

Specifications for WCO e-learning modules



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1. Introduction

The purpose of this document is to achieve maximum standardization of the e-learning materials developed by the WCO, in order to provide the highest possible level of consistency between the various courses on offer.

This document will be issued to the service provider selected to develop each new project, and compliance with the instructions contained herein will be a prerequisite for validation of the material delivered by the service provider.

This document can also serve as training support for technicians from Member Customs administrations and WCO regional training centres which host the platform, as it will help them towards a better understanding of the structure and composition of the various training modules.

2. Technical specifications

2.1. *Organizational structure*

A WCO **course** consists of **modules**, which can themselves be divided into four independent **parts** (lesson, quiz, case study, fieldwork).

2.2. *Screens*

Each part consists of a number of units – the screens. A screen contains, or may contain, the following :

- **Navigational elements** (described in the next chapter) and common elements
 - Flash files located in the “Common” directory
 - These elements must be interchangeable between courses, so that teaching paths can be created by mixing modules from different courses without inconsistencies in the graphics charter.
- **Explanatory texts**
 - Variables contained in .txt files located in the relevant language sub-directory within the “Text” directory.
 - See the chapter on "text files" for details of the specifications for these files.
- **Texts taken from official or legal documents**
 - Displayed as pop-ups in HTML format, with the files located in the relevant language sub-directory within the “Docs” directory.
- **Photos**

- .jpg or .gif files located in the "Pictures" directory.
- Their size must not exceed 50 Kbytes.
- **Flash animations or illustrations**
 - External to the files which form the structure of the screen
 - Located in the "Training" directory
 - Their size must not exceed 150 Kbytes.
- **Sound commentaries**
 - .mp3 files (32kHz, 56Kb/s) located in the relevant language sub-directory in the "Sound" directory.
 - Their size must not exceed 150 Kbytes
 - They must be loaded and played in stream mode
- **Links to external documents or legal texts**
 - html, pdf, FlashPaper, etc. files located in the relevant language sub-directory in the "Docs" directory.

All of these elements are called up by a Flash file specific to the screen, containing all the page-setting information. The size of this file must not exceed 150 Kbytes. If the screen content is so rich as to make this impossible, several files will have to be created (for example, pop-ups or sub-screens can be located in separate files).

2.3. Common elements

It is desirable, for reasons of maintenance and consistency, for all elements which may be re-used in several screens to be defined once and for all, as components in one or more Flash files located in the "Common" directory.

This applies, for example, to buttons, pop-ups, text zones, rollover bubbles, etc.

2.4. Text files

Text files must be saved in UTF-8 format.

The language sub-directories in the "Text" directory consist of :

- A text file containing elements common to all the screens in the module (titles, objective, recurring elements, programming variables where necessary...).
- One text file per Flash screen, containing the texts which must be displayed on that screen.

Each text is saved as a variable, containing the body of the text and any formatting elements in text format, as html tags.

The syntax is as follows :

&name_of_variable1=Text and formatting&

&name_of_variable2=Text and formatting&

The text files must contain these elements only. There must be a line break between each variable declaration. The file must not contain any other line breaks, characters or commentaries.

The text files contain information in HTML format, and it is important that the Flash text zones can interpret this information. All the hypertext links must also be encoded in the text files in HTML format.

2.5. Loading the elements that make up a screen

A progress bar showing what stage has been reached with the loading of each of the elements must appear systematically. In particular :

- On the screen background during the transition between two screens
- On the animation / image zone when a photo or external Flash animation is loading.

The different elements must load in the following order :

- Screen structure
- Sound
- Texts
- Animations / images

Once a screen has loaded, while the trainee is viewing it the next screen must load in the background, so that the only significant wait time is when the module is first loaded.

