

The technology to make 'Speed Racer' cars

The opening of the new “Speed Racer” movie coming out nationally on May 9 has meant weeks of fast-paced fun for 8 juniors in the University of Cincinnati’s internationally recognized School of Design, part of UC’s top-ranked College of Design, Architecture, Art, and Planning.

That’s because the students, enrolled in one of only a handful of the country’s top Transportation Design tracks, were steered to complete what can only be described as a fantasy assignment come true for motor-head designers: Envision (and defend) a cool-car concept based on the vehicle driven by the protagonist in the new “Speed Racer” movie.

Better yet, the students will attend the local premiere of the “Speed Racer” movie, set for 7 p.m., Tuesday, May 6, at the AMC Entertainment Theatre complex located at Newport-on-the-Levee. In addition, their 2-D designs will be displayed in the lobby of the movie theatre during that premiere.

For transportation design student Ryan Wohleber, 22, of Anderson Township, the “Speed Racer” assignment from former General Motors designer Brigid O’Kane, UC associate professor of design, was like getting paid to play, only better. “It’s fun. Designers are always watching videos, movies, TV, cartoons and everything and asking the question: How would they really do that? Here we’re getting to answer that question, design a solution and even get a grade!”

Fellow student Lukas Yates, 22, of Columbus, agreed that this “reel-based” assignment is more fun than those more typical of the real world. He admitted, “The best part of this assignment is that there’s no boss telling me that I can’t design something because we don’t have the money, or because it’s too dangerous.” (UC design students are required to alternate their quarters in the classroom with paid, real-world jobs in industry via the university’s top-ranked cooperative education program.)

That’s not to say that reason doesn’t enter into this race-y assignment. In fact, the students must not only design their own version of a “Speed Racer” car, they must also think through their design and defend its logic.

Student Tom Gernetzke, 21, of Columbus, explained, “My car is an aqua-mobile and can go under water. But I have to cover all my bases, do the research regarding current technology that would propel the car like a submarine, pressurize it, steer it” as well as researching and designing a real-world functioning periscope and hydro-fins that aid the vehicle when submerging or surfacing.

Though whether on land or under water, the vehicle is a one seater holding only the driver. Said Gernetzke, “Yes, it is just a one seater. I envision it something akin to a fighter jet. There’s no room for Trixie (Speed Racer’s love interest). I figure the fewer distractions while racing, the better.”

If he had more time with his design, Gernetzke said he would also include a torpedo defense system because Speed Racer “has adversaries trying to harm him. He needs to think about defense.”

Yates, who is also designing a Mach-5 aqua-mobile, added that with more time for his design, he would add a way for Speed Racer to catch fish and cook them within the aqua-dynamic vehicle. “You can’t think too far ahead. Speed Racer might need to be down there a while,” he joked.

Thinking ahead is the real purpose of the assignment, according to classmate Wohleber: “This is an extreme example of what designers do. We come up with a legitimate argument for a design, a solution or a goal. We seek to make probable what’s only possible. And right now, all of these Speed Racer designs would be possible if someone wanted to spend the millions to make such a car. The technology is actually out there.”

For instance, Wohleber is designing a Mach-5 car with a rear engine, echoing the movie's racing car, which has both a front and a rear engine. Beyond that, he is experimenting with ways in which the car could eliminate or evade obstacles. One idea is a front saw to cut down trees. But, said Wholeber, "What if the saw cut down a tree, and the tree fell on the car? And how low to the ground would you have to cut a tree so that a low-riding car could clear the stump?"

With those questions in mind, he's honing in on a design where the car can split into two parts to evade obstacles.

Student Clay Mastin, 21, of Green Township, is also thinking along the lines of a car that foresees and evades enemies and obstacles. His "Speed Racer" design incorporates a small, flying robot-drone that can be released at the touch of a button. It can then scout ahead for danger, seek out aid, provide protection and even help fix the Mach-5.

"This is nothing that doesn't already exist. The military uses drones from those that are very small to those that are the size of a small aircraft. I think I'll be able to make a pretty good argument for this design," he said.

Source: University of Cincinnati

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