



**VOIce-based Community-cEntric mobile Services  
for social development**

**Grant Agreement Number 269954**

**Deliverable No D6.4**

**Mobile Training Lab – Training Materials Final release**

June 2013

---

**SEVENTH FRAMEWORK PROGRAMME**

THEME ICT-2009.9.1 - International cooperation



## PROJECT DELIVERABLE REPORT

Project	
Grant Agreement number	2699542
Project acronym:	VOICES
Project title:	<i>VOIce-based Community-cEntric mobile Services for social development</i>
Funding Scheme:	<i>Collaborative Project</i>
Date of latest version of Annex I against which the assessment will be made:	<i>18 February 2011</i>
Document	
Deliverable number:	D6.4
Deliverable title	Mobile Training Lab - Training Materials final release
Contractual Date of Delivery:	06 20132
Actual Date of Delivery:	06 20132
Editor (s):	Franco Papeschi – Web Foundation
Author (s):	Franco Papeschi
Reviewer (s):	VUAWF
Work package no.:	WP6
Work package title:	Mobile Training Lab
Work package leader:	Web Foundation
Work package participants:	TNO, PTIN,W3C, CRS4, ESMT
Distribution:	Public
Version/Revision:	1.0
Draft/Final:	final
Total number of pages (including cover):	23
Keywords:	mobile, ICT, Senegal, Sub-Saharan Africa, training, development, voice-based technology, business, entrepreneurship, learning, e-learning, business model, HTML5, SMS, voice-based interactions, web, mobile web, user experience.



**CHANGE LOG**

Reason for change	Issue	Revision	Date
Final version		1.0	11 June 2013

## DISCLAIMER

This document contains description of the VOICES project work and findings.

The authors of this document have taken any and all available measures in order for its content to be accurate, consistent and lawful. However, neither the project consortium as a whole nor the individual partners that implicitly or explicitly participated in the creation and publication of this document hold any responsibility for actions that might occur as a result of using its content.

This publication has been produced with the assistance of the European Union. The content of this publication is the sole responsibility of the VOICES consortium and can in no way be taken to reflect the views of the European Union.

The European Union is established in accordance with the Treaty on European Union (Maastricht). There are currently 27 Member States of the Union. It is based on the European Communities and the member states cooperation in the fields of Common Foreign and Security Policy and Justice and Home Affairs. The five main institutions of the European Union are the European Parliament, the Council of Ministers, the European Commission, the Court of Justice and the Court of Auditors. (<http://europa.eu.int/>)



**VOICES is a project funded in part by the European Union.**

## TABLE OF CONTENTS

VOIce-based Community-cEntric mobile Services for social development .....	1
Grant Agreement Number 269954.....	1
Deliverable No D6.4.....	1
Mobile Training Lab – Training Materials Final release .....	1
<b>CHANGE LOG</b> .....	4
<b>DISCLAIMER</b> .....	5
<b>TABLE OF CONTENTS</b> .....	6
Summary.....	7
1. Scope of Working Package 6: Mobile Training Lab.....	8
2. Training overview.....	9
2.1. Training objective .....	9
2.2. Training requirements .....	9
2.2.1. Training materials requirements .....	11
3. Training content – second release .....	12
3.1. Training modules .....	12
3.1.1. Technology track.....	12
3.1.2. Business track.....	16
3.1.3. User Experience track.....	18
4. Delivering the training materials: eLearning portal.....	19
5. Conclusion .....	23

## SUMMARY

The report presents a description of the training content for the mobile training lab, which has been used for the task 6.3 (training sessions) during the months of April and May 2013, in Dakar. The training content is an evolution of the one presented in June 2012 in deliverable D6.3.

The second training session had a change in mode of delivery and study, thanks to the introduction of an eLearning platform (for more details on the activities for the training session, please refer to Deliverable D6.6). For this reason the major change in the training materials is a shift towards more interactive and media rich resources, especially for the less technical topics (User Experience, Business model innovation), which are the topics more distant from the typical educational background of the training participants (who tend to have a software development background).

