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The born-again Aakash tablet

The first two versions of the tablet were a disaster, but the newest iteration being developed at IIT Bombay appears to be on the right track

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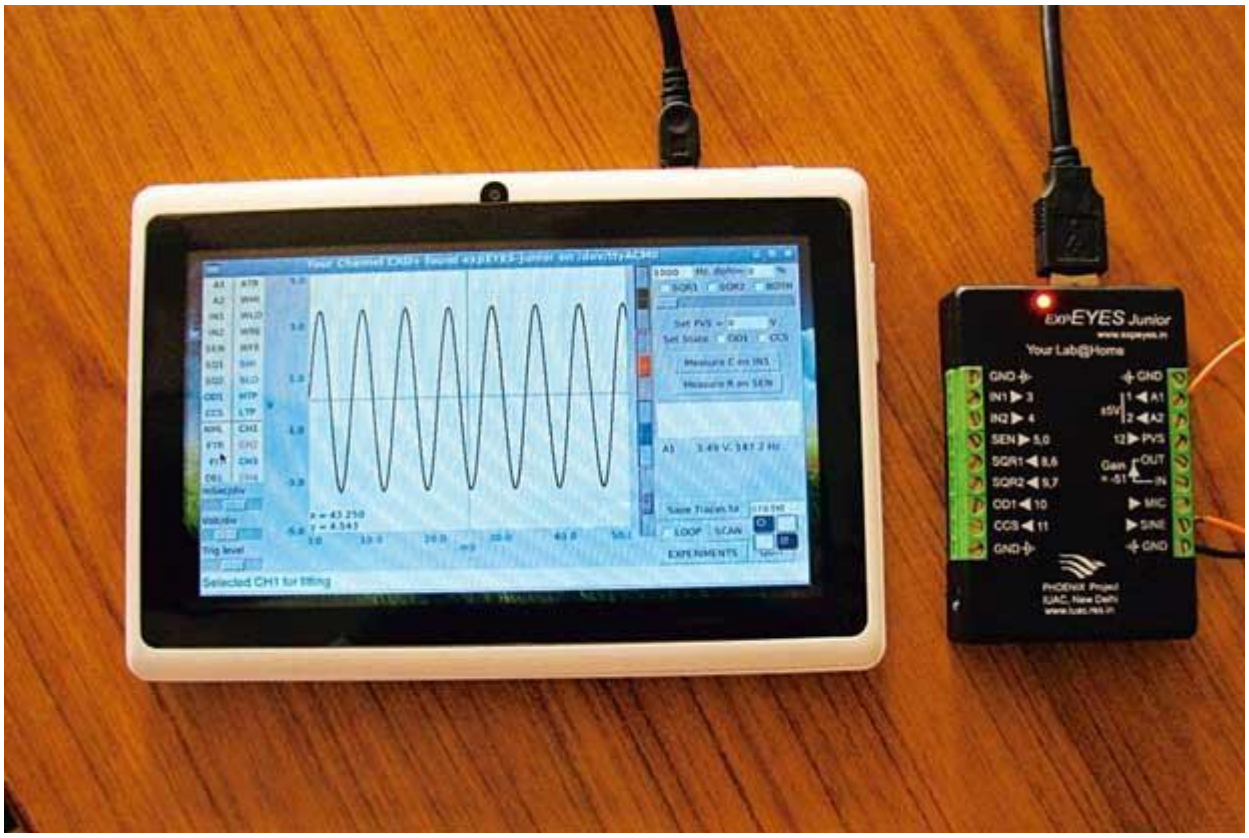

Aakash 2.1 and the expEYES system

In February 2012, the Aakash tablet was one of the biggest embarrassments of the year. Instead of a home-grown device that could deliver great value for students, we got a tablet whose touch screen worked inaccurately and with lag, one that was so slow that most apps wouldn't work properly, and worse, it needed to be reset fully after a few hours of use. In *Mint*'s reviews of Aakash and Aakash 2, the overall user experience was unsatisfactory.

The development of the tablet has since been shifted from the Indian Institute of Technology (IIT), Jodhpur, to IIT Bombay, and the team there says a new version, skipping a generation and labelled Aakash 4, is coming soon, even as software development continues. In the interim, they have overseen development of the Aakash 2.1 tablet (the third-generation), which features some improvements and comes with a 1 GHz processor, 512 MB RAM, 4 GB storage and runs on Android 4.0.
Aakash 2.1 is not going to be released to the public. However, the tablet, produced by DataWind, is on

sale under the name UbiSlate 7Ci. The UbiSlate 7Ci, available for Rs.3,799 at *www.akashtablet.com* , is essentially the same thing, just without the new software developed at IIT Bombay.

After using Aakash 2.1 for one week, we found that the screen picks up scratches very easily, and the 800x400 pixels resolution is extremely low; budget tablets launched last year had a similar display, and it's not unreasonable to expect improvement after nearly a full year.

This tablet, however, is lighter than earlier versions and the display also seems to be clearer than before. Video playback is smooth too, which was a problem with earlier versions; gaming remains sluggish, but that does not matter because it is not a primary function of Aakash, billed as an educational device.

The tablet includes USB ports to attach a keyboard and mouse and it is pre-loaded with a large number of educational apps designed to work well on the hardware, a step in the right direction. The apps include ProxyMITY, which lets students access high-quality lectures from reputed teachers online; Blender Animation, a simple tool that can teach people the basics of animation software; and also other software related to education and robotics.

The team has also worked on a way to install Linux on the tablet to increase its functionality, and learners can boot Ubuntu 12.10 on their tablet from an SD card without having to root their Android OS, which is a unique feature.

We spoke with Kannan M. Moudgalya, professor of chemical engineering at IIT Bombay and the co-principal investigator on the Aakash project, over the phone about Aakash 4 and the plans for the project. Edited excerpts:

What were the challenges you faced with Aakash and how did you solve them?

Our biggest challenge was that the price couldn't go up from $50 (around Rs.3,100). Thankfully, the price of capacitive touch screens has fallen in the last two years, and we have been able to update it (Aakash 2.1). The tablet's performance has been updated too.

We have given about 60,000 tablets to teachers and students through IIT Bombay's remote education programmes, to use and test. With so many hands, we are bound to learn of new deficiencies in the product, the learning of which we would then put into the new updated version of Aakash.

Aakash is not a toy to be given to students. We aim to make it a computing and learning device, and the fruits of all other projects, like the National Programme on Technology Enhanced Learning, Spoken-Tutorial, etc., which universities across the country have been working on since a few years now, will be delivered through Aakash.

What kind of apps are you planning for Aakash?

Our priority is to develop educational apps to view all the e-content being developed now. To name a few, Aakash comes pre-loaded with Clicker, a student-teacher interaction app where you can conduct multiple-choice quizzes. ProxyMITY is a tool which plays lecture videos and presentation slides through an SD card with all content for a lecture. Robot-control lets you use the tablet to programme and control a robot. Aakash Programming Lab is where you can code in C, C++, Python and Scilab. There is also expEYES which is used for conducting science experiments.

We're also developing a platform called Aakash Bazaar, where all apps developed for Aakash, made by teachers and students, will be open source and available for free download.

When will we see Aakash 4?

The government will float a global tender and open it to all companies. The government needs to decide when the tender will open up. I do wish it went a little faster. We have already announced the specifications for Aakash 4 to the public. The next order will be big, for about 5-6 million tablets. Once the bids come to us, we will do some research on the company's technology and production background and then decide. While we wait for Aakash 4 launch, we will continue to develop apps for it.

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