Asher Zhu

From visual-effects experiments to Epic Games and the making of a slime game

Images, artistic tools, and the changing work of making a slime game

Asher Zhu, also known online as Vuthric, is a technical artist and game developer. His portfolio identifies him as a director at London-based Duck Shake Games and formerly engaged in technical-art research and development at Epic Games. He makes systems through which clouds, water, wind, and slime can be shaped, rendered, and made responsive. The artistic question is inseparable from the technical one: a material must look right, but also remain usable by an artist and intelligible to a player.[1]

Zhu's route into this work began with attempts to make images, then widened as those attempts demanded programming, simulation, and tools that did not yet cooperate. Later, Epic's demonstrations placed his effects within large collective productions. His independent slime project carries that experience into a different responsibility. The material itself becomes a prospective character and a source of play, and a director has to decide what sort of game its behavior can sustain.

[External image / 外部圖片] Asher Zhu with purple hair and glasses, resting one hand against his head.
Asher Zhu in the portrait used on his professional ArtStation profile. Asher Zhu / official ArtStation portfolio; photographer not named · Rights retained by the source and respective rights holders; no open license stated. · Image source

An image worth learning how to make

Zhu remembers being astonished by the first Matrix film as a child. When he contributed effects to The Matrix Awakens in 2021, he connected the assignment to that earlier fascination. The recollection gives an aesthetic point of departure for a career that can otherwise look like a succession of software packages. An impossible-looking image could matter enough to make its construction interesting.[2]

He lists attendance at Yangzhou University for 2008–2012.[3] In July 2011, a coursework post explained network programming learned through Beej's socket guide and supplied Linux code for stream and datagram connections. He noted difficulty finding a Chinese version and uncertainty about the Windows implementation. Programming and public explanation were present together at this early stage: readers could see what he had tried, which source he had used, and where he was unsure.[4]

The same summer, he presented Lava Coffee as a first visual-effects attempt, using After

Effects, 3ds Max, V-Ray, and RealFlow. He acknowledged preparation problems that he did not want to revisit. September's The Sentry added PFTrack to the modeling, rendering, and compositing tools and directed readers toward importing models from Source games. These were exercises assembled through several applications. Their modest scale gave a desired image a workable object: a shot or short experiment whose deficiencies he could identify.[5, 6]

A 2013 filmmaking problem made the movement between tools especially concrete. Close shots were difficult to matchmove: the digital camera's movement had to agree with the camera that had recorded the scene. Zhu tried using Kinect depth scans to give PFTrack additional information. Skanect supplied a model, but its output had to be converted into point-cloud data. He spent several days identifying the coordinate-and-color format that the next tool expected, then published the conversion code in a bilingual account.[7]

The technical labor followed the obstruction in the image. A filmmaker's immediate need became a scanning and file-conversion problem, and a comparatively inexpensive device became part of the solution. A particular intention could send him across a boundary between tools, and explaining the workaround made that boundary easier for someone else to cross.

Games and the limits of a solitary attempt

In January 2016, Zhu wrote that he had struggled to find filmmaking partners and had temporarily turned toward games. He was using Unity and learning Unreal for his own demo, with more ideas than available time. The entry also included a song he had made. Games entered a continuing set of creative interests under a specific constraint: the collaborators needed for filmmaking had not materialized.[8]

That turn did not erase the desire to make films, nor did it guarantee that games would be easy to complete. It changed what he could attempt. Code, visual effects, and design could meet in a prototype, whose response he could investigate by building it. His August 2016 announcement that the VR experience Sway had passed Steam Greenlight marks one public milestone in this period.[9]

The five-day Multiliens project shows the production problem at a smaller scale. Made for an August 2018 UE4 jam, it received the Army of One distinction. Its escalating invasion design involved stronger aliens and swarm formations. Zhu later wrote that shortages of time and sleep left some intended behavior difficult to perceive. He reused an existing pixel-material workflow for the visual treatment.[10]

The reuse and the missing behavior belong to the same story as the distinction. Existing materials protected time for other work, while the deadline limited how clearly the prototype could communicate its design. A technical possibility did not automatically become a readable experience. That difficulty would return in the slime project, where the material could already do interesting things before a game around those abilities had been

settled.

Learning to explain effects while developing them

By 2019, Zhu was presenting technical work to other developers. He shared slides from a Malaysian talk on applying Houdini to UE4 effects, and material on Niagara and materials for anime-style work. The latter presentation appeared in Unreal’s Chinese-language event program that November. His public subjects ranged across procedural tools and a deliberately stylized image world; the objective was not simply to make every effect more photographically realistic.[11, 12]

His January 2020 wave article addressed the problem of making several images behave as one body of water. Wave parameters were passed to Niagara so splash particles could follow the surface’s motion. Around rocks, their timing and direction had to agree with impact. A rigid-looking bounce was adjusted, particles far from relevant surfaces were removed, and a curve asset carried parameters between CPU and GPU stages. Epic documentation, 贾越’s streams, and NVIDIA’s water material were part of the reference world he drew upon.[13]

This water effect was coordinated rather than calculated as one exhaustive physical object. Its surface, particles, and collision responses had different representations and had to agree where a viewer would notice. Zhu’s visual judgment decided when the apparently reasonable output of a component looked wrong in the assembled scene. That judgment did not come after the software work; it redirected the work.