2.6. Running the modules

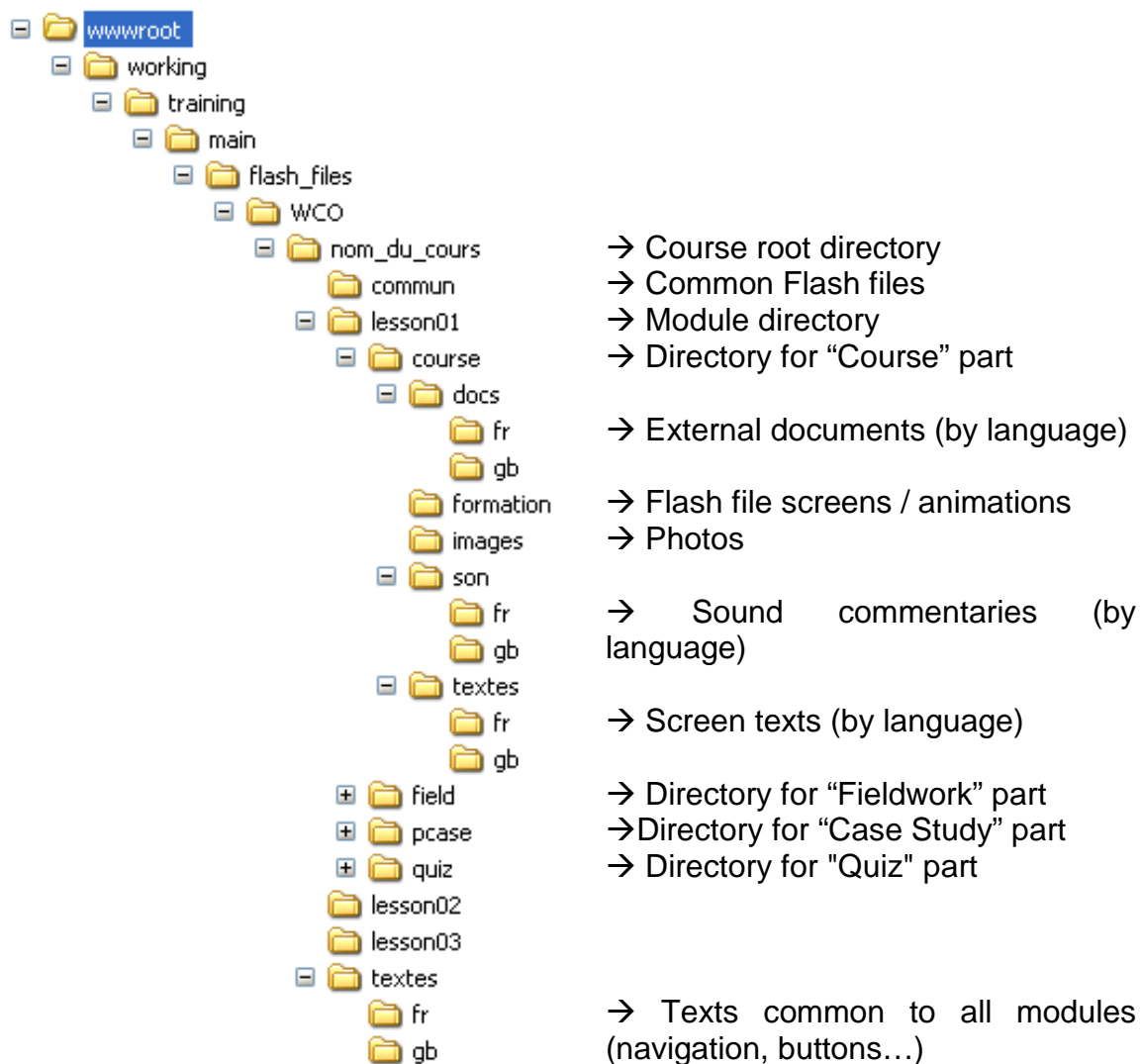
The modules are run using a "pilot" Flash file which assembles the various elements that make up a screen.

There are several versions of this pilot :

- A "local" version for running a module on a stand-alone computer or on CD-Rom.
 - These are .swf or .exe files.
 - These files are located in the root directory for the corresponding part of the module.
 - There must be one file per language and per mode (view / edit).
- An "online" version which can be run via the training platform
 - The file is located in the "Flash_files" directory (see above).
 - There must be one file per course.

2.7. Tree structure

Each course (set of modules) is located in a specific directory. Each module is then located in a "lessonXX" directory, where XX is the module number. Each part is the subject of a separate directory within the module. The tree structure is set out below:



The directory names, like the file names, must contain only lower-case letters.

2.8. Naming files

This paragraph specifies the file name structure to be used for each of the elements making up a module.

For the file name structures given below :

- XX= module number
- YY= screen number
- ZZ= number from 00 to 99, if several files are needed for a single screen
- NN= number from 00 to 99, if several files are needed for a single screen
- PART= part
 - cr=Lesson
 - cp=Case Study
 - st=Fieldwork
 - qz=Quiz

Flash files in Training directory

- Screens: *IXX_PART_eYY_ZZ.swf*
- Animations/illustrations: *IXX_PART_eYY_ZZ._animNN.swf*

Text files

- Text file common to all modules: *name_of_course.txt*
- Text file common to all screens in a module : *lessonXX.txt*
- Text files for a screen : *IXX_PART_eYY_ZZ.txt*

Sound files

- Sound files for a screen : *IXX_PART_eYY_ZZ.mp3*

External document files

- Document files: *IXX_PART_eYY_ZZ_NN.extension*

Photo files

- Images in a screen: *IXX_PART_eYY_ZZ_NN.jpg* (or *.gif*)

2.9. Administrator mode, language management

The modules must have text edit mode, available in two forms :

- Local, using a suitable pilot (see below).
- On-line, via the “Text edit” function on the training platform.

