College students help Toyota design a new car for Gen-Z drivers

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Toyota has unveiled a concept car at this year's SAE International convention that was designed by student's at Clemson University. The car, called a uBox, was part of a two year project at Clemson called

Deep Orange designed to give engineering students an immersive experience. The car was completely designed, engineered and hand built by grad students learning from both professors at the university and experts from Toyota.

The design goal for the uBox, was to come up with a novel car design that would fit the needs of the next generation of car buyers—Gen-Z, who Toyota believes are more likely to be entrepreneurial and independent. That meant the students had to engage in the entire development process, from identifying the likely needs of future car buyers, to coming up with ways to address those needs in new ways. The car, which looks like a cross between a military overland vehicle and a sporty Jeep, has several unique features, starting with how it looks.

The forward design was meant to convey momentum, and in that the team has succeeded—the car looks different from anything else on the road. Also on the list was customization capabilities that would allow for more versatility. To address that need, the team put the passenger seats on rails to allow for them to be removed or to be turned to be used as desks. The dash was also built in such a way as to allow for adding or removing different dials, gauges or even devices. The car also has built in vents, bezels and door trim that can also be customized, and in a nod to the future, made with a 3D printer. Also interesting is the power-train—it is all electric and provides, the team reports, not just a fun driving experience but an ability to plug in all sorts of equipment, from power tools to an external sound system, all courtesy of 110-volt sockets.

Toyota execs at the unveiling also noted that the team came up with a unique pultrusion technique that allows for using carbon fiber rails that were bonded with aluminum to support the curved glass roof—an industry first and an example of the kind of innovation that can come about when college students are allowed to become part of the design and engineering process.

More information: www.toyotanewsroom.com/release … llaboration-ubox.htm