

Grzegorz Otto

SENIOR REACT NATIVE ENGINEER · MOBILE TECH LEAD

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Polish (native) · English (B2/C1 written & technical; conversational spoken) · open to B2B or employment · Warszawa / EU-remote / global-remote



SUMMARY

Senior React Native engineer and mobile tech lead who ships production apps end-to-end - system design, custom native modules in Swift + Kotlin, CI/CD, and store delivery. Lead developer for Poland's public broadcaster, **Polskie Radio**: I architected its flagship app (~**60,000 daily active users**, **150,000+ downloads**, **99.9% crash-free**) and authored **pr.playback.service**, the cross-platform (Web + native iOS/Android) playback engine behind its app family, now re-architected into a shared Turborepo monorepo. In parallel I architect **Flare-Engine**, a 41-package real-time 2D engine for React Native + Web. I sustain high velocity as a single owner across large, strictly-bounded TypeScript codebases.

Earlier, I spent seven years (2012–2019) leading regional sales at Deutsche Bank Polska - coordinating seven teams and running nationwide training through the Santander acquisition - before retraining into software. That background is why I default to ownership, mentoring, and shipping under deadline rather than just writing code.

TECHNICAL PROFILE

Languages	TypeScript (strict mode), Swift, Kotlin, C++, JavaScript
React Native	RN 0.66 → 0.81 (New Architecture / Fabric), Expo SDK 55, Expo Router 6, Expo Modules API, TanStack Query 5, Zustand, MMKV, Reanimated, REST APIs, WebSockets
Native	Expo Modules (Swift + Kotlin): OS media session (CarPlay / Android Auto / lock-screen), Google Cast, AVAudioSession / Android MediaSession, Foreground Service, PiP
Architecture	Clean / Hexagonal, event-driven, state machines, command bus, dependency injection, Turborepo monorepo, archetype ECS
Graphics & performance	React Native Skia (GPU atlas rendering, RuntimeShader / SkSL), zero-allocation hot loops, on-device frame profiling; Unreal Engine 5 (C++)
DevOps & CI/CD	Bun, Turborepo, Biome, Changesets, GitLab CI + Fastlane (iOS + Android), Expo config plugins, Sentry
Practice	tech leadership & mentoring, test-first, AI-directed development (custom agents + skills)

EXPERIENCE

Polskie Radio — Mobile Apps · Senior React Native Engineer

Apr 2020 – present · Warszawa

App Store · Google Play

- Sole architect and lead developer of the flagship **Polskie Radio** app (Poland's national public broadcaster): ~**60,000 daily active users** (40k Android / 20k iOS), **150,000+ downloads**, **99.9% crash-free**, and ~99% backend uptime (Sentry). Hardened the live-data layer with exponential-backoff retry over REST across 10 stations, replacing WebSockets for reliability.
- Authored **pr.playback.service** - a cross-platform (Web + native iOS/Android) audio & video playback engine that is the architectural core of the flagship and the 2.0 app family: event-driven playback, an 8-state state machine, a serialized command bus, and swappable audio / video / Cast adapters.
- Developed **2 custom Expo native modules** in Swift + Kotlin: OS media-session controls (CarPlay, Android Auto, lock-screen) and Google Cast with position-synced handoff.
- Re-architecting the app family into a shared Turborepo monorepo**: Jedyńka 2.0 and Trójka 2.0 ship from one codebase (~95% shared packages - API client, presentation layer - differing only by branding and feed); the flagship app migrates in next.
- Tech lead and mentor** for a 2-3 person mobile team before taking sole ownership of the multi-app portfolio in 2024; set the React Native architecture, code standards, and CI/CD across the apps (RN 0.66 → 0.81).
- Automated CI/CD end-to-end: GitLab CI + Fastlane with 7 custom Expo config plugins, tag-triggered builds, staged Google Play rollout, and App Store submission. Stack: Expo Router 6, TanStack Query 5, Zustand, MMKV, Unistyles 3, Sentry, GA4 + Gemius.

site · CMS

- Delivered both halves of an architectural-visualisation studio's web presence: a **bilingual (PL/EN)** public site - portfolio, careers, FAQ, legal, contact and booking forms - and the CMS the studio edits it from. Next 16 on Vercel, **Refine + Supabase**, permissions enforced by **RLS rather than by the UI**.
- ~**70,000 lines of TypeScript** and ~**15,000 lines of SQL** in a Bun + Turborepo monorepo (web, CMS, four shared packages), a service-role import boundary enforced as a build gate, and a CMS-write-to-ISR cache contract (`revalidatePath(path, 'page')`) per resolved public path). Both apps live; domain cutover pending client content.