The document starts by refreshing the objectives of the WP (chapter 1) and summarising the objectives and requirements identified for the training (chapter 2). It then goes in the details of the content produced for each of the training modules (chapter 4). Finally, it provides details of the methods of delivery of the materials; in specific, it specifies the choices done around the creation of an eLearning site to support the training sessions (chapter 5).

## **1. SCOPE OF WORKING PACKAGE 6: MOBILE TRAINING LAB**

The aim of this Working Package (WP) is to setup a Mobile Training Lab in Senegal, to disseminate expertise on mobile technologies that are significant to the context. These will enable local entrepreneurs to launch new services, to provide locally relevant content and applications to the country and give them a stream of revenues. The technologies in scope for this WP include (but are not limited to) voice applications and web technologies that are accessible through a mobile. The training will focus not only on the technology aspect, but also on the overall user experience of a service (how useful, usable and engaging it is for the possible users), business models and methodologies to deploy services. Much of the research coming from the Working Package 1, on how to build a sustainable business, will act as a basis for the practical activities on the field. This WP will also ensure the self-sustainability of the lab itself.

The global work plan of this WP is based on 3 phases to create a self-sustainable mobile training lab in Senegal. During a first phase, the WP has identified the requirement in terms of training curriculum, and has organised a first selection of entrepreneurs and trained them. This first session also included training of the trainers of selected local partners (CTIC Dakar as well as ESMT - which is already partner in the VOICES consortium), and the setup of online collaboration tools to enable entrepreneurs to get support after the session, and to create a future community of training labs in the region. Then, a second training session will be organized by the trainers of the local partner and with consortium partners as reviewers and observers. The last phase of this WP will consist of the release of the training content as free and open-source material, the release of the setup methodology of the lab as well as the business plan, and the dissemination of the results of the experience to create a momentum on this concept, and enable other organizations from other countries to become new training labs.



## 2. TRAINING OVERVIEW

### 2.1. Training objective

In the past few years, we have assisted to an increasing importance of the digital economy in African societies: in particular, we have seen a significant penetration of mobile phones into people's lives. Mobile phones penetration is estimated to be at the 66% of Senegalese population, while Internet channel reaches approximately 15% of the population<sup>1</sup>. The sharp increase of fixed and mobile Internet data usage in the past decade (with only 1% of Senegalese population using Internet in 2001, according to ITU<sup>2</sup>) implies a growing attention, and it opens possibilities for local players to fill in the gaps of unmet needs. Use of Internet through mobile devices is increasing significantly; as the Senegalese Telecom Regulation Authority (ARTP) reported in 2012, "The popularity of mobile broadband internet in Senegal is growing quickly: the total was just 53,678 in June 2011, equivalent to 28.5% of the overall market, but had ballooned to account for 71.1% of the segment twelve months later."<sup>3</sup>

As thoroughly researched during the first phase of the project - and validated through the first training session in 2012 - the **objective of the training** is to build capacity on mobile and web service development for individuals and small groups, so that they will be in the position to meet the growing opportunities of the mobile and web industry in West Africa, and to produce their own relevant and sustainable services. This objective must not be limited to the cycles of training planned and organised during this WP: what has been created during the Mobile Training Lab project must be taken forward in ways that keep the training objective valid and at the same time fit in the local context.

### 2.2. Training requirements

In previous tasks of WP6 we had identified that - in order to realise the objective mentioned above - the training course would need to fulfil a series of requirements:

- The course has to offer training on mobile and web technologies, given the rates of adoption of these information and communication channels;
- The entire initiative must have a strong component of training and supporting voice technologies, given the prevalence in usage of voice channels, and the relatively high level of illiteracy in Senegal and West Africa (and considering the outline and purpose of the Voices project);

---

<sup>1</sup> Data based on CIA WorldFactBook: <https://www.cia.gov/library/publications/the-world-factbook/geos/sg.html>

<sup>2</sup> <http://www.internetworldstats.com/af/sn.htm>

<sup>3</sup> Quote from ITU statistics newslog:

<http://www.itu.int/ITU-D/ict/newslog/ARTP+Senegal+Mobile+Base+Topped+107m+Users+In+Mid2012.aspx>

Original data source ARTP Senegal:

