



**VCU**

College of Engineering

CS-25-303

# VCU Tablet-based Application For Clinicians

Prepared for

Dr. Lana Sargent / Professor John Leonard

VCU School of Nursing

By

Tyree Carpenter

Shikriti Ghosh

Ebenezer Hailu

Wyatt Herkamp

January 30th, 2025

## Contents

Step 1: Get to Know Another	2
Step 2: Team Culture. Clarify the Group's Purpose and Culture Goals.	3
Step 3: Time Commitments, Meeting Structure, and Communication	4
Step 4: Determine Individual Roles and Responsibilities	5
Step 5: Agree to the above team contract	6

## Step 1: Get to Know One Another. Gather Basic Information.

**Task:** This initial time together is important to form a strong team dynamic and get to know each other more as people outside of class time. Consider ways to develop positive working relationships with others, while remaining open and personal. Learn each other's strengths and discuss good/bad team experiences. This is also a good opportunity to start to better understand each other's communication and working styles.

<i><b>Team Member Name</b></i>	<i><b>Strengths each member bring to the group</b></i>	<i><b>Other Info</b></i>	<i><b>Contact Info</b></i>
Tyree Carpenter	Very communication oriented, good public speaker, versatile.	Proficient in JavaScript-based frameworks and Java, with some experience working with relational databases.	carpentertd@vcu.edu
Shikriti Ghosh	Front-end development, organizational skills,	Proficient in Java, C, and Python; experience with Quarto, Figma prototyping, and working with databases	ghoshs2@vcu.edu
Ebenezer Hailu	Front-end development, communication, leadership, organization, adaptation	Proficient in Java, C; experience with Quarto, SQL, Python, HTML	hailuea@vcu.edu
Wyatt Herkamp	Backend development, quick learner, and database design	Proficient in Rust, Kotlin/Java, and SQL General Experience in Vue, Typescript, C, Python, and CSS	herkampwj@vcu.edu

<i><b>Other Stakeholders</b></i>	<i><b>Notes</b></i>	<i><b>Contact Info</b></i>
John Leonard	Professor Leonard teaches databases, user interfaces and video game design, with research interests covering modeling, analytics and visualization. Dr. Leonard will provide counsel, as well as act as a liaison between us and our sponsor.	jdleonard@vcu.edu
Lana Sargent	Associate Dean, Office of Practice and Community Engagement and Associate Professor at VCU's School of Nursing. Dr. Sargent will be our primary point of contact surrounding this project.	lsargent@vcu.edu

## Step 2: Team Culture. Clarify the Group's Purpose and Culture Goals.

**Task:** Discuss how each team member wants to be treated to encourage them to make valuable contributions to the group and how each team member would like to feel recognized for their efforts. Discuss how the team will foster an environment where each team member feels they are accountable for their actions and the way they contribute to the project. These are your Culture Goals (left column). How do the students demonstrate these culture goals? These are your Actions (middle column). Finally, how do students deviate from the team's culture goals? What are ways that other team members can notice when that culture goal is no longer being honored in team dynamics? These are your Warning Signs (right column).

**Resources:** More information and an example Team Culture can be found in the Biodesign Student Guide "Intentional Teamwork" page ([webpage](#) | [PDF](#))

<i><b>Culture Goals</b></i>	<i><b>Actions</b></i>	<i><b>Warning Signs</b></i>
Attend weekly meetings, and if unable to make meetings explain before meeting start time.	<ul style="list-style-type: none"><li>● Set up meetings in a shared calendar</li><li>● Send reminders in discord/text group chat in day before and of the meeting</li></ul>	<ul style="list-style-type: none"><li>● Student misses first meeting without explanation, warning is granted</li><li>● Student misses meetings afterward – the issue is brought up with faculty advisor</li><li>● Student consistently does not show up to meetings – issue is brought up with faculty advisor</li></ul>
Constructive Communication	<ul style="list-style-type: none"><li>● When feedback is given it is given constructively.</li><li>● When giving feedback give a proposed solution or alternative</li></ul>	If consistent negative feedback is given without proposed solutions it will be brought up with the faculty advisor
Collaboration and Teamwork	<ul style="list-style-type: none"><li>● If someone is behind on their task and asks for help, help them out if you're finished with yours</li><li>● Approach collaborations with an open mind</li><li>● Engage actively in team discussions and collaborative tasks</li></ul>	<ul style="list-style-type: none"><li>● Start with a private conversation addressing the team's concerns.</li><li>● If a member is consistently behind, bring it up to the faculty advisor.</li></ul>



### Step 3: Time Commitments, Meeting Structure, and Communication

**Task:** Discuss the anticipated time commitments for the group project. Consider the following questions (don't answer these questions in the box below):

- What are reasonable time commitments for everyone to invest in this project?
- What other activities and commitments do group members have in their lives?
- How will we communicate with each other?
- When will we meet as a team? Where will we meet? How Often?
- Who will run the meetings? Will there be an assigned team leader or scribe? Does that position rotate or will same person take on that role for the duration of the project?

