

Digital Prototype v2

Maleek Patterson

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Professor Anne Jonas

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What I Did and Who I Conducted the Tests With

I conducted three moderated usability tests on my digital prototype using a think-aloud protocol. Since HEART Clinic students were unavailable, I recruited three non-classmates: one friend in healthcare, one friend experienced with fitness tracking technology, and one user with no clinical background. This allowed me to observe how both domain-aware and novice users interpreted the system.

Each participant completed two core tasks: (1) connect a device and run a live session with visible HR, HRV, and signal quality, and (2) generate, edit, and submit an AI-generated clinical note. During testing, participants narrated their expectations, confusions, and assumptions. After each session, I conducted follow-up questions focused on workflow clarity, labeling, readability, and perceived trust in the interface.

I also incorporated direct feedback from my professor, Anne Jonas, on V1 prior to testing. This included establishing differentiated user paths for student clinicians versus faculty reviewers, improving accessibility for users with limited mobility, low tech literacy, and potential visual or auditory challenges, and integrating heart rate calculations into the session workflow. These combined insights informed the refinements visible in the updated V2 prototype.

Detailed User Feedback

Across all three usability tests, users identified the same primary issue: the plain grayscale aesthetic of V1 made the system feel unfinished, visually flat, and difficult to interpret. Key actions blended in with passive content, and the interface lacked the hierarchy needed to guide users through a multi-step clinical workflow.

Participants also struggled with system status visibility. In V1, there were no strong indicators for whether recording had begun, whether data was syncing, or whether the AI note had actually been generated. The absence of a Live Session Tracking screen created confusion; users expected real-time HR and HRV values, signal quality checks, and clear safety cues.

Feedback on the AI note editor echoed this pattern. Without color differentiation or structural cues, users could not easily distinguish editable text from AI-locked content. They also expressed concerns about clarity for users with visual or cognitive challenges, aligning with my professor's guidance about accessibility.

Participants additionally said the workflow did not yet reflect the distinct needs of students versus faculty. They wanted faculty to have a more streamlined oversight flow, while students required more supportive guidance.

Overall, the main critiques centered on visual clarity, accessibility, workflow differentiation, and system transparency.

Changes Made After Each Test

After Test 1, I replaced the plain V1 aesthetic with a fully branded Michigan-style interface, added color-coded cards, clearer hierarchy, and built a complete Live Session Tracking page showing HR, HRV, signal quality, and Heart Rate Calculations. I also began implementing user-path differentiation based on my professor's notes. After Test 2, I added stronger system feedback: banners, success states, recording indicators, and clearer transitions between steps. I also incorporated accessibility improvements such as larger tap targets and higher-contrast elements. After Test 3, I reworked the AI note editor with shaded AI text, edit icons, spacing adjustments, and improved structure for users with varying visual or cognitive needs.