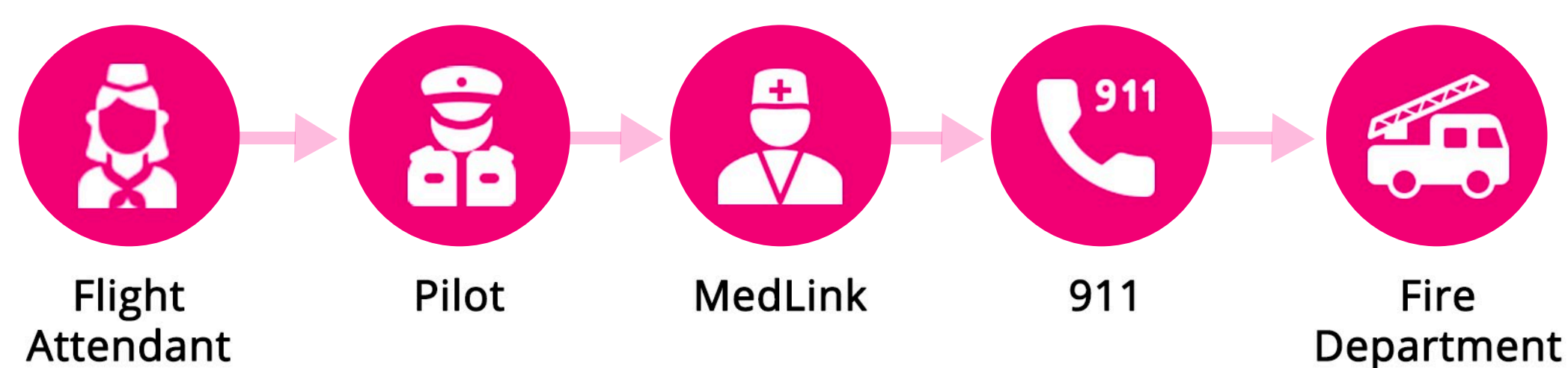# AIRMED

A tool that enhances domestic airline crew members' ability to confidently and effectively respond to in-flight medical emergencies in domestic flights in the United States.

Problem

United States domestic airline carriers face **at least 144 in-flight medical emergencies everyday, and 70% of these incidents are handled by flight attendants without any assistance from medical experts.**

Based on our survey conducted on flight crew members, around 40% of flight attendants have faced refusal from doctors to assist due to the case being out of the their specialty, and 80% of our respondents shared that the current tools in aircrafts are NOT adequate to handle in-flight medical emergency. Based on our field study at Sea-Tac Port Fire Department, the **communication process is like a telephone game**, where each person receives a different story regarding assisting with in-flight medical emergencies.

