

ROBERT COBER

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Blog <https://www.casualdistractiongames.com/blog-1>

YouTube <https://www.youtube.com/channel/UCRu6oRgqPjMKu-0LP29q2bA>

UE4 Meetup One of 3 organizers of the UE4 Phx Meetup: <https://unrealphx.com/>

Summary

Senior Engineer specializing in all things Unreal Engine 4 and Houdini. I possess significant breadth and depth in many areas of UE4 including physics, animation, gameplay, networking, and rendering. In addition, I am also very passionate about Houdini and proceduralism. I have worked with many of the SideFX Labs tools and the UE4 plugin. I am also familiar with HDK, HOM, HAPI and Houdini Engine UE4 Plugin Source Code.

Recent Personal Tech Research

- **Bone VAT:** Vertex Shader Bone Animation - Control hundreds of animated characters. Wrote custom UE4 plugin to extend Persona UE4 Editor and allow cooking of animations into textures. Supports root motion extraction, anim notifies, and leverages instanced static meshes and per instance data to manage a large number of characters.
<https://youtu.be/GZmZjCkMU5s>
- **Masked VAT:** Animated destruction using Houdini - based on Vat 2.1. Wrote plugin that reads a custom AABB tree collision exported from Houdini to do masked real time destruction.
<https://docs.google.com/document/d/1Je5tterjeoWQRnmE2MT3F0RQZIASI2dn9TSGKn8Tnx8/edit?usp=sharing>
- HDA using KineFX to reskin Marketplace skeleton assets to Epic Mannequin

Job Experience

Rainbow Studios — Senior Engineer

June 2016 - PRESENT

Developer of Mx Vs ATV Franchise for Steam, Xbox, Playstation.

- 4+ Years of experience using Unreal Engine to develop PC and console games.
- Used Houdini VAT for real time destruction on PC and Console.
- Experienced building UE4 plugins, making custom engine modifications, familiar with several areas of UE4 source code.
- Experienced using Unreal Insights for troubleshooting, profiling and optimizations.
- Developed MX "Ragdoll Rider" which uses physics motors to drive the rider ragdoll into animated pose. Enables fluid, responsive rider animation while riding the vehicle.
- Ported existing Cascade Particle System to Niagara.
- Implemented Stunt System similar to Tony Hawk but for MX. Over 30 animations that can be chained together with multipliers and countdown fuse.
- Implemented performant vehicle damage system.

- Developed complex rider Anim Graphs using multiple blended state machines.
- Implemented 3rd party run-time full body IK solver to breath life into player character.
- Developed custom ragdolls driven by PhysX motors.
- Niagara FX Manager

Martiancraft — *Software Engineer*

June 2014 - June 2016

iOS Boutique Developer : Client development work in iOS, Rails, Unity, Unreal Engine.

- WatchKit app written in Swift utilizing HealthKit, CoreLocation, with Parse as mobile backend.
- Wrote HIPAA compliant Tutor Scheduling System. Developed both iOS client app and Rails back-end used countrywide for tutors of Autistic children. Multiple environments hosted on dedicated Amazon AWS EC2 infrastructure.
- Developer on unreleased 2d Ninja infinite runner written in Unreal Engine 4 using Paper2d.

Software Ops— *Software Engineer*

Feb 2013 - June 2014

- iOS app development focused on sending and receiving encrypted HTTP Live Streaming video. In-app purchase, Push notifications, Core Data.

Sage Software— *Software Engineer*

Oct 2011 - Feb 2013

- Developed a SaaS-based CRM focused on Social Media integration

Nationwide Insurance— *IT Architect, Actuary*

Feb 1994 - Oct 2011

- Designed and Developed several insurance-oriented Web Database Applications on several platforms including J2EE, .Net, RoR.
- Primary Architect, Developer, and Administrator for 20+ node Amazon EC2 Rating System.

EDUCATION

University of Arizona — *Bachelor of Science in Mathematics*

1987 - 1991

LANGUAGES

C/C++, Python, Ruby, Swift, Objective-C, Vex, Javascript

References Available Upon Request