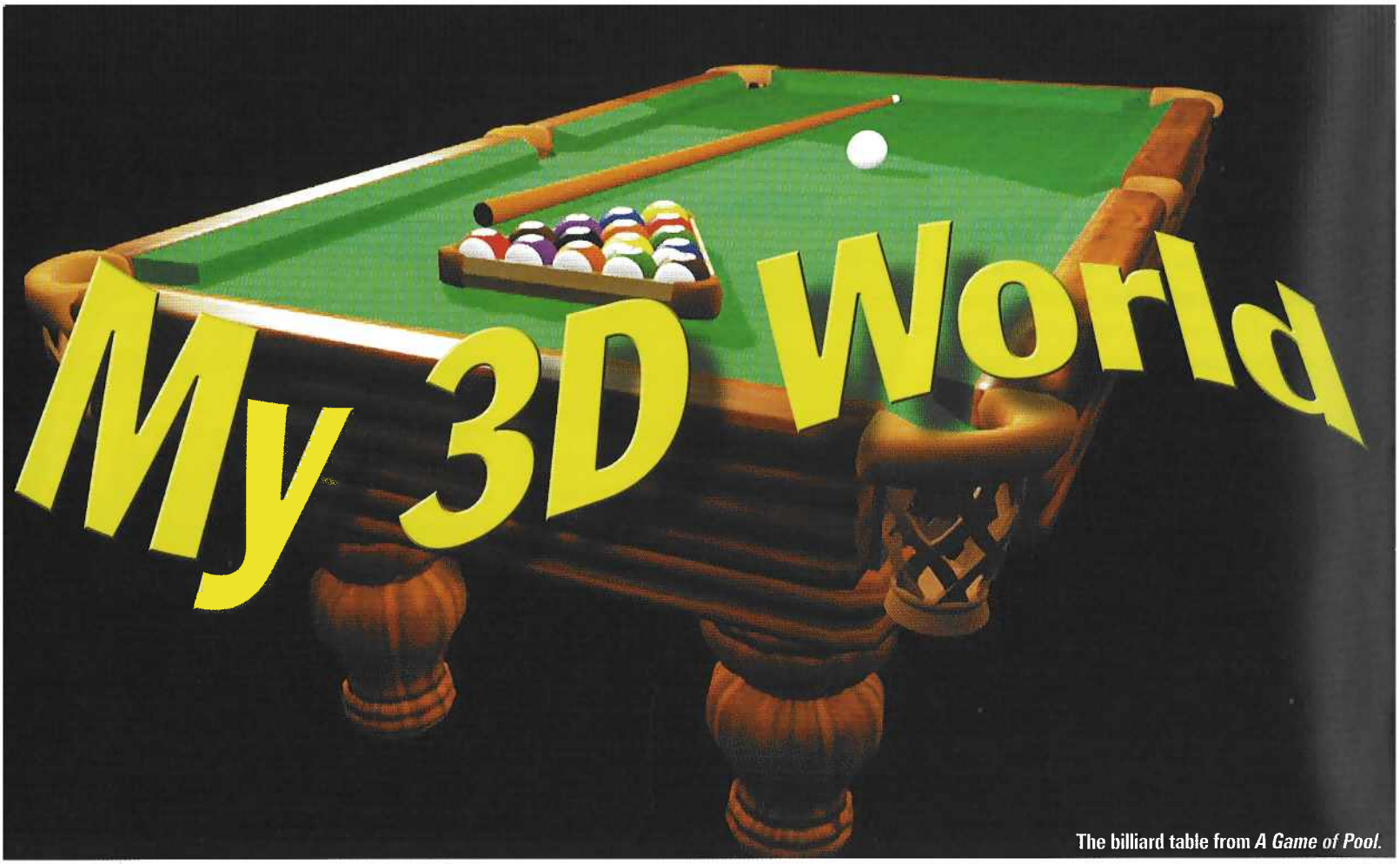
My 3D World



The billiard table from *A Game of Pool*.

by Stan Prokopenko

It was a simple mistake that led me to pursue animation: in my freshman year, instead of the drawing and painting class I had signed up for, I was assigned Basic Animation. Before having my schedule adjusted, I decided to attend the first class.

The classroom looked almost exactly like a real animation studio, with great quality light-tables, animation equipment, and the best software available. I loved the thought of being able to make my drawings move, and the potential to produce animation just like it is done professionally was very appealing to me. I never changed my schedule.

Life in 2D

I worked on my first animation projects as part of a group for my class. These 2D animated shorts included music videos, public service announcements, and funny stories.

Each project followed a similar process. First, we would come up with the overall concept. Then we'd write the script, including all the actions and dialogue. After that we would design the characters and draw the storyboard, an illustrated version of the script that shows the camera angles and major actions of the story. Then we would actually start animating, which in 2D involves drawing things many, many times. For example, an animation of someone throwing a ball would involve several drawings beginning with the windup and including each incremental motion until the ball leaves the person's hand. Even a simple motion can involve dozens of drawings. We would then scan all of the drawings into a computer program, where we'd paint them digitally. Finally, using film editing software, we would bring everything together, create transitions between scenes, and add the music and other sounds.

