Protovis /ˈprōdəˌviz /

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One of the most compelling questions we ask at Story Studio centers around the concept of “What is a game vs. what is a movie?” This question is deeply rooted in the bipolarity of the team. Much like narrative VR, we can be a swirling field of charged particles who must eventually bond in order to create something new.

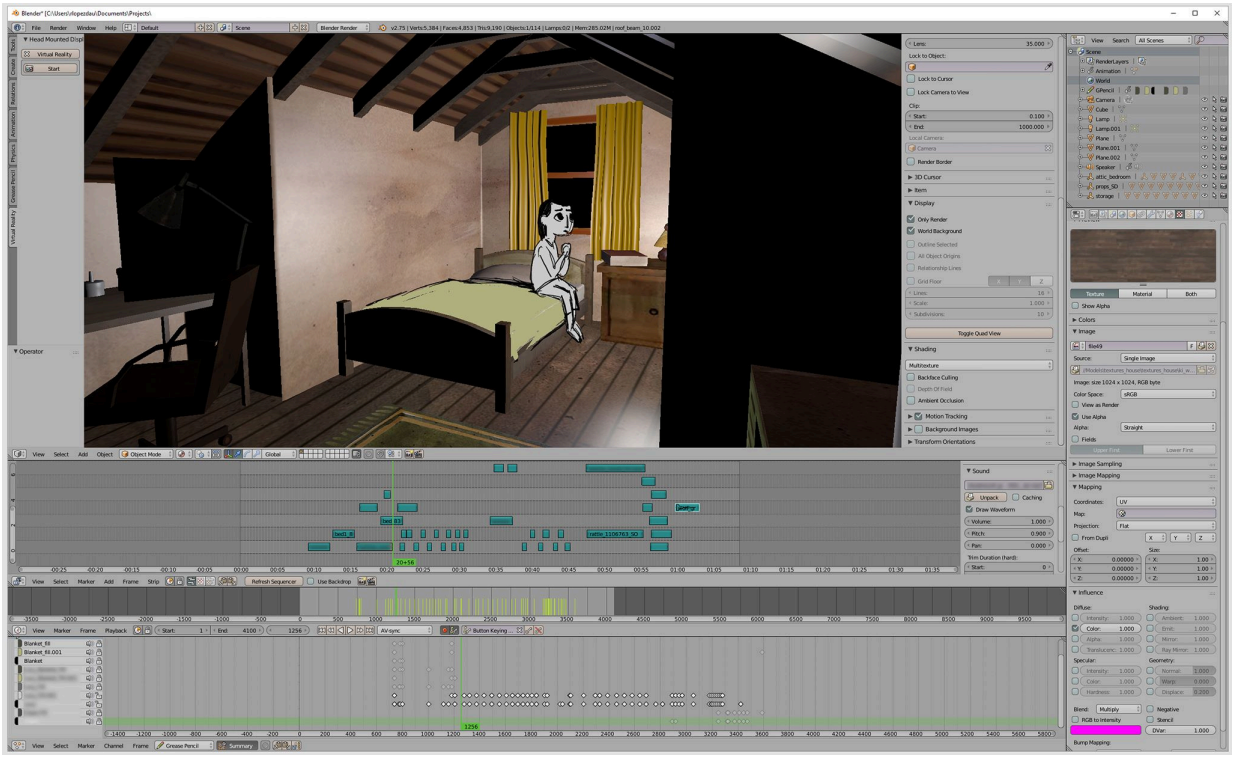
With our desire to make more ambitious projects, the need to effectively plan and iterate quickly becomes essential. There are well understood tools in movies and games that address these concerns. Previsualization lays the creative foundation for a movie the same way that prototyping hones the core mechanics of a game. Our instinct was to simply collide these two techniques. It turns out what we came to call protovis was a little more difficult to quantify.

First Attempts

On both Lost and Henry the artistic development process very closely resembled the world of movies. We’re telling stories after all, and visual stories start with things like scripts and storyboards. Right?

Throughout these early efforts, team members – with their roots in games – started to voice concerns. The problem with scripts and storyboards is that they don’t take presence into account. As tools, they were never designed to address interactivity, a variable point of view, or branched dialog.

Towards the end of Henry there was a desire to include some interactivity, but because we had followed a movie-centric development process, the interactive mechanic didn't harmonize with the narrative. It was around this time that we started looking for a process that could help us achieve some balance. But what does VR-previs look like?



