

- **Company background:**

SoGnar Technologies LLC is a Golden-based business focused on making outdoor fitness more engaging through gamified technology. Founded by the Director of Outdoor Recreation at Colorado School of Mines, the company blends a deep understanding of user motivation, cycling culture, and adventure recreation with innovative digital design. Our mission is to encourage people to stay active by turning real-world outdoor activity into fun, interactive experiences through mobile app development.

Since the Fall 2025 Field Session, SoGnar has moved from concept to a shipping product. The flagship app, *SoGnar Cycling*, is built in Swift/SwiftUI with GPS ride tracking, an in-app arcade, and a virtual currency economy, and is currently in the App Store in a beta version.

SoGnar is now expanding beyond cycling into a multi-sport platform. Two additional products are in active development: *SoGnar Snow* (snowboarding and skiing with a backcountry focus) and *SoGnar Stride*, each with its own tracking experience. This expansion is the reason for this project.

- **A description of the work to be done:**

The team will design and develop four mini-games for the SoGnar arcade. Games are built in Godot 4, exported to HTML5, and rendered inside the native iOS app.

Two legacy games - *Rip N' Grip* and *SoGnar Rivals*. These titles already exist and ship inside *SoGnar Cycles*. The team will inherit the existing source, refactor both onto a shared arcade framework, and bring them up to current standards for performance, mobile input, and integration with the shared currency and cosmetics systems. The goal is that both games run cleanly when launched from *SoGnar Cycles*. This half of the project is deliberately about working inside an existing codebase written by someone else.

Two new games - built from scratch. The team will build two brand-new titles for the expansion sports. *The specific concepts, mechanics, and art direction for these two games will be provided at project kickoff.* Both are original SoGnar IP that has not been publicly announced. The team will take them from design document to playable, integrated, shipping-quality games.

The work will include:

- Establishing a shared arcade framework in Godot 4 that all four games build on, so that game logic, input handling, currency hooks, and cosmetic loading are written once rather than per title.

- Refactoring and modernizing the two legacy games onto that framework, including performance work, touch inputs.
 - Designing and building the two new games from provided design documents, including gameplay programming, level or difficulty progression, and art asset integration.
 - Integrating each game with the Stoke Points economy through the app's session-end data bridge, which reports results to the native app when a play session ends.
 - Building a delivery pipeline that lets new games and updates reach players without requiring a full App Store release, with an embedded fallback so the arcade still works offline.
 - Writing test coverage and a technical handoff document, since these games will be maintained by future teams.
- **Any desired skill set for the students (but remember that students are expected to learn new technologies/languages as part of the course):**
 - Game development fundamentals - game loops, state management, collision, sprite and scene work
 - Godot 4 and GDScript, or willingness to learn a game engine quickly
 - 2D and/or 3D graphics programming
 - Working in and refactoring an existing codebase
 - UI/UX design principles, particularly for touch and mobile
 - Version control and collaborative development with Git
 - Interest in game design, game feel, and balancing
 - Helpful but not required: Swift/SwiftUI, HTML5/WebAssembly export pipelines, Blender or other asset creation tools
 - Preferred that students who work on this project have an iPhone and access to a MacBook desktop or laptop
- **Preferred team size. Probably a range, we prefer projects that can support at least three students.**
 - 4 to 6 students.
- **(optional) Whether there is a potential to offer student(s) an internship at the end of the course:**
 - Yes. SoGnar has previously continued working with Field Session students through independent study and paid contract roles, and one former student now leads a SoGnar product line. There is real potential for continued collaboration for students who demonstrate strong skills and interest, focused on shipping these

games to production and building out the arcade as the platform expands into additional sports.

- **Location where the work should be performed:**

- Work should be performed on campus at Colorado School of Mines or remotely.
- As the sponsor is based on campus (Austin Dyer, Director of Outdoor Recreation), regular in-person check-ins are possible and encouraged, but no off-campus work is required. Virtual meetings can also be arranged depending on student schedules and team preferences. No mileage reimbursement is necessary, as no off-campus travel is required.

- **I would like students to submit an NDA and an IP agreement.**

- IP agreements will be signed before work begins, assigning IP to SoGnar Technologies LLC.