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Open Source at 90 MPH

Inspired by Linux, the OScar project aims to build a car by tapping the knowledge of a volunteer team. It won't be an easy ride, but their journey is important

by Bruno Giussani

The computer operating system Linux and the Web browser Firefox are generally considered the two biggest successes of the movement to develop open-source programs—software anyone can modify, transform, and redistribute back into the community. While there are thousands of other examples, Linux and Firefox have managed to mount serious competition to established commercial products, and have therefore come to represent this specific, collective mode of creation.

But Linux and Firefox are made of bits. They are immaterial. Bits can be shared and sent around easily, so that distant people can work on them concurrently; bugs can be corrected almost instantly; new versions containing updates, improvements, or fixes can be released virtually for free.

So here's a question: Can open-source practices and approaches be applied to make hardware, to create tangible and physical objects, including complex ones? Say, to build a car?

FROM FARM TO PLANT
Markus Merz believes they can. The young German is the founder and "maintainer" (that's the title on his business card) of the OScar project, whose goal is to develop and build a car according to open-source (OS) principles. Merz and his team aren't going for a super-accessorized SUV—they're aiming at designing a simple and functionally smart car. And, possibly, along the way, reinvent transportation. After all, "Form follows function", says Merz.

The OScar is not the only open-source hardware project out there. Others include Zero Prestige, which designs kites and kite-powered vehicles, and Open Prosthetics, which offers free exchange of designs for prosthetic devices. However, OScar is certainly the most ambitious.

Merz is the son of Bavarian farmers. He studied agricultural sciences, before going to work for a nearby automotive plant, first as a production-line worker, then in communications, marketing, and new media. The way he tells it, it was an accidental career, but it gave him some of the background for the OScar project, which he and a group of friends first dreamed up in 1999, when Merz was working as an Internet consultant.

SLOWER ROAD
"I was then a very idealistic young man", he told me recently when we met at the European Futurists Conference, an annual gathering of forecasters and visionaries in Lucerne, Switzerland, "so I wrote a manifesto".

In the manifesto (which is available in full on the OScar Web site), Merz lays out the goals: "Building a car without an engineering center, without a boss, without money, and without borders. But with the help of the collective creativity of

the Internet community… . Three or four months should be enough for the project definition phase. Then we 'freeze' the concept, and start developing. With a little luck and a lot of support…within the next year we should be able to build a prototype".

That timeline proved vastly overoptimistic. Merz's manifesto laid out a series of basic rules for people to work together, but they were too generic (things like "everyone has a voice" and "what's on the Web site is fact"). And the tools—mostly software—needed to work on such an ambitious plan weren't yet available. "And of course we didn't have a clue what we were doing, we didn't have a master plan nor clear directions," he adds.

A "CONNECTED" CAR

At the beginning, the group worked quietly. Then suddenly, a few months into the project, it began to attract a lot of attention—too much, actually. A popular German tech online newsletter linked to the OScar manifesto, German TV broadcast a report, and things slipped out of hand. Hundreds of people offered to join a project that wasn't ready to incorporate all of them, not to mention that many were just not the right people: wrong area of expertise, wrong mindset. "I was overwhelmed", Merz says. Under the weight of this unanticipated interest, the project slowed to a crawl.

It took three years to resurrect it, and only at the beginning of 2004 were a stronger structure and clear rules of the game put in place, starting with the tech requirements for the car (ideal size of the vehicle, target performance, etc.) and a division of labor along a comprehensible set of modules: board, shell, engines, power systems, security systems, and information systems.

The latter module is key, because the OScar project is also meant to be an exploration of alternative designs for individual and collective mobility. While he believes in the right to mobility for everyone, Merz explains, "this doesn't need to translate into individual car ownership". For instance, an efficient system for distributing information about who needs a car when to go where could enable more car sharing. Technology could also be used to recommend optimal routes, etc. The OScar will be from the onset a "connected" car.

GARAGE HEADS *AND* GEEKS

One of the key difficulties encountered by the project so far has to do with tools. A decision was made early on to use only open-source software, but "computer-assisted design (CAD) tools are still the biggest weakness in open-source," says Merz.

On the other hand, bringing together the right people has also been a challenge. "This is not supposed to be a race car or a tech monster, but that's what some people, particularly car enthusiasts, tend to think. They're more into designing an über-car than a smart car". Currently, about 110 people from all over the world are involved with the OScar project, around the core team of three (and surrounded by another 1,000 or so who registered on the site but aren't playing an active role—yet, at least). They are all volunteers with other rent-paying jobs. "This is a hobby, and we intend to keep it that way," Merz says. "I spend an average of 16 hours a week on OScar— the equivalent of two days—but I could easily spend 200 if I had them."

The profile of those involved varies, but Merz says that while building a car today "is mainly software, until a certain point anyway," the people working on a hardware project tend to be more "real-life, hands-on technical" than engineers developing OS software. They know how to code, but they're also familiar with the smell of axle grease.

Six years after the first seed, the group's Web site says the OScar is currently "in release 0.2," which Merz translates as "early conceptual stage." "We aren't trying to speed it up anymore, we will let it grow based on the amount of time we can all contribute," he says. One lesson he has learned: The process of doing things, particularly pathbreaking things like imagining an open-source car, "is more important than the deadline."

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