2023 Communication Roadmap

Flight Attendant → Pilot → MedLink → 911 → Fire Department

Solution

We intend to create a solution that enhances domestic airline crew members' ability to confidently and effectively respond to in-flight medical emergencies in domestic flights in the United States. The detailed features included:
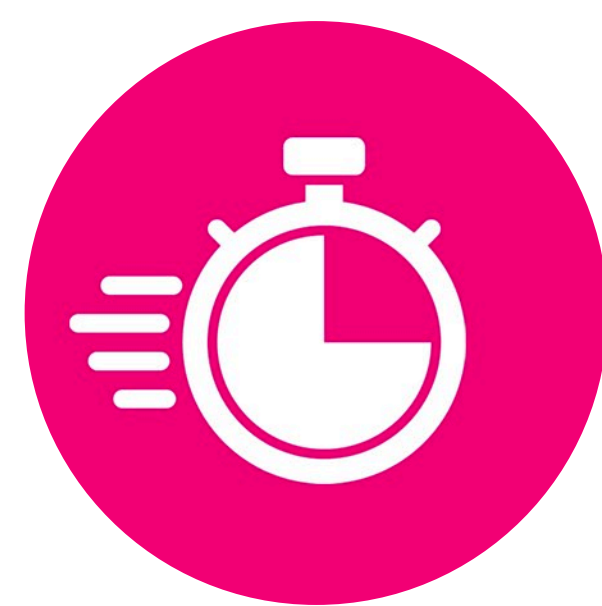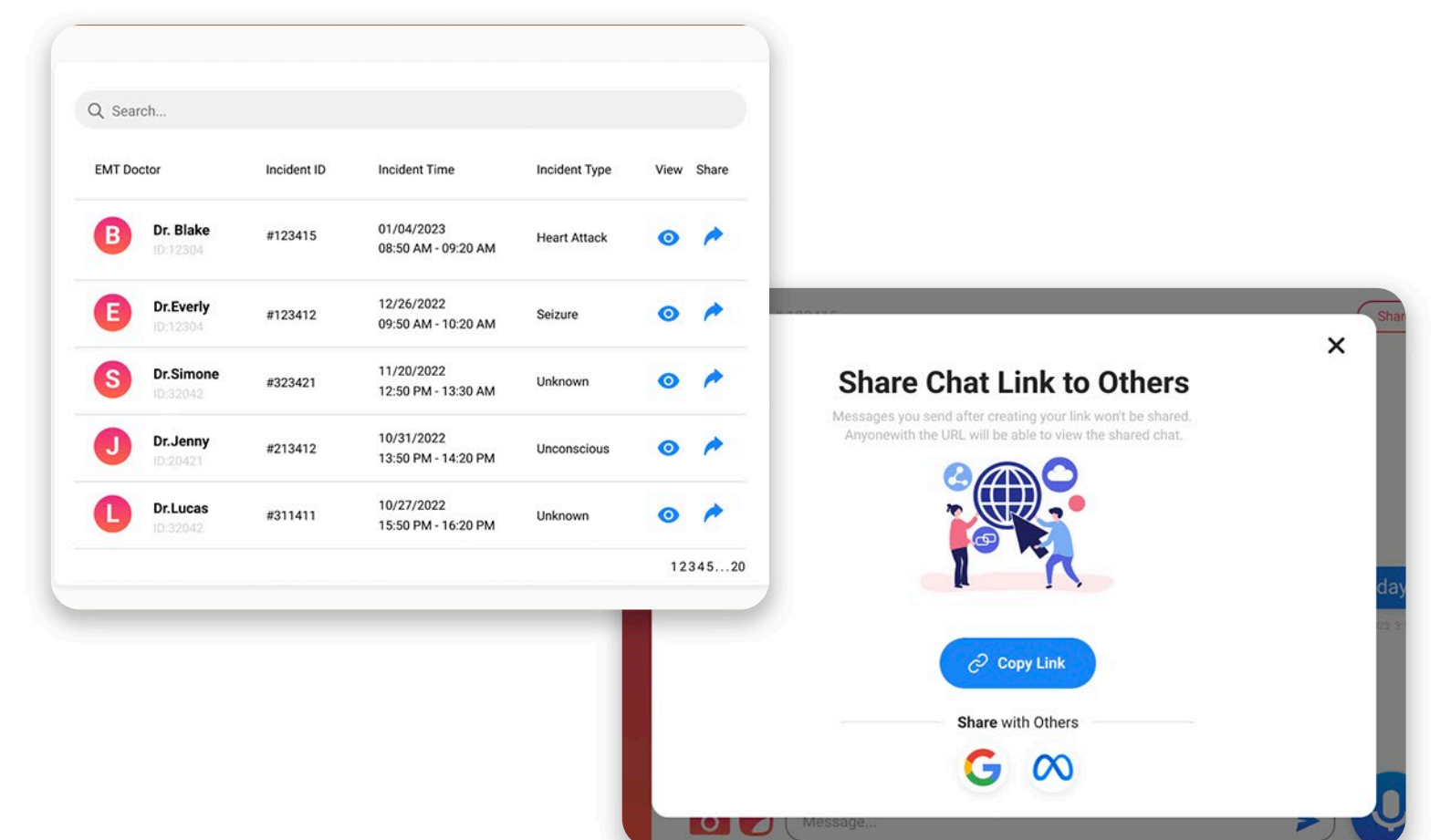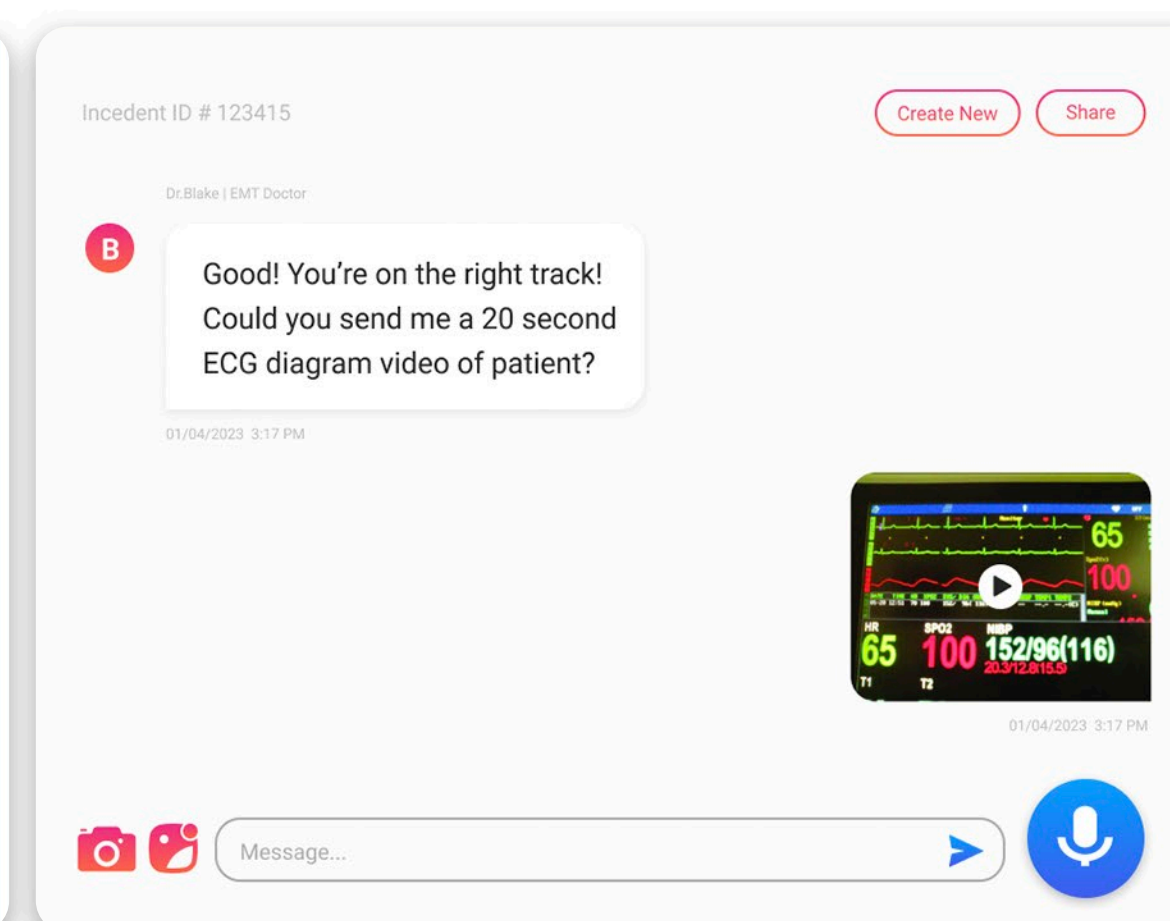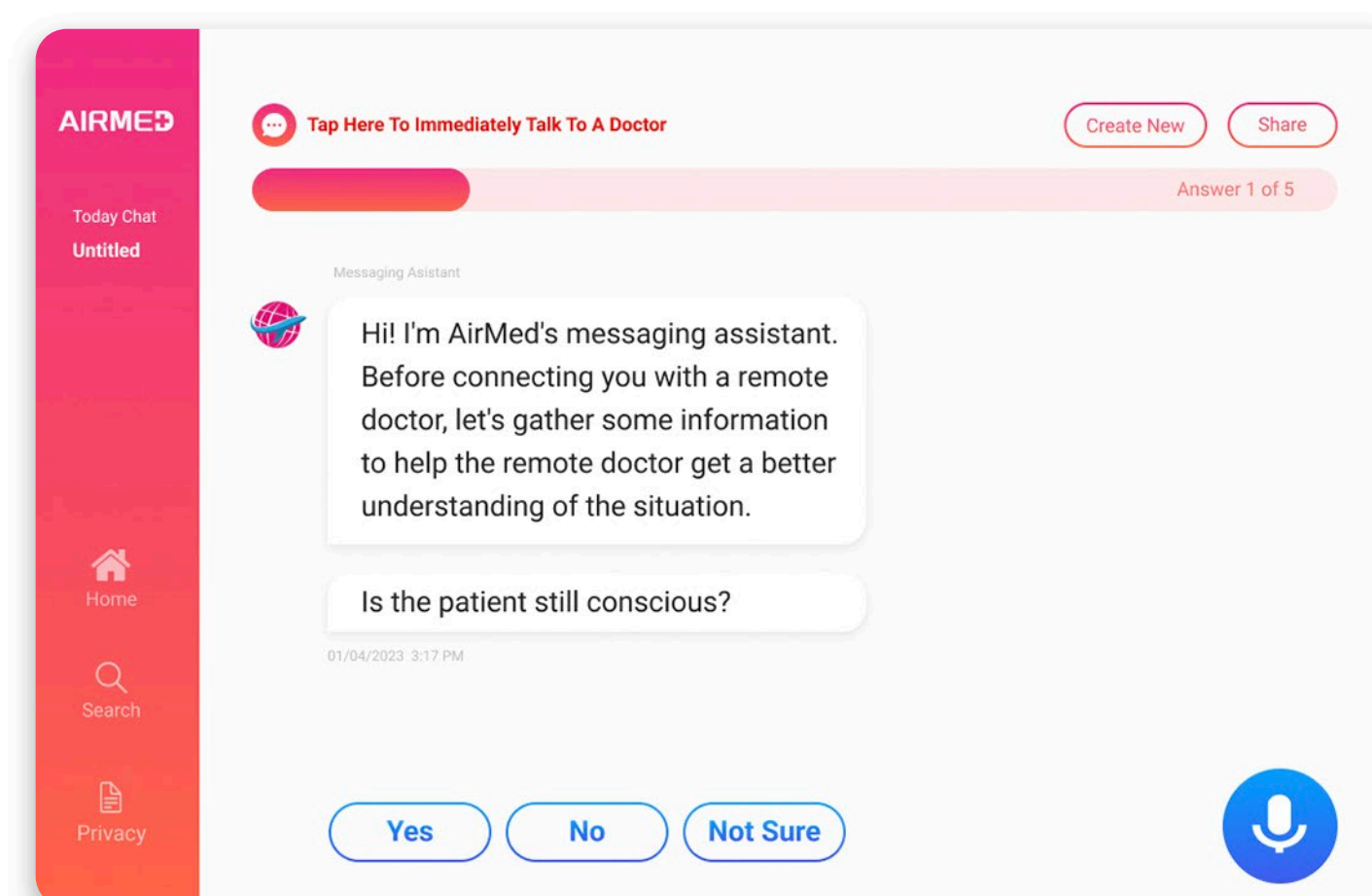
Real-Time Communication
text messaging between flight crew members to the EMT doctors