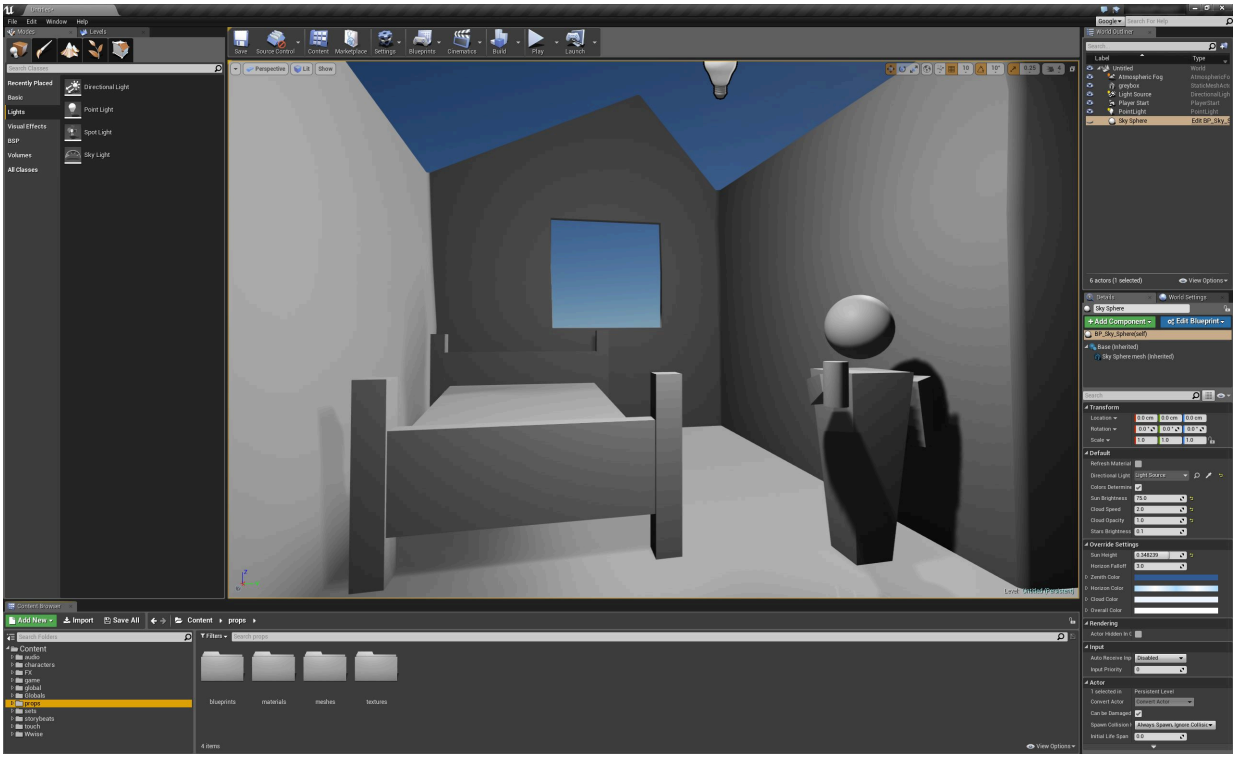
Animation Supervisor Ramiro Lopez Dau experiments with grease pencil animation over a CG set, using a VR add-on for Blender created by Dalai Felinto with support from Visgraf/IMPA

Mutual Exclusivity

The evolution of previs has always focused on cost-per-iteration. What was once a technique used to comprehend only the most complex shots, is now a stand-alone business used to scope, bid, hone, dissect, and disseminate the entire narrative. With just a fraction of the final production cost, one can iterate indefinitely, then simply outsource the end result. And that's the problem – the goal of previs is to eventually "lock" the narrative.

Conversely, prototyping is all about interactivity. Sometimes this process is referred to as "grey-boxing", speaking to the fact that mechanics are tested using simple grey shapes as proxies for sets and characters. Low iteration cost is

still a motivator, but the goal is to isolate and improve the most fundamental aspects of player agency. Prototypes can be very small swatches of presence, but they inform us about big concepts – like whether a space is fun, a challenge to navigate, or uncomfortable.

