Building Learning paths

Programme for a 2 days Dokeos seminar

dokeos®

open source learning &
knowledge management

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Agenda

First day

09h00 : Your expectations
09h30 : Analysis of some e-learning cases
10h00 : Deducting the objectives of a course through the analysis of its context
10h30 : An example sequence : Drawing a chart in Excel
11h00 : Break
11h45 : Workshop : redo the Excel lesson
11h20 : Workshop : write the storyboard of a lesson

12h45 : Lunch

14h00 : Web page design : the formats pentagon
14h30 : The Dokeos tools: online multimedia creation
15h00 : Workshop : creating multimedia pages
15h30 : Tests and evaluation : multiple choice, listening comprehension...
16h00 : Workshop : tests tools

Second day

09h00 : The Dokeos tools : forums, groups, agenda...
09h30 : Tips and tricks on collaboration methodology
10h00 : The learning path methodology and the Scorm standard
10h30 : Workshop : creating al learning path
11h00 : Break
11h30 : Dealing with images : fetching, resizing, saving in GIF, JPG...
12h00 : Workshop : using Gimp or Paintshop to deal with images

12h45 : Lunch

14h00 : Dealing with audio : recording, voice synthesis, saving in MP3...
14h30 : Workshop : creating and embedding audio in documents and tests
15h00 : Animation with Viewletbuilder : encapsulating a demonstration in Flash
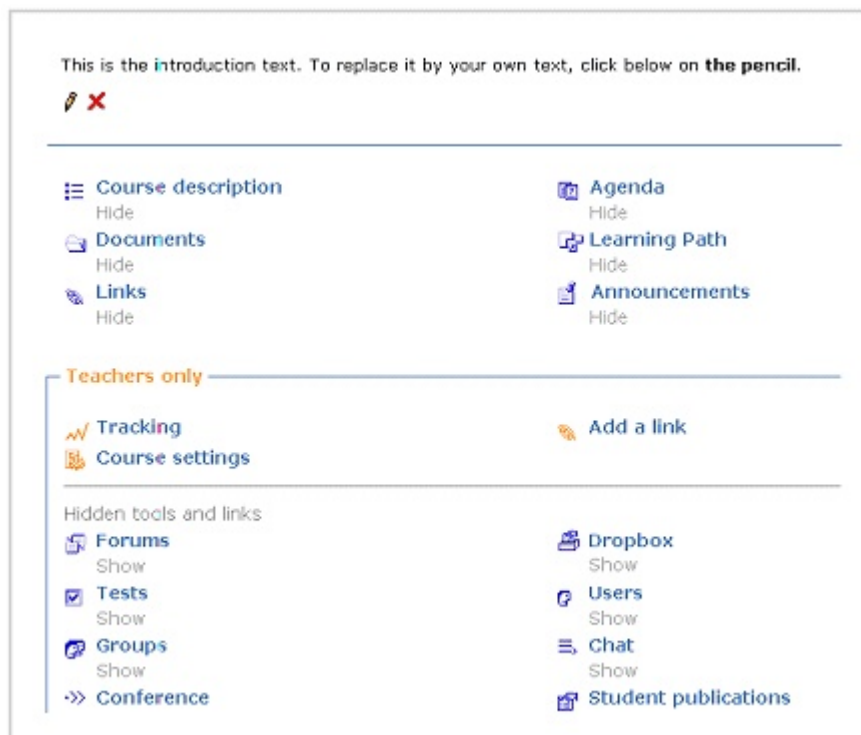15h30 : Workshop : building Flash animations with Viewletbuilder

I. Introduction

This document is a support for the 2 days seminar organised by Dokeos at WES. It will be your guide during the training and a checklist after.

II. The Dokeos software

During this seminar, we will review the Dokeos tools one by one to give a global view on the pedagogic possibilities offered by the software.

This is the introduction text. To replace it by your own text, click below on **the pencil**.

