

e-Label Prototype Cycle

Last updated 16 April 2014

Objective

To produce an indicative system using part-functional web-site pages and database tables, on which to base the Initial Release version on. This is to concentrate on the overall operation of this project, combined with the look and feel of some of the web-pages, from the user's point of view. The construction of some web-service methods will also be done to support the mobile 'Apps' development. All of this is to be done in a timely manner.

Components

Entities

e-Label: The Concept

e-Label Image: The Image that is printed or displayed containing the identifying QR-Code image plus useful information and symbols.

e-Label Display: The ability to scan a QR-Code and thence display a list of media attached to that QR-Code based identifier. The media assets can be displayed in-turn or randomly as the end-user wishes. The Media assets can include a Feedback survey for end-users.

e-Label End-Users: These can either be anonymous or known to the system; known End-Users are either previously registered with the system or Tied HFI e-Learning Trainees. The registration process is optional and to be kept simple.

e-Label Response: The accessing of the dedicated web-site by scanning a QR-Code is logged, and associated to an end-user. Any feedback left by end-users is collated and presented to Customers in a report form.

e-Label Control: The customer facing control of the e-Label and its contents with reporting.

Web-Site (Prototype pages)

This is to be a dedicated web-site for the e-Label system. Housing all the web-pages associated with it as well as the database tables. End-user access is either by re-direction from scanning a QR-Code, or by entering the underlying e-Label Identifier in the 'Landing' page. Customer access is either by direct log-in using their e-Learning credentials, or indirectly from the e-Learning system or CMS using the 'remote' log-in identifier; via a grace page. Returning to the e-Learning system will be by the same route.

End-User Landing Page

This is used to check the validity of presented QR-Code identifiers, and pass users on to the Display page. It is also used to enter an e-Label identifier manually or display a 'not recognised' message. (link from home-page)

Customer Landing Page (not implemented)

This is used to check the credentials of the customer and then pass users on to the e-Label selection page. It is also used for customers to manually log-in to the system, display an 'unknown trainee' message. This page is also the landing page for the HFI-Admin users, but it directs them to the system control page.

Display Page

This web-page is used to present the media assets to the End-User. It uses a simple log-in by 'Remote Identifier' (blank, TRID or EURID) to recognise Registered and Tied end-users, all others will be considered Anonymous. Anonymous end-users can register if they wish, by a simple sub-screen form, and Registered end-users can edit their details in a similar manner. We could use cookies to prompt end-users or assume end-user identities. If the media assets contain 1 or more surveys or questionnaires, then any responses are stored under the current End-User Identity.

Control Home / Selection Page

This web-page will display a table of current e-Labels created by the customer, showing scant e-Label details along with Access and Feedback metrics. Upon selection, the e-Labels full details are shown for elucidation or editing. There shall be 4 action buttons to open 3 sub-pages 'Image', 'Asset' and 'Report', and a 'New' button to create a new e-Label.

Image Editing Page

This sub web-page will display an outline version of the e-Label print image, to facilitate easy editing. This page does an assemble edit, to get the bits of the image all together in the right order and visual placement with the use of layout templates, prior to Publishing. A child pop-up 'wysiwyg' print page allows for final image layout checks, and is ready for interim printing if required. Publish will save all the layout details and create an Image for display purposes, it can also export a document to allow for external post editing processing, if the customer wishes. This page will have banks of pre-defined symbols ready for insertion into the e-Label image, along with the ability to enter and edit text blocks with simple HTML formatting.

