Towards a Safer and Healthier Work Environment: Exploring the Impact of User Interface Design with Technology on Stress Reduction for Emergency Medical Service (EMS) Personnel

Shreya Pradeep

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The new ePRF Interface

About the interface:

Secondary research indicates that the current Mobile Data Terminal (MDT) interface used in ambulances is both outdated and inefficient. This redesign addresses these limitations through a user-centred UI/UX approach aimed at enhancing functionality, usability, and overall system effectiveness.

Use of Color

The use of color in the redesigned interface is deliberately minimal to maintain high visual contrast and support clarity in high-stress environments. A monochrome palette of black and white provides the foundation for maximum contrast, ensuring readability. Accent colors, red and green, are applied selectively to indicate status: red denotes negative states such as incomplete tasks or disconnected systems, while green signifies positive outcomes, including completed actions, established connections, or correctly filled information

#000000	#1AA90D	#1AA90D at 30%
#FFFFFF	#C80000	#C80000 at 30%

Colors are applied at lower opacities behind text to enhance readability, ensuring the text remains clear while maintaining visual hierarchy and contrast.

Typography

Josefin Sans for its clean, sans-serif design. Its absence of decorative features contributes to a legible appearance. Among the available typefaces, Josefin Sans offered superior readability in both uppercase and lowercase formats, making it the most suitable choice for ensuring clarity and consistency across the interface.

The font size was carefully chosen to maximize visibility and enhance user readability across different screen sizes. A regular font weight was used throughout to simplify the visual hierarchy, while red and green font colors were applied strategically to highlight key processes. Additionally, white text on a black background was implemented to achieve strong contrast and further improve legibility.

THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG

the quick brown fox jumps over the lazy dog.

the quick brown fox jumps over the lazy dog.

Josefin Sans : for buttons

Josefin Sans : for lables and other generic contents

Josefin Sans: for higlighted lables

Josefin Sans : for titles

Josefin Sans : for full page titles

The new ePRF Interface

Line work:

Varying line weights were used to create a high-contrast visual style without overwhelming the layout. The hewighest line weight was reserved for highlighting key elements, helping them stand out, while the finer line weight was applied to smaller details to maintain subtlety. This intentional use of line weight established a clear visual hierarchy where heavier strokes directed attention to primary components, while lighter lines supported structure without competing for focus. In particular, I emphasized input fields with distinct line weights to intuitively guide users toward areas requiring action or information input.