The cloud article published the following month made another set of choices explicit. Zhu drew on Gears 5, Guerrilla’s research, Sjoerd de Jong, and Ryan Brucks. He worked through Unreal’s volumetric fog and materials instead of requiring lower-level engine changes. Perlin–Worley noise and layered smaller textures provided structure, missing self-shadowing was approximated, and dry-ice videos helped him judge the appearance. One illustrated configuration cost about four milliseconds on an RTX 2080 Ti at 1080p. Avoiding empty space and reducing texture samples were ways to make the effect less expensive.[14]

The cost put an attractive image into a different context. A real-time scene has other things to render, so a cloud technique has to leave resources for them. Working inside the existing engine also made the method approachable to artists who could alter materials without rewriting the engine. Zhu was finding forms in which an ambitious image could become a revisable process, rather than only a finished shot.

In August 2020, an official Inside Unreal session named Zhu as technical artist and Victor Brodin as community manager for a presentation on volumetric effects. The program included clouds, volume textures, editor utilities, and environmentally responsive Niagara systems. Zhu said he prepared the invitation-driven presentation in a week. A forum reader thanked him for an earlier explanation that had made volumetric materials approachable.[15]

The venue broadened the audience for a practice already visible through authored breakdowns. It did not make independent work, teaching, and company work cleanly successive occupations. By 2022 Zhu described himself as an Epic senior technical artist, formerly an independent developer, whose coding, design, and VFX work had helped him enter the company. He also wanted an effect to function as a small game in its own right.[16] Personal experiments and public explanations continued alongside institutional assignments.

Moving those explanations between audiences had a cost. In January 2021, he wrote that translating The Art of Illusion, his Niagara simulation-framework talk, into English had taken much more work than expected. The Malaysian presentation, Chinese Unreal event, English broadcast, and bilingual blog represent different working publics. They show that making a technique available also involved adapting its explanation.[17]

Giving artists control inside a collective world

The cloud-painting work extended Zhu's concern beyond the cloud's appearance. His UE4.26 prototype described controls for fog and wind-driven detail, including dust, gravel, leaves, and hair, and he linked its development to tools used in Valley of the Ancient. The ambition was to give an artist a way to shape environmental behavior across a scene.[18]

For Valley, he documented a volumetric painting mode accessible through the sample's game mode. An artist could paint wind and fog density; ground effects responded to a wind map. Volumetric fog provided lighting and atmosphere, while flipbooks supplied detail. Shared density logic, two-dimensional masks, terrain height, and stacked noise coordinated placement. Zhu also described predicting where a particle would appear and fading it in before the animated sequence would otherwise start abruptly.[19]

These choices concern control and continuity. The painted map lets an artist specify where something should happen without individually directing each particle. Shared information makes separate effects answer to the same environment. Anticipating a particle's appearance repairs a visual discontinuity that the raw sequence could leave behind. The result is a tool through which a scene can be revised, not simply an effect that its maker has performed once.

Valley of the Ancient placed that contribution within a much larger production. Epic's early-access UE5 sample was a playable desert environment, a passage into a darker realm, and an encounter with the Ancient One. Painted density and velocity information drove Niagara atmosphere, alongside other engine systems and many contributors' work. The sample also used a collaborative world-building arrangement in which individual actors could be saved separately, reducing conflicts between people working on the same world.[20]

Zhu's technique became visible through this collective setting. Environment art, lighting, engine infrastructure, and production coordination made a place in which the tool could matter. Conversely, the atmospheric controls helped turn an engine's capabilities into a

scene that a viewer or player could understand. Technical artistry operated at the junction: a local system had to work aesthetically within an environment authored by others.

Later in 2021, The Matrix Awakens brought the earlier film fascination into an assignment. Zhu showcased code rain, bullet wakes, and a dodging effect. The contribution made an admired visual world into specific work, rather than only a source of references.[21]

The surrounding production was extensive. Epic's announcement named Lana Wachowski, Keanu Reeves, Carrie-Anne Moss, and teams across Epic, SideFX, The Coalition, WetaFX, and other organizations. A cinematic sequence led into an interactive car chase and a navigable city. Houdini helped construct the city procedurally, and filmmakers could explore the virtual world to choose locations. Zhu's effects belonged inside this transition between cinematic control and interactive possibility.[22]

The assignment thus joined an old desire to new circumstances. The film had given him an image world to care about. Years of experiments made him capable of contributing to it, and an institution supplied the shared world, colleagues, and task in which that contribution could occur. The particular combination matters more than a story of individual skill finally escaping all constraints.