In both cases, this mode lets you edit and amend all texts displayed on screen (including text in animations, illustrations, buttons, etc.), and save them. Ideally these changes should be made directly on screen, and the text editor should also

include basic formatting functions (for example, text size, colour, bold or italic type).

As the WCO's modules are intended for use world-wide, it must be possible to translate them into any language (including in particular the Latin, European, Asian and Arabic languages), and modify them in that language.

This requirement has to be taken into account when developing Flash files and text files, as well as the administrator mode. In particular, it is requested that all zones defined in Flash as being suitable for receiving text must have either an automatic resize function to adapt them to the length of the text where possible, or a function which displays a vertical scroll bar if the text is longer than the zone set aside for it.

2.10. *Low bandwidth version*

As the WCO's distance learning programme is intended for distribution world-wide, WCO courses must be viewable in regions where the network infrastructure is still improving, and high bandwidth is not yet available. Every module must therefore be viewable in a downgraded version, in which file sizes will be significantly smaller.

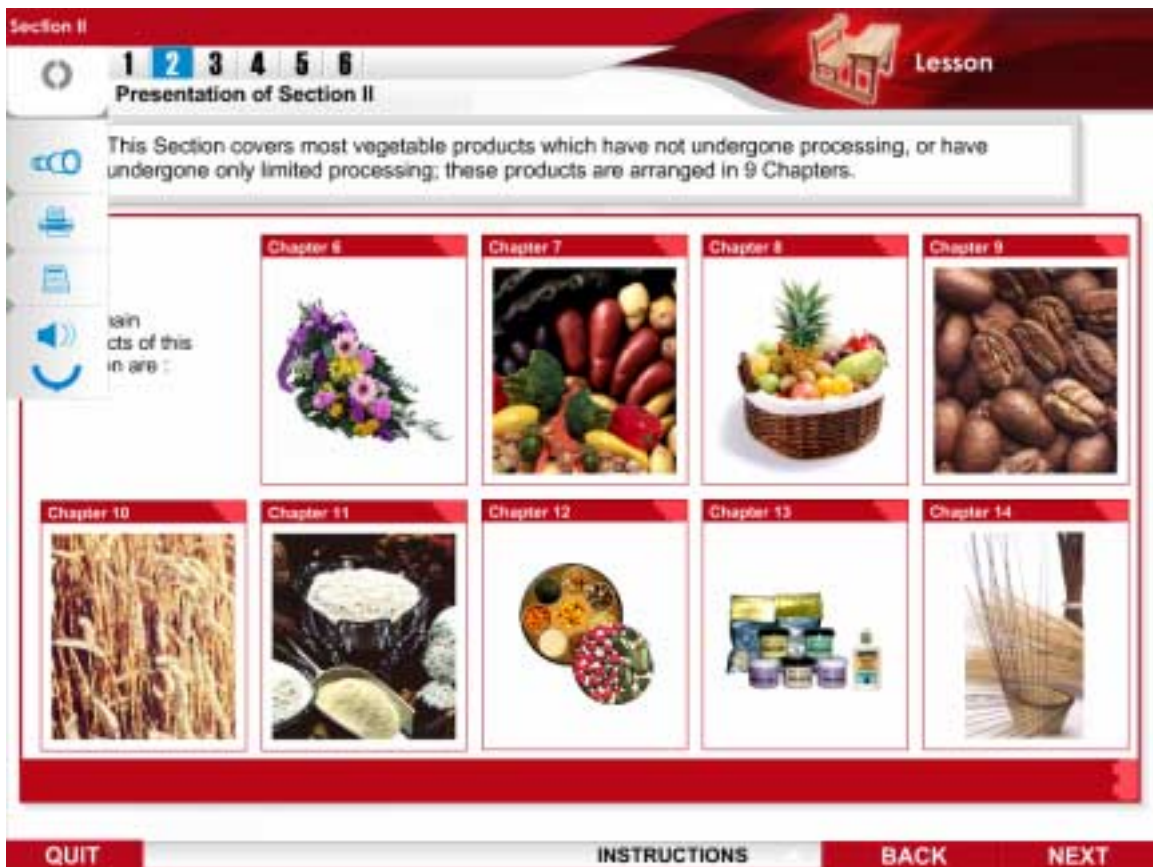
Other features of this version will include :

- Significantly reduced photo file quality, to optimize loading times
- No sound files
- "On demand" call-up for animations : each animation will be replaced by a button located in the zone where the animation should be. The animation will start loading only if the user clicks on that button.