[http://www.artpsenegal.net/telecharger/document\\_Tableau\\_de\\_bord\\_30\\_juin\\_2012\\_384.pdf](http://www.artpsenegal.net/telecharger/document_Tableau_de_bord_30_juin_2012_384.pdf)

- The training should be modular, in order to facilitate participation, especially for people who have to fill in a small sub-selection of expertise gaps, compared to entire offering;
- The training should not be limited to technical topics, but include business innovation, management, design for start-ups and launching SMEs;
- The initiative should have a specific focus on the creation of applications, content and services that have a local impact, in order to fulfil the goal of stimulating the growth of the mobile and web ecosystem;
- The style and format of the training must be extremely practical, hands-on and project oriented, as it needs to bridge a highly theoretical education, usually offered in most Senegalese higher education institutes, with the practical needs of working on end-to-end projects (as it happens in start-ups);
- The entire initiative should facilitate strong connection with other realities in Senegal (Universities, incubators, acceleration spaces,...) and in the region (other labs in West Africa);
- The focus of the initiative should be in facilitating the creation of projects that could realistically become a mobile technology-oriented start-up;
- The initiative should benefit and help highlight successes and challenges of the other working packages of the VOICES project;
- The training should have a platform-agnostic approach, which will help participants to benefit from the most open and flexible platforms for their services.

These requirements have been identified, on the basis of:

- Experience gathered from other labs the members of the consortium are working with (Mobile Web Ghana, mLab East Africa);
- Requirements from Working Packages 1, 2, 4, 5 on the technologies that would be beneficial to their work;
- Needs discovered during our on-the-field research of potential trainees in Senegal (see deliverable 'D6.1 - Requirements' for more information on this aspect).

On top of these initial requirements, more have been identified as part of the feedback gathering exercise done throughout and at the end of the first cycle of training:

- The training must be able to support trainees who have slightly different expertise levels and learning paces, by providing space for self-training and review of the newly acquired capabilities;
- Time and place of delivery of the training must be as flexible as possible, as participants need to perform difficult balancing acts between the training times and their traditional schedule;
- Cost and complexity of the organisation and delivery of the training session must be reduced, in order to make it sustainable for local partners to carry the initiative forward.

### 2.2.1. Training materials requirements

Additional specific requirements for the update of training materials had been identified in D6.2 and D6.3, which have informed the creation of the final release of training materials. Those that have been prioritised include:

- **HTML5 + CSS3.** The training curriculum had identified already the need - within the technical track - to highlight the potential offered by the newest evolution of HTML for developing convergent mobile-web products. During the first stages of the course - however - it became evident that a more in-depth training on the technical aspects of the HTML5 mark-up language was needed, in order to fill in some technical gaps identified.
- Step-by-step guidance on the creation of a product's business model, through the **Business Model Canvas** method: while the Business Model training module already identified the Business Model Canvas as an easy and complete method for training participants to detail the business model of their product, we identified the need for a step-by-step introduction to this model, which would guide participants outside of their classes.

## 3. TRAINING CONTENT – SECOND RELEASE

This chapter summarises the type of training content and training materials that have been created and organised for the second cycle of training - done in April and May 2013. Such content update builds on top of the content delivered in D6.3.

The majority of the content has been produced by consortium members who have expertise in training and applying the different topics. Given the diversity of expertise in the consortium, this has proven successful.

We have also opened up the contributions to third parties: following one of the key drivers of WP6 project - the goal to integrate local experts and to promote local ownership of the expertise - the WP6 team has asked the local partners to identify and select a qualified set of potential trainers for these subjects, who would be able to produce additional training materials.

While some training content has been maintained in its basic form (i.e. slideshow or non-editable visual document), the effort of updating the training content has focused on enriching training materials for the eLearning platform.

In the paragraphs below we are going to detail the different training materials produced, with clarity on the version and authorship.

### 3.1. Training modules

Given requirements and further exploration of the skills gap, the team had identified three tracks (technology, business and User Experience) as the key pillars on which to build the training curriculum. The topics defined in D6.2 and D6.3 as part of the training course are:

#### 3.1.1. Technology track

The technology track covers the fundamental technologies and languages to develop a meaningful digital service in the Senegalese context (SMS, Mobile Web, Javascript, Mobile Web).

