

Bed-mounted Modular Procedural Training Surface

Date: 9/17/2026

Client: Shannon DiMarco

Advisor: Darilis Suarez-Gonzalez

Team:

Nathan Knight – Team Leader and BSAC (nknight3@wisc.edu)

Evan Koelemay – Communicator (ekoelemay@wisc.edu)

Tess Fitzgerald – BWIG (tkfitzgerald@wisc.edu)

Andrew McLaughlin – BPAG and BSAC (asmclaughlin@wisc.edu)

Problem Statement:

A secure, lightweight, procedural workstation is crucial for clinical simulation centers to conduct procedural training. Current solutions leave much to be desired as they lack stability, take up excessive floor space, or exhibit tipping hazards. To resolve this, the team is being tasked with designing a modular workstation attachment to existing bed architecture. The workstation must be compact for storage, quickly attachable, and meet desired constraints for sanitation and safety.

Brief Status Update:

- This week the team met with the client and learned about the client's needs for the project, and also about the overall scope of the project. Each team member conducted individual research in LabArchives. The PDS was drafted.

Project Difficulties/Advice Requests:

- None to report

Current Design

- This project is still in the research phase. There is no current prototype or design as of this week.

Materials and Expenses:

- None to report, see table below:

[illegible]

								TOTAL:	\$0.00	
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Team Goals for Upcoming Week:

1. Begin drafting and complete at least three preliminary design ideas.
2. Develop and finalize design matrix criteria.
3. Continue researching materials to determine which one is most suitable for the design.

Individual Goals for Upcoming Week:

- Nathan Knight
 - Brainstorm multiple designs for the Design Matrix, along with criteria they would apply to
 - Continue looking into material options that apply to the constraints given via the client
- Evan Koeleamay
 - Begin ideas for design matrix that comply with all of the client's requirements
 - Develop a list of possible materials to use for fabrication
- Tess Fitzgerald
 - Continue researching plausible material to use for design (look into current materials used for operating table surface materials).
 - Draft various design ideas for the design matrix, including physical designs and material choices.
- Andrew McLaughlin
 - Start drafting different designs to meet the client's needs
 - Brainstorm and develop different ways that the design can be ranked
 - Continue to research procedural training models, and brainstorm ways to add complexity to the project

Timeline

[illegible]

Preliminary Report																	
Preliminary Evaluations																	
Show and Tell																	
Final Poster Presentation																	
Final Lab Notebook																	
Final Report																	
Final Evaluations																	
Meetings																	
Team	X	X															
Client	X																
Advisor	X																
Website																	
Update	X	X															

Previous week's goals and accomplishments:

- Nathan Knight
 - Further research the project and begin brainstorming design ideas
 - Work on the PDS
- Evan Koelemay
 - Follow up on research using details from the client meeting
 - Begin work on PDS
 - Brainstorm initial design ideas
- Tess Fitzgerald
 - Continue researching competing designs in the modular training surface space.
 - Use information/expectations from client meeting to being mapping out possible prototype ideas
 - Draft PDS
- Andrew McLaughlin
 - Continue to research the project with a better understanding of the client's constraints
 - Begin brainstorming prototype and design ideas to meet the client's expectations
 - Work on the PDS

Activities

Name	Date	Activity	Time (h)	Week Total (h)	Sem. Total (h)
Nathan Knight	9/17/2026	Complete work on the PDS Reviewed the details of documents obtained from the client meeting	1 1	2	4
Evan Koelemay	9/17/2026	Completed PDS Preliminary research on size / material considerations for the design	2	2	4
Andrew McLaughlin	9/14/2026	Researched and completed PDS sections	1	2	4
	9/17/2026	Collaborated with team to finalize PDS	1		
Tess Fitzgerald	9/17/2026	Complete assigned section of PDS Researched hospital mattress size for design dimensions	2	2	4
Team	9/17/2026	Team meeting where PDS was reviewed and submitted	1	1	1