



Foroba Blon

Voice-based Citizen Journalism



Trimester Report 2 to IPI

Period: March 2012 - June 2012

Project: Voice-based Citizen Journalism (Foroba Blon)

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W4RA team



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EXECUTIVE SUMMARY

This is the second trimester report of the Voice-based Citizen Journalism project funded by IPI. It covers the period March - June 2012. According to plan, the work of WP2, development of the first cycle was done according to the use cases and requirements. The technical system design is the main topic in this report. WP3, Voice news platform development, has started. WP1, Project management, is continuously ongoing; in the reporting period several F2F meetings as well as phone conferences took place between the partners to direct the course of the project. As of 15 June 2012 the project is on schedule according to plan.

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1. INTRODUCTION

This is the second trimester report of the Voice-based Citizen Journalism project funded by IPI. It covers the period March - June 2012.

Chapter 2 gives a brief summary of the Voice-based Citizen Journalism project.

According to plan, the work of WP2, Platform and pilot requirements, was finished and reported in the first trimester. In this project the technical design is given of the radio platform, and its applications, that were developed over the last three months, according to the results of the use case and requirements analysis.

Appendix A provides the financial and human resource reporting for the Voice-based Citizen Journalism project for the reporting period.

As the grant agreement points out, the Voice-based Citizen Journalism is developed through collaborative work done in three countries: France, Mali and The Netherlands. In relation to WP1, Project management, which is continuously on-going, it is therefore worth mentioning that despite the geographic distances in the reporting period there has been a very intensive interaction between the partners.

2. FOROBA BLON AND COMMUNITY RADIO IN MALI

Voice-based Citizen Journalism (aka Foroba Blon) is a project of W4RA (a collaboration of the World Wide Web Foundation, VU University Amsterdam and Sahel Eco), running from 01 December 2011 to 01 December 2012. The project proposal for Foroba Blon was selected as a winner from over 300 submissions to the 2011 International Press Institute's News Innovation Contest, sponsored by Google.

The aim of Foroba Blon is to develop mobile voice-web based services to support citizen journalism in rural communities in Mali. Partners in Foroba Blon are Radio ORTM Ségou, Radio Seno, Bankass and Radio Moutian, Tominian.



The logo for Foroba Blon (designed by Victor de Boer). The name of this little fellow is M. Mouriba Bonmarché

3. SUMMARY OF USE CASE & REQUIREMENTS WORKSHOPS IN MALI (12-16 FEB. 2012)

In February 2012 the project team travelled around in Mali to gather and analyze the use cases and requirements for the Foroba Blon platform.

The end-users of Foroba Blon are:

- 1 Radio journalists from Radio Ségou and Radio Moutian, and Radio Seno, for whom the system will be developed;
- 2 Listeners of the radios who want to use the interactive voice-based system to provide messages to the radio based on interactive programs e.g. "letters to the editor";
- 3 Trusted reporters "animateurs" who help the journalists by making reports in the villages. These reports are broadcast on the radio.

Use case and requirements analysis for Foroba Blon

Radio ORTM Ségou and Radio Moutian were asked to discuss with us the use cases and requirements for the Foroba Blon project. Unfortunately the reporter from Radio Seno couldn't make it to Tominian. On the other hand, in Segou, a presenter and journalist from another radio station, Radio Saniya (in the

village Sebugou, about 20 km from Segou), Blondin Sangaré, participated in the use case and requirements discussions.



Radio Moutian's office

Debriefing session at Sahel Eco's Office in Bamako (16-2-12); first conclusions about use cases

A recurring use case for Foroba Blon is focussed on "Letters to the Editor".

Radio stations can record the welcome message and change/replace as required

Listeners can phone in and leave message to the IVR system.

Radios with internet will have a simple tool to manage the list of recordings and enter metadata..

Radios with no internet will access the messages by phone only. They can make their own lists on paper or e.g. a spreadsheet on the computer.

The user interface for leaving a message by phone must be extremely simple.

* The key central use case that emerges is simply the following:

- Make a system that makes it possible that the general public (citizens in general) phones in by mobile and put in their message whatever they want to say.

- After that, make it possible to organize these messages by the radio people including an option to edit and (later) broadcast such messages.

