

Offline Mobile Development Proposal



Who are we

Hazard Zero was started in 2025 with a focus on food safety compliance and tracking software for food producers and distributors. Our goal is to enable companies feeding the planet to grow and navigate compliance more easily with intuitive software. While our focus remains on our original software, we are looking to bring our underlying systems to biomedical laboratories and create new software to handle evolving food and pharmaceutical regulations.

Problem Description

Many food producers operate in warehouses, processing plants, and rural facilities that suffer from poor or non-existent internet connectivity. As a result, relying on active web connections leaves users vulnerable to workflow disruptions during critical compliance tracking and logging tasks. While the overarching process to shift our current Progressive Web Application (PWA) to a standalone iOS and Android application has been architected, executing this transition introduces complex moving parts specifically regarding offline data storage, conflict resolution during network re-establishment, and local computational performance.

Project Description

The goal of the project is to develop a baseplate, offline-first standalone mobile application for iOS and Android that enables field operators to seamlessly capture, compute, and review compliance data without network dependency, not a production ready to ship application, just a baseplate

The MVP will provide a standalone native container that runs our existing workflow tools locally on mobile devices. Key deliverables include building an embedded client side database to handle offline read/write operations, developing a deterministic background sync engine that resolves data conflicts upon reconnecting to the server, and utilizing native device capabilities (e.g., local storage encryption, camera/barcode scanning). To build this MVP, the team will utilize a combination of TypeScript, cross-platform mobile frameworks (e.g., Capacitor, React Native, or Flutter), local database engines (SQLite/WatermelonDB), and REST APIs.

Student Skill Set

- Strong problem-solving ability and system architecture thinking
- Experience with TypeScript and frontend/mobile frameworks
- Experience making API calls and designing RESTful workflows
- Git experience

Logistical Info

- **Team Size:** 4–5 students
- **Location:** Remote, with the option to work occasionally in a co-working office in Boulder
- **Hiring Potential:** We are expanding our development team and would like to fill an intern/junior position via this program.

Contact Information

- **Project Lead:** Ian Weibel (ian@hazard-zero.com)
- **General Company Contact:** management@hazard-zero.com