✏ ✗

Course description
Hide

Documents
Hide

Links
Hide

Agenda
Hide

Learning Path
Hide

Announcements
Hide

Teachers only

Tracking

Course settings

Add a link

Hidden tools and links

Forums
Show

Tests
Show

Groups
Show

Conference

Dropbox
Show

Users
Show

Chat
Show

Student publications

The *Solid Waste Management* course is a demo illustrating the palette of features offered by Dokeos. You will find there both examples of interaction scenarios and examples of multimedia self-learning activities.
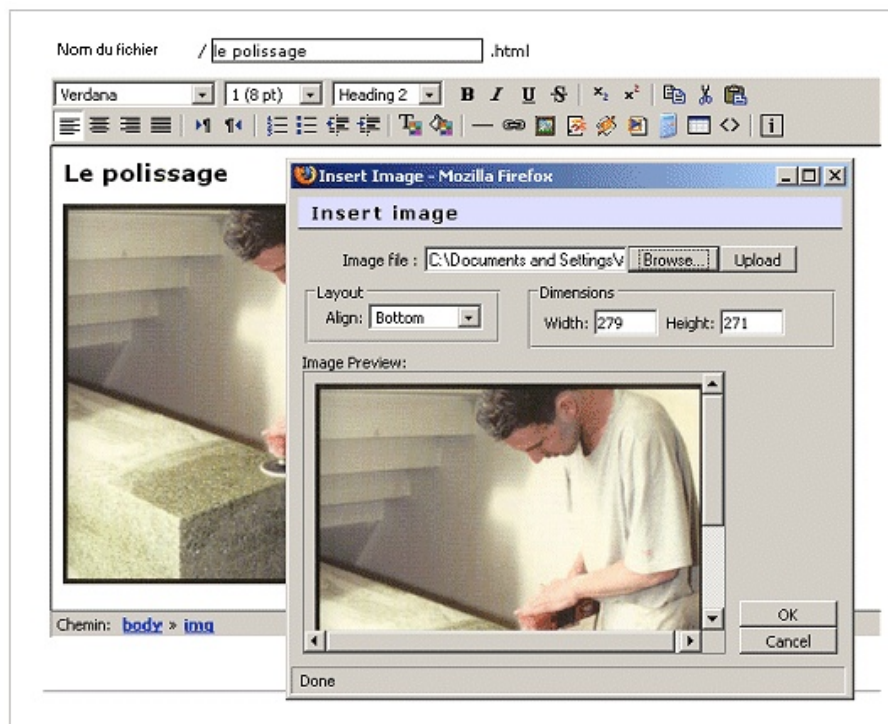
The main Dokeos authoring tool is the Documents tool. It allows you to create, import, edit and export sophisticated multimedia web pages.

III. The formats pentagon

To produce web learning documents, you will have to follow a series of rules. In particular the rules of:

- W3C : web rules onsortium http://www.w3c.org
- SCORM : standardisation of e-learning : http://www.adlnet.org
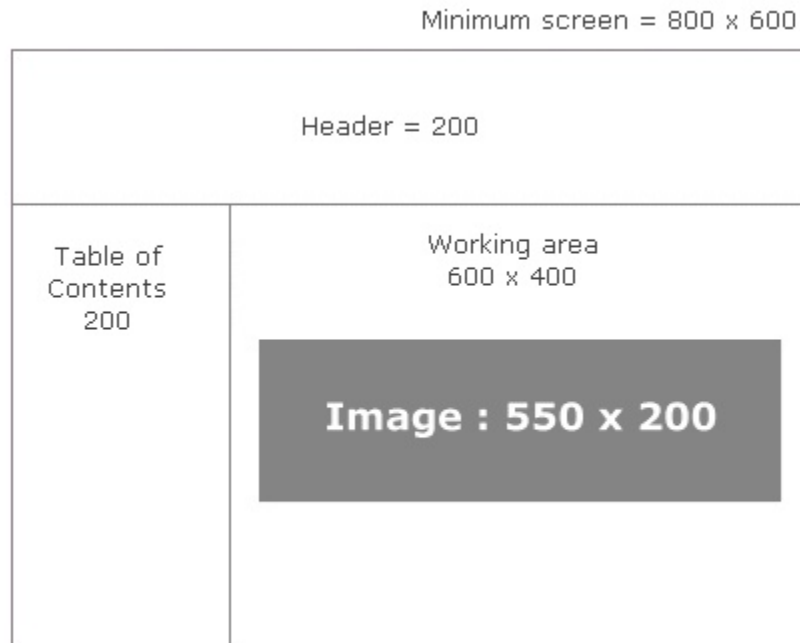- Web usability : ergonomy rules : http://www.useit.com

