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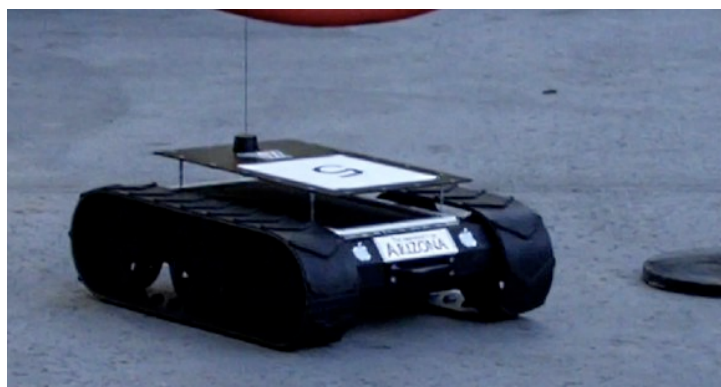
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Mac-based autonomous rovers at MacTech Conference 2010

by [Victor Agreda, Jr.](#)

Nov 3rd 2010 at 2:15PM



We're here at the MacTech conference, and as everyone checked in and got breakfast there was a demonstration of some clever Mac-based...

We're here at the [MacTech](#) conference, and as everyone checked in and got breakfast there was a demonstration of some clever [Mac-based rover robots designed and built by a team at the University of Arizona](#). The brainchildren of Professor Wolfgang Fink, these robots are designed to be autonomous and use a Mac mini inside to provide a modicum of intelligence. For demonstration purposes, however, the robots were being controlled by iPod touches.

I spoke briefly with Professor Fink's colleague Mark Tarbell about the robots. He told me the Mac minis in these models still use platter-based hard drives, although he expressed the intention to someday use SSDs for reliability. Currently the Macs are protected in a foam and air enclosure that protects them from shocks, although the movement of treads on pavement were causing more bumping around than occurs when the robots are moving over grass. The robotic machinery interfaces with the Mac mini via USB, but Mr. Tarbell pointed out that USB can freeze up unexpectedly. Since a human might not be in a position to unplug and re-plug the USB interfaces in the case of a freeze, the team is hoping to move to a WiFi-based control system in the future.

The power systems are kept separate for the Mac and the robotics. Macs like a nice, clean power signal and robotic systems can cause power spikes, so the engineers found two power supplies (battery-powered, of course) to

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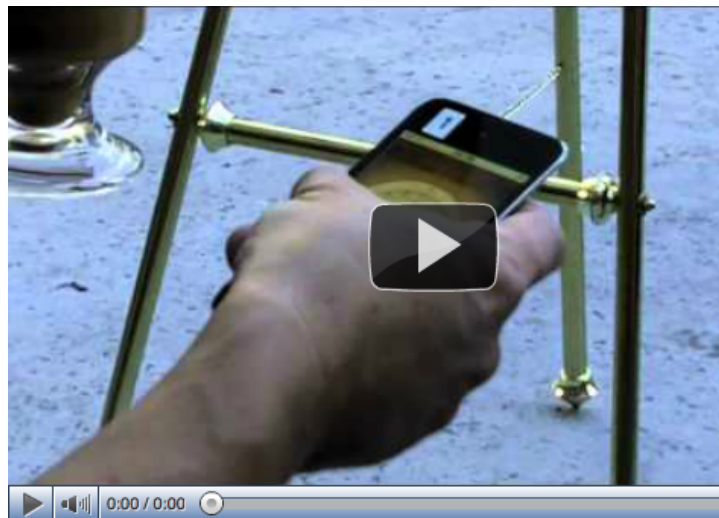
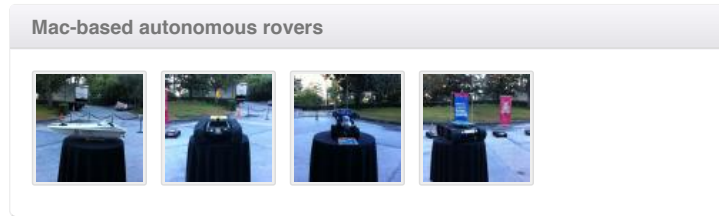
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be optimal. Top speed for the tread-based models being demonstrated was about a meter per second. The power these robots pack is so great that Mr. Tarbell stated if they were placed on the grass and I were to try to hold them back, I wouldn't be able to restrain them.

The basic platform is ingenious, and it's cool to see Macs being used to power our future robot overlords. In fact, Fink's research suggests that teams of these robots could be sent on extraterrestrial missions, complete with boats, rovers and blimps all communicating together and making decisions independently given specific mission goals and overall mission objectives. In the meanwhile, they are still in a very early stage of research and development, but are progressing quickly thanks to the Mac hardware which powers their decision-making systems.

Check out the video of these robots in action on the next page.



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