Earlier career - pre-engineering.

Regional Sales Coordinator · Deutsche Bank Polska S.A.

Apr 2012 – Apr 2019 · Warszawa

- Owned the sales volume of a region spanning **7 teams** - full accountability for regional results, plus the onboarding, training, and ongoing coaching that delivered them.
- Designed and ran **nationwide training during the Santander acquisition of Deutsche Bank Polska**, coordinating a consistent rollout across sites through a large-scale banking M&A integration under a hard cutover deadline.

PERSONAL / R&D PROJECTS

Flare-Engine — Real-time 2D rendering & animation engine for React Native + Web

2026 – present · active

Personal project · published to npm at 0.3.1 with restricted access; Apache-2.0 open-source launch targeted Oct 2026

- Architected a **41-package** engine (`@flare-engine/*`) in a Bun + Turborepo monorepo (26,716 LOC): a strict **6-tier dependency graph** (tiers 0 through 5), downward-only deps, **zero circular dependencies**. Bootstrapped the architecture in 12 days (303 commits).
- Built an **archetype-bitmask ECS** (bitmask queries, ~2K entities, escape hatch to 5K; **9.46 μ s / 1,000-entity step**). **Zero-allocation hot paths** (Vec2 plain objects, static output-param math) and generator-based coroutines keep the loop GC-free.
- Designed a Skia GPU renderer with **two render modes** - retained-mode atlas batching via imperative `canvas.drawAtlas` and immediate-mode `PictureRecorder`; post-FX via a JSX `RuntimeShader` with **zero offscreen surfaces / readbacks**. The same GPU pipeline drives any animation-heavy RN UI, not only games.
- Benchmarked on real devices** (Galaxy A55, Pixel 6, Pixel 10): frame p95 0.9–9.5 ms across boot, boss-fight, particle-storm, and zone-transition scenarios (worst cell Pixel 10 particle-storm 9.5 ms vs the 16.67 ms / 60 fps budget).
- 2,887 of 2,903 engine tests passing** (engine suite); published to npm at **0.3.1** with restricted access - anonymous install opens at the Oct 2026 launch - and consumed by *Pan Twardowski* (below). Drove the build via an **AI-directed workflow** (custom agents + skills, plan → build → verify).

The Dark Orb — C++ core-systems owner · Unreal Engine 5.7

2026 – present · alpha

Personal / team project · in development (not yet public)

- Own the **deterministic C++ gameplay core** (`DarkOrbCore`): an ECS + command-bus + reducer architecture with deterministic RNG, save/load, and damage / skill / status pipelines - UE-integrated but engine-portable and unit-tested with **property-based tests** (rapidcheck).
- The same ECS + command/reducer discipline as Flare-Engine, now in **C++ on Unreal Engine 5.7**; co-built with a small team (presentation + content by collaborators).

Pan Twardowski — Showcase game built on Flare-Engine

2026 – present · own repo (889 commits)

- Vertical shoot-'em-up themed on Polish folklore - the engine's proof of concept and hardest stress-test (games push 2D rendering to its limits).
- 8 zones, 16 enemies, 8 multi-phase bosses, 2,522 passing game tests**, fully localized EN/PL; targets **iOS, Android, and Web** from one codebase.

WRITING

Technical blog on game-engine architecture, ECS, and rendering performance - grzegorzotto.dev/blog (cross-posted to dev.to, LinkedIn)

EDUCATION & TRAINING

Master's degree in Economics — Vistula University, Warszawa · 2011 – 2016

JavaScript & React Bootcamp — Coders Lab International · 2019 – 2020

Project figures measured 2026-08-30 (Flare-Engine 516d313, Pan Twardowski ca5860f).