

## Electrified Ride

Student's design featured at Detroit auto show

**K**EEGAN MCCLAIN IS MAKING SOME fast moves in the design world. In January, he traveled to Detroit, Mich., where his concept design for an electric motorcycle was featured at the North American International Auto Show, the industry's annual showcase of up-and-coming vehicles. His design was one of 33 chosen in the international Michelin Challenge Design competition, which included 292 entries by students and professionals.

He earned a bachelor's degree in industrial design from UL Lafayette in 2008. He designed the MC Type 2 while working in the

Transportation Design Studio class taught by Jerry Malinowski, an internationally regarded designer who helped create the Ford Mustang. Now, McClain's moving his design off the

drawing board and into reality by building a life-size prototype, starting with a dirt bike chassis. He's also a student again, pursuing a second undergraduate degree in mechanical engineering.

*La Louisiane* magazine spoke to McClain about the MC Type 2 and his design philosophy.

### Why did you design an electric motorcycle?

I've always been interested in motorcycles and in transportation. I like things that go.

While I was in my third year of

studying industrial design, I really got into what everybody calls 'green' design. Green's a buzz word now, but back then, just a few years ago, I was kind of 'that guy,' the guy who was doing something different.

At first, I was just designing 'things.' At some point, those things have to become meaningful. As a designer, you have to find something to stand on. So, I decided that sustainability and green design would differentiate the meaningless from the meaningful in my work.

### How did you come up with the design?

First, I asked, 'What are the basic requirements of a commuter vehicle?' It would have to be able to carry two people in freeway traffic. That was my basic starting point.

I also wanted it to be something people could afford, so I chose affordable materials, like aluminum, and batteries that are commercially available. I didn't want it to be a rich man's toy.

### How fast will it go?

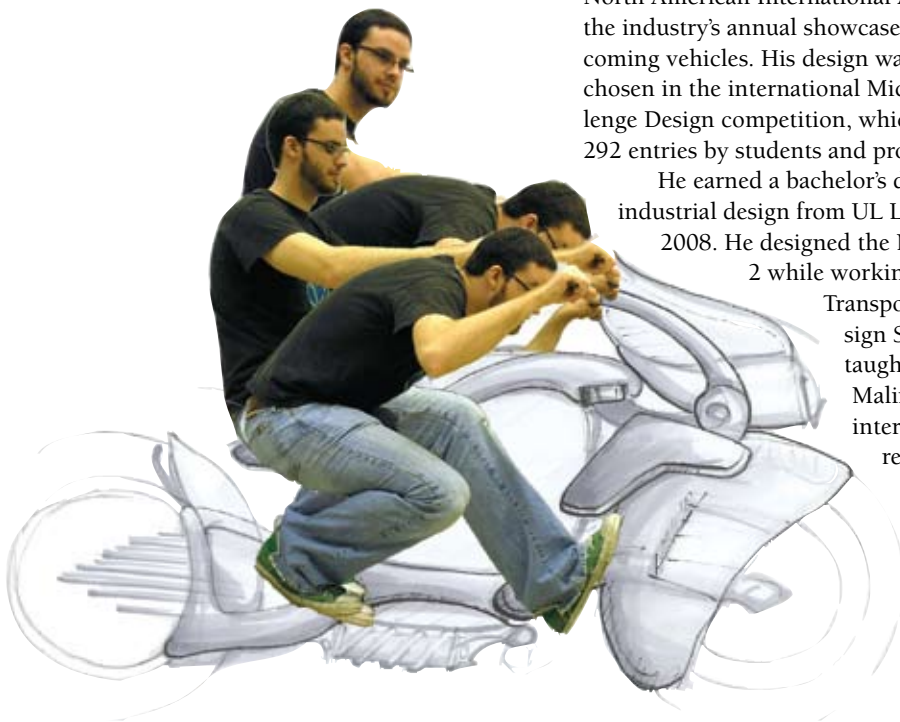
This thing can do 100.