**SMS Applications:** (developed by PTIN and ESMT) SMS applications are by far the most popular applications in Senegal and in the region. The module includes:

- Mobile Value Added Services
- Protocols (SMS, ESMS, USSD, WAP)
- P2P SMS, P2A-A2P, Caller Ring back, Downloads, Email
- Installing tools, sample projects
- Tools: FrontlineSMS, RapidSMS, Kannel

Links to the materials:

[https://private.webfoundation.org/VOICES/drupal/2013/05/final\\_review/D6\\_4-Training-materials-annex/SMS](https://private.webfoundation.org/VOICES/drupal/2013/05/final_review/D6_4-Training-materials-annex/SMS)

[https://private.webfoundation.org/VOICES/drupal/2013/05/final\\_review/D6\\_4-Training-materials-annex/SMS-VAS](https://private.webfoundation.org/VOICES/drupal/2013/05/final_review/D6_4-Training-materials-annex/SMS-VAS)

The screenshot shows a web-based presentation slide titled "Introduction - Évolution du VAS". The slide content includes a timeline with years 1990, 1991, 1992, 1996, 1997, and 1998. A central image of a mobile phone is shown with the year 1992 highlighted below it. Text next to the phone states: "Le premier SMS (service de messages courts) a été envoyé." The slide is part of a larger presentation, as indicated by the navigation bar at the bottom with buttons for slides 5, 6, 7, 8, and 9.

Figure 1 - interactive slides for the SMS / VAS

**Mobile Web:** (developed by W3C) in the past 3 years there has been in Africa – and in Senegal – a significant increase of web pages visited through mobile phone, compared to those visited through fixed desktop. The evolution of the mark-up language typically used for the creation of Web pages (HTML) is giving developers more opportunities to work in cross-platform services, with minimal efforts. Therefore, the training module includes:

- Overview
- Client-side considerations in a mobile context (HTML, CSS, JavaScript)
- Server-side considerations
- Blending mobile and Web development

Link to the materials:

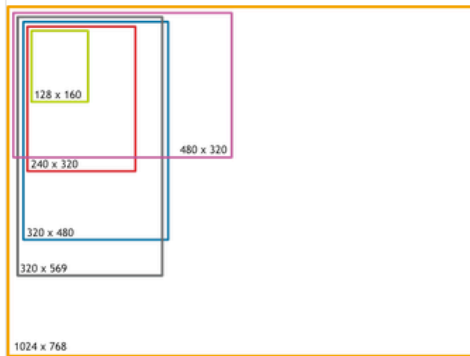
[https://private.webfoundation.org/VOICES/drupal/2013/05/final\\_review/D6\\_4-Training-materials-annex/Mobile-Web](https://private.webfoundation.org/VOICES/drupal/2013/05/final_review/D6_4-Training-materials-annex/Mobile-Web)

#### 4 Les écrans

## Mobile screens

Les terminaux mobiles tiennent dans la paume de la main. L'écran est de facto limité en taille et la largeur de l'écran semble atteindre une dimension stable de 320px.

- Largeur de l'écran habituel pour smartphones : 320px
- Largeur de l'écran habituel pour les feature phones : 240px
- C'est vraiment plus petit qu'un écran d'ordinateur de bureau dans ces deux cas!



La largeur inclut la largeur de la barre de défilement!

La notion de CSS pixel sera abordé plus tard. 320px reste la valeur du paramètre *device-width* dans la déclaration de `<meta viewport>`, même si l'écran réel peut utiliser un taux de résolution plus élevé.

