Alright so this video will just be a short summary of the plan of the project

The rendering \*pipeline\* if you will …

Before I actually start we need to ask ourselves, what are we actually doing here? Now, the fundamental concept of every Animusic animation is Midi data goes in, and a Music Video comes out. Now, Roblox can't export video directly so instead I had chosen to output to Image Sequence and line it all up in post.

Here's how we'll start. I assume there already exists a Midi file, and from there I want to import that in such a way my Lua scripts can read the bytes directly. We're kinda bottleneck'd when importing into Roblox though, so here I do a conversion to and from Base64, more on that on Episode 1.

From there I translate the raw bytes into a very simple Midi object, storable in a Lua table. Now because Midi files are allowed to have tempo data dispersed all throughout the track, we'll need to extract all our timing data on the next pass.

I'll call the object this creates the "Cue Table", because it lays out exactly when each marble should land on each key. These 4 dots btw just means "for every key of every instrument"

Essentially w e generate the marble timings first, and THEN we put the rest of the animation around it. What these blue sliders represent is the new way I'll write my code around the instrument.

[pan]

Instead of our cues affecting the 3D model directly, we want to "keyframe-out" the animation before-hand. Essentially control these sliders first, then adjust the model last.

Of course we want this to happen for every possible position a marble could show up. And going forward I'll be calling those "Keys". As in, the 88 "keys" of a piano for example. We want each key to be able to interpret how to act around the cues (when it's supposed to play the note), and how to "apply" the sliders to the model, or display the instrument's state.

From there it's just a matter of book-keeping from the Renderer and I should be able to render any point in time of the animation I'd like. Taking a bunch of screenshots in order, for instance would give us an image sequence which we could then add music to and process into a music video.

Of course this overview isn't the complete picture, and I'm likely to change a few things along the way. Hope to take y'all along the journey though. See you in the next video, bye!