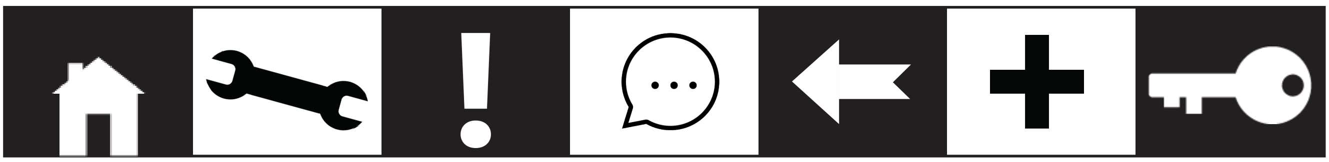
Line weight : 6pts

Line weight : 3pts

Line weight : 2pts

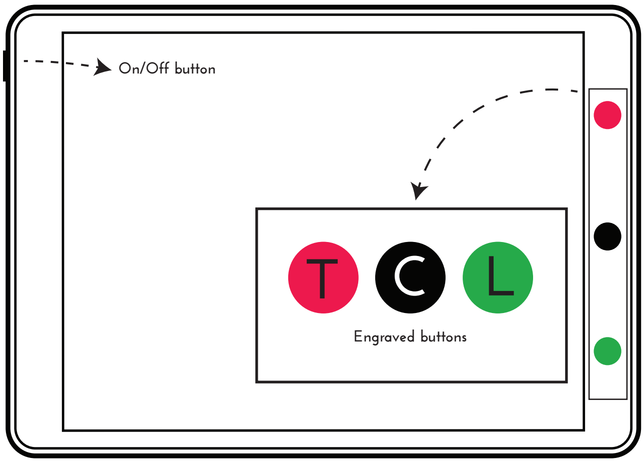
Iconography

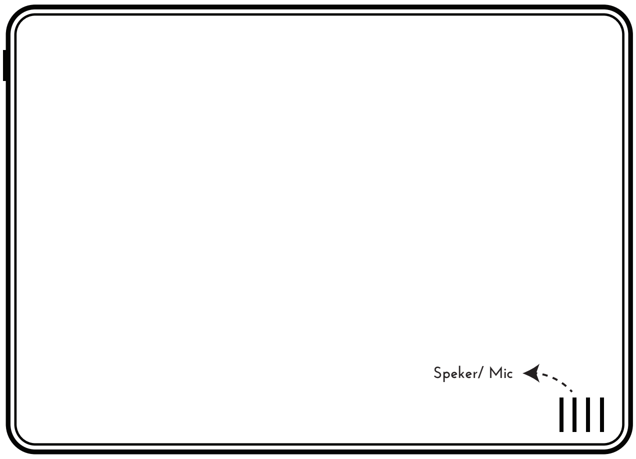
Icons were simplified to enhance readability, as excessive small details often get lost. In fast-paced environments, they need to be quickly identifiable and easily understood. Minimal linework, limited to two-point thickness, was used to maintain clarity and consistency. Flat, filled icon styles were chosen to provide strong visual contrast, making them easier to see and recognize at a glance.

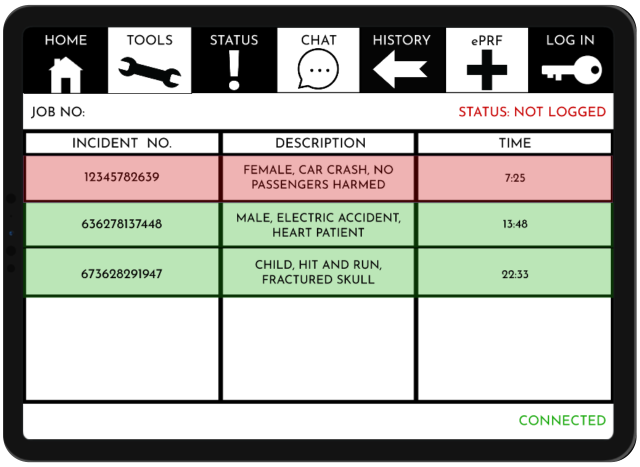


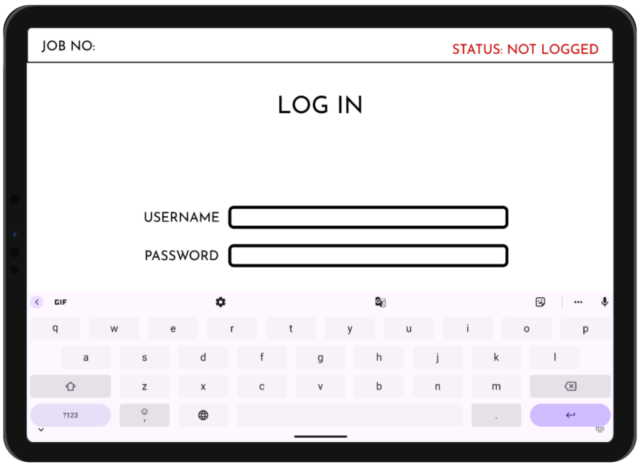
The Interface

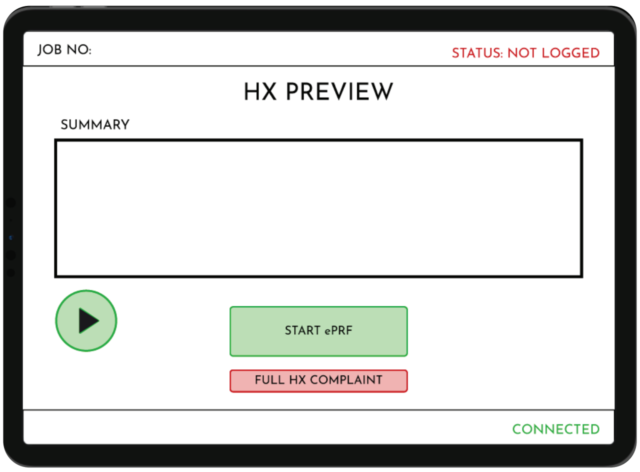
Using the initial sketches and the structural blueprint as a foundation, a functional prototype in Figma was developed. This phase involved translating static visual concepts into an interactive digital format. variations in layout, line weight, and typography were explored to refine the visual hierarchy and ensure clarity.

