



# ARTŪRAS VARKALIS

GAMEPLAY PROGRAMMER  
& AUDIO SYSTEMS ARCHITECT

## CONTACT

Klaipėda, Lithuania  
arturas.varkalis@gmail.com  
arturasvarkalis.dev

## SKILLS & TOOLS

**Engines**  
UE5 · UE4

**Languages**  
C++ · Blueprints · Lua

**Audio**  
MetaSounds · Quartz · FMOD  
Reaper · Ableton

**Systems**  
GAS · EOS · Steam SDK  
Niagara VFX

**Workflow**  
ClickUp · SVN · Git  
Google Analytics

## LANGUAGES

Lithuanian (native)  
English (fluent)

## DIFFERENTIATORS

Dual specialization: gameplay + audio systems  
End-to-end systems ownership across 7 genres  
Strong online services experience (EOS, Steam)

# ARTŪRAS VARKALIS

Unreal Engine Gameplay Programmer & Audio Systems Architect  
Co-founder, Matima Studio | 6+ Years UE Experience | 7 Projects

## PROFILE

Freelance Unreal Engine programmer specializing in gameplay systems and interactive audio. Dual expertise in C++/Blueprint programming and audio pipeline development (MetaSounds, Quartz, FMOD). 6+ years across rhythm FPS, turn-based tactics, battle royale, 2.5D fighters, platformers, boomer shooters, and streaming tools.

## EXPERIENCE

Tempo Punk - Co-founder / Audio Systems Architect & Game Core Programmer Ongoing

Rhythm FPS (Matima Studio, UE5)

- **Game core architecture** - GameState, GamelInstance, GameMode, launch flow, level travel, level selection, audio options, scoring, analytics
- **Rhythm gameplay systems** - C++ Core Rhythm Subsystem, Quartz beat events, quantization, accuracy windows, desync recovery, sub-frame sync
- **Procedural music systems** - MetaSounds Music Manager, intensity layers, section transitions, procedural/licensed track integration, stream caching
- **Sound design** - 50+ weapon, player, enemy, boss, environment, UI, trailer, and tutorial SFX/voice assets
- **Audio mixing & spatialization** - sound class hierarchy, control buses, submixes, compressor, convolution reverb, 3D spatialization, ambience
- **Audio pipeline tooling** - Reaper beat-chart export, metronome/capture tools, music debug widgets, external producer documentation

Amethyst - Sole Programmer & Technical Lead 5+ years

Competitive 1v1 Turn-Based Tactics (UE4/5)

- **Sole technical ownership** - C++/Blueprint gameplay, UI, networking, audio, Steam, builds, QA, engine fixes for a 5-person team
- **Turn-based framework** - ATBTT refactor, shared-energy turns, action resolution, auto-end logic, replicated match flow
- **Grid combat systems** - chess-style pathfinding, attack/defense wheels, gem collection, hero death, level-up, structure interactions
- **Ability system** - 8 heroes, two-tier abilities, activation pipeline, targeting, stolen abilities, forced actions, edge-case interactions
- **Status effect framework** - 30+ effects, duration logic, categories, HUD icons, damage modifiers, spell immunity, reactive/passive effects
- **Economy & inventory** - 5-currency gem economy, conversion UI, shop rules, player/hero inventories, 18 unique items
- **UI/UX implementation** - HUD, draft screen, menus, server browser, settings, tooltips, UI designer handoff, PSD integration
- **Online/shipping systems** - Steam MMR, leaderboards, Windows/macOS builds, Unreal Engine source fix

Katana Inu - Systems Programmer (GAS, Audio, EOS) ~2.5-3 years

Multiplayer Battle Royale (UE4)

- **GAS framework** - abilities, attributes, gameplay effects, gameplay cues, HUD callbacks, async montage loading
- **Multiplayer debugging** - attribute sync, prediction, rubber-banding, cue execution failures, autonomous proxy issues
- **FMOD integration** - Unreal/SVN setup, character FMOD component, GAS-triggered audio pipeline
- **Sound design implementation** - locomotion, ambience, hitmarkers, combat, ability feedback, sprint sounds, procedural combat music
- **Audio/VFX optimization** - local gameplay cues, anim-notify triggers, client-side feedback patterns for frequent ability events
- **Audio team leadership** - managed 2 audio designers, QAed deliverables, assigned tasks, coordinated with gameplay/animation/VFX teams
- **EOS social systems** - friends, parties, invites, blocking, matchmaking UI, validation, edge-case hardening
- **UI/menu systems** - main menu, options, keybinds, server browser, splash screens, HUD prompts, login, scaling fixes
- **Documentation & onboarding** - GAS overview, SFX/VFX implementation guide, onboarded 4 team members

