



NewScientist

Tech



Log in

My New Scientist

Home News In-Depth Articles Opinion Books & Art Galleries Topic Guides Last Word Subscribe Dating
Look for Science Jobs

SPACE TECH ENVIRONMENT HEALTH LIFE PHYSICS&MATH SCIENCE IN SOCIETY

[Cookies & Privacy](#)

Home | Tech | News

Voice-based web access helps illiterate get online

» 25 April 2013 by [Hal Hodson](#)
» Magazine issue [2914](#). [Subscribe and save](#)

A new internet system is giving a voice to people in Africa who cannot read or write or who lack a computer

IN MALI, the roads are mostly unpaved and access to landlines and the [internet is scarce](#). Even if citizens have online access, illiteracy is a major barrier: less than a third of Mali's population can read or write.

A new voice-based web system could help, making it easier for illiterate people in Mali and other West African nations to use the internet. The project, sponsored by the European Commission, is called [Voices](#) and it has already been used to build an information system for farmers and as a platform for citizen journalism.

"The need for knowledge-sharing is universal, not just intrinsic to us in the West," says [Anna Bon](#) of VU University in Amsterdam, the Netherlands, one of the project's 14 partners.

The system is based on a programming language called VoiceXML, which lets users vocally control specially created web content. Malians can navigate by listening to options and pressing buttons on their phone.

It has already been put to good use. Late last year, global news network Al Jazeera worked with Voices to get vox pops from under-represented, illiterate rural communities during election campaigns in Ghana and Kenya. Working with Voices and network carrier Safaricom, Al Jazeera built a voice-web platform that let people call in from a cellphone and contribute their thoughts at any time. Locals could also phone the Al Jazeera website and listen to election updates. "We were trying to plug into communities that you didn't hear that much from," says Cynara Vetch, who manages the service for Al Jazeera. "You suddenly get this plethora of voices giving you this wide array of angles."

Being web-based and linked to the cellphone network means the system can also push voice messages out to individual handsets, creating a "voice-Twitter" called Tabale, which launched last year. Details will be presented at the [WebSci](#) conference in Paris in May.

Many of those who need a system like this are women, says Mary Allen, who leads [Sahel Eco](#), an NGO in Bamako, Mali. She has been working with the Voices project to let remote villagers broadcast what produce they have available. A previous system used text messages sent via one person in the village each week, usually a man. But this was slow, and did not give women, who produce as much as 70 per cent of all food in developing countries like Mali, their own access.

The old system helped farmers find markets for their produce. Michel, for example, went from a few dozen bee hives to a thousand, after he found a market for his honey in a nearby town. Full voice access could help illiterate women producers do the same – but on their own terms.

PRINT SEND SHARE



Throw your hands up and shout (Image: [Luc Gnago/Reuters](#))

This week's issue

Subscribe



27 April 2013

ADVERTISEMENT

ADVERTISEMENT

More Latest news

» [Happiness tracking software could gauge mood in photos](#)

08:00 27 April 2013

Ever wanted to organise your photos by how happy they are? You may soon get your wish, with a new system that tracks facial emotions in group photos

» [Smart dust computers are no bigger than a snowflake](#)

17:00 26 April 2013

Thousands of tiny computers that scavenge

But for Voices to really take off, it needs to be easy to find the information on it. Engineers at the [World Wide Web Foundation](#) are working to build an index that links all the data on the platform. The database will be distributed across small servers, which automatically update across the whole network whenever anything changes. This will make the information accessible without having to log on to the internet itself. The ultimate goal is for users to search just by speaking. The problem is that no work on voice recognition has been done on Mali's native Bambara language. "You need to start collecting the database of samples of people talking that language," says Allen. "That's what missing. We'd like someone to phone up and get an automatic answer for: I've got black spots on my tomatoes, what should I do?"

Now you're talking my language

Voices is not the first web system to attempt to use voice navigation (see main story). IBM researcher Arun Kumar started work on his Spoken Web in 2004, aiming to bring the benefits of the web to Indians without computers, as well as those who could not read or write.