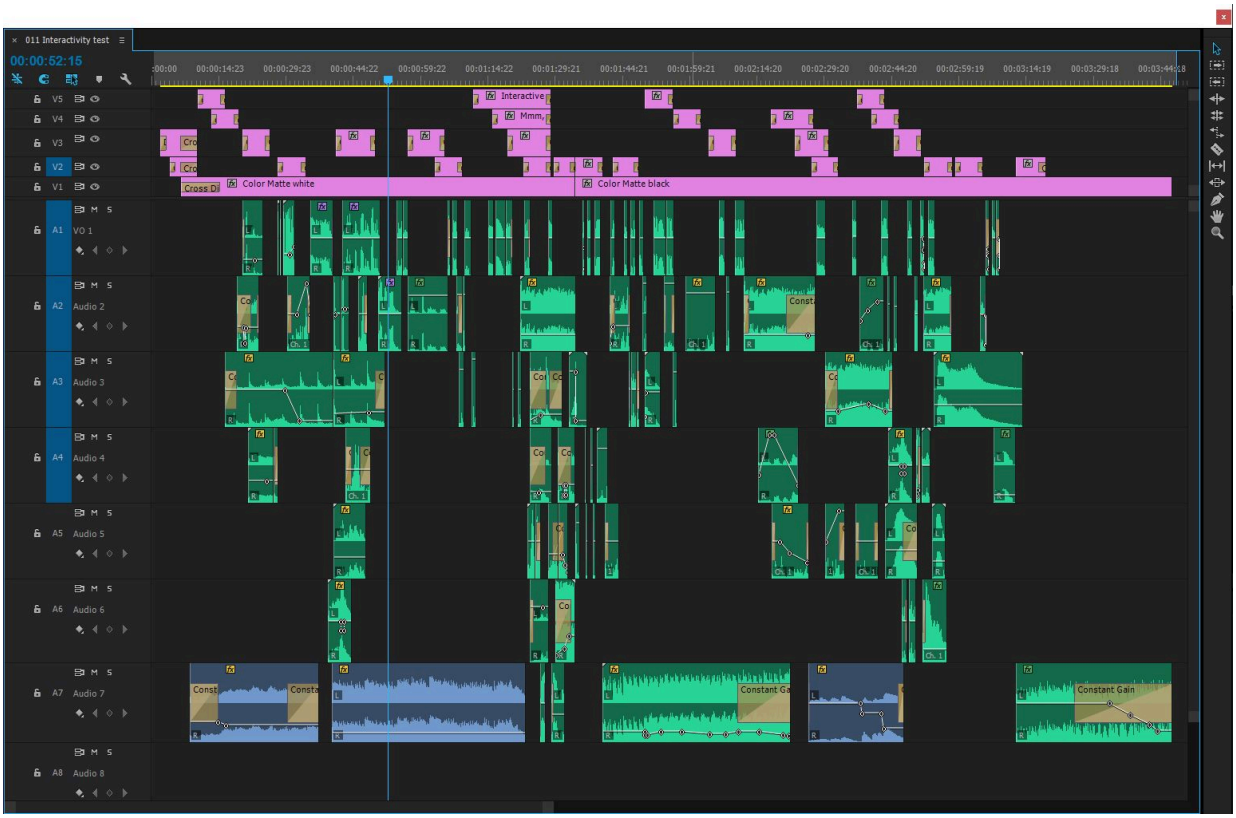


Cube McSphereson in the Land of Greybox. Prototypes are often distilled to their simplest visual forms in order to speed up iteration and isolate the interactive idea being tested.

Independently, both of these tools work and, on some level, they can influence each other for a better result. But they're still at odds with one another. As we looked at ways to "previs inside of VR" we were constantly coming up short. We needed a way to harmonize previs and prototyping.

Tuning for Harmony

There is a glorious feedback loop in the development of a VR story. Once a compelling mechanic is discovered, we really want it to be completely integrated with the narrative. This new story beat then suggests another interaction, and so on. To make sure we can sustain this loop, we created a contained iteration process that we call protovis.



The Radio Play goes a long way to solve for mood and pacing and provides the foundation for our Protovis process.