*Figure 2 - Mobile Web development - good practices*

### HTML5 and CSS3 addendum: (developed by W3C)

Topics included:

- HTML and HTML5 – practical differences
- Adopting new mark-ups – exercises
- Interactive and multimedia components
- CSS selectors
- CSS exercises

Link to the materials:

[https://private.webfoundation.org/VOICES/drupal/2013/05/final\\_review/D6\\_4-Training-materials-annex/HTML5](https://private.webfoundation.org/VOICES/drupal/2013/05/final_review/D6_4-Training-materials-annex/HTML5)

Nous allons comparer au document minimal HTML4 (source : <http://www.sitepoint.com/a-minimal-html-document/>). Les différences ont été soulignées en rouge :

```

1 <!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01//EN" "http://www.w3.org/TR/html4/strict.dtd">
2 <html lang="en">
3 <head>
4 <meta http-equiv="content-type" content="text/html; charset=utf-8">
5 <title>title</title>
6 <link rel="stylesheet" type="text/css" href="style.css">
7 <script type="text/javascript" src="script.js"></script>
8 </head>
9 <body>
10 ...
11 </body>
12 </html>

```

### Définition plus simple du jeu de caractères

Un mot sur la ligne `<meta charset="utf-8">` dans la version HTML5 : alors qu'elle semble plus simple que dans la version HTML4, c'est vraiment une bonne pratique de déclarer le jeu de caractères de votre document pour se protéger contre un [risque grave pour la sécurité](#).

Figure 3 - HTML5

**Voice Applications:** (developed by WF) Senegal's literacy rate for 2009 has been estimated to be 49.7% of the population above 15 year old<sup>4</sup>. For this reason, it is pretty important to help developers to create services that can be accessed by the remaining 50.3% of adult population. Voice applications have the potential to reach this majority, and – as we have seen in other Work Packages of this project – they offer significantly important use cases that have been traditionally ignored. The topics of this module are:

- Voice applications
- VoiceXML
- Grammar development
- Voice User Interface design

Link to the materials:

[https://private.webfoundation.org/VOICES/drupal/2013/05/final\\_review/D6\\_4-Training-materials-annex/Voice](https://private.webfoundation.org/VOICES/drupal/2013/05/final_review/D6_4-Training-materials-annex/Voice)

---

<sup>4</sup> Source World Bank:

<http://data.worldbank.org/indicator/SE.ADT.LITR.ZS/countries/SN?display=graph>

**<prompt>**

Les prompts peuvent combiner du TTS et des fichiers son.

```
1 <prompt>
2   Bienvenue chez Graines pour les Oiseaux.
3   <audio src="rtsp://www.sons.example.com/cui-cui.wav"/>
4   Ce mois-ci, nous offrons une réduction sur les graines pour mouettes.
5   <audio src="http://www.birdsounds.example.com/mouette.wav"/>
6 </prompt>
```

Il y a des balises comme <break> qui permettent de mettre une pause entre différents éléments d'un prompt.

Figure 4 - Voice applications development

### 3.1.2. Business track

This track covers the business and marketing aspects of the creation of a new digital service, from conception to the development of a draft business plan. It caters for both an audience with previous business experience and to participants with a technical background. A combination of practical exercises and peer-to-peer learning allows people with different expertise to work proficiently and achieve the formative goals of this track.

**Mobile business and innovation:** (Developed by TNO, PTIN, WF) service creation and delivery is not simply a matter of technical development of applications, tools and software. Knowing the right technologies is often not enough to venture into mobile entrepreneurship. Even traditional business knowledge is not enough, as it is tailored to run companies with an established business model.

Specific business innovation knowledge must also be learnt. For this reason, the business track focuses on:

- The mobile ecosystem;
- Business models and business plans;
- Growing a mobile business;
- Local aspects: the Senegalese context: IP, markets, regulations.

Link to the materials:

[https://private.webfoundation.org/VOICES/drupal/2013/05/final\\_review/D6\\_4-Training-materials-annex/Business-Model](https://private.webfoundation.org/VOICES/drupal/2013/05/final_review/D6_4-Training-materials-annex/Business-Model)














**Introduction à l'Entreprise Toile Modèle** **TNO** innovation for life

- Accueil
- Objectif
- Introduction
- Cadre du Modèle d'Affaires
- Modèles d'affaires génériques
- Orange Pre-Paid
- Google**
- Modèle d'affaires spécifique
- Comment plaider?
- Trouver la Bonne Équipe
- Bibliographie
- License