4. POST-ANALYSIS OF USE CASES AND REQUIREMENTS FOR THE NEWS PLATFORM

Outline news platform architecture

The proposed Radio Platform, nicknamed Foroba Blon (FB) consists of a data store containing recorded voice messages and related meta-information.

The interface to the FB radio platform is either purely voice-based, through mobile phone for entering new content. Users of this interface are the listeners from the region entering letters to the editor (LTE). These people only have mobile phones and no access to the Internet. Their calls are answered by the system with a pre-recorded welcome message in a local Malian voice inviting them to leave their message. For the sake of user-friendliness, the user interface and the dialogue for this category of users is kept as short and simple as possible, since the expected callers will be unfamiliar with interactive voice response systems and may not respond to a complex computer-generated dialogue asking to press buttons etc.

Another category of users of FB are the trusted reporters calling from the field. They phone in and leave their spoken report for broadcasting. These users are previously registered, having their phone number, name, address and preferred language in FB. These users will be trained to navigate the voice-menu, and use the IVR system, asking to press a button on the phone to confirm or answer a question about their current location, subject of the message, etc. The FB system always answers the registered caller in his/her preferential language.

The voice messages are stored as audio files in the FB data store, together with meta-information being the date and time of the call, the length of phone call in seconds, the phone number of the caller. Messages from trusted users are linked to the owner, his/her address, and his/her preferred language.

The FB Radio Platform also has a “normal” web interface, where internet-connected end-users/customers can access and upload a voice message. Depending of their customer relationship to the radio, they can login to the radio-platform as (i) registered users such as NGOs, and trusted reporters, or (ii) as unregistered users. There is an option to sign up and create a user account by registering the name, phone number, village and preferred language. Unregistered users can access former broadcasts since this is public information.

For the radio user, FB provides a web-based interface, enabling them to manage the data in the data store. It provides a file list where they can access, listen, broadcast, delete files, and add/update/delete meta-information.

The radio station that has no computer nor internet, has only a very limited interface to the RP, since this is the constraint of a voice interface. He receives a welcome message asking if he wants to hear the last 10 messages, or if he wants to manage the welcome messages to the end-users.

The FB radio platform is hosted either locally, on a stand-alone computer or “in the cloud”. The RP consists of a voice platform running an open source webserver and a local voice browser that handles the voice interaction. The FB radio platform uses a GSM gateway such as OfficeRoute. This device handles incoming and outbound calls and streams the voice messages to and from the phone.

The FB radio platform could in theory be physically hosted anywhere in the world, on any webserver, connected to the Internet. However, in actual Malian case this is not possible. Firstly, the radio platform has to be accessible using an inexpensive local Malian phone number. Secondly, the web service

accessed over the internet must be accessible locally. The local connectivity is usually of low bandwidth and high latency, making voice web services hosted in datacenters in the US or Europe, too slow for proper deployment in Mali. For these two reasons, the system has to be hosted locally in Mali. In the absence of good and reliable datacenters or hosting providers in Mali, the radios can decide to deploy the service locally at their premises.

Key ideas for the "Letters to the Editor" Dropbox

Listeners from the local community radio phone to the radio and leave a spoken message, they want to have broadcasted on the radio. Their phone call is picked up by the system and recorded and stored. The radio journalist can retrieve the messages asynchronously, and add metadata to them, moderate, decide what to do with it. He can either use a very simple voice interface or a more sophisticated web interface to access the messages. The radio is able to change the "welcome message" to the listeners.

Current workflow:

The radio broadcasts programs about certain topics: agriculture, health, family affairs etc. Listeners are invited to phone and leave a message as a reaction to the program. There is a time slot of one hour to phone in. The radio staff picks up the phone and either records the messages on a cassette recorder or writes the content + metadata on paper. The capacity of the single phone line and the radio staff member is insufficient to attend all incoming calls during one hour.