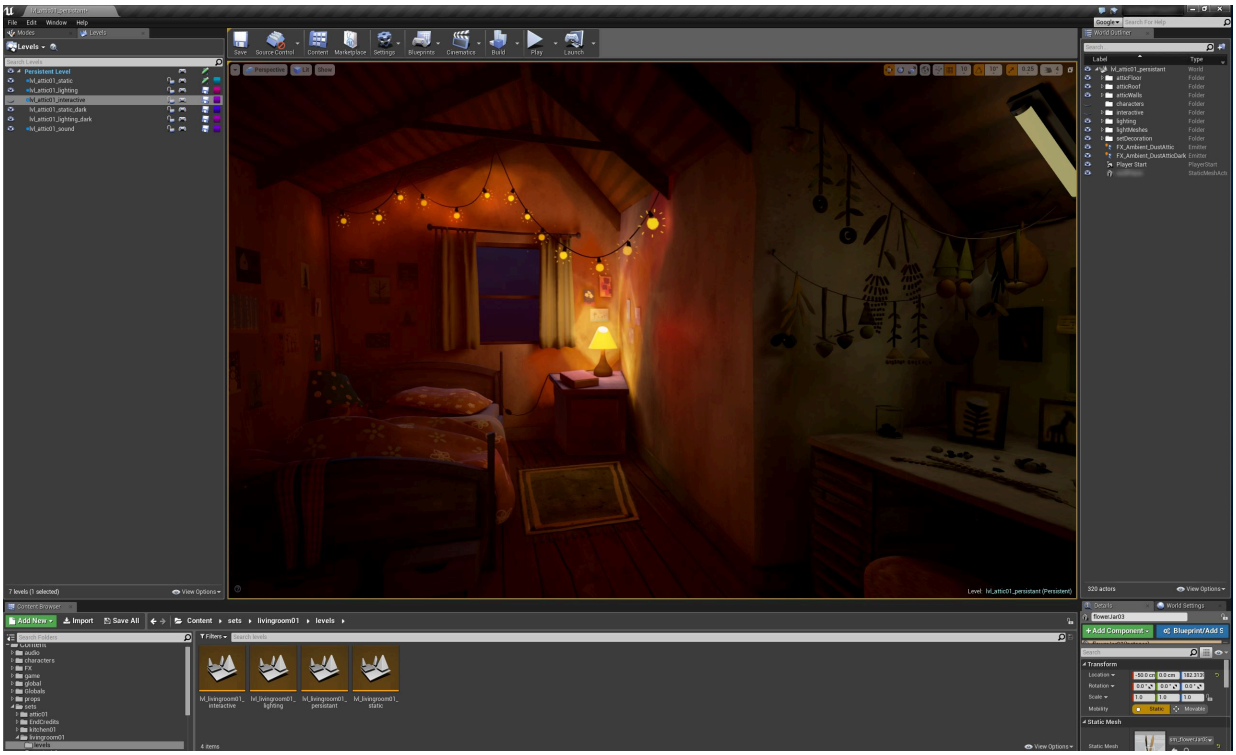
We start protovis as early as possible. Once we have a basic understanding of our character motivation and design aesthetic, the team builds a list of compelling questions across four categories:

- **Technical Hurdle**: How can we path a character from a user generated vector?
- **Narrative Goal**: How will our character transition from excitement to fear?
- **Interactive Goal**: Can we make the character believably react to what the audience sees?
- **Artistic Goal**: How should we stylize light and shadow to reinforce the emotional tone?

By containing the scope, artists and engineers can confidently iterate towards a short term goal without the need for a locked narrative. If the protovis is successful, we capture the compelling elements and use them as story beats when crafting the final script.

Focusing on Fidelity

The result of this process is a small vignette that feels fully realized. Often they have binaural sound, surfacing, and lighting. We're using motion capture and animation to breathe life into our characters. We may even write a scratch script and record a radio play for pacing. All for something that few people outside the studio will ever see.



A Protovis environment should convey a strong feeling. Surfacing, lighting, scale and set decoration all inform emotional presence.

So why do we focus on fidelity? Why not simply stay in Greybox Land watching Cube McSphereson slide around the set? It's because we're solving for emotional presence.

Every layer of immersive texture we add seals another leak from reality. How a character acts, what they say, how you interpret their actions; all of these things relate to the virtual space. In order to make meaningful narrative decisions, we have to be emotionally present to observe the results. This can be difficult in world made of grey boxes.

Protovis attempts to strike a balance between the low cost iteration of previs and the rapid feedback of prototyping. The results strengthen the bonds across all areas of production, but most importantly, we hope that they'll harmonize our

interactive and narrative development in a way that will ultimately delight our audience.

Up next, we'll explore another challenge to solve during the protovis phase: creating for walkable VR while keeping storyworld in mind.