**Required:** How often you will meet with your faculty advisor, where you will meet, and how the meetings will be conducted. Who arranges these meetings?

See examples below.

<i>Meeting Participants</i>	<i>Frequency Dates and Times / Locations</i>	<i>Meeting Goals Responsible Party</i>
Tyree Carpenter Shikriti Ghosh Ebenezer Hailu Wyatt Herkamp	Primary: Room 0101 at Engineering Building West Alternative: Discord Server Time: 6pm, Thursdays	Actively work on the project (Alex will document these meetings by taking photos of whiteboards, physical prototypes, etc, then post on Discord and update the Capstone Report )
Tyree Carpenter Shikriti Ghosh Ebenezer Hailu Wyatt Herkamp	Primary: As needed in Room 0101 during our regular weekly meeting Alternative: John Leonard's Office At least Once a month.	Update faculty advisor and get answers to our questions Get feedback on current progress. Ask for advice or input from John Leonard.
Tyree Carpenter Shikriti Ghosh Ebenezer Hailu Wyatt Herkamp Project sponsor Lana Sargent	At least Once a month.  Location: TBD	Update the project sponsor and make sure we are on the right track. Get Input on the current product.

## Step 4: Determine Individual Roles and Responsibilities

**Task:** As part of the Capstone Team experience, each member will take on a leadership role, *in addition to* contributing to the overall weekly action items for the project. Some common leadership roles for Capstone projects are listed below. Other roles may be assigned with approval of your faculty advisor as deemed fit for the project. For the entirety of the project, you should communicate progress to your advisor specifically with regard to your role.

- **Before meeting with your team**, take some time to ask yourself: what is my “natural” role in this group (strengths)? How can I use this experience to help me grow and develop more?
- **As a group**, discuss the various tasks needed for the project and role preferences. Then assign roles in the table on the next page. Try to create a team dynamic that is fair and equitable, while promoting the strengths of each member.

### Communication Leaders

**Suggested:** Assign a team member to be the primary contact for the client/sponsor. This person will schedule meetings, send updates, and ensure deliverables are met.

**Suggested:** Assign a team member to be the primary contact for faculty advisor. This person will schedule meetings, send updates, and ensure deliverables are met.

### Common Leadership Roles for Capstone

1. **Project Manager:** Manages all tasks; develops overall schedule for project; writes agendas and runs meetings; reviews and monitors individual action items; creates an environment where team members are respected, take risks and feel safe expressing their ideas.  
**Required:** On Edusourced, under the Team tab, make sure that this student is assigned the Project Manager role. This is required so that Capstone program staff can easily identify a single contact person, especially for items like Purchasing and Receiving project supplies.
2. **Logistics Manager:** coordinates all internal and external interactions; lead in establishing contact within and outside of organization, following up on communication of commitments, obtaining information for the team; documents meeting minutes; manages facility and resource usage.
3. **Financial Manager:** researches/benchmarks technical purchases and acquisitions; conducts pricing analysis and budget justifications on proposed purchases; carries out team purchase requests; monitors team budget.
4. **Systems Engineer:** analyzes Client initial design specification and leads establishment of product specifications; monitors, coordinates and manages integration of sub-systems in the prototype; develops and recommends system architecture and manages product interfaces.
5. **Test Engineer:** oversees experimental design, test plan, procedures and data analysis; acquires data acquisition equipment and any necessary software; establishes test protocols and schedules; oversees statistical analysis of results; leads presentation of experimental finding and resulting recommendations.
6. **Manufacturing Engineer:** coordinates all fabrication required to meet final prototype requirements; oversees that all engineering drawings meet the requirements of machine shop or vendor; reviews designs to ensure design for manufacturing; determines realistic timing for fabrication and quality; develops schedule for all manufacturing.

<b><i>Team Member</i></b>	<b><i>Role(s)</i></b>	<b><i>Responsibilities</i></b>
<i>Tyree Carpenter</i>	Project Manager	Manages all tasks; develops overall schedule for project; writes agendas and runs meetings; reviews and monitors individual action items; creates an environment where team members are respected, take risks and feel safe expressing their ideas.
Shikriti Ghosh	Front-end Developer	Oversee UI/UX, develop and refine Figma prototype, App Layout Design
Ebenezer Hailu	Financial Manager	Researches/benchmarks technical purchases and acquisitions; conducts pricing analysis and budget justifications on proposed purchases; carries out team purchase requests; monitors team budget.
Wyatt Herkamp	Systems Engineer	- Designing Database

## Step 5: Agree to the above team contract

*Team Member: Tyree Carpenter*

*Signature: Tyree Carpenter*

*Team Member: Shikriti Ghosh*

*Signature: Shikriti Ghosh*

*Team Member: Ebenezer Hailu*

*Signature: Ebenezer Hailu*

*Team Member: Wyatt Herkamp*

*Signature: Wyatt Herkamp*