CRP-PROMISO II
Le cahier de registre pour les appels entrants et sortants
Radio : *Moutian - Tominiou*

Nature de l'émission : *Interview de Terrain. Rediffusion de l'émission sur la Propagation et l'arrachage du stigie avec Batio SANKOU.*

Date	Heure	Animateur	Nature Appel	Auditeur	Numéro	sexe	localité	Objet
24/11/11	17 ^h 47m	Gustave DAKOUO	Entrant	Bouba Dabou	63031469	M	Sokourani	Il dit qu'il soutient ceux qui pensent qu'on ne peut pas finir d'arracher le stigie
21 -	17 ^h 49m	-11-	-11-	Fraouso Koni	73193378	M	Kankorokuy	Il pense que l'interlocuteur (Batio Sankou) ne fait pas avancer l'idée d'arracher le stigie
21 -	17 ^h 52m	-11-	-11-	Dekou Koni	63656940	M	Tayo	Il n'est pas d'accord avec ce que dit Batio qui pense qu'on ne finira jamais d'arracher le stigie
21 -	17 ^h 56m	-11-	-11-	Joel Keita	60465377	M	Huanuma	Il encourage chacun à arracher le stigie
21 -	17 ^h 57m	-11-	-11-	Mougnou Moukoro	63563659	M	Habo	Il demande de réfléchir par un autre moyen de lutte contre le stigie afin que ça disparaisse le plus vite que possible
21 -	18 ^h 01m	-11-	-11-	Nothian Diarra	66812649	M	Bonakuy	Il s'engage à arracher le stigie comme activité
21 -	18 ^h 03m	-11-	-11-	Dany Thera	62470577	M	Makouroulo	Il affirme que les initiateurs de la CRP sont des bien faiteurs
21 -	18 ^h 06m	-11-	-11-	Sabou Nathaniel Tessa		M	Dany	Il encourage chacun à poursuivre l'arrachage du stigie
21 -	18 ^h 08m	-11-	-11-	Adama Thera	70772116	M	Macorokuy	Il s'engage à arracher le stigie chaque année dans son champ
21 -	18 ^h 11m	-11-	-11-	Da'a Diarra	62245737	M	GnanKandaga	Il affirme que "qui veut, peut"
21 -	18 ^h 15m	-11-	-11-	Dany Dambéle	64691769	M	Samoukuy	Il apprécie la CRP

Form currently used by Radio Moutian for callers that want to drop a message to programs

Envisaged situation

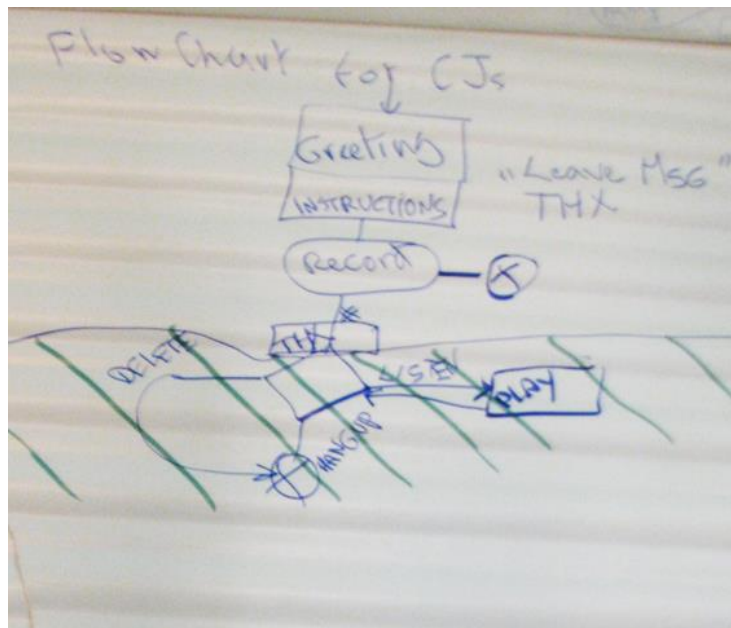
Radio stations can access a list of all messages left by listeners. The list contains metadata that allows to manage the spoken content in an efficient way. Radios without internet can access the messages using a simple voice-based interface. The broadcast messages will be available on the Web for later access.

Actors and goals

Actors	Goals
Listeners from the region	Leave a message that will be broadcasted on the radio
Radio journalists	Retrieve the messages and organize them in an efficient way; Store the messages for later use.
Village people in the diaspora	Access messages from their village members remotely (on the Web)

Citizen	Radio
<ul style="list-style-type: none"> - Leave Message - Prompt Record → Trusted Voice - Sign off "Thanks" - Bambara (Bamu) - (Check/Re-Record your message) 	<p>VOICE / WWW</p> <hr/> <p>Voice</p> <ul style="list-style-type: none"> Listen to messages Delete Them - Delete all Prompts in French New / Saved Limit on length of msgs ON/OFF <hr/> <p>WWW</p> <ul style="list-style-type: none"> - Download msgs

List of user requirements for the Foroba Blon system (picture Bamako 16/02/2012)



Picture Bamako 16/02/2012, W4RA team debriefing meeting



Picture Bamako 16/02/2012, W4RA team debriefing meeting

Additional field notes and observations from the use case and requirements trip in Mali

Some features, or applications, or issues listed below are mostly ones that we had identified before. But they were confirmed or mentioned as important. Many are also not in the scope of the Foroba Blon project, but they're worth noting for future work.