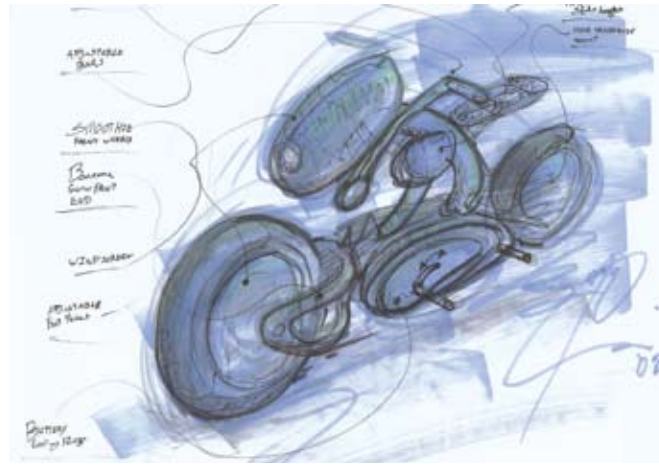
### And where does it get its power?

There are 142 rechargeable lithium-ion cells positioned in the cooling fins at the base of the bike. You would recharge the bike by plugging it into a standard, 110-volt outlet.

It's also partially solar-powered. The fairing (a design feature that protects the rider from weather and lessens wind resistance) and the fender are covered in a thin-film, solar-cell material, so they can collect passive energy from the sun to charge the batteries. It wouldn't be your main source of power, but the solar collection system would be an auxiliary means to charge the batteries.

Keegan McClain imagined and designed an electric motorcycle in the Transportation Design Studio of UL Lafayette's Industrial Design program.





Top left: An image of the MC Type 2 on display at the Detroit auto show. Top right: A page from McClain's sketchbook. Above: A scale model of the MC Type 2

**What about the look of the bike?**

There are two schools of thought about how motorcycles should look. There are bikes that hide their technology and those that show it off.

I designed a naked bike. In the U.K., they call them hooligan bikes, in the U.S., they call them naked bikes. They're bikes that don't have a big fairing.

Naked bikes are part of a trend in design right now. Victory Motorcycles came out with its new touring bike. It's got a big fairing on the front, saddlebags and a big trunk. But Victory left the V-twin engine exposed.

They understand that the engine is the heart of the vehicle. That's why people buy it. And I think that's something that's important in a motorcycle.

**You want to see the engine?**

Yes. I really like honesty in design. I want to see the engine and see how it

works. I think that makes it a lot more fun. The design is clean and simple. That's one of the philosophies I really stand on.

**How is your design different from other electric bikes?**

Instead of putting the motor into some kind of plastic-covered cave in the interior of the vehicle, I placed it in an area where I could showcase it.

I have a perpendicular hub motor in an orbital, or hubless, wheel. It can be air cooled really well and it's really exciting looking. You can see the motion it seems to have.

**Who is it designed for?**

This bike fits 100 percent of the market segment for motorcycles. It weighs less than 300 pounds and it's adaptable to almost any rider. Someone who's 5'2" can ride

it. Someone who's 6'5" can ride it, too.

It's got a memory-foam seat that's adjustable. It's attached to a hidden rail system. It sits at 26 inches at its lowest point. At its highest point, 33 inches, the bike can accommodate two people.

The handlebars pivot at two points, so they are almost universally adjustable. You can position them in a clip-on racing style or the big tall bars they call ape hangers. You could have anything in between.

**What about safety?**

The bike has airless tires, so there is less maintenance and you'll never have a blowout.

**And comfort?**

The fairing telescopes back to cover the seat and protect it from the elements. So, let's say, while you have it parked, there's a light shower. Your seat's not going to be all wet when you come outside.

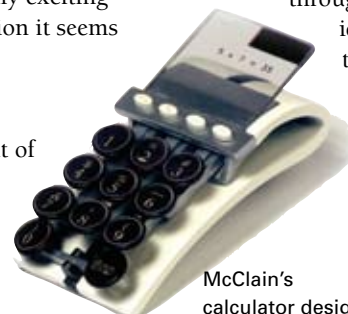
Or you can cover the seat to shield it from the sun and keep it cool. And while it's doing that, the fairing is collecting solar power, recharging your battery.

**Is there another project you've worked on that really shows who you are as a designer?**

I had an assignment in my second year of industrial design to build a calculator out of balsa foam. The assignment is supposed to teach you how to use balsa foam as a modeling material.

Most students designed calculators that were shaped kind of like a steak or Africa. It's that blob-object school of thought that I don't belong to. I used negative space throughout the calculator. So, the idea is that it would give you the satisfaction of punching the keys, kind of like on an old typewriter.

It's the difference between a static object and a non-static object. A conventional calculator is a static object. This isn't. ■



McClain's calculator design