What to simulate and what to shape

Fluid work continued alongside these larger productions. Zhu's SPH experiment, for example, added screen-space flipbooks to suggest higher-resolution detail. SPH represents fluid through interacting particles, while the displayed image can contain detail beyond that numerical representation. His portfolio openly presented the addition as a visual shortcut.[23]

In 2022, Zhu recalled struggling through fluid papers before building an early solver, renderer, and collision system. To learn Niagara Fluids, he recommended removing decorative rendering from a working example and inspecting the remaining system with debugging tools.[24] Beauty could conceal the part a learner needed to understand. Taking it away made the relation between parameters and behavior easier to investigate, after which the image could be rebuilt more deliberately.

His water breakdown also separated artistic control from the information describing the fluid. He advised shaping foam textures while keeping the simulation's foam-intensity information smooth. He warned against introducing unfamiliar experimental systems late in production, when failures could impose crunch on a team.[25] These are two forms of restraint. The first preserves a useful relation between the image and its underlying motion; the second recognizes that the pleasure of novelty for a technical artist can become an obligation for other people.

Unreal's Niagara Fluids documentation gives the wider engine context. It distinguishes game-oriented two-dimensional templates from more expensive three-dimensional effects,

and allows simulation to be baked into flipbooks when that suits the task. The engine offers a range of production choices: live calculation can supply responsiveness, while prepared images can reduce cost or offer more control.[26]

Zhu's effects repeatedly work between those possibilities. A convincing surface is made from numerical behavior, image detail, and decisions about timing and visibility. The aim is not to choose once between accuracy and artifice. It is to preserve the kinds of response the work needs while spending the available computation where it makes an experiential difference. A game centered on a mutable material would make that judgment particularly demanding: the player could change the state that an attractive demonstration had carefully arranged.

Finding situations for a slime

The slime project began as another test of material capabilities, then acquired situations in which those capabilities might become play. Zhu's early prototype showed painting, splitting into smaller blobs, and distant rendering, with an intention to rebuild in a newer version. The prototype belongs to a period he later dated to 2021.[27]

A portfolio version called Sparkle and Spree described dungeon exploration and food delivery. Zhu emphasized how difficult it was to obtain low-latency fluid-simulation data on the CPU, and the opportunities that this opened for gameplay. The achievement was no longer only a material visible on screen: information about its changing state could become available quickly enough for other game logic to use.[28]

His March 2022 update supplied a different view of the same period. Posting across platforms had become exhausting; the plain personal blog remained a favorite place to write, and a promised breakdown had to wait. A May update still found him too busy. Public explanation, a personal game, and employment were overlapping demands on time, rather than stages that had conveniently ended before the next began.[29]

In June 2023, a further demonstration attracted specialist coverage: slime could be manipulated in a pan, and an object dissolved toward its skeleton. December's TokyOSlime supplied another playable premise, sending a minion into a human city and keeping it hydrated during summer. Zhu also described being overwhelmed by unexpectedly large feedback and arriving late to post on his own site.[30, 31]

The project was accumulating reasons to use the material. A blob could be divided, sent somewhere, transformed, or threatened by an environmental condition. Those descriptions shifted attention from the solver's success toward the character's circumstances and the player's decisions. They were still demonstrations and proposed situations; audience enthusiasm did not settle how the elements would form one sustained experience.

The changing names are less consequential than this change in the object of work. A fluid experiment can succeed by moving convincingly. A game has to make that movement

consequential for someone else’s intentions. Zhu’s attraction to Splatoon mechanics in dungeons gives a specific reference for that ambition: manipulable material and spatial action could become more than decoration around a conventional character.[32]

Leaving Epic and starting again

In 2024, Zhu announced that he had left Epic and restarted the slime project from scratch. A new solver enabled slime movement and smaller creatures. July coverage placed his departure in late April and identified his role at Duck Shake Games. This was a discontinuity, rather than another name for an uninterrupted prototype: professional commitment to the game went together with rebuilding its technical basis.[33]

Duck Shake Ltd was incorporated on April 26, 2024, with a London registered office. The company gave the independent work a legal form.[34] Leaving a large production institution did not remove the need for infrastructure. It changed which parts of that infrastructure Zhu and his colleagues would have to assemble around their own project.