**Google: La toile de modèle d'affaires**

Faites glisser l'option correcte à la zone respective

<ul style="list-style-type: none"> <li>Gestion Plateforme</li> <li>Services de Gestion</li> <li>Expens. Champ Action</li> <li>Platf. Recherche</li> <li>Annonces Ciblées</li> <li>Recherche Libre</li> <li>Monétisation Contenu</li> <li>Annonceurs</li> </ul>	<p>Partenaires clés</p> 	<p>Principales activités</p> 	<p>Proposition de valeur</p> 	<p>Relation client</p> 	<p>Segments de clientèle</p> 
		<p>Ressources clés</p> 		<p>Canaux</p> 	<p>Internaute</p> 
	<p>Structure de coûts</p> 		<p>Chiffre d'affaires</p> 		
		<p>Coûts plateforme</p> 			

*(Note: In the original image, 'Coûts plateforme' and 'Internaute' are highlighted in green.)*

*[ Voir en détail ]*  
*[ Retour ]*

<<
32
33
34
35
36
>>

Figure 5 - Interactive exercise for better understanding the Business Model canvas

**Marketing for ICT products:** developed by a local organisation (the author - Salla Niang - is a member of the Senegalese Organisation for Professionals in ICT [OPTIC], and has 10 years of experience in the Telecom Industry, consulting and training on subjects such as Marketing, Communication, Business Innovation and Management. In 2011 he became member of the “Commission Nationale du passage de l’audiovisuel de l’analogique au numérique”). The module covers the main aspects of marketing for digital services, starting from identifying a market need, shaping the product and its marketable aspects, communicating them. More in detail, it includes the following topics:

- Marketing for digital products, overview
- Satisfying needs vs generating desires (supply vs demand-based marketing)
- Segmenting audiences
- Key pillars for a marketing strategy
  - Product
  - Price
  - Promotion
  - Place
- Communication and distribution
- Opportunities for digital product developers

Link to the materials:

[https://private.webfoundation.org/VOICES/drupal/2013/05/final\\_review/D6\\_4-Training-materials-annex/Marketing](https://private.webfoundation.org/VOICES/drupal/2013/05/final_review/D6_4-Training-materials-annex/Marketing)

### 3.1.3. User Experience track

User Experience – described as a set of practices and methods that help create useful, usable and engaging services – has been one of the key elements of change in the ICT industry in the past 10 years.

None of the academic environments we have surveyed in Senegal have yet developed a curriculum for User Experience disciplines. It is therefore of particular importance to focus on this aspect. Moreover, local entrepreneurs and developers will need to face a global industry, which is increasingly interested in expanding to African territories. In order to do that, the training course covers:

#### User Research:

- Understanding your possible users through User-Centred design methods and Lean UX practices (interviews, contextual enquiries, co-design)
- Human factors (attention, affordances, reasoning and memory, etc.)

Link to the materials:

[https://private.webfoundation.org/VOICES/drupal/2013/05/final\\_review/D6\\_4-Training-materials-annex/User-Experience/Research](https://private.webfoundation.org/VOICES/drupal/2013/05/final_review/D6_4-Training-materials-annex/User-Experience/Research)

#### Information Architecture:

- Content structure
- User journey and features

Link to the materials:

[https://private.webfoundation.org/VOICES/drupal/2013/05/final\\_review/D6\\_4-Training-materials-annex/User-Experience/IA](https://private.webfoundation.org/VOICES/drupal/2013/05/final_review/D6_4-Training-materials-annex/User-Experience/IA)

#### Interaction design:

- Wireframing and visualising
- Usability testing

Link to the materials:

[https://private.webfoundation.org/VOICES/drupal/2013/05/final\\_review/D6\\_4-Training-materials-annex/User-Experience/IxD](https://private.webfoundation.org/VOICES/drupal/2013/05/final_review/D6_4-Training-materials-annex/User-Experience/IxD)

The entire set of User Experience materials have been developed by WF.

## 4. DELIVERING THE TRAINING MATERIALS: ELEARNING PORTAL

A key objective of VOICES project was to setup a mobile training local to disseminate expertise on mobile technologies. This knowledge is deeply relevant to the context of developing countries and will enable local entrepreneurs to create new services giving them a stream of revenues. The usage of an eLearning system can help to accomplish the self-training objectives, allowing the continued acquisition of new knowledge. Furthermore, it eliminates the problem of geographical dispersion of students making possible to reduce training costs, especially in time, travel and lodging. Still, it encourage self-learning, allowing a continuous personal development of individuals, giving them greater autonomy, enabling to form a large number of people in short time. Finally, it makes the content more appropriate and appealing, especially those presented in multimedia format.