The web (= all that happens in Internet Explorer or Mozilla) uses the HTML language and is based on the HTTP protocol. This produces standardised documents, visible from any computer without too much wait and although the variety of contexts (ldifferent languages, screen widths, bandwidth...).
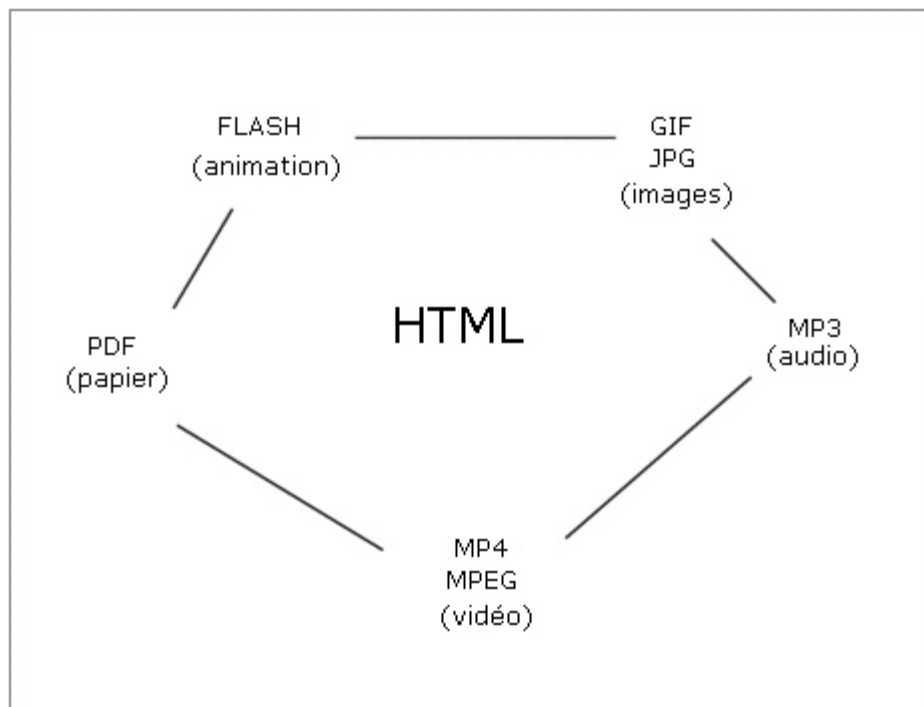

To reach this result, it is important to limit oneself as an author, to the most commonly accepted formats on the web and to understand the different between desktop authoring (Word, PowerPoint...) and web authoring. Keep in mind the following pentagon :