In December’s Trinket Milestone 3, he explained that gameplay research had continued since May. To communicate the game’s tone, he needed a video joining prospective mechanics. He found that he had to build the mechanics rather than plan them entirely on paper. Contemporary coverage described division, coalescence, climbing, and movement through underground puzzles. The presentation’s coherence required actual construction before it could be shown.[35, 36]

The filmmaking impulse remained active. Zhu described feature creep extending the video and accepted that the result might be inefficient as promotion because he wanted to make it in that form. The video was both a way of discovering the game and an appealing work in itself. Preparing it consumed attention that could also have gone to other development tasks.[37]

This is a particular tension in his independent role. Technical artistry inside a demonstration contributes to a collectively determined whole. Directing his own game gives him more authority over that whole, including the freedom to follow a cinematic idea. It also places competing aims inside the same schedule: discovering mechanics, refining their behavior, presenting a world, and producing the work that can sustain it. His account makes the trade-off visible.

Assembling a production around the intention

Institutional support continued in a different form. The UK Games Fund lists Asher’s Slime, under Duck Shake Ltd, among its Round 20 funded projects. The entry establishes support but does not disclose a project-specific amount or a full budget. Unreal’s published licensing environment also permits game development before revenue reaches its royalty triggers. Those resources can lower barriers to making the work while leaving

salaries, contractor costs, and the studio's financial runway unknown.[38, 39]

There is a technical colleague, not only a director's personal name. Jonathan Lindquist's indexed public profile identifies him as Duck Shake Games' chief technical fellow and formerly a principal technical artist at Epic. An earlier official Unreal program associates TechArtJon with Jon Lindquist as technical artist. The studio brings together colleagues with overlapping professional experience.[40]

In June 2025, Zhu was reported to be seeking a freelance 3D character animator, inviting portfolios for the slime game. This is a concrete need beyond solver development and effects work. The advertisement does not establish that a hire was completed, but it shows the independent project asking for another craft to help make its characters move.[41]

The organization therefore matters to the artistic intention. A fluid solver can make a material responsive, but character animation, design, presentation, and production need not all be carried by the same person's technical expertise. Duck Shake's legal entity, funding relationship, identified colleague, and advertised animation work show some of the conditions being assembled.

A public practice that leaves room for repair

Zhu has continued to share his technical work through channels with different purposes. His public Bluesky biography links a technical-art Discord community alongside the London studio role. Tutorials and blog posts offer material that other practitioners can try, while an institutional broadcast gives a method a larger developer audience. Making and explaining remain related work, even when the demands of making cause an explanation to arrive late.[42]

Some of the response is visible outside his own channels. In 2020, a RealTimeVFX user working through his Houdini-to-Unreal smoke material asked for implementation help; other contributors discussed texture packing and lighting orientation. The tutorial became an object of peer troubleshooting. A 2022 thread about Niagara effects crossing walls linked his solution and attributed a technique to his Discord. That second attribution is the forum participant's account, rather than a firsthand record of the private discussion.[43, 44]

These are working relationships rather than a list of honorary influences. Published methods by other artists helped Zhu build; his explanations then gave other people something to use, question, and repair. Studio colleagues and prospective contractors participate in a different relation, contributing to a particular production. The same public handle moves between these different exchanges.

His blog also preserves the uneven life of projects. In a 2022 post about Reflect, a voxel-and-raymarching prototype, he had recovered old footage but no longer had the compiled project. He considered rebuilding from Perforce in UE4.22. The image of the experiment had survived differently from the executable work. That small incident belongs beside the

late uploads and deferred breakdowns: the archive is part of the labor of maintaining a practice, not simply a showcase of completed achievements.[45]

An effect becoming somebody else’s experience

Zhu’s career connects an aesthetic desire to several different ways of making it possible. A shot could require a depth scan and conversion code. A real-time atmosphere could require approximation, profiling, and controls that another artist could paint. An Epic assignment could give those abilities a place in a collective world. The slime project asks them to carry more of the experience itself: material behavior must support decisions, situations, and a character that a player can inhabit.

His choices also preserve something less orderly than a technical promotion ladder. Games entered partly because filmmaking partners were unavailable; the filmmaking impulse continued within games. Technical explanation grew alongside experimentation and employment. Leaving Epic involved a restart, not merely turning a finished personal prototype into a company. The career’s continuity lies in how he keeps making an intention workable, while the conditions and the object of work change.

The independent phase concentrates that question. Splitting, coalescing, climbing, and painting are interesting capabilities, but they do not by themselves determine the right scale or rhythm for a whole game. Nor does one impressive video supply the people and time required to develop it. Zhu’s new responsibility is to bring the material’s possibilities, collaborators’ work, and a director’s appetite for images into an experience that remains meaningful when someone else takes control.

Research cutoff: October 4, 2026, with a focused rereading of the cited 2016 diary, 2022 technical interview, and December 2024 milestone text on October 5. Dated development reports remain historical milestones, not a verified October 2026 release status.

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