PROFESSOR 1: This game is inspired by Super Monkey Ball. I don't know whether you have played already.

PROFESSOR 2: So ready?

PROFESSOR 1: But instead of a ball, we had a real car, a car with real physics in it. But there's still one problem which we didn't--

[AUDIENCE GASPING]

Right, it's hard.

[LAUGHING]

PROFESSOR 3: This is acceleration, and this is steering.

AUDIENCE: That's cool.

PROFESSOR 3: But it's a bit complicated.

PROFESSOR 1: Yeah. The problem with this is because each wheel will exhibit its own torque. So sometimes, it will be quite unbalanced, because the hand positions are quite different, and it will flip. I tried to mitigate it by attaching a weight so that I can lower the center of gravity. It did some job, but it wasn't perfect.

PROFESSOR 2: And I think that this will work perfectly if the terrain was like the terrain that you will have in a car. Obviously, the physical-- where we thought we'd reconsider.

AUDIENCE: This is like driving on the moon in a Ferrari.

PROFESSOR 2: Exactly. And this is because when I was doing the level design and testing, I was still thinking about the ball. If this was a ball rolling down, it will be cute. It will look like pinball.

And so what I need to do next to improve it is I need to change the level design and make into a track. Just a track, right?

AUDIENCE: Oh, that's it flipping there.

PROFESSOR 1: Yeah. It's flipping too much.

AUDIENCE: It's trying to roll like a ball.

[LAUGHING]

PROFESSOR 2: Well, that's because the level is pushing it. That's exactly what's happening. The level is--

AUDIENCE: Oh, so is there also a force from behind on it?

PROFESSOR 2: No. Actually, the level is all concave-- or convex, how do you say that?

AUDIENCE: Concave.

PROFESSOR 2: It's all concave. It's like the level makes the ball roll and do these half-pipes, and holes, and things like that. But a car has four balls that are going single-track, right?

[LAUGHING]

AUDIENCE: Yay!

PROFESSOR 2: And it's possible with a car. There's this game called [INAUDIBLE].

AUDIENCE: Yeah?

PROFESSOR 2: Yeah.

AUDIENCE: You could have, like, for all of this, where you've spend hours and hours designing your amazing Ferrari, but then the track is set up to fall, where this car spins around.

PROFESSOR 2: That's-- I like that that's the result.

PROFESSOR 1: Yeah, that's--

PROFESSOR 2: Oh, oh! It's getting somewhere.

[LAUGHING]

[CLAPPING]

PROFESSOR 1: So yeah, that's probably the biggest problem we have, because this level is designed for a ball, not a car.

[LAUGHING]

So if you want to see a level that we did--

PROFESSOR 2: That's the track.

[LAUGHING]

[CLAPPING]

We divided the labor, and everybody went home. And it was like OK, I guess I need to do a level. And then I did a level, but I had a ball to test it.

I didn't have the car, because the car was being worked on at the time. I actually-- we started a completely new level that is almost ready to go, but it's for cars, which means that there's no big ramps, and falls, and so forth. The shape it has is like a bowl that you put a marble inside it. It's cute. I mean, it's cute.

AUDIENCE: How did you create the giant levels?

PROFESSOR 1: Blender.

PROFESSOR 2: In Blender.

AUDIENCE: In Blender-- OK, so it's a three-dimensional object that just has a rigid body attached to it.

PROFESSOR 2: Yeah, it's just a mesh rigid-- rigid body.

AUDIENCE: Oh, wow.

PROFESSOR 2: Which-- that's a big discovery, too, because apparently, there is a limit in polygons to what a mesh rigid body can have. But also, if it's too low resolution, the physics don't work. The edges are too sharp. So I'm assuming that if there's the need to create a beautiful track, a lot of the objects that are the actual terrain-- they need to be very low resolution, and then this would be a very fancy mesh on top of it hiding it. Which sounds obvious now, but at the time.

PROFESSOR 1: May I say, if you place this track in a very high resolution wall, it also doesn't work. It's just really jittery. So I put this online just to test my car.

And if I go forward, it will go crazy. The camera will go crazy. So yeah, it doesn't really work.

[LAUGHING]

[INAUDIBLE] the keyboard. I've never [INAUDIBLE] this.

PROFESSOR 2: But you see this is more like it should be-- the level terrain should be more like this.

PROFESSOR 1: Yeah.

PROFESSOR 2: Not like Super Monkey Ball.