Radio Marché Voice System

Can the Web mean something for knowledge sharing, even under very constraining conditions? Like no internet, no computer, no electricity, multitude of languages, and low levels of literacy?

Radio Marché is a mobile voice system that supports farmers from rural communities in Mali.

Radio Marché (RM), is a Market Information System developed for rural conditions in the African Sahel. RM has voice-based and web-based interfaces and exploits the wide-spread usage of first-generation mobile phone and the traditional central role of community radio in remote rural areas in Sahel countries.

Living Labs are environments for experimentation and validation of ICT-based innovation activities. The Living Lab concept is characterised by early involvement of user communities, extensive context analysis, and an iterative methodology of use case analysis, requirement engineering, system development and validation. Besides local adoption it ensures adaptation of the system in the local context.

Web of Speech: Creation of a new voice-based extension to the World Wide Web, allowing to search information, access, create, share and retrieve information using only voice, and a mobile phone, with no internet access.

Living Labs Concept

The Linked Data project is aimed at adding machine-readable (meta-)information to enrich the Web with meaning and make it more searchable. By opening the repositories of voice content, created through RM, the information can be shared over a wider area and serve more people, using Linked Data principles to connect to similar (micro-)services in other regions. As RDF is particularly suited to abstract over multiple languages and facilitate data integration, Linked Data will enable these knowledge sharing capabilities.

Voice Technologies

Voice technologies: For local African languages text-to-speech (TTS) libraries are still not available. Therefore new speech resourcing methods are being developed and used for the RM interactive voice response, especially for several local African dialects.

Value Modelling

Sustainable business models: RM as a multi-actor service value network: Web-based market info through mobile voice service. Important features must be identified towards sustainability of the possible business models, looking at different viewpoints: business logics, customer/market logics, techno-logics. e3 value model is used to explore, understand and evaluate its profitability.
The Web is World Wide
The World Wide Web is for all of us. But not everyone on the planet enjoys its important benefits: still more than 4.5 billion people do not have access. W4RA, with its EU companion project VOICES, is an initiative to help extend the Web benefits of the knowledge society and economy to rural communities in Africa.

To do so, serious challenges must be addressed, in content, access, and language. Currently, information on the Web is not relevant to farmers in the Sahel. But, mobile telephony is now within the reach of many poor people. This trend opens up great opportunities. Most African farmers use simple mobile phones without internet access. They don’t even use their phones for SMS. W4RA and VOICES therefore focus on Web access and interaction that is mobile and voice based.

Open voice access
Important information channels for farmers and rural communities in Africa are mobile telephony and community radio. With European and African partners we develop VOICES service tools and demos, integrating audio and radio content into open and interactive voice-based mobile Web services. W4RA pilots test these services in the field in cooperation with local NGO’s, radio stations and farmer networks in West Africa.

The W4RA philosophy is to develop such a “Web of Speech” by Open Source software only. That is the best way to support local Web and ICT entrepreneurs in Africa in developing a sustainable business providing innovative mobile, Web and voice-based services to local users.

Empowerment
We envision a world where all people are empowered by the Web. Everyone - regardless of language, ability, location, gender, age or income - is to be able to communicate and collaborate, create valued content, and access the information that they need to improve their lives and communities. Thus, the creativity of billions of new Web users can be unleashed.

African Regreening Initiatives
In the 1970s and ‘80s, periods of draught severely deteriorated living conditions for the rural communities in the Sahel. Now, 25 years later, conditions have been largely improved through the arduous work of innovative farmers using simple but effective farming techniques. An area of over 5 million hectares has been restored and converted into fertile land. The Sahel in these areas has literally been regreened (see e.g. the article in the National Geographic in October 2008).

Take the village Ranawa, Burkina Faso, with now 2300 inhabitants. In the difficult 1980s many people left, so the number of inhabitants dropped to less than half. This village has now become an example of a community that has actively been regreening its agricultural land area in the past two decades - and it has demonstrably benefited from its own farming innovation. Crops of sorghum, millet etc. and many trees have been grown and now offer shade and other benefits benefit to crops, livestock and farmers. The village now sustains a growing number of people.

Knowledge sharing
Today, the vast majority of households in the Sahel has mobile phones. Basically everyone owns a radio. The radio is a great source of community information, broadcasting programs for farmers in local languages. Combining existing radio content with novel ways for voice based access and other mobile Web services enables to increase the speed of knowledge sharing among farmers, families and communities.