3. Functional specifications

3.1. Screen composition

Here is an overall view of a typical screen. The various elements are described in detail below.



3.1.1. Title bar

The title bar is located at the top of the screen. It contains :

- The title of the module
- The name of the part (Lesson, Quiz, Case Study or Fieldwork)
- The chapter-by-chapter navigation bar



This bar divides each part of the module into numbered chapters. Each chapter may consist of several screens.

The number of the active chapter appears in a different colour from the other numbers. The title of the active chapter is displayed below the bar.

Rolling the cursor over the other numbers activates a graphic effect which highlights the number rolled over, and the title of the corresponding chapter is displayed below the bar, instead of the title of the module being viewed.

Clicking on one of the numbers takes the user to the first screen of the corresponding chapter.

3.1.2. Logo bar



The logo bar is located either on the left, or at the bottom of the screen.

This is a retractable bar which opens (vertically or horizontally, depending on its starting position) when you click on the WCO logo which is the basis for the bar animation. The bar will remain open until the user clicks on the logo again. The bar has four function buttons, represented by icons. Rolling over a button makes the name of the corresponding function appear below the icon.

Description of buttons :

- "Objective" (telescope icon) : this button opens a Flash pop-up containing a text which summarizes the learning objectives of the module. It is the same for all screens.
- "Print" (printer icon) : with this button the user can print the text, and any images on the screen which are printable, in a page format designed for maximum legibility on paper. In other words, it does not print the screen exactly as displayed to the user.
- "Library" (document icon) : this button opens a pop-up containing an HTML page which lists additional course materials (glossary, documents, links...) and provides access to them.
- "Sound" (loudhailer icon) : the sound commentaries are activated by default. Clicking on this button causes the sound icon to be displayed with a line through it, and a new, retractable bar showing the full text of the sound commentary appears at the bottom of the screen. In this mode, the sound commentary is not played. To reactivate it, the user must click on the button again.

3.1.3. Navigation bar

The navigation bar is located at the bottom of the screen. It provides the basic navigation functions.



The navigation bar is comprised of :

- A "Quit" button, on the left-hand side. This button takes the user back to the summary table on the platform.
- A "Next" button, on the right-hand side. This button takes the user to the next screen. On the final screen, the "Next" button leads to the summary table on the platform.
- A "Back" button, to the left of the "Next" button. This button takes the user back to the previous screen. On the first screen, the "Back" button leads to the summary table on the platform.
- The "Instructions" bar in the middle. This is a retractable, context-sensitive text box providing all the information needed to perform the interactive tasks on that screen. If there are several sub-screens or pop-ups, the instructions must change to match what is displayed on the screen. The text box opens and closes when the user clicks on the "Instructions" band. "Instructions" text boxes also display the WCO e-learning mascot (see § 4.1).

3.1.4. "Sound" bar

This is a retractable text box, similar in design to the "Instructions" box. It occupies the entire width of the screen, appearing just above the navigation bar. This text box is displayed when the sound function has been deactivated using the "Sound" button on the logo bar.

3.2. *Structure of the different parts*

3.2.1. Structure of the "Quiz" part

The "Quiz" part of a module is structured as follows :

- An introductory screen (numbered as 1 on the chapter-by-chapter bar).
- A screen where the quiz questions are displayed one after the other (numbered as 2 on the chapter-by-chapter bar).
- A final screen displaying the trainee's score and a comment appropriate to that score (numbered as 3 on the chapter-by-chapter bar).

Introductory screen

This consists solely of a text specifying the objectives of the quiz.

Questions screen

The “Quiz” kinematics are as follows. When the user enters the Questions screen, the first question is displayed. The user must answer the question by clicking on a “Validate” button. Until this has been done, the user can change his answer.

When the "Validate" button is clicked, it changes to “Next question”. At the same time, a graphic shows the trainee whether he gave the correct answer or not. A comment is also displayed – its content depends on the answer given by the user. Clicking on the "Next question" button allows the user to continue with the quiz.

