

TECHNICAL BRIEF

By Ajaita Saini

Meta Platforms, Inc., Messenger Safety and Inclusion - Remote

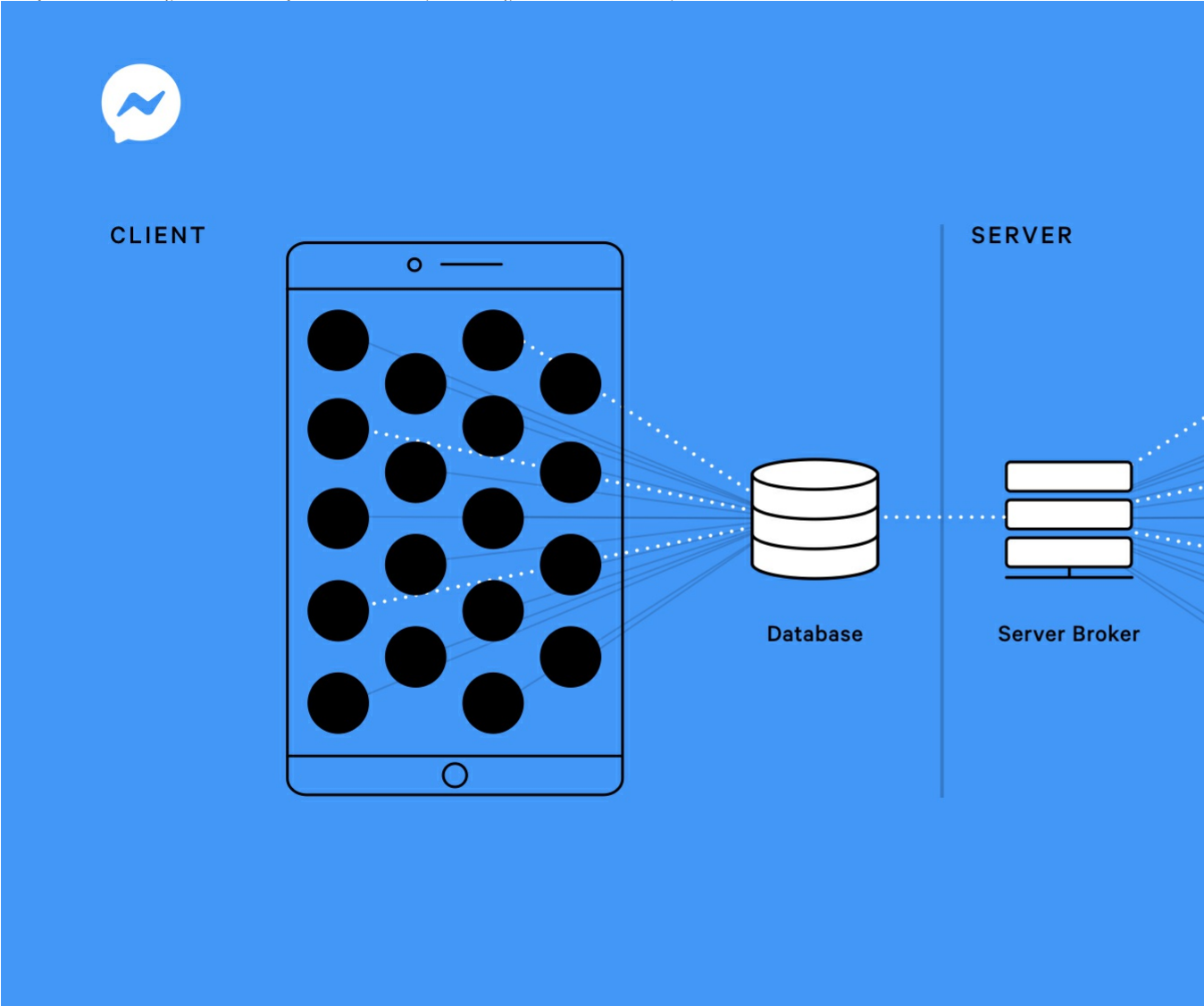
The mission of Meta Platforms (formerly Facebook) is to give people the power to build community and bring the world closer together. Meta has a suite of products within social media, the metaverse, advertising, and developer technologies, including Facebook, Messenger, Instagram, Whatsapp, Oculus, Meta Business Suite, Meta Ads Manager and the React Javascript Library. Meta products are used by over 3 billion people daily.

DUTIES AND RESPONSIBILITIES

Worked on Messenger’s Safety and Inclusion cross-functional team to lead projects for safety experiences for minors who experience harm on Messenger and Instagram audio calls and video calls. Worked with designers, content strategists, product managers, user experience researchers, and other engineers to manage business and user needs and determine guidelines around user safety and privacy. I took on additional responsibilities to shadow and collaborate with the team’s UX researcher to practice usability testing and identify research constraints on our reporting flows.