** Platform Applications*

- archive of radio shows (or most interesting sections), available by phone
- call platform to listen to latest news bulletin, or general messages from the radio
- Record ads on premium number
- Letters to the editor is an typical existing offline process, which IVR could extend (to illiterate people)
- Games: radio asks quiz question, listeners have a week to call and drop their guess. Good incentive to get them to use the system and get comfortable with it.

** Platform Features*

- basic (or for normal listeners): just let people record message. As simple interface as possible
- advanced (or for journalists): through IVR menus, let people select show or topic.
- flash people when their message is about to be broadcast
- radio could teach/convince people to use platform
- platform could flash caller when their message is being broadcast.
- people could subscribe to some shows and be flashed when message regarding that show is broadcast.

** Issues*

- no resource to do recording of broadcasts for archiving
- listeners calling in prefer hearing their voice live. So difficult to make them leave message: will making the IVR as simple as possible, using known voices and having radio explain/convince people how to use the platform be enough?
- how do you trust callers to report real news, when radio staff isn't there to ask questions?
- people worry about calling costs, except they often get carried away when they're talking on the air

** Benefits*

- having people call in advance helps with moderation and lets radio staff decide the topic of an upcoming discussion show

- leaving messages in advance helps DJs translate messages if they're not in the main radio language.
- Voice platform is remote, and therefore is fixable by technicians. The FreedomFone episode at radio Moutian demonstrated just that. But we could still leverage FF instances already installed (and working).

** Some further notes from the use case and requirements discussions:*

Radio ORTM Segou (Fousseyni Diarra and Blondin Sangaré from Radio Saniya):

ORTM has few call-in shows. On the main one, people call to request a song, and Fousseyni also follows up with questions to the caller.

How they do on-site journalism: every month, journalists from the radio go out to record reports. They still use old portable tape recorders (Nagra) but now also small digital mp3 players that let you record (Sansa Clip). We also saw one at FarmRadio, and Lamine explained that an NGO was giving them away to reporters.

Issue: there is no recording or archiving of broadcasts.

The metadata (the data being the message being sent) that they use from people calling is: topic, content, identity of person, where they are phoning from, the date, and the callerID. An automatic system would ideally record all of those, on top of the actual report.

Idea for a show: just play listeners' messages back-to-back, straight from the platform (following moderation). No DJ involved.

Using Foroba Blon as an application to drop ad messages would be very useful. Advertisers currently either send audio recording to the radio, or (most often) leave text to be spoken. Fousseyni thinks that being able to easily record their message, using their own voice, on the phone will attract advertisers. Audio quality is not a problem. Premium number with shared revenue (operator/radio) would be awesome.

Sending text to be spoken by the DJ on the air (ie, "Letters to the editor"), is also a regular feature. Would be great if some people, who can't write, would be able to do the same but by voice.

Blondin: radio Saniya is a private radio. They have a live round-table show (in Bambara), and listeners can call-in to react. Moderation is difficult: callers won't talk to a moderator before being on the air (resulting in DJ having to cut off rude or off-topic callers)

More and more radios have online access through the growing use of 3G dongles.

ORTM Segou Journalists follow some training in order to learn how to report. Their reports are sometimes sent to the central ORTM offices (to be inserted in the news). There is a parallel between this process and citizen-journalism a la CGNet, where members of the public are trained to do reports and to send them to the radio.

Radio France International (with technical help from Orange) has a system letting you call in order to hear the latest news bulletin. Many people are ready to pay for calling to hear the news. This is not unlike CGNet's feature to be able to call to hear reports left by other people. This provides another possible application for the voice platform: the radio itself could use it to archive broadcasts. Either by

calling and leaving it as a message, or by uploading it (with better audio quality) with an internet connection.

