



SoGnar — Map Platform & UI

CS Field Session Proposal (CSCI 370)

Colorado School of Mines — Summer 2026

Legacy Project — Continuing Development

Company Background

SoGnar is a Golden-based cycling technology startup building a gamified mobile application that transforms everyday bike rides into interactive adventures. The app uses GPS tracking to deliver rewards on real-world cycling rides, rewarding riders with in-app currency for miles ridden, trails explored, and challenges completed. Those rewards can then be used within our mini-game platform.

SoGnar originated as a CS Field Session project at the Colorado School of Mines in Fall 2025, and two students from that original team have continued development through an independent study this spring. The platform is built natively for iOS using Xcode, with MapKit integration for real-time route tracking and a GoDot game engine for the in-app cycling game. SoGnar holds a provisional patent covering its core gamification and GPS-based reward mechanics.

SoGnar is transitioning to a freemium business model. The current game and platform will serve as the foundation for the free tier, while premium subscribers will gain access to additional games, enhanced reward boosts, and exclusive content. The long-term vision is to offer four to five distinct game experiences as part of the premium subscription, making SoGnar a comprehensive gamified cycling ecosystem. SoGnar's goal is to launch the app to the app store at the end of this summer's field session.

Description of the Work to Be Done

This team will focus on two core workstreams that form the foundation of SoGnar's experience: rebuilding and enhancing the map platform, and continuing development of the existing in-app cycling game. The team will also work with the client to launch this application to Apple's App Store towards the end of this project.

Mines hosts the nation's largest collection of outdoor recreation maps. This group will work alongside Chris Thiry, Map librarian, to develop this new and improved map.

Workstream 1: Map Platform Redesign

The map is the centerpiece of the SoGnar experience. Students will fully rebuild the map platform and add the following features::

- **Dark Mode Display:** The map must be rendered in a dark mode theme, providing a sleek, modern aesthetic that aligns with SoGnar's brand identity and reduces eye strain during rides and post-ride experience.
- **Route Discovery:** Implement route-discovery functionality that lets riders browse, search, and explore cycling routes in their area. Routes should display key metadata such as distance, elevation gain, difficulty, and terrain type. Routes will be displayed in a rainbow gradient against a dark background.
- **Customizable Map Layers:** The map should support customization options, allowing users to toggle layers, adjust views, and personalize their mapping experience.
- **Collectible Coin Overlay:** Display SoGnar's animated collectible coins directly on the map so riders can preview the coins along a route before starting their ride. This gives riders a visual estimate of the rewards they can earn and adds a treasure-hunt element to route planning. *Stretch:* Have varying coins for different routes for riders to collect over time.
- **Find My Friends Maps for Downhill Mountain Bike Parks:** This map will be separate from the main map interface and will display where your friends are in the mountain bike park, similar to the Ikon app's Find My Friends feature. Students will be tasked with building functioning maps, starting with Virginia Canyon Mountain Bike Park in Idaho Springs.

Workstream 2: Continued app improvement:

Work will also include other tasks as assigned to continue improving the app's UI/UX and core functions.

Equipment

A Mac is required for this project. A processing chip of M4 is desired.

Development Process & Toolchain

SoGnar operates within an Agile development framework. During the five-week summer session, the team will work in 2 days sprints, utilizing Claude AI (Platinum Team membership provided).

The client will be available throughout the entire five weeks and is prepared to meet as frequently as the team needs — whether that's daily standups, mid-sprint check-ins, or ad-hoc sessions to unblock issues. The goal is to keep communication open and iteration fast.

The team will use the following toolchain:

- **GitHub:** Version control, issue tracking, pull requests, and code review. The existing SoGnar codebase is hosted on GitHub, and students will work within the established branching and PR workflow.
- **Slack:** Primary communication channel for day-to-day coordination, async updates, sprint planning discussions, and direct access to the client.

- **Claude (AI-Assisted Development):** SoGnar integrates Claude into its iterative development workflow. Students will use Claude as an AI pair-programming tool for code generation, debugging, documentation, and rapid prototyping. This gives students hands-on experience with AI-assisted software development.

Desired Skill Set

Students are expected to learn new technologies as part of the course. The following skills will be helpful but are not prerequisites:

- **Prompt Engineering:** Completion of Antropic Academy courses prior to field session start (free)
- **Swift / SwiftUI:** The app is built natively for iOS. Familiarity with Swift or willingness to learn is essential.
- **MapKit / Core Location:** Experience with Apple's mapping and location frameworks is valuable for the map redesign workstream.
- **GoDot:** The existing game is built with GoDot. Game development experience or interest is a plus.
- **Xcode & iOS Development:** All development is done in Xcode. Access to a Mac is required.
- **UI/UX Design Sensibility:** An eye for clean, user-friendly interface design will help with the map redesign.
- **GitHub / Version Control:** Standard collaborative development practices.

Preferred Team Size

3–4 students. This project has two distinct workstreams (map platform and UI/UX) that naturally allow for task distribution across a team of this size. A team of four or five would allow dedicated sub-teams for each workstream while maintaining close collaboration.

Internship Potential

There is potential to offer outstanding student(s) a continued role with SoGnar following the field session, either as an intern or ongoing independent contributor, depending on performance, interest, and the state of the project.

Location

All work may be performed remotely on the Mines campus or in the ORC conference room. The client is based on campus and is available for in-person meetings if desired, but remote collaboration via video calls and Slack is the expected norm. No mileage reimbursement is required. The ORC Conference room will be open to all SoGnar teams and individuals for meetings and collaboration. Students are encouraged to work at the ORC. Swag, drinks and snacks will be provided at the ORC for SoGnar teams. **Note:** an in-person Project Kickoff at the Outdoor Recreation Center will be required unless otherwise discussed. This meeting may last up to 4 hours.

Intellectual Property & NDA

Students will be asked to assign intellectual property rights for work produced during the field session to SoGnar Technologies LLC. These terms will be discussed and agreed upon before the project begins.

Why This Project Is Exciting

This is a rare opportunity to work on a real product that is actively heading toward launch. Students will be joining a legacy project with an existing codebase and contributing directly to a product that real cyclists will use. The work spans mobile development, game design, mapping technology, and UI/UX — a rich and varied technical experience. The Agile workflow with GitHub, Slack, and AI-assisted development mirrors how modern software teams operate, giving students directly transferable professional skills. And because this is a startup, student contributions will have a tangible, visible impact on the final product.

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Location: Mines Outdoor Recreation Center and Remote

Find out more at www.getsognar.com