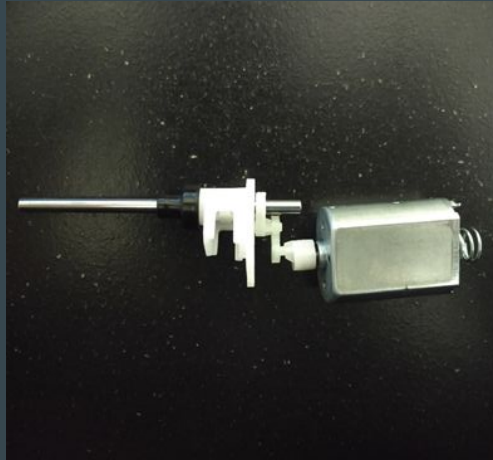


Figure 2: Energy conversion assembly

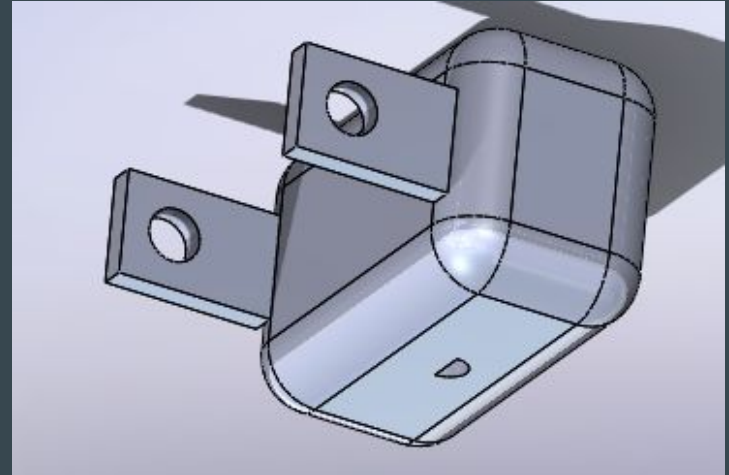


Figure 3: Solidworks attachment

# Design Requirements

- Less than 5 pounds
- Fits in small carry on bag
- Verified with calculations
- Consistency and performance
- Simple on/off button
- Long lasting and sturdy parts
- Less than \$100
- Swap batteries or use replacement
- Colorful design options

Table 1. Customer Requirements

Customer Requirements	Weighting
Lightweight	5
Easily Transportable	5
Homogeneous Mixture	5
Reliability	4
Easy Operation	4
Quality of Parts	3
Cost	3
Easy Maintenance	3
Aesthetics	2



# Zoomed Schedule

Task	Who	April												May		
		3	5	7	10	12	14	17	19	21	24	26	28	1	3	5
7 Final report	Team															
7.1 Background	Rodrigo Ojeda															
7.2 Report requirement	Meshal Alrashidi															
7.3 Existing Designs	Keenan lacey															
7.4 Design considered	Meshal Alrashidi															
7.5 Design selected	Rodrigo Ojeda															
7.6 Proposed design	Keenan lacey															
8 Final Presentation	Team															
8.1 Project description	Meshal Alrashidi															
8.2 Background & Benchmarking	Rodrigo Ojeda															
8.3 Customer Requirment	Keenan lacey															
8.4 Schedule & budget	Meshal Alrashidi															
Final Prototype due	Team															
Peer Evals # 3	Team															

# Next term Schedule

Task	Who	August	September	October	November	December
1 Staff meeting	Team					
2 Progress Presentation	Team					
3 Hardware review 1	team					
4 Staff meeting 2	Team					
5 Midpoint review pre	Team					
6 Hardware2	Team					
7 Staff meeting	Team					
8 presentation walk	Team					
9 Final product test	Team					
10 Final presentation	Team					



# Budget

Table 2. Budget and Final Cost

Material	Cost
Electric toothbrush x2[1]	\$20
AA Rechargeable Batteries x8[2]	\$14.99
Carry on luggage 7.3" x 6.5" x 4.5" [3]	\$16.88
3D Printing "attachments"	\$30
Prototype	\$35
Testing	\$100
Anticipated final cost	\$216.87
Final Design Cost	\$81.87

# Questions ?

# References

[1] "Equate Easyflex Total Power Toothbrush, Battery". *Walmart.com*. N.p., 2017. Web. 24 Apr. 2017.

[2] "Amazonbasics AA Rechargeable Batteries (8-Pack) Pre-Charged - Packaging May Vary: Health & Personal Care". *Amazon.com*. N.p., 2017. Web. 24 Apr. 2017..

[3] "Case Logic DSLR Shoulder Bag, Black". *Walmart.com*. N.p., 2017. Web. 24 Apr. 2017