ORTM sells recordings of talk shows on cassette, if they've been popular. They record the show on demand and sell the cassette.

Software used by ORTM (at least software installed on Fousseyni's laptop: GoldWave, Audacity, Adobe Audition 3).

One advantage of the platform's feature of letting people call-in in advance is that the presenters would be able to select a discussion theme that would be more what listeners want (in particular, inviting the relevant specialists on the show).

The main incentive for listeners to call in: express opinions or react to what's been said on the show, or send personal messages. In both cases, an incentive is that people feel special hearing their voice on the radio. If they record a message instead, and can't hear their voice live, will it work? One way would be for the system to flash them as their message is about to be played.

** Features of message-recording IVR:*

- level 0: simple voice mail. The radio can then moderate (just delete messages, or 'save' them, like some voicemails services -- to differentiate between new and saved messages) and play messages later.

- extended voicemail for 'trained users': more complex IVR with several fields, eg, category of message: politics, sports, etc. Or the show they want their message to be played on.

More and more internet-connected radios: people can leave messages by calling platform's IVR. Radio presenter goes on platform's website and manages broadcasts, and can play them directly on the air.

Live translating is an important feature of "letters to the editor" shows.

Tominian - Gustave Bapon, Responsable, and Mambo Diala, animateur.

- Some shows include people calling in to react. In particular one on rural areas, where people on the radio talk about agriculture, and people can react or ask questions. Icrisat, with help from Farm Radio International, installed a computer with FreedomFone. It uses an OfficeRoute with 4 SIMs. Three numbers are used for listeners to listen to a message (same message for the 3), and the 4th number is for leaving messages. The computer that FF uses isn't the one connected to the radio audio (because FF is pretty much its own OS) so they originally transferred messages using USB sticks. System broke before they'd succeeded in explaining/convincing listeners to call it. Working now, so we'll ask about usage next time.

Another feature the platform could borrow from FF would be just to be access to messages recorded by the radio, not necessarily archive of shows.

The fact that it broke and no one knew how to fix it (they had to call the FF guys in Zimbabwe, but sorting things out on the phone proved impossible), is an illustration of the problems the FB platform will avoid. We suspect that the FRI people aren't married to FF and could well decide to use our platform in the future, if it proves to provide at least the same functionality as FF (at least the functionality that's actually used). We could also take advantage of FF installed in various radios. For instance make the FB

platform call their FF and leave the recorded messages so they can moderate locally on the computer instead of doing it using the IVR.

Will people trust the system to play their message they live? The UI of the IVR will probably be crucial. For instance, the voice used by the prompt will probably have to be the DJ's voice. But that means you'd have either: one phone number per show. Or a main menu to select the show.

They have shows where they call experts (when they can't come to the studio). Call duration Limited to 15 minutes, because calls are costly.

How fast are news broadcast? How much time between something happening (like fires) and when they are reported on the radio? It can be a while, as people calling in to report aren't necessarily trustworthy. So educating citizen journalists (identified beforehand) to know how to tell a story, keep people anonymous when needed, be neutral, etc. would make news reporting faster.

Most popular shows are when people report "faits divers" (minor local news).

There are (written) journals specialised in Faits Divers (eg, Kabako)

IVR system would be good, at least so that people don't wake up Gustave at night to react offline to some of the day's broadcasts (calling at night can be cheaper). "Dédicaces" (music requests) are often made that way and are very popular. This would be a good application for the voice platform.

When people call, they worry about costs, so they leave short messages. However, when they talk live on the air, they aren't worried so much, and many speak until their credit runs out.

Some people call other people (friend or family) who are out of reach of the radio station, and ask them to call the radio to talk live and send a message. That way they can send messages to the whole family with one phone call (even though they won't hear it broadcast, and there won't be much privacy as all the listeners will hear it)

Feature: user call the platform to "subscribe" to messages on a certain topic. They they get flashed to hear each message live, or to be notified that a message is available on the platform (or just to hear the message directly when they're called back)

Application type: Game. Radio asks a question on the air and people have a week to leave answers on the platform.

