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Project 2 – Unicycle Animation

Problem – Create an animation of a unicycle lasting 10-20 seconds that includes at least a ground plane.

Description – To do this project I decided to create a basic rig. To accomplish this task, I made some NURBS curves to control the geometry groups in the file. After I had them all in place and to scale, I froze transformations and deleted the history. Then, I added constraints to the geometry groups that the NURBS curve would control. I then parented the NURBS controllers in a hierarchal way so that they would affect each other. For the animation, I knew that I wanted my unicycle to do a slow motion flip through a ring of fire. To accomplish this, I modeled a ground plane, two ramps, some walls, and a ring of fire. There is nothing special to these models as I just used primitives and manipulated the edges/faces. Once everything was modeled and in place I then began animating the unicycle. To animate I key framed the controls I previously made. I employed the following principles of animation: anticipation, squash and stretch, arcs, slow-ins and slow-outs, staging, exaggeration, and pose to pose animation. I used anticipation to show that the unicycle was about to move forward by moving it a little bit back before hand. I used squash and stretch to help the unicycle appear as if it was moving faster. I did this by squashing the poles or stretching the poles on the unicycle when it was gearing up to rush forward and right when it rushes forward. I also employed this same method right before it jumps and lands. I used arcs and slow-ins and slow-outs in almost all of the animation frames. I staged the camera and lighting so that the unicycle was the center of attention. I used exaggeration in the fire and by slowing down the flip to make it seem more impressive. After, animation was done I had to surface the objects. I wanted to surface everything in this project procedurally so everything in the project was surfaced procedurally using Arnold aiStandard shaders and noise maps. In-order to do the fire, I did a quick and dirty simulation in Houdini.