IV. Basic rules for space design

Minimum screen = 800 x 600

Header = 200

Table of
Contents
200

Working area
600 x 400

Image : 550 x 200

The usefull screen is minimum 800 x 600 pixels. But Explorer or Mozilla + Dokeos consume almost 300 pixels (in Dokeos 1.6, the header will be thiner). And if you plan to integrate your pages into a learning path, you should consider that you need 200 Pixels on the left. Your text will redimension, but your images not. It is then important that your images are maximum 550 wide. More generally, your website will look more professional if all your images have the same size (200 x 200 for instance). See below how much space is consumed by non-content in a small screen !
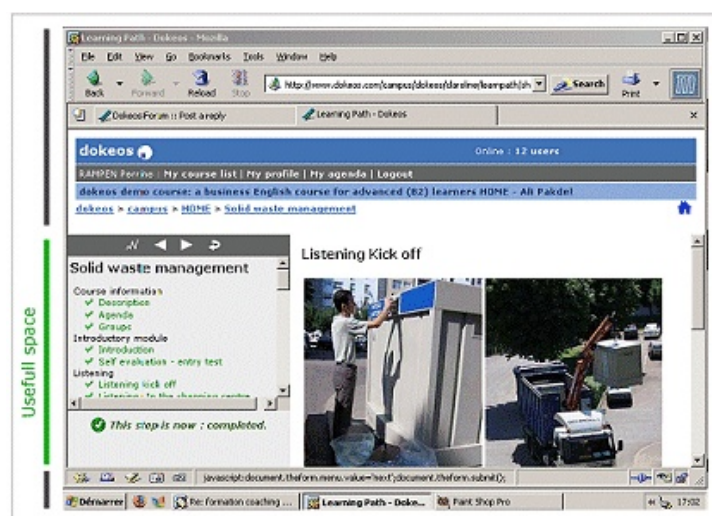
V. Tests building

Practice and evaluation are key factors for successfull learning. The building of a relevant test is a complex problems that goes far beyond the scope of this seminar. One can, however, remember the following possibilities.

Test type	Competence	Tool
Multiple choice	Facts knowledge	Dokeos, HotPotatooes, EasyQuizz
Matching	Categories management	Dokeos, HotPotatooes, EasyQuizz
Maze	Operation. Sequence of actions.	Quandary
Listening comprehension, questions on a video, an image...	Interpretation	Dokeos + Audacity + QuickTimePro, alltheweb, AT&T Text to Speech
Fill-in the blanks	Vocabulary knowledge	Dokeos, HotPotatoes
Play with variables	Equation mastering	Dokeos + Flash

Interactive Test EL113

80 % or better is required for certificate of learning

Question 1 / 5

In the example below, the circuit function letter P, identifies the basic function of the circuit concerned. Letter P indicates that the wire is in the dc power distribution system of the aircraft.

P 2 1 5 A 4 N ALUM

Ground or Phase Letter

Wire Size Number

Wire Segment Letter

Wire Number

Circuit Function Letter

Figure A. Aircraft wire marking.

○ True

○ False

Cancel   Next >

VI. Building learning paths

The SCORM norm (*Shareable Content Object Reference Model*) allows to create, import and export learning sequences called learning paths.

Scorm acts on three levels

1. Pedagocical

Standardised navigation
Automation of the supervision
Sequencing of activities
Pre-requisites management
Time measure

2. Technical

Transport of the content as a ZIP package
Structure of the path in a file called imsmanifest.xml
Open format (XML)
Public norm
Multi-formats : CD-Rom, different LMS
Metadata for search engines

3. Economic

Content recycling
Sustainable development
Editability
Building resources collaboratively

Technically speaking, a SCORM course is a course articulated around a Table of Contents written in the XML language and saved in the ZIP format. This makes it portable to LMS, CD-Rom and so on.

Dokeos provides a tool called Learning Path to build SCORM packages.

VII. Quality management

To build a valuable learning path, you will have to analyse the situation and adapt the objectives of the training to the needs of the audience in terms of competences. It is one of the most difficult steps.

Then it is time for design : trying to modelise the competences so as to create learning situations that are as closer as possible to real life situations in order to contextualise. This step might be the occasion to build a planning of your development.

One analysis and design are done, you are ready for development. This includes the building of raw media : audio, video, texts... and their combination into learning objects. This phase should also include crash users tests.

Fourth step : the course begins. Time for adjustments on the fly according to the comments and requirements of the participants.

| Analysis	Development
Audience	Objects : tests, contents...
Content	Raw media (audio, video, text, ...)
Budget	
Objectifs	Sequencing
Design	**Maintenance (life)**
Activitiess	News
Roles in the dev team	Interaction
Plannning of development	Groups
	Tutoring
	Editing by more than one

In the design phase, it will be usefull to write a storyboard that details the differents steps of every lesson. The storyboard is a key tool to help you go down from ideas to action.