The chapter gives details on the modality of delivering the training content produced. The key delivery modality identified is through the organisation of face-to-face and blended learning training courses (mixing online and f2f lessons). For this reason, a training portal has been opened, using the W3C DevCampus website (<http://classroom.w3devcampus.com/course/view.php?id=41>) as an access point (based on the open source Moodle eLearning platform).

Moodle (Modular Object-Oriented Dynamic Learning Environment) is a Learning Management System strongly disseminated among educators all over the world providing key tools to manage and promote learning. It is a collaborative project aiming at providing a social framework of education.

Moodle is a software package provided freely as Open Source software for creating Internet-based courses and web sites. It can be installed on any computer that supports PHP and SQL type database, being able to run on Windows and Mac operating systems and many Linux-based systems.

Moodle was selected as the eLearning system mainly due to its intuitive usage and worldwide spread among teachers. Furthermore, its free distribution makes it the right tool for developing countries, contributing to a real sustainability of the training lab.

The screenshot shows the home page of the EMS training course online, hosted by W3C's W3DevCampus. The page is titled "Message aux entrepreneurs du Sénégal et autres pays africains francophones" and "Bienvenue!". It features a navigation menu on the left, a main content area with a welcome message and course details, and a right sidebar with sections for "DERNIÈRES NOUVELLES", "ACTIVITÉ RÉCENTE", and "ÉVÈNEMENTS À VENIR".

Figure 6 - home page of the EMS training course online, hosted by W3C's W3DevCampus

The chosen language for the implementation of the course in a Web format was HTML5 because it is the mark-up language for structuring and presenting content for the future Web. This new version is becoming the standard for HTML and it brings some changes and new functionalities that before can only be done through the use of other languages. It is also capable of support new multimedia elements, reducing the need for external plugins, as well as ensuring the compatibility with several browsers, allowing users to instantaneously run the Web site with no worries. In terms of development, HTML5 has a better error handling and presents a better performance, being more fast, secure, responsive and interactive. Likewise, it is a language that doesn't belong to any company or a specific browser. HTML5, thus, brings a new form of being on the web, amplifying the web's core strengths of interactivity and connectivity.

The advantages of using the portal as a distribution mechanism are multiple:

#### Technical:

- Based on standard and open-source platform;
- It manages basic and advanced format for delivering training (e.g. HTML5, embedded PDFs, SCORM,..);
- It structures materials into a single course;
- It gives access to analytics to understand usage patterns;
- It allows opening specific modules - such as chats.

#### Business:

- Such online portal reduces costs of delivering parts of the training and enables possibilities for the business model (see D6.9 for more details);
- W3DevCampus is an existing initiative, which reduces the need for brand-building activities;
- W3C can host the materials for 3 years, with option to continue further;



Figure 7 - videos, embedded in the training materials



Figure 8 - interactive exercises

**<prompt>**

Les prompts peuvent combiner du TTS et des fichiers son.

```
1 <prompt>
2   Bienvenue chez Graines pour les Oiseaux.
3   <audio src="rtsp://www.sons.example.com/cui-cui.wav"/>
4   Ce mois-ci, nous offrons une réduction sur les graines pour mouettes.
5   <audio src="http://www.birdsounds.example.com/mouette.wav"/>
6 </prompt>
```

Il y a des balises comme <break> qui permettent de mettre une pause entre différents éléments d'un prompt.

*Figure 9 - embedded code snippets*

## 5. CONCLUSION

In this document we have detailed the training materials produced for the Mobile Training Lab of WP6. We have described how the team has taken action on the crucial requirements identified in previous iterations. Finally, we have given visibility on the methods of delivery of the training materials, by describing the eLearning platform developed for the project, which will stay active for three years - with possibility to extend - in order to facilitate the life of the project at the end of the WP6.