After the final validation (last question), the "Validate" button changes to “Result”.

5 types of questions must be available :

- Straightforward multiple-choice questions
- Questions where elements must be “drag and dropped” between two columns
- Questions where elements must be “drag and dropped” onto illustrations
- Questions which involve connecting the matching elements between two columns
- Questions which involve inserting the missing words or phrases in a text.

The variables in the text file for the Questions screen make it possible to choose :

- The number of questions posed
- The type of question used in each case
- The wording of the questions and the possible answers suggested
- The correct answer
- The comments displayed against the correct and incorrect answers.

Ideally, it should be possible to apply these parameters using an interface which enables the settings to be established ergonomically, so that a text file forming a new quiz can be generated.

The questions should be displayed in random order. The total number of questions available should exceed the number of questions posed.

Results screen

This screen displays the user’s score, as a percentage. The score is saved automatically when the trainee quits the screen by whatever means.

The score is transmitted to the platform by the POST method, to the update_score.asp page (Main directory).

3.2.2. Structure of the "Fieldwork" part

The "Fieldwork" part of a module is structured as follows :

- An introductory screen (numbered as 1 on the chapter-by-chapter bar).
- A screen on which the survey questions are displayed one after the other, with the answer zones (numbered as 2 on the chapter-by-chapter bar).

Introductory screen

This consists solely of a text specifying the objectives of the survey.

Questions screen

This is a screen displaying a certain number of questions, with "free text" zones opposite them.

Two questions can be displayed per page. If the survey involves more than two questions, navigation takes place using the "Next" and "Back" buttons.

Underneath the final question there is a button enabling the trainee's answers to be sent to the platform and saved (use of the questionnaire() function which has already been developed).

The variables in the text file for the Questions screen make it possible to choose :

- The number of questions posed
- The wording of the questions

3.2.3. Structure of the "Lesson" and "Case study" parts

The structure of these parts is as follows :

- An introductory screen (numbered as 1 on the chapter-by-chapter bar) in the form of a text setting out the objectives to be attained and outlining the content of the module.
- Content screens, of which there may be any number (numbered as 2 to XX on the chapter-by-chapter bar).
- A conclusion screen (numbered as XX+1 on the chapter-by-chapter bar) which summarizes the knowledge acquired and invites the trainee to continue along his training path.

4. Graphics specifications

4.1. General

The graphics style must be streamlined and well-spaced, avoiding excessive detail and overloading. For illustrations, photo-style treatments should be preferred to drawings where possible.

In the interests of overall harmony on screen, it is better to avoid very strong divisions between the different zones on screen (the use of frames and boxes, for example).

N.B. The Ugo mascot (shown opposite) must be used only in the “Instructions” box.



4.2. Interactive elements

4.2.1. Buttons

All buttons must have the same design, which must be consistent with the remainder of the graphics charter, on all the screens within a single course (see § 2.3).

The buttons may be in any one of three states :

- Not clicked
- Rolled over
- Clicked

These three states must be identified by a graphic effect which distinguishes them from each other (colour change, 3D effect ...).

4.2.2. Other clickable elements

Other interactive elements (part of an image or animation, elements to be drag-and-dropped...) must be identified by an effect when they are rolled over. Other graphic effects (framing, flashing...) should not be used to draw attention to them.

Where possible, it is helpful to indicate the “clicked” status of these elements using a graphic effect (shading, for example).

4.3. Other graphic elements

4.3.1. Pop-ups

This is a common element (see §2.3) which must, nevertheless, be adapted to suit the use being made of it on the various screens.

Pop-ups must be of an appropriate size for the text they contain. They must be moveable and must have a title bar.

When a pop-up is open, the elements beneath it must be deactivated. Also, if a pop-up incorporates interactions, the instructions in the Instructions box must be changed accordingly when the pop-up opens.

It is not advisable to use more than two levels of successive pop-ups.

4.3.2. Texts

Texts displayed on screen must be in Arial font, except where special circumstances require the use of a different font (e.g., illustrations), which will then be loaded in the Flash file.

As far as possible, all text should be displayed in the same font size.

It is important to ensure that text is well spaced out and make it as legible as possible, through appropriate formatting (line break between paragraphs, use of bullet points for lists, titles in bold, etc.)

4.3.3. Animations

No "passive" animation should figure as the only element on a screen, without there being a "run animation" button to avoid the need to run the entire animation in order to access the next part of the screen.

4.3.4. Maps

Where a map is required, unless otherwise stated the map must be accurate, and must not show town or country names, just boundaries.