IBM launched a network of spoken websites last year in India. Mary Allen, who works with Voices in Mali, says India is an easier market for a spoken web, as it has one official language, Hindi, for its more than 1 billion citizens. French and English both have a huge database of text and voice too, she says. "Languages like Bambara [spoken in Mali] are not economically interesting to someone like Google," says Allen.



Subscribe to [New Scientist](#) and you'll get:

- » New Scientist magazine delivered every week
- » Unlimited access to all New Scientist online content - a benefit only available to subscribers
- » Great savings from the normal price

[Subscribe now!](#)



Submit

Vind ik leuk

Vind ik leuk



PRINT



SEND



SHARE

If you would like to reuse any content from New Scientist, either in print or online, please [contact the syndication](#) department first for permission. New Scientist does not own rights to photos, but there are a [variety of licensing options](#) available for use of articles and graphics we own the copyright to.

Have your say

Only subscribers may leave comments on this article. Please log in.

email:

password:

Remember me

Only personal subscribers may leave comments on this article

[Subscribe now to comment.](#)

All comments should respect the [New Scientist House Rules](#). If you think a



power from their surroundings could one day be used to monitor your world

» Inspiring vision of Boeing's futuristic supersonic jet



15:25 26 April 2013

A model of a low-noise, low-emission supersonic airliner in a NASA wind tunnel evokes our reporter's nostalgia for Concorde's glory days

» E-tattoo monitors brainwaves and baby bump



10:00 26 April 2013

An electronic patch can analyse complex brainwaves and listen in on a fetus's heart

[» see all related stories](#)

Most read

Most commented

- » [Mindscapes: The woman who was dropped into her body](#)
- » [Earliest Mayan monuments unearthed in Guatemala](#)
- » [Zoologger: The rat with two faces](#)
- » [Humans may have reached the Americas 22,000 years ago](#)
- » [Inspiring vision of Boeing's futuristic supersonic jet](#)

TWITTER

» [New Scientist is on Twitter](#)



Get the latest from New Scientist: sign up to our Twitter feed

LATEST JOBS

- » [Exemplar People: Copywriter, Medical Advertising, London, Competitive Salary + Benefits](#)
- » [SEC Recruitment: Senior Clinical Research Associate \(SCRA\) Serbia](#)
- » [Exemplar People: Medical Writer/Senior Medical Writer - Independent, innovative agency, Central London](#)
- » [VRS UK: Field Sales Representative - Chromatography \(HPLC\) / Spectroscopy](#)
- » [Paramount Recruitment: Associate Medical Writer - North West](#)



particular comment breaks these rules then please use the "Report" link in that comment to report it to us.

If you are having a technical problem posting a comment, please [contact technical support](#).

[Back to top](#) ▲



[Login](#)

About us

[New Scientist](#)
[Syndication](#)
[Recruitment Advertising](#)
[Staff at New Scientist](#)
[Advertise](#)
[RBI Jobs](#)

User Help

[Contact Us](#)
[FAQ / Help](#)
[Disclaimer](#)
[Ts & Cs](#)
[Cookies](#)
[Privacy Policy](#)

Subscriptions

[Subscribe](#)
[Renew](#)
[Gift subscription](#)
[My account](#)
[Back issues](#)
[Customer Service](#)

Links

[Site Map](#)
[Browse all articles](#)
[Magazine archive](#)
[NewScientistJobs](#)
[The Last Word](#)
[RSS Feeds](#)
[Online Store](#)
[Android App](#)
[Mobile site home](#)

Science Jobs

[Biology Jobs](#)
[Chemistry Jobs](#)
[Clinical Jobs](#)
[Sales Jobs](#)
[Earth & Environment Jobs](#)
[Engineering Jobs](#)
[Maths & IT Jobs](#)
[Graduate Jobs](#)

© Copyright Reed Business Information Ltd.