

## 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: 4/16/26

### 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:

Preparing our poster!

### Summary of Weekly Team Member Design Accomplishments:

Whole Team: Testing and Poster Prep

| Name           | Activity  | Time (hr)                      | Week Total (hr) |
|----------------|---|--------------------------------|-----------------|
| Isabel Ploessl | <ul style="list-style-type: none"><li>Resizing box</li><li>Format and begin poster</li><li>Connection test</li><li>Format progress report</li></ul> | 2.5 hr<br>3 hr<br>1 hr<br>½ hr | 7 hrs           |

|                  |  |  |        |
|------------------|--|--|--------|
| Claudia Beckwith | <ul style="list-style-type: none"> <li>• App modifications</li> <li>• Coding alert light for dropped connection</li> <li>• Testing the above code at different ranges</li> <li>• Range Testing</li> <li>• Executive summary updates</li> </ul> | 1 hr<br>1 hr<br>30 min<br>30 min<br>1 hour | 4 hrs  |
| Lauren Klein     | <ul style="list-style-type: none"> <li>• Fixing the Circuit</li> <li>• More LED/Battery Issue Research</li> <li>• Testing</li> <li>• Lab Archives Update Pt 1</li> </ul>   | 1 hr<br>2 hrs<br>1 hr<br>3 hrs             | 7 hrs  |
| Kiera Klemm      | <ul style="list-style-type: none"> <li>• Lab archives update</li> <li>• Researched university resources for start ups</li> </ul>   | 1.5 hr<br>1 hr                             | 2.5 hr |

## Weekly/Ongoing Difficulties: Power Capacity 🤖

Upcoming Team and Individual Goals:

- Team:
  - Finish testing
  - Formatting and completing poster
  - Notebook updates
- Isabel Ploessl:
  - Finish Testing
  - Finish poster design
- Claudia Beckwith:
  - Finish testing
  - Finish poster
  - Work on final report
- Lauren Klein:
  - Finish up everything
  - Report

- Lab Archives Final Update
- Kiera Klemm:
  - Finalize lab archives
  - Summarize work into report style

## 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           | 100%     | YES 🎉     |
| Poster Presentations      | 4/24     | ALL           | 35%      | Working 🙌 |
| Final Deliverables        | 4/29     | ALL           | 10%      |           |

## Expenses :

| Category 1 - Appearance |                                      |               |            |                |         |           |     |           |
|-------------------------|--------------------------------------|---------------|------------|----------------|---------|-----------|-----|-----------|
| Item                    | Description                          | Manufacturer  | Mft Pt#    | Vendor         | HS Code | Date      | QTY | Cost Each |
| PLA Box Prototype       | Box to fit new electronic compnents  | UW Maderspace | N/A        | UW Makerspace  | N/A     | 3/11/2026 | 1   | 0.        |
| Resin Box Prototype     | Resized box for electrical housing   | UW Makerspace | N/A        | UW Makershpace | N/A     | 3/17/2026 | 1   | 5.        |
| Watch Band              | Apple watch compatible silicone band | PolyJoy       | DBGJBZ001Q | Amazon         | N/A     | 3/13/2026 | 2   | 4.        |
| PLA Box Prototype       | Testing new dimensions               | UW Makerspace | N/A        | UW Makerspace  | N/A     | 3/23/2026 | 1   | 0.        |
| Resin Box Prototype     | Testing with new circuit components  | UW Makerspace | N/A        | UW Makerspace  | N/A     | 3/24/2026 | 1   | 2.        |

| Resin Box Prototype  | Updating power cord hole size                   | UW Makerspace       | N/A       | UW Makerspace       | N/A        | 4/12/2026 | 1          | 2.           |
|--|---|---------------------|-----------|---------------------|------------|-----------|------------|--------------|
| Resin Box Prototype  | Smaller size (no internal battery)              | UW Makerspace       | N/A       | UW Makerspace       | N/A        | 4/15/2026 | 1          | 2.           |
| <b>Category 2 - Internal/Electronic Components</b>                       |   |                     |           |                     |            |           |            |              |
| Item   | Description                                     | Manufacturer        | Mft Pt#   | Vendor              | HS Code    | Date      | QTY        | Cost Each    |
| Seed StudioXIAO ESP32-C6 (3PCS)  | Microcontroller for internal bracelet circuitry | Seed Studio         | 102010574 | Seed Studio         | 8543709990 | 2/4/2026  | 1 (3 pack) | 19.          |
| 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.          |
| 1 x Lithium Ion Polymer Battery - 3.7v 500mAh                            | Battery for bracelet                            | Adafruit Industries | 1578      | Adafruit Industries | N/A        | 2/4/2026  | 1          | 22.          |
| 1 x Lithium Ion Polymer Battery - 3.7v 500mAh                            | Battery for bracelet                            | Adafruit Industries | 1578      | Adafruit Industries | N/A        | 3/24/2026 | 1          | 7.           |
| Adafruit Industries LLC LIPOLY BATTERY CHARGER W/USB C                   | Battery Forward Charger                         | Adafruit Industries | 4410      | Adafruit Industries | N/A        | 3/24/2026 | 1          | 5.           |
| Pin Cable Male Header  | Battery connector cable                         | Adafruit Industries | 3814      | Adafruit Industries | N/A        | 3/24/2026 | 2          | 0.           |
| 1 x NeoPixel Jewel - 7 x 5050 RGB LED with Integrated Drivers[ID:2226] = | LED light for Dr. P's own personal bracelet XD  | Adafruit Industries | 2226      | Adafruit Industries | N/A        | 4/15/2026 | 1          | 23.          |
|  |   |                     |           |                     |            |           |            | <b>TOTAL</b> |