The hard work was worth it when I saw my drawings come to life. Watching my drawings successfully move on screen motivated me to seek further challenges.

A Game of Pool

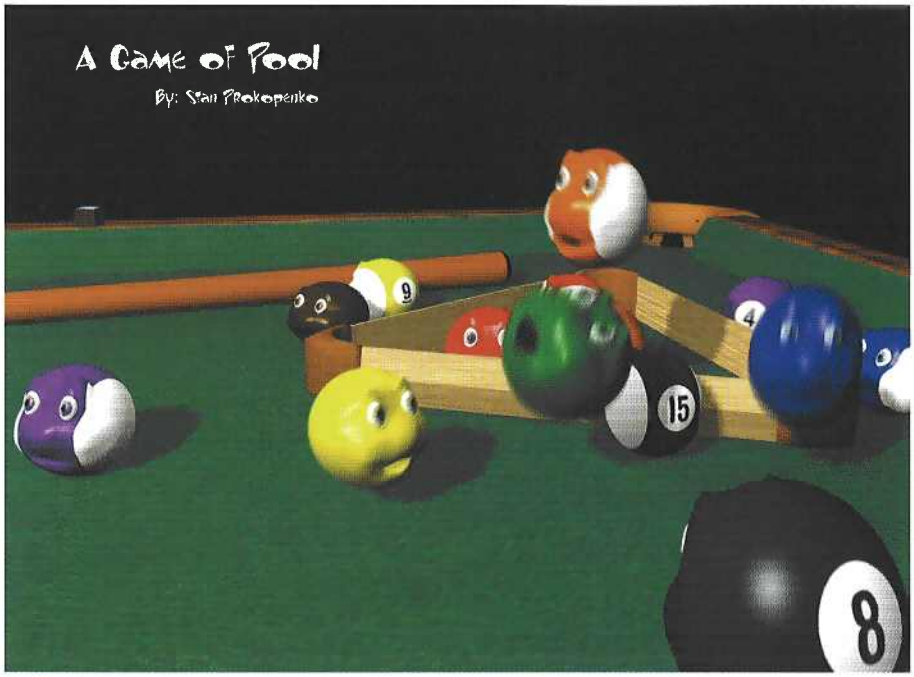
In my junior year, I decided to try 3D animation and make an animated short on my own. My friend introduced me to an animation program called Maya, which allows you to model things in three dimensions, much like sculpting and modeling with clay. Starting with basic shapes like boxes and spheres, you begin sculpting them until they become a face or whatever else you might be modeling. You then add a skeleton—the underlying structure—to the form you want to animate. When you manipulate the skeleton, the outer form changes in response. And this is just the beginning.

I quickly discovered that Maya is a very complicated program. During the first six months, I read books on the basics and did online tutorials on

modeling faces, creating facial expressions, adding lights to my environment, and other topics. When I felt confident with my technical skills, I began searching for an idea to develop into an animated short.

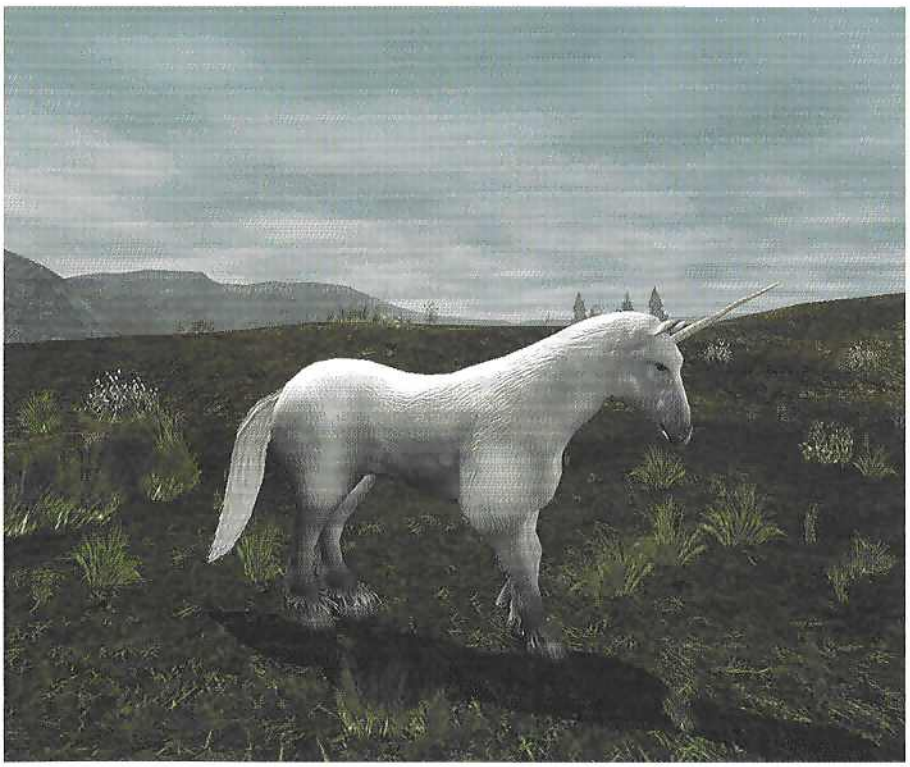
At the time, I wanted a billiards table. Since it was far too expensive to buy one, I decided to create my own billiards table and to animate the balls. I began writing the story, which is basically about a bunch of billiard balls that split up into two teams—stripes and solids—and bounce around on the table, pushing each other into the holes. The last ball standing would have to face the 8-ball.

