

Glucose Alerting System

Client: Olive Cernigila & Callie Berg

Advisor: Dr. John Puccinelli

Team:

Isabel Ploessl - Co-Team Leader

Claudia Beckwith - Co-Team Leader

Lauren Klein - BSAC

Ella Prose - BPAG

Audrey Zeller - BWIG

Kiera Klemm - Communicator

Date: 10/30/2025

Problem Statement:

The overall goal of the Continuous Glucose Monitoring Bracelet is to make blood glucose status more clearly visible, understandable, and actionable for anyone supervising a young child with Type 1 Diabetes. Studies show that a diagnosis of diabetes can become just as stressful for parents to monitor and understand, as it is for the kids. This prototype should help relieve some of this stress by eliciting a visible and actionable signal to parents, which will convey whether treatment is needed or not.

Brief Status Update: Changed circuitry paths, and preparing for Show and Tell

Summary of Weekly Team Member Design Accomplishments:

- Team:
 - 200's: Manufacturing Prototype
 - 300's: Final Circuit Selection and Code Work

Name	Activity	Time (hr)	Week Total (hr)
Isabel Ploessl	- Team meeting - Formatted Progress Report - Created Final Software Flow - Researched/Selected final circuit parts	½ hr ½ hr 2 hrs 2 hr	5 hrs
Claudia Beckwith	- Team meeting - Pydexcom research - Initalized VS code - Mock glucose data and flutter connection	½ 1.5 2 hr 1 hr	5 hrs
Lauren Klein	- Team meeting - BSAC w Faculty - Pydexcom/Flutter research - Completed Progress Report - Show & Tell Q's	½ hr 1 hr 2 hrs ½ hr ½ hr	4 hrs
Ella Prose	- Team meeting - Machining training - Ordered materials	½ hr 4 hrs ½ hr	5 hrs
Audrey Zeller	- Team meeting - 3D print box and glue band - Turned in paperwork for training	½ hr 1.5 hr ½ hr	2.5 hrs
Kiera Klemm	-Team Meetings -Machining Training -Improved CAD design	½ hr 2.5hr 1 hr	4 hrs

	-Chemical safety training	1hr	
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Weekly/Ongoing Difficulties:

- Creating an app and learning new coding languages

Upcoming Team and Individual Goals:

- Team:
 - Prepare for show and tell
 - Attaching band
 - Finalize flow diagram
 - Order final circuit parts
- Isabel Ploessl:
 - Create PCB
 - Finalize order for circuitry
- Claudia Beckwith:
 - Connection with mock glucose code and flutter app
 - Refine flutter app interface
 - Continuous connection from Pydexcom to Flutter (auto update settings)
- Lauren Klein:
 - App Creation Research
 - BSAC Exec
 - Write Code with Claudia
 - Test initial code
- Ella Prose:
 - Order rest of materials
 - CAD design
- Audrey Zeller:
 - Finalize 3D printed box and make sure all parts work together
 - Show and Tell
- Kiera Klemm:
 - Finalize CAD design
 - Show and Tell event

Project Timeline :

Project Goal	Deadline	Team Assigned	Progress	Completed
Client Meeting	9/8	ALL	100%	Yes
Weekly Progress Report	9/11	ALL	100%	Yes
PDS	9/18	ALL	100%	Yes
Design Matrix	9/27	ALL	100%	Yes
Preliminary Presentations	10/3	ALL	100%	Yes
Preliminary Deliverables	10/8	ALL	100%	Yes
Show and Tell	10/31	ALL	100%	Yes
Poster Presentations	12/5	ALL		
Final Deliverables	12/10	ALL		

Expenses :

Item	Description	Manufacturer	Part Number	Date	Qty	Cost Each	Total	Link
PLA	30x30x15 mm box	DI Lab	n/a	10/22	6	0.25	\$1.50	
Silicone Band	Silicone band for kids - 38/42 mm	DQ-Tech	113-7232568-5800209	10/13	2	4.95	\$5	https://www.amazon.com/Pol-yjoy-Silicone-Replacement-Compatible-Suitable/dp/B0B28PBHY9/ref=

							sr_1_1?crd=3S57C0WFWLO22&dib=eyJ2ljoiMSJ9.4NFYuRSDRXuxGhR9unpsJKbw81dxLArTu7HRm0RIbgeh60g1sTfaP2QyeSP8nJd-Dk7cljwr_7YsaEx3BhtaXVtBy_PbIPvnMkep42YbF-pnU98WUtrkwtckWK5Bo6yvTOogMrLKXiPtOYyjsjrBO_9p_W1Qo1428LagDmU87EGBeK89pxaHd9-6zwZmVenjEtacsVQd8og2xH1hQO1irk7YTDJ9IVuv7mrC-95Vz1fXOtGl-EV85G2jSim5v-hm2SELJ684ue3RyQE1er3edU9KSyjiyd8koFe6oaUE_dc.Lyhly4hgryeT7-zNXyld2mW-mgtaZCzfIAC3CWoAjCw&dib_tag=se&keywords=Polyjoy+Silicone+Replacement+Watch+Band,&qid=1760401499&sprefix
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