Clear Medical Guidance
to effectively responding to in-flight medical emergencies

Data collection & Data Transportation
to provide the medical database for transfer to various stakeholders.

Design Process

Beginning with thorough secondary research, we explored research questions and existing solutions to better define our problem area and gather quantitative data on in-flight medical emergencies. Next, we conducted multiple stages of Subject Matter Expert interviews and a field study to understand expert knowledge and end users' thought processes and behavior. We tested our low-fidelity prototype and mid-fidelity prototype with actual end users, including flight attendants and EMT doctors, to identify any hidden issues in the wireframes. We integrated user feedback into the final proof of concept to ensure that our product is truly user-friendly.

Field Study+ Expert Interview
- 3 hours of observation in Sea-Tac Port Fire Department
- 15+ SME Interviews

Ideation & Brainstorming
- Addressed one of the top 3 main user painpoints
- Scope down to two user groups

Design & Usability Test
- Created wireframe in figma
- Conducted 7+ rounds of usability tests

Implementation & Evaluation Test
- Developed a functional working prototype and evaluate the design in T-mobile 5G Hub

Hardware & Software Diagram

Hardware	Software	

iPad

EMT Doctors → Data Collection → Data Processing ← Data uploaded to the cloud for future use → Data is stored in an encrypted format locally

Flight Attendants

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MSTI, March 2024