FSIPS UI/UX Design v0.1

This document captures high-level UX/UI requirements and architectural design goals for the Fretted String Instrument Practice System (FSIPS), with emphasis on long-term survivability, platform independence, and instructor–student shared state.

Core Invariants
- Data model is the product
- Cloud is the source of truth
- UI is a projection, never a decision-maker
- Determinism and explainability are mandatory
- The system must survive without its original author

Platform Targets
Primary:
- Mobile-first: iOS (iPhone), Android

Secondary:
- Desktop: macOS, Windows
- Linux: best-effort, non-blocking

Build Order (Strict)
1. API (canonical contract)
2. CLI (reference client)
3. UI (mobile first, desktop later)

Cloud & Shared Access Model
- Single authoritative cloud-resident state per student
- Role-aware access (student vs instructor)
- Local devices act as cache and input terminals only
- No forked timelines or merge semantics

Roles
Student:
- Execute sessions
- Log outcomes
- Inspect state and explanations

Instructor:
- Modify configuration envelopes
- Gate/unlock exercises
- Adjust progression and fatigue caps
- Inspect logs and trends

Data-Centric Architecture
Layered design:
Data Model → Deterministic Engine → API → CLI → UI

Non-Goals (Explicit)
- Offline-first architecture
- Audio analysis or ML
- Real-time collaboration
- UI-owned heuristics or state
- Gamification or social features

UI Philosophy
- Execution-first, inspection-second
- Minimal daily friction
- Explainability over delight
- UI as instrumentation, not motivation

Status
This document represents a frozen v0.1 snapshot of UI/UX design intent.