After designing the characters and creating a storyboard, I modeled the characters and the table. After that I animated the balls and set up the lighting. Later, I recorded the sound effects like the bouncing of the balls, edited the music with a program called Sound Forge, and then took everything into Adobe Premiere for editing.



The billiard balls come to life and hop out of the triangle.

The result was a nearly six-minute animated short called *A Game of Pool*. In all, it took about four months to complete this project. It was satisfying to see it come to completion and eventually to win some awards at the International Student Media Festival and other competitions, but I was ready for the next step.


As an intern at Sony Online Entertainment, Stan animated this unicorn for *EverQuest II*.

Dwarves, Ogres, and Unicorns

Through my art teacher, I was able to contact the president of Sony Online Entertainment, creators of computer games such as *EverQuest*, *Star Wars Galaxies*, and *PlanetSide*. After looking over my art experiences and awards, he offered me a full-time internship in the character design department of *EverQuest II*.

Since I already knew Maya, I could start to work right away. My first task was to fit clothing on different characters—an interesting challenge that's not as simple as it sounds. I couldn't simply model a single pair of pants, for example; I had to fit clothing on each individual character because a dwarf's pants

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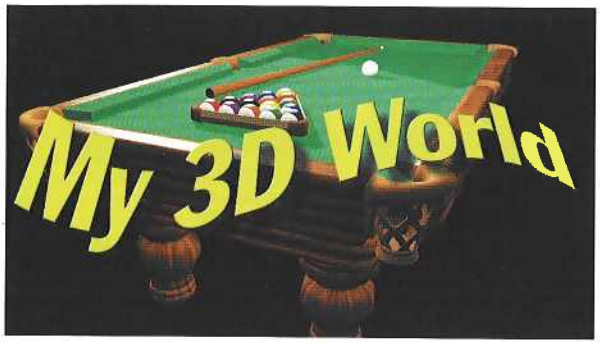

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would obviously need a different shape than an ogre's pants.

After fitting about 15 suits, I was allowed to do more advanced work and was given my own character to work on: a unicorn. This character was already modeled, but I still had a lot of work to do. First, I had to give the unicorn a skeleton so that it could be animated. To do this, I had to research the bone structure of a unicorn-like animal—I used a horse—so that I could make it move properly. For example, I had to know where to put the hip joint so that the rotation of the leg would be correct. When the skeleton was complete, it was time to animate the unicorn. I studied video clips of horses walking and running and other motions. This gave me the background I needed to animate the unicorn for actions such as walk, run, idle, and even attack. It was cool to see the unicorn placed in the game after I'd done all of this work. I could see how my part fit into the bigger picture of the game and its storyline.

Although *EverQuest II* has not yet been released, being with Sony made me feel like I was doing something professionally for an audience instead of for myself. I was there for only five weeks, but in that time I got to see how animators, game programmers, artists, modelers, and managers worked together. I got to see not only how the industry works, but also to be a part of it. That experience definitely made me want to pursue animation as a career.

The thing I love most about animation is watching my story and characters come to life. It is amazing to watch a figment of my imagination move around on screen and communicate with the audience. I look forward to continuing my education in animation and seeing what lies ahead in my 3D world. ■

Stan Prokopenko is a 17-year-old senior at Mt. Carmel High School in California. His animated short film, *A Game of Pool*, won awards in the Del Mar Animation Contest, the 2003 International Student Media Festival, and the NFAA ARTS Awards, and earned him a Presidential Scholar of the Arts nomination. He plans to study character animation at the California Institute of the Arts.

The Animator's Toolbox

Many people think **computer skills** are the most important aspect of computer animation, but I strongly disagree. Although computer skills are crucial, **basic art skills** are far more important. In addition to classes at school, I have taken a range of courses at Watts Atelier of the Arts, including Head Drawing, Figure Drawing, Anatomy, and Facial Expressions. Figure drawing in particular helps me visualize things as three-dimensional objects rather than lines on paper.

Good **character design** is another necessary skill in animation, whether it's 2D or 3D. Characters need to be fun to look at and believable to the audience. **Knowledge of anatomy** is helpful in creating believable characters; if you know anatomy, then you can manipulate it more realistically.

In addition, for successful 3D animations, it's important to know the **basic principles of animation**, such as squash and stretch and follow-through. I believe that the better you are at 2D animation, the more successful you'll be at 3D.

Finally, since animation is a form of filmmaking, it's important to be familiar with **film techniques** that help tell a good story. I've learned cinematography techniques both in classes and through my school's film club.

It takes a set of diverse skills to succeed as an animator, so don't get stuck behind the computer. Improve your art skills and expand your knowledge, and your computer animations will reflect that hard work.

—Stan Prokopenko