

# EYE DROPPER ASSISTANT, BME 402

**Date:** 02/08/24

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Note: Team member Tommy is currently participating in a Co-Op and is devoting time to that position. Tommy will work on what he can this semester for the project but due to this conflicting commitment his contributions *may* be limited.

## Problem Statement

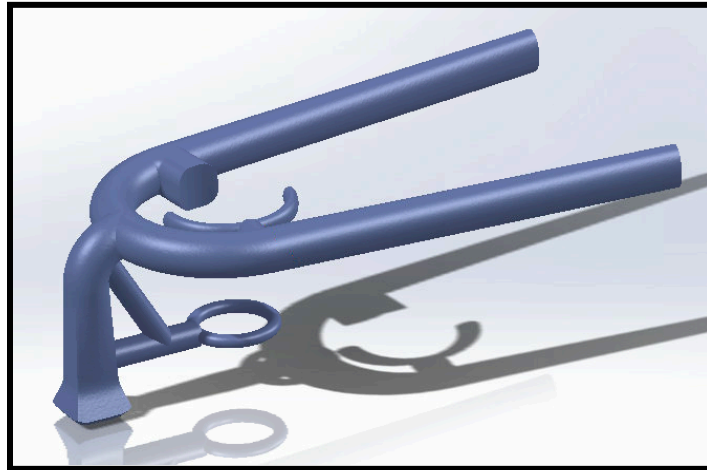
Administration of eye drops is difficult for patients, especially older adults and those with limiting diseases like arthritis. This results in eye drop waste and tip contamination. The team will design a device to assist patients in squeezing the eye drop bottle, while releasing a consistent amount of solution per drop. This device will improve the administration of eye drops for the patient while minimizing eye drop waste.

## Brief Status Update:

The team had a client meeting last Friday and talked about the logistics for our future feasibility testing. The team submitted an application for WHARF review on our current design.

**Difficulties / Advice Requests :** N/a this week

## Current Design:



## Design Changes:

- Nose piece removed and platform implemented for user to rest on eyebrow bone.

## Materials and Expenses:

Item	Description	Manufacturer	Part Number	Date	QTY	Cost Each	Total	Link
<b>Existing Devices</b>								
<b>Droppy Eye Drop Dispenser</b>	Competing Design	Droppy, Amazon	DR001	9/25	1	9.99	9.99	<a href="#">Link</a>
<b>GentleDrop Eye Drop Guide</b>	Competing Design	GentleDrop, Amazon	ASIN: B0BQBHRKV1	9/25	1	17.99	17.99	<a href="#">Link</a>
<b>Prototyping</b>								
<b>Silicone Eyelash Curler</b>	Prototype Materials (Handle Grips)	PETUNIA SKINCARE, Amazon	ASIN: B00UVLNDVQ	10/25	1	7.49	7.49	<a href="#">Link</a>
<b>MakerSpace Print</b>	Prototype v1	UW Makerspace Ultimaker 3D Print	N/A	10/31	1	4.96	4.96	N/A

Item	Description	Manufacturer	Part Number	Date	QTY	Cost Each	Total	Link
<b>MakerSpace Print</b>	Prototype v2	UW Makerspace Ultimaker 3D Print	N/A	11/10	1	5.07	5.07	N/A
<b>MakerSpace Print</b>	Prototype v3	UW Makerspace Bambu Labs 3D Print	N/A	11/13	1	4.5	4.5	N/A
<b>MakerSpace Print</b>	Prototype v3	UW Makerspace Bambu Labs 3D Print	N/A	11/14	1	4.96	4.96	N/A
<b>MakerSpace Print</b>	Prototype v3	UW Makerspace Ultimaker 3D Print	N/A	11/15	1	8.16	8.16	N/A
<b>MakerSpace Print</b>	Prototype v4	UW Makerspace Ultimaker 3D Print	N/A	11/17	1	10.08	10.08	N/A
<b>MakerSpace Print</b>	Test Fixture	UW Makerspace Ultimaker 3D Print	N/A	11/29	1	13.78	13.76	N/A
<b>MakerSpace Print</b>	Final Prototype	UW Makerspace Ultimaker 3D Print	N/A	12/1	1	7.36	7.36	N/A
<b>MakerSpace Print</b>	Multiple Final Prototypes	UW Makerspace Ultimaker 3D Print	N/A	12/8	1	11.6	11.6	N/A
<b>MakerSpace Print</b>	Final Prototypes	UW Makerspace Ultimaker 3D Print	N/A	12/8	1	7.84	7.84	N/A



Research																	
Prototyping																	
Testing																	
<b>Deliverables</b>																	
Progress Reports																	
Prelim presentation																	
Final Poster																	
<b>Meetings</b>																	
Client																	
Advisor																	
<b>Website</b>																	
Update																	

Project Goal	Deadline	Assigned	Progress	Completed
Preference Human Testing	2/29	All	In Progress	
Preliminary Oral Presentation	2/9	All	In Progress	
Preliminary Deliverables	2/28	All	Not Started	
Show and Tell	3/22	All	Not Started	
Executive Summary	4/19	All	Not Started	
Final Poster Presentation	4/26	All	Not Started	
Final Deliverables	5/1	All	Not Started	

### Summary of Weekly Team Member Design Accomplishments

*Team:* The team kicked off their mentorship program at Sun Prairie high school. There are three different groups that will be working together to create their prosthetics. The team also scheduled a meeting with WARF to discuss patent opportunities.

*Individual:*

❖ Jenna:

- Attended first outreach meeting
- Had a meeting with experts in the Mech engineering department about injection molding

- Filled out portions of preliminary presentation
- ❖ Eva:
  - Made edits to IRB application
  - Created recruitment flier for initial human testing
  - Completed preliminary presentation
- ❖ Tevis:
  - Attended outreach meeting at Sun Prairie HS
  - Met with Paula Hohoff to investigate materials and injection molding potential
  - Completed my portion of the preliminary design presentation
  - Printed 4 prototypes for WARF meeting
- ❖ Tommy:
  - Attended first outreach meeting
  - Completed required IRB training
  - Researched packaging standards and competing designs
  - Worked on preliminary presentation slides
- ❖ Kasia:
  - Attended outreach, decided on groups
  - Created preliminary presentation slides
  - Prepped for WARF meeting
- ❖ Anabelle:
  - Attended the first mentorship meeting and presented BME overview to highschool students.
  - Worked on preliminary presentation slides

**Activities:**

Name	Date	Activity	Time (h)	Week Total (h)	Sem. Total (h)
Jenna					
Eva					
Tevis	2/7 2/6 2/7 2/8 2/5 2/7	Meeting with Paula Update nosepiece and print Work on outreach & prelim presentation Attend outreach Meet with Dr. P about Prelim Presentation IRB training courses	2 1 0.75 2 0.5 1	7.25	
Tommy					
Kasia					
Anabelle					