It takes us from point A to point B. But for most of us, our car is much more than a mode of transportation. In many ways it is an expression of ourselves. And in the future, it may be doing a lot better at helping us with that expression—and a whole lot more.

RETHINKING THE CAR

Early Gehry sketches

That's because the MIT Media Lab, led by William J. Mitchell, former dean of MIT's School of Architecture and Planning and head of the Lab's Program in Media Arts and Sciences, is teaming up with world-renowned architect Frank Gehry, Lab sponsor General Motors and researchers from throughout MIT, to reinvent the car as we know it.

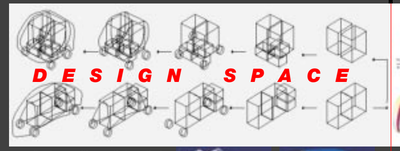
Since forming the Lab's Smart Cities research group last year, Mitchell, along with Motorola Fellow Ryan Chin, has launched an interdisciplinary effort involving sponsors (including General Motors and Motorola) and more than 30 researchers from across the MIT campus to look at the car from an urban designer's perspective—not only as a mechanical device that provides personal mobility, but also as a wheeled robot that continually learns about the city it inhabits, and uses its knowledge to provide an intelligent interface to the resources the city offers.

"The project is a process using lots of ideas and media—literally from impromptu sketches on napkins, to physical models, to advanced CAD models," says Mitchell. "Right now the end result is anyone's guess." But if all goes according to plan, we'll all get a glimpse into the future when General Motors builds the final design as a concept car in 2006.

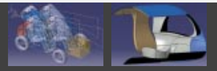
SELF-EXPRESSION

The research team is looking into the idea of the entire exterior of the car becoming a programmable skin that could shape and color according to context and need, like that of a lizard. It could vary from opaque to transparent. (A car this expressive of its intentions might not need traditional turn signals or tail lights.) The team is also extremely interested in the physical experience—the joy—of driving. How can driving a car be more exhilarating, like skateboarding, hang gliding, or surfing?

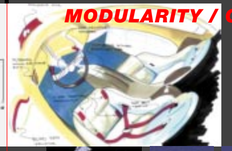
DESIGN SPACE



Coming up with a car that creatively breaks with well-established traditions requires a flexible, diverse design approach, using everything from rough cardboard models, to fabricated 3-D plastic models, to advanced CAD software.



MODULARITY / CUSTOMIZATION



A key to the car of the future is customization, which will allow for a high level of personalization. Modularity in design and manufacture will permit this. Designers could take a "kit of parts" approach, creating a more flexible and easier way to design and build cars, challenging the supply chain, and reducing engineering time and effort.

CAR IN THE CITY

The car as we know it has formed the modern city, and the modern city has formed the car. But we now have an opportunity to rethink the relationship by providing the car with a sophisticated brain and nervous system that integrates different streams of information, ranging from how to avoid a traffic jam to accessing cultural and social amenities. "It should be like having a good London cab driver built into your car," says Mitchell. "I used to say New York cab driver, but people just snickered."

GOOD CITIZENSHIP

Can cars help people be good citizens? What if cars in the city had soft, quilted surfaces so that hitting a pedestrian might result in nothing worse than the pedestrian hitting back? And what if all cars could use environmentally friendlier fuels? How much better would it be for others on the road if your car could sense the lane markers and stay within them, talk to another car to alert it to a danger ahead, and cooperate with other cars to provide up-to-date urban information and wireless networking capabilities?

GROUP COLLABORATION

Rethinking the car means questioning virtually everything we accept as unchangeable—from conventional turn signals to wheel hubs. The collaboration of MIT, General Motors, and Pritzker-prize winner Frank Gehry (whose architectural achievements include the Guggenheim Museum in Bilbao, Spain, the Disney Concert Hall in Los Angeles, and most recently MIT's own Stata Center), ensures that whatever the result, it will certainly be provocative.

Photo: Webb Chappell

EXHIBITION

Smart City Cars in the 21st Century

The work-to-date will be exhibited in MIT's Wolk Gallery (Building 7, Room 338) June 21–September 10, 2004

To learn more, visit http://cities.media.mit.edu

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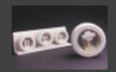

Model Photos: Webb Chappell