5. PRELIMINARY DESIGN CONSIDERATIONS

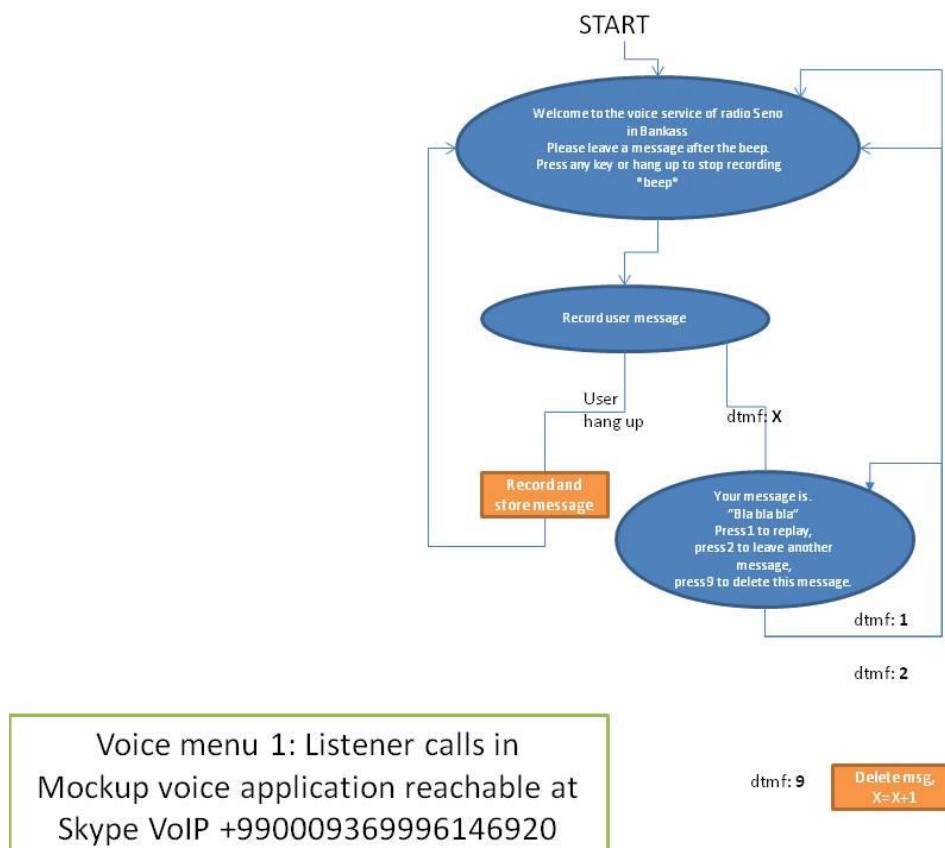
Following up on the WP2 work of the Voice-based Citizen Journalism project outlined in the previous chapters, we have started in month 3 (Feb. 2012) the WP3 work on the Voice News Platform Development. The result of this work will be reported in the next trimester report.

Here we show a few examples of the design specs that we are discussing. It is to be noted that this is only to give an impression of the work that is running. What follows is preliminary, as design specs and associated development in any innovative project are subject to change due to discussion and continuous learning along the way.

The design sketches below especially focus on the Letter to the Editor Dropbox use case, and how the user interaction may look like, both along the *voice* and the *web* channels. Evidently, in particular for the general public ("listener") the user interaction must be *very* simple and convenient.

Foroba Blon preliminary user-interaction mock-up sketches

Scenario sketch voice menu 1: Listener calls in



Scenario sketch voice menu 2: Radio management

Radio Segou LETTERS TO EDITOR: UPLOAD NEW

Login: segou1

User

Date

Audio:

Lang: fr

Upload

Suggestion for an entry screen for whoever (journalists, correspondents/trusted users, diaspora) wants to input a report or message via the Web.

