

# Dental Hygiene

## Team B

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Keenan Lacey(Group manager and client contactor)

Rodrigo Ojeda(Budget)

Meshal Alrashidi(website developer and document manager)

# Project Description

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- A dental triturator is used to mix components of a dental capsule for 10 seconds
- Dental capsules are used to fill holes in teeth
- NAU Dental Hygiene Department (Sponsor)



[7][http://images.alfresco.advanstar.com/alfresco\\_images/dental/2015/09/07/6746d5db-e746-422f-9f2d-f22205b448ee/Riva-Luting-Capsule-hi.jpg](http://images.alfresco.advanstar.com/alfresco_images/dental/2015/09/07/6746d5db-e746-422f-9f2d-f22205b448ee/Riva-Luting-Capsule-hi.jpg)

# Purpose

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- Purpose and Goal
  - Engineer a dental triturator that works manually
  - Complete a reliable, working project on time
- Why is this project important?
  - Device is used to help people in other countries



[6]<http://startupmywebsite.com/wp-content/uploads/2013/07/volunteer2.jpg>

# Background and Benchmarking

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- Applications
- Relevant
- Previous Project



Figure 1. Existing Design

# Existing Designs

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<https://i.ytimg.com/vi/o4QIBHXVEPs/maxresdefault.jpg>

[2]Paint Mixer



<https://www.oxo.com/egg-beater-30>

[1]Egg Beater



<http://toolguyd.com/blog/wp-content/uploads/2013/09/Milwaukee-M18-Fuel-Sawzall-Recip-Saw.jpg>

[3]Sawzall

# Customer Requirements

- Design Requirements
  - Lightweight
  - Manual Operation
  - Triturate dental capsules
- Customer Requirements
  - Customer Approval
  - HoQ
- What to accomplish?

Table 1: House of Quality

	A	B	C	D	E
1	House of Quality (HoQ)				
2					
3	<b>Customer Requirement</b>	<b>Weight</b>	<b>Engineering Requirement</b>		
4	1. Quality	3			
5	2. Reliability	4			
6	3. Cost	3			
7	4. Easy Operation	4			
8	5. Easy Maintenance	3			
9	6. Lightweight	5			
10	7. Shake capsule for 10 seconds	5			
11	8. Easily Transportable	5			
12	9. Aesthetics	2			
13					
14	<b>Approval</b>				
15	Team member 1: Keenan Lacey 2/17/17				
16	Team member 2: Rodrigo Ojeda 2/17/17				
17	Team member 3: Meshal Alrashari 2/17/17				
18					
19	Client Approval: Email				

# Gantt chart

Table 2: Gantt Chart

Task	Who	January						February										
		18	20	23	25	27	29	1	3	6	8	10	13	15	17	20	22	24
1 Team charter	Team																	
2 Background report	Team																	
2.1 Come up with customer need	KL																	
2.2 Get customer needs approved by spoiser	KL																	
2.4 Background research	MA and RO																	
2.5 Existing designs	RO and MA																	
2.5 Write up report	Team																	
2.6 Format and Turn in report	MA																	
3 Presentation 1	Team																	
3.1 Create Presentation	Team																	
3.2 Practice for Presentation	Team																	

# Budget

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## Budget:

Total budget \$750

## Anticipated expenses:

\$350 For prototypes

\$400 Final cost



[4]  
[http://chicagoinspectorgeneral.org/wp-content/uploads/2011/03/500px-Emblem-money.svg\\_png](http://chicagoinspectorgeneral.org/wp-content/uploads/2011/03/500px-Emblem-money.svg_png)



# Questions?

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[5][https://www.google.com/url?sa=i&rc=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=0ahUKEwjLv9zIop3SAhVFj1QKHR2MDhgQjRwIBw&url=https%3A%2F%2Fthewisemind.org%2F2015%2F09%2F03%2Fask-me-questions%2F&psig=AFQjCNHOSOhFzyfePuNhCL\\_NKLJhRTID7Q&ust=1487631810084733](https://www.google.com/url?sa=i&rc=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=0ahUKEwjLv9zIop3SAhVFj1QKHR2MDhgQjRwIBw&url=https%3A%2F%2Fthewisemind.org%2F2015%2F09%2F03%2Fask-me-questions%2F&psig=AFQjCNHOSOhFzyfePuNhCL_NKLJhRTID7Q&ust=1487631810084733)

# References

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- [1] *Egg Beater*. N.d. *Egg Beater*. Web. 15 Feb. 2017. "<https://www.oxo.com/egg-beater-304>"
- [2] *Gas Paint Mixer*. Digital image. N.p., n.d. Web. <https://i.ytimg.com/vi/o4QIBHXVEPs/maxresdefault.jpg>
- [3] *Sawzall*. Digital image. N.p., n.d. Web. <http://toolguyd.com/blog/wp-content/uploads/2013/09/Milwaukee-M18-Fuel-Sawzall-Recip-Saw.jpg>
- [4] *Budget*. Digital image. N.p., n.d. Web. [http://chicagoinspectorgeneral.org/wp-content/uploads/2011/03/500px-Emblem-money.svg\\_.png](http://chicagoinspectorgeneral.org/wp-content/uploads/2011/03/500px-Emblem-money.svg_.png)
- [5] *Questions*. Digital image. N.p., n.d. Web. [https://www.google.com/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=0ahUKEwjLv9zIop3SAhVFj1QKHR2MDhgQjRwIBw&url=https%3A%2F%2Fthewiseminid.org%2F2015%2F09%2F03%2Fask-me-questions%2F&psig=AFQjCNHOSOhFzyfePuNhCL\\_NKLJhRTfD7Q&ust=1487631810084733](https://www.google.com/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=0ahUKEwjLv9zIop3SAhVFj1QKHR2MDhgQjRwIBw&url=https%3A%2F%2Fthewiseminid.org%2F2015%2F09%2F03%2Fask-me-questions%2F&psig=AFQjCNHOSOhFzyfePuNhCL_NKLJhRTfD7Q&ust=1487631810084733)
- [6] *Giving Back to the Community as a Business Owner*. Digital image. N.p., n.d. Web. <http://startupmywebsite.com/wp-content/uploads/2013/07/volunteer2.jpg>
- [7] *Dental Capsule*. Digital image. N.p., n.d. Web. [http://images.alfresco.advanstar.com/alfresco\\_images/dental/2015/09/07/6746d5db-e746-422f-9f2d-f22205b448ee/Riva-Luting-Capsule-hi.jpg](http://images.alfresco.advanstar.com/alfresco_images/dental/2015/09/07/6746d5db-e746-422f-9f2d-f22205b448ee/Riva-Luting-Capsule-hi.jpg)