Example storyboard

| *Objectives*	*Method*	*Steps*	*Assets*	*Tools*
Draw a graph from numbers in Excel	Experimentation	Objectives	Text + screenshot	Dokeos + Gimp
		How to do it	Animated screenshot	Viewletbuilder
		Do it yourself	Web page + Excel file	Dokeos + Excel
		Show me how you did	Assignments tool	Dokeos
		Common mistakes	Page + Screenshots	Dokeos + Gimp
		Let's discuss your solution	Forum	Dokeos

VIII. The Dokeos authoring tool
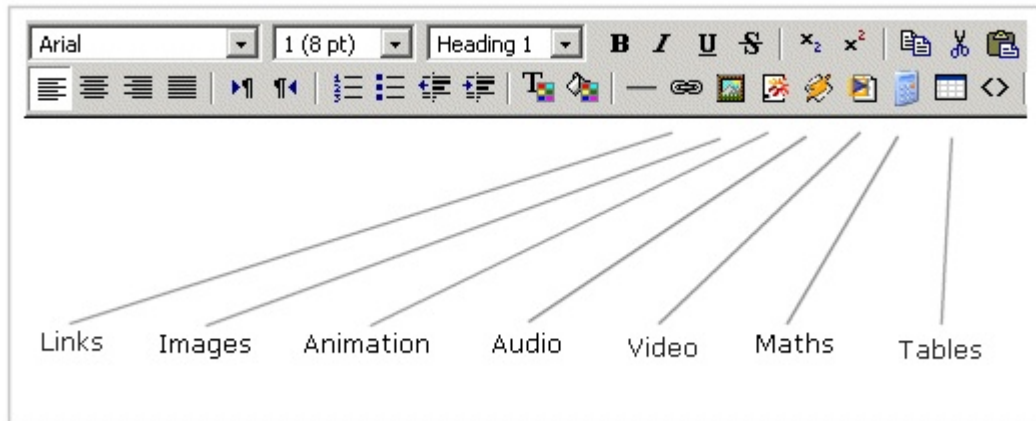
The Dokeos multimedia editor allows to integrate images, audio, video, Flash animation and mathematics. However, it does not allow to create these media. To create raw media, one can use different softwares. The most important is the format in which you save the document. Refer to the formats pentagon.

For example, you can use PhotoShop, PaintShop or The Gimp and many other softwares to create and treat images as far as you save them in GIG or JGP formatr. Identically to create FLASH animations (format name = .swf) you can use Macromedia Flash, RoboDemo, Qarbon Viewletbuilder, OpenOffice...

Dokeos suggests a list of these softwares. We do not pretend they are the best ones. Our goal is that they are:

- free or cheap,
- run on any or many platform(s) : Windows, Linux, Mac OS X,
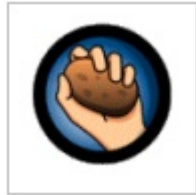- easy to use.
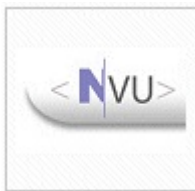
Create web pages outside Dokeos.

You can create a whole website on your local computer and then send it as a ZIP file to the Documents tool. Take care of moving the images and all objects and not only HTML pages.

Image management : The GIMP

Draw, cut, resize...

Tests : HotPotatoes

You can import HotPotatoes tests in Dokeos. This is one of the easiest ways to create sophisticated tests including images, drag and drop, fill-in the blanks...

Audio : Audacity

With a modest USB headset, you can record your voice and save it in MP3 format. Or you can use a voice synthesis tool to create audio from text : http://www.research.att.com/projects/tts/demo.html then use Audacity to compress it in MP3 format. Take care of using the same sampling frequency.

Animation : Wink

Without devling into the complexity of Macromedia Flash, create simple animations that record your movements on the screen of your computer and save it as a Flash file for web publishing. This tool is not free.

XI. Support

To conclude some links to more documentation:

The Teacher Manual, Admin Manual and some insights on pedagogy :
http://www.dokeos.com/documentation.php

The Dokeos users free support forum : http://www.dokeos.com/forum

The Dokeos contextual help : in every tool, you can click on Help. This will explain to the teacher how to use the current tool.

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Thomas De Praetere, April 10, 2005