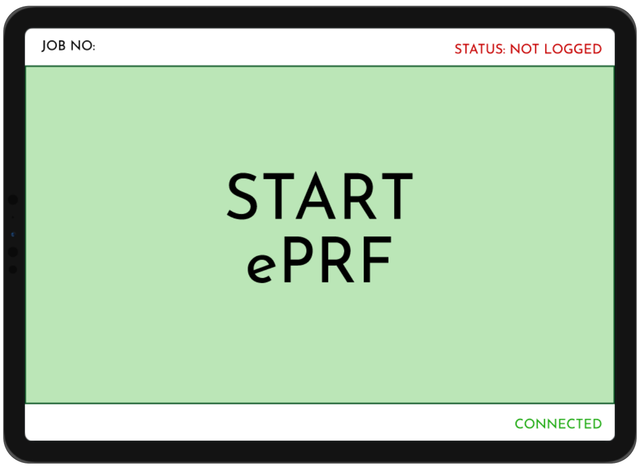


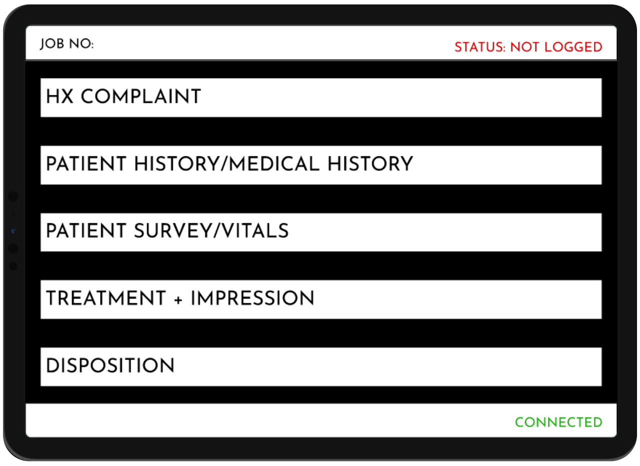




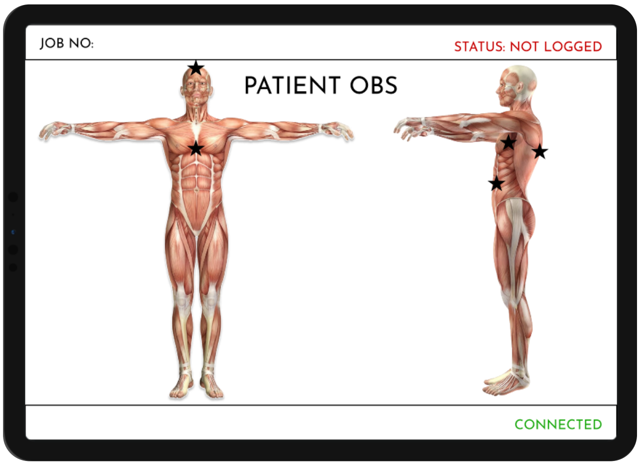


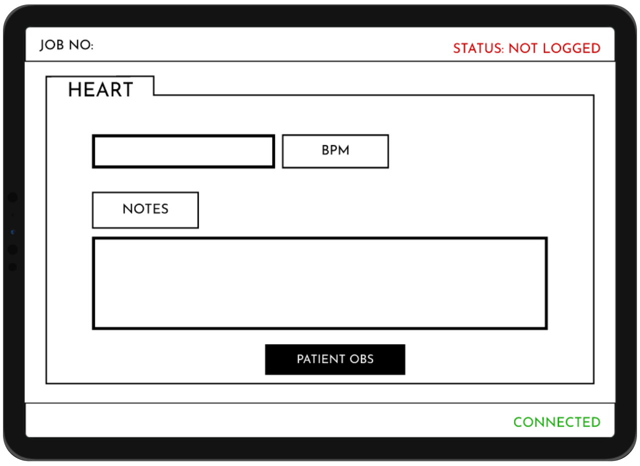


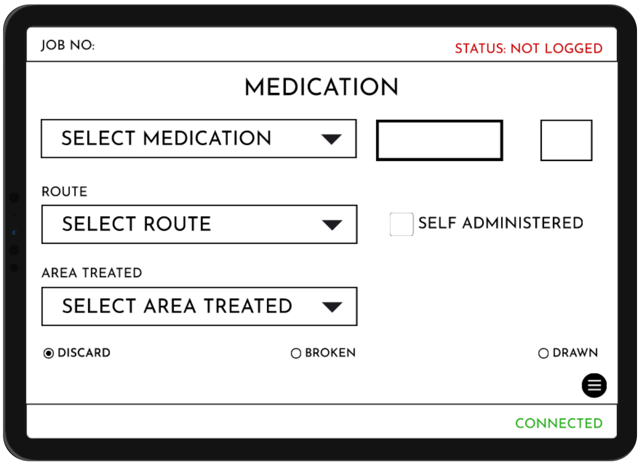


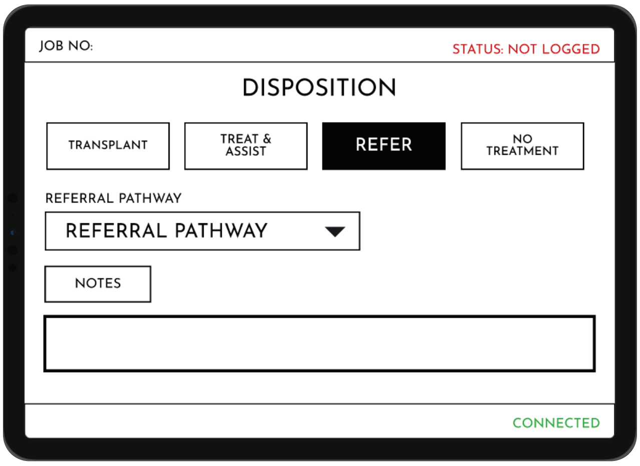

JOB NO:
STATUS: NOT LOGGED
HX COMPLAINT
PATIENT HISTORY/MEDICAL HISTORY
PATIENT SURVEY/VITALS
TREATMENT + IMPRESSION
DISPOSITION
CONNECTED

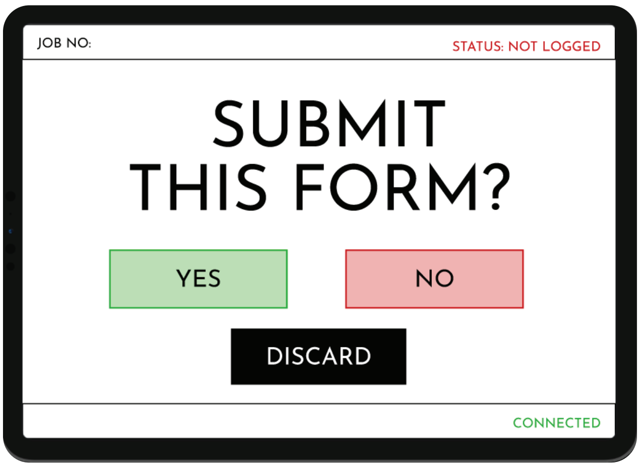

JOB NO:
STATUS: NOT LOGGED
Sandringham Rd
towards Marne Rd
Duncan Ave
Haverstock Rd
Eden View Rd
Marne Rd
Taumata Rd
Google
Report
13 min
5.9 km · 9:27 PM
Exit
HX COMPLAINT
SUMMARY
FULL HX COMPLAINT
CONNECTED