Radio Segou LETTERS TO THE EDITOR

Login: segou1

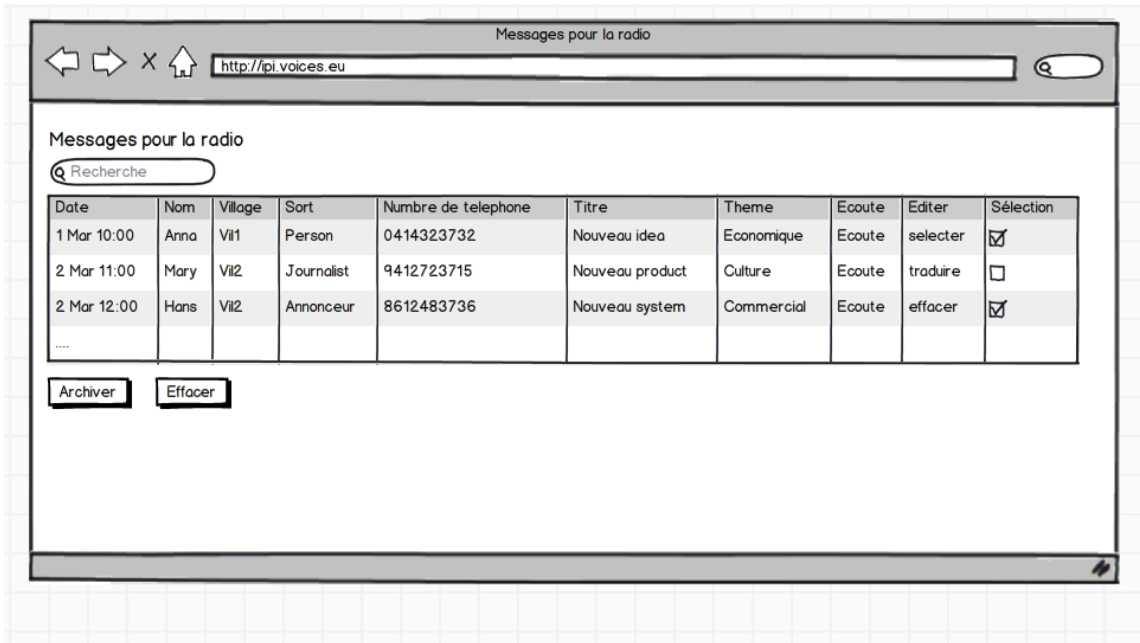
Search messages

Enter keyword...

ID	Date	Tel.no	User	Name	Village	Title	Content	Duration	Theme	Language	Method	listen	broadcast	Del	Upload new	Status
B_0231	14-3-2011	003102389774	x	x	x	x	x	6m23	x	x	phone	listen	Broadcast	X	Upload new	Unread
B_0230	12-3-2011	003102389767	x	x	x	x	x	0m03	x	x	phone	listen	Broadcast	X	Upload new	Unread
B_0228	11-3-2011	003102389774	x	x	X	x	x	16m23	x	x	phone	listen	Broadcast	X	Upload new	Unread
B_0226	09-3-2011	003102389774	diarra1	Z. Diarra	Koune	about my trees	A call about more	4m12	forest	ba	phone	listen	Broadcast	X	Upload new	Read
B_0224	09-3-2011	web	amadou09	Amadou X.	Paris	about honey	Amadou rants... more	4m12	ntfp	fr	web	listen	Broadcast	X	Upload new	New version
B_0223	07-3-2011	003102389774	x	Mohamed	x	Song request	X	0m16	Song request	ba	phone	listen	Broadcast	X	Upload new	Broadcast

[Older...](#)

Above and below design proposals for a message management form related to all the messages and reports that come in. Basically, this is a digitized and webbified version of the paper forms that Malian community radio stations are already using for themselves, witness the photo of the Radio Moutian form in Ch. 4 (first picture).



We are now in the process of refining the user interaction screens. The technical developers will submit the mockup to Sahel Eco for discussion with and feedback from the radio stations, so that an agreed version will be implemented in the second trimester of the Voice-based Journalism Foroba Blon project.

APPENDIX A: RESOURCE LINKS

Resources

Website W4RA collaboration: <http://www.w4ra.org>

Website Regreening: <http://www.reverdirlesahel.org>

RM: Farmers in the Tominian area selling non-timber products:
<http://ictupdate.cta.int/en/content/view/full/5808>

Website EU-FP7 VOICES project: <http://www.mvoices.eu>

Photo, video and audio materials (made during the Mali roundtrip)

Are available from

ftp://www.akmc.biz/ShareSpace/W4RA-VOICES/IPI-Mali-12_17Feb2012/

(circa 1.34 Gb in total, folders organized per date, meeting and media type)

APPENDIX B: FINANCIAL AND HUMAN RESOURCE REPORT

Period Trimester 2: 01 March 2012 - 30 June 2012

World Wide Web Foundation

p.m.

VU University Amsterdam

p.m.

Sahel Eco

p.m.

Aggregated total Voice-based Citizen Journalism project for second trimester

p.m.