ChainLynx Bikepacking App - Development Roadmap

Pre-Release Technical Documentation - November 2025

1. Overview

This roadmap provides a structured 12-month plan for the development of the ChainLynx Bikepacking App. It outlines key milestones, development phases, and contributor pathways to help developers understand where their skills fit in and how they can contribute effectively. The plan emphasizes an open, modular, and privacy-first approach to software design.

2. Phase 1 - Core Foundation (Months 0-3)

Goals:

• Establish repository, contribution guidelines, and CI/CD setup.
• Build core app scaffold (React Native + Expo + TypeScript).
• Implement user authentication (Google and Apple Sign-In).
• Create backend with Node.js + PostgreSQL/PostGIS.
• Enable offline map caching and GPX download system.
• Validate privacy-first data flow (user-owned cloud and local storage).

Contributors Needed: Mobile developers, backend engineers, and documentation writers.

3. Phase 2 - Essential Features (Months 3-6)

Goals:

• Develop Journals (private, encrypted storage).
• Implement Feed and Trail Reports (community updates).
• Build Messaging with Signal Protocol for E2EE.
• Integrate Offline AI Assistants (Bike Mechanic, Campmaster prototype).
• Finalize backend APIs for data sync and caching.

Milestone: Functional internal build with journaling, navigation, and basic communication.
Contributors Needed: Frontend developers, backend engineers, and AI integration specialists.

4. Phase 3 - Community & Sharing (Months 6-9)

Goals:

• Implement Meetups and Live Location Sharing (ephemeral GPS layer).
• Add Route Activation System (context-aware map and feed).
• Enable user-created routes and submission moderation.
• Add Shared Journals (private -> group -> public).
• Conduct private and public beta releases via TestFlight and Play Store.

Milestone: Public Beta launch with live community interaction and full offline capability.
Contributors Needed: Full-stack developers, UI/UX designers, and QA testers.

5. Phase 4 - Integrations & Optimization (Months 9-12)

Goals:

• Add Garmin and Wahoo integrations for route sync (pending API access).

• Optimize performance and caching for long expeditions.
• Refine AI assistant models (quantized, small-device optimization).
• Conduct final privacy audit and user data review.
• Launch version 1.0 across platforms with open-source documentation.

Milestone: Public 1.0 release with complete privacy-first feature set.
Contributors Needed: Integration engineers, privacy auditors, and maintainers.

6. Contributor Pathways

How to Get Involved:
• Browse GitHub Issues labeled "good first issue" or "help wanted".
• Join discussions on feature proposals or bug reports.
• Submit Pull Requests (PRs) following the contribution guide.
• Review documentation and help maintain the knowledge base.
• Participate in scheduled community sync calls or async updates.

Roles and Focus Areas:
• **Frontend Developers:** React Native, offline maps, and UI components.
• **Backend Developers:** Node.js APIs, database models, encryption workflows.
• **AI Developers:** Model packaging and local inference optimization.
• **Designers:** UI/UX layouts and brand consistency.
• **Community Contributors:** Documentation, localization, and testing.

7. Governance and Review Process

Open Development: All project discussions, commits, and issues are public under the GitHub repository "chainlynx-app/chainlynx". Pull Requests (PRs) are reviewed by maintainers or module leads to ensure quality and privacy compliance.

Review Workflow:
1. Contributor forks the repository and submits a PR.
2. Automated CI/CD runs linting and tests.
3. A maintainer reviews and merges upon approval.
4. Changes are tagged in release notes under GitHub milestones.

A Code of Conduct and CONTRIBUTING.md file guide contributor interactions, ensuring transparency and respect across the community.

8. Recommendation

This 12-month roadmap provides a focused yet achievable plan for delivering ChainLynx 1.0. By structuring development into clear phases and maintaining open documentation, the project encourages both individual and collaborative contributions. Developers can confidently join at any phase knowing where their skills will have the greatest impact.