

Glucose Alerting System

Client: Olive Cernigila & Callie Berg

Advisor: Dr. John Puccinelli

Design Team:

Isabel Ploessl - Team Leader

Claudia Beckwith – BWIG & BPAG

Lauren Klein – BSAC & Communicator

Business: Kiera Klemm

Date: 3/05/26

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 have completed our Preliminary Deliverables and are focused on fabrication until 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"> • Battery soldering • Tweaking box design • Progress report setup 	1 hr 2 hr ½ hr	3.5 hr
Claudia Beckwith	<ul style="list-style-type: none"> • App development, backend rework 	3 hrs	3 hrs
Lauren Klein	<ul style="list-style-type: none"> • BSAC • Battery Soldering • Lab Archives Updates 	1 hr 1 hr 1 hr	3 hrs
Kiera Klemm	<ul style="list-style-type: none"> • Market size determination • Transferred work to notebook • Core Advantage Research 	1 ½ hr ½ hr 1 ½ hr	3.5 hr

Weekly/Ongoing Difficulties: None

Upcoming Team and Individual Goals:

- Team:
 - Continue fabrication
- Isabel Ploessl:
 - Continue editing and reprinting box
- Claudia Beckwith:
 - Complete backend updates
 - Look into BLE transmission packages and establish data flow
- Lauren Klein:
 - BSAC
 - Fix Box
 - Ensure box configuration matches with circuit
- Kiera Klemm:
 - Continue Slides
 - Finalize Market Size Information
 - Competitor Analysis

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	20%	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 Eac h	Total	Link
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)	Microcont roller for internal bracelet circuitry	Seed Studio	102010574	Seed Studio	8543709990	2/4/2026	1 (3 pack)	19.98	19.98	XIAO C6 microcont roller (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 BaΣery - 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	