JOB NO:
STATUS: NOT LOGGED
PATIENT OBS
CONNECTED


JOB NO:
STATUS: NOT LOGGED
HEART
BPM
NOTES
PATIENT OBS
CONNECTED


JOB NO:
STATUS: NOT LOGGED
MEDICATION
SELECT MEDICATION
ROUTE
SELECT ROUTE
SELF ADMINISTERED
AREA TREATED
SELECT AREA TREATED
DISCARD
BROKEN
DRAWN
CONNECTED


JOB NO:
STATUS: NOT LOGGED
DISPOSITION
TRANSPLANT
TREAT & ASSIST
REFER
NO TREATMENT
REFERRAL PATHWAY
REFERRAL PATHWAY
NOTES
CONNECTED


JOB NO:
STATUS: NOT LOGGED
SUBMIT THIS FORM?
YES
NO
DISCARD
CONNECTED

The video

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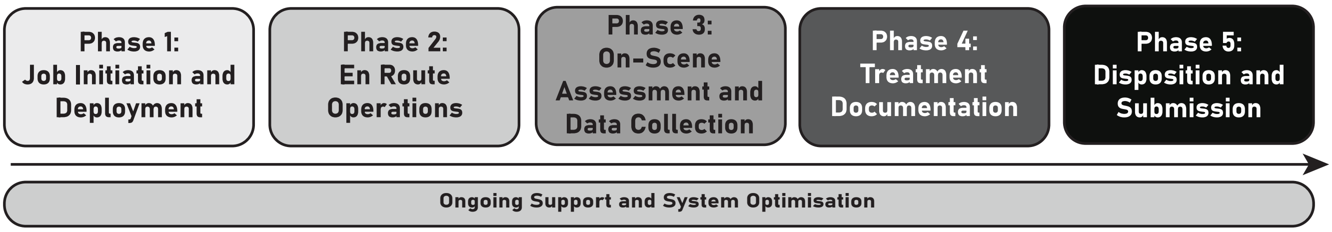

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