## Karyn - Audio & Dialog Systems Programmer

~1 year

Action-Adventure Platformer (UE4)

- **Dialog system architecture** - data-driven manager, base/child classes, queuing, level-specific extensibility
- **Dialog priority logic** - 5 priority levels, interruption behaviors, sequence tracking, simultaneous lines, death/respawn handling
- **Facial mocap playback** - LiveLink LevelSequence sync, AnimationSyncValue offsets, additive blending, interrupt-safe audio/animation
- **Adaptive music system** - Quartz quantization, extension stems, bounces, queued stem switching, trigger-volume transitions
- **Voice pipeline tooling** - Reaper Lua DataTable export, naming convention, wildcard rendering, non-programmer documentation
- **Gameplay systems support** - 2D platformer minigame, locomotion, NPC paths, health bars, doors, fall/dialog triggers
- **Engine migration & memory** - UE 4.23 to 4.27 migration, API fixes, soft-reference DataTables, per-take table splitting

## Psyker - Generalist Developer (Framework, VFX, SFX)

~5 weeks

Cyberpunk 2.5D Fighting Game Vertical Slice (UE4)

- **UE4 project foundation** - GameMode, GameState, GameInstance, Pawn base, spawn functionality for a contractor team
- **2.5D gameplay systems** - side camera, plane-constrained movement, lateral repositioning, pawn switching
- **Cutscene systems** - cinematic/gameplay transitions, pawn handoff, trailer sequence support
- **Niagara VFX** - attack effects, character damage effects, footstep VFX, early Niagara workflows
- **VFX optimization** - flying-car effect profiling, distance-field tuning, particle-count budget recovery
- **Hero environmental VFX** - procedural trash vortex, physics-driven debris, public trailer standout effect
- **Sound design** - full vertical-slice audio pass: locomotion, combat, finisher, ambience, character voice SFX
- **Environment polish** - graffiti, billboard, and decal replacement for trailer-ready presentation
- **Vertical slice delivery** - complete trailer-ready build delivered from scratch in ~5 weeks

## V1RAL (Project Black) - Co-founder / Audio, Narrative & Level Design Generalist

Completed

Boomer Shooter FPS (UE4)

- **Co-founder/generalist ownership** - audio, narrative, level design, game design, Blueprints, trailer capture, composer coordination
- **Real-time sound occlusion** - Blueprint-only occlusion, distance prioritization, multi-source emitters, performance scaling
- **Spatial audio systems** - convolution reverb, spatialization setup, room/space acoustic behavior
- **Blueprint audio architecture** - base audio component, enemy/player child components, scalable entity audio behavior
- **Sound design** - 50+ SFX across weapons, locomotion, combat, ambience, pickups, UI, tutorial, enemy voices
- **Audio mixing & performance** - mixing passes, concurrency fixes, sound modulation under heavy combat load
- **Narrative design** - 8-level campaign, majority of level scripts, characters, two endings, composer story briefs
- **Level design** - tutorial blockout, combat prototypes, sewers blockout, encounter/puzzle/choice documentation

## AyeZee Game Arena - Application Framework Developer & Audio Designer

Completed

Interactive Broadcast App (UE4)

- **Application framework** - top-level state machine, 7 game modes, active-game routing, camera interface connections
- **Multi-window architecture** - UE4 broadcast-facing game view plus operator control panel
- **Operator tools** - game switching, round control, case opening, prize config, visual customization, live diagnostics
- **Runtime content pipeline** - packaged-build texture importer, prize image swaps, per-stream customization
- **UI implementation** - control panel, prize editors, results screens, settings, in-game UI for 7 mini-games
- **Sound design** - full SFX pass for wheel spins, ball drops, card reveals, case openings, win/loss feedback
- **Player systems** - player pawn integration with game-switching framework
- **Live broadcast delivery** - dual-window broadcast tool delivered in ~1 month for a 5-person team

## STUDIO

Matima Studio

- Co-founder, independent game development studio, Lithuania