SOFTWARE DEVELOPMENT AND DESIGN

- Handled technical product development to prevent harmful situations where minors are in contact with flagged, unsafe users. Worked with designer, content strategist, and experts in child safety to refine design practices for more clearly defined user interfaces. This allowed for more clarity on existing permission settings and allowed minors to have more agency in taking action against people that make them feel unsafe.
 - Technology stack: Full-stack, iOS development
 - Utilized Objective-C, SQLite, and React-inspired component-based libraries for easier user interface integration
 - Navigated full software development lifecycle to build transparency tools that allow minors to get out of situations of harm as quickly as possible and take actions as necessary, including the reporting, blocking, and connecting to resources and hotlines
 - Did dev work in React native to help align experiences for the different platforms, including iOS, android, and web
 - Challenge: My was the first of many initiatives for child safety in iOS and really started picking up momentum - as a result of us using so many new UI frameworks and integrations, there were a lot of roadblocks related to library bugs and how we connected all the different complexities. Once my mentor and I resolved them, we wrote extensive documentation for how to port over frameworks to minimize time loss on setup.
 - Selected work: <https://www.facebook.com/help/messenger-app/1064701417063145>
- Developed encryption features for audio and video calls on the Messenger application for iPhone Operating System (iOS). Utilized iterative methodologies to build upon basic technical features over the course of a year with increasingly complex software and design requirements.
 - Technology stack: Full-stack, iOS development
 - Utilized Objective-C and SQLite
 - Co-designed 100% end-to-end encryption efforts for Messenger chat threads. Built UI components for encryption that was utilized in different parts of the codebase.



- Challenge: building libraries that were reusable, optimized, and minimizes costs – thinking about functionality and easy integration within millions of lines of code
 - Provided critical feedback to iterate on Figma prototypes that meet iOS standards for design quality. This allowed for the approval of our strategies by Meta content reviewers and the Apple App store.
- Helped detail the technical architecture and framework of Messenger encryption efforts with engineers on three other Messenger systems teams. Determined necessary technical components that needed to be built and ensured that designed components met company-wide goals on privacy and protected user data. Confirmed logic with WhatsApp application teams that have already met 100% encryption goals.
- Handled conflicts between call encryption design and existing Messenger experiments by re-conducting a requirements analysis with the team’s senior engineer.
- Selected work: <https://www.facebook.com/help/messenger-app/786613221989782>
- Prioritized accessibility tasks by co-facilitating development hackathon for developers and designers in our larger team to address long standing bugs within privacy and accessibility. Within a week, we were able to investigate and close 12 time-sensitive tasks and surpass organizational accessibility expectations.
- Conducted weekly code reviews and provided specific feedback for other engineers supporting privacy and safety work.

USABILITY TESTING AND USER RESEARCH

- Utilized content analysis, observational research, and other usability testing methods to investigate reporting flows for eight different social media and communication applications. Synthesized notes in a concise, clear written report to provide insights on what were considered effective reporting flows (and existing problems in these flows) from sample size of users.
- Assisted UX researcher to audit and evaluate the usefulness of current reporting flows within Messenger and Instagram by conducting contextual inquiry and participatory workshops. Identified areas of opportunity within reporting harm/ issues related to bullying, harassment, and self-injury. Experience prototyped direct access to resources like hotline services and emergency providers. Negotiated more funding and a longer research timeline to carefully assess risks by co-writing an updated research proposal.
- Participated in observational user research interviews and content strategy sessions to evaluate effectiveness of product feature designs against technological constraints.

OUTREACH WORK

- Facilitated human-centered and IT design workshops and oral presentations for developers across the team and larger organization to discuss opportunities to actively practice compassion and empathy in their work using user-centered methods. This led to

- more engagement within exploratory phases and thoughtful team brainstorming sessions as we plan projects for the following half.
- Updated onboarding documentation for iOS engineers to support new hires based on personal experiences with new hire training.
- Set up mentorship sessions for newly graduated employees and provided monthly 1:1 calls to develop actionable plans for career goals.
- Facilitated organization wide fundraising efforts by hosting donation drives quarterly. Raised over \$3,000 in each quarter of 2022.

TECHNICAL SKILLS

Deployed working software features and tangibly resolved user problems in iOS mobile applications using Objective-C, Structured Query Language (SQL) + SQLite, React Native Language, and source control (Mercurial, Phabricator). Contributed to Messenger iOS design systems and feature design prototyping using tools including Figma, Adobe Creative Suite, Sketch. Adeptly collected user research via Maze and UserZoom. Delivered refined research insights using qualitative and quantitative methods, including usability testing methods, human-centered design, and systems-thinking frameworks. Effectively communicated and presented information across team and company-wide groups using Google Drive (Docs, Slides, Sheets), Microsoft Office Suite (Word, Excel, Powerpoint), BlueJeans, Zoom, Quip. Ensured project management and practiced agile frameworks by setting up and delegating project tasks via Jira, Trello, and internal work task managers. Queried data and monitored metrics using SQL, internal dashboard tools, and data tables.