

Cognitive researcher designs and builds a real-world modular working tricorder

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(PhysOrg.com) -- To say it's about copying the tricorder from *Star Trek*, of television and movie fame, is to belittle the ingenuity and thought that has gone into the devices that Peter Jansen has created; his tricorders, which were designed to look like the devices used by the TV characters, are both far more advanced and far less than their fictional counterparts. Far more, because unlike those represented on the silver screen, his

actually work in real life. Far less, because its capabilities are still of the stone-age compared to those we see Captain Kirk or Picard and crew using to identify pretty much anything alien encountered at a moment's notice.

But that's not the point. The tricorders from [Star Trek](#), were merely a starting point, a platform for jumping off of to help in dreaming up a device that could actually do useful things right here on Earth.

As with most gadgets, Jansen built a test model, which wasn't very sophisticated, but in making it he learned a lot. The second, the Mark II Tricorder not only looks like the model seen in *Star Trek the Next Generation*, it's able to capture and present information about things like temperature, magnetic fields humidity, atmospheric pressure etc. Information is displayed on dual OLEDs. But the real beauty of the device is in how it's all open source. The operating system ([LINUX](#)), the hardware, the code. Everything. It's all right there on his [site](#). This means that other people are free to make one for themselves, but more importantly, to make hardware and/or software modules for the device to suit their own purposes. Thus, it's not hard to imagine geologists someday soon standing next to an active volcano pulling out one of these customized tricorders, to measure gases in the air they're breathing, or to see kids, as Jansen describes, programming their own modules to measure important things in their environment such as the level of lethality from a blast of flatulence offered by a friend. It's both a useful device and a learning tool for people of all ages.



Jansen built a Mark III, which like the previous versions was done in his spare time, (in real life he is a post-doc at the University of Arizona) but didn't like the direction it was taking so he shelved it and started over. The next version, the Mark IV, will likely have more features and might just be a little sleeker, and cheaper to make (the Mark II costs about \$200), goals that have driven the project from the start.

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