

Glucose Alerting System

Client: Olive Cernigila & Callie Berg, Dr. Beth Martin

Advisor: Dr. John Puccinelli

Design Team:

Isabel Ploessl - Team Leader

Claudia Beckwith – BWIG & BPAG

Lauren Klein – BSAC & Communicator

Business: Kiera Klemm

Date: 3/12/26

Problem Statement:

Parents and caregivers of children with T1D often struggle to quickly see and interpret glucose readings, leading to stress and delayed decisions. The Wearable Glucose Alerting System aims to solve this problem by providing a clear, visible signal that instantly shows when a child's blood sugar needs attention.

Brief Status Update:

We are fabricating and getting ready for show and tell!

Summary of Weekly Team Member Design Accomplishments:

Whole Team: Fabrication

Name	Activity	Time (hr)	Week Total (hr)
Isabel Ploessl	<ul style="list-style-type: none">• Tweak soldering a bit• Recreating/Changing Box<ul style="list-style-type: none">○ On SolidWorks• Design Training• Updating Lab Archives	½ hr 6 hrs 1 hr 1 hr	9 hrs







	<ul style="list-style-type: none"> • Format progress report 	½ hr	
Claudia Beckwith	<ul style="list-style-type: none"> • Switching app backend • LabArchives updates • LED/Microcontroller testing 	5 hr 2 hrs 2 hrs	9 hrs
Lauren Klein	<ul style="list-style-type: none"> • Design Training • Soldering • Lab Archives Update • BSAC 	3 hrs ½ hr 4 hrs 1 hr	8.5 hrs
Kiera Klemm	<ul style="list-style-type: none"> • Updated box design • Entrepreneurship concepts review • Lab Archives update 	½ hr 2 hr 1 hr	3.5 hrs

Weekly/Ongoing Difficulties: BLE connection establishment

Upcoming Team and Individual Goals:

- Team:
 - Fabrication
- Isabel Ploessl:
 - Make any changes to box that are needed
- Claudia Beckwith:
 - Initiate BLE with microcontroller
 - Tweak app a bit for show and tell
- Lauren Klein:
 - Finish up fabrication
 - Get ready for Show & Tell!
 - BSAC
- Kiera Klemm:
 - Finalize content for presentation
 - Pamphlet Design

Project Timeline :

Project Goal	Deadline	Team Assigned	Progress	Completed
Client Meeting	1/29	ALL	100%	YES 
Weekly Progress Report	1/29	ALL	100%	YES 
PDS	2/5	ALL	100%	YES 
Design Matrix	2/13	ALL	100%	YES 
Preliminary Presentations	2/20	ALL	100%	YES 
Preliminary Deliverables	2/25	ALL	100%	YES 
Show and Tell	3/20	ALL	67%	Working 
Poster Presentations	4/24	ALL		
Final Deliverables	4/29	ALL		

Expenses :

Category 1 - Appearance										
Item	Description	Manufacturer	Mft Pt#	Vendor	HS Code	Date	Qty	Cost		Link
								Eac h	Tot al	
PLA Box Prototype	Box to fit new electronic components	UW Maderspace	N/A	UW Makerspace	N/A	3/11/2026	1	0.27	0.27	N/A
Category 2 - Internal/Electronic Components										

Item	Description	Manufacturer	Mft Pt#	Vendor	HS Code	Date	Qty	Cost Eac h	Total	Link
Seed StudioXIAO ESP32-C6 (3PCS)	Microcontroller for internal bracelet circuitry	Seed Studio	102010574	Seed Studio	8543709990	2/4/2026	1 (3 pack)	19.98	19.98	XIAO C6 microcontroller (3 pack)
1 x NeoPixel Jewel - 7 x 5050 RGB LED with Integrated Drivers[ID:2226] =	LED light for bracelet	Adafruit Industries	2226	Adafruit Industries	N/A	2/4/2026	1	20.39	20.39	NeoPixel Jewel - 7 x 5050 RGB LED with Integrated Drivers : Adafruit Industries , Unique & fun DIY electronics and kits
1 x Lithium Ion Polymer Battery - 3.7v 500mAh[ID:1578]	Battery for bracelet	Adafruit Industries	1578	Adafruit Industries	N/A	2/4/2026	1	22.50	22.50	Lithium Ion Polymer Battery - 3.7v 500mAh : Adafruit Industries , Unique & fun DIY electronics and kits
								TOTAL:	62.87	