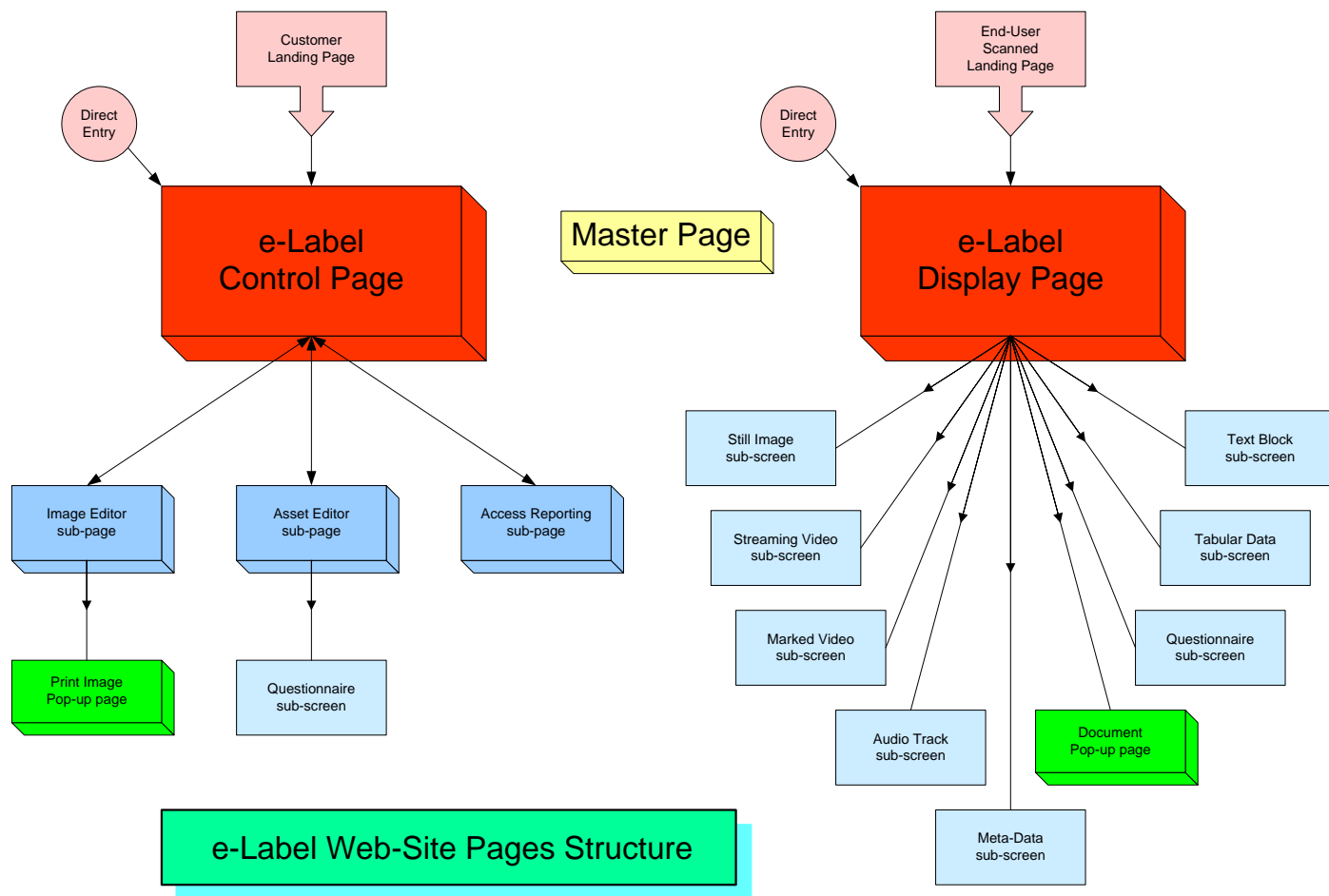
Media Asset Page

This sub web-page will allow the compiling of the individual assets to provide the presentation and surveys that make-up the display side of the e-Label. There will be a section of the page used to create and edit any questionnaires required. The questionnaire items to be very simple 4 basic types; they are text display, data entry, single-selection or multiple-selection; short responses to short questions.

Report Page

This sub web-page will display the selected e-Label in full detail, along with a breakdown of the metrics in tabular form, with date filtering. The Feedback responses will be available in a slave table when selected in the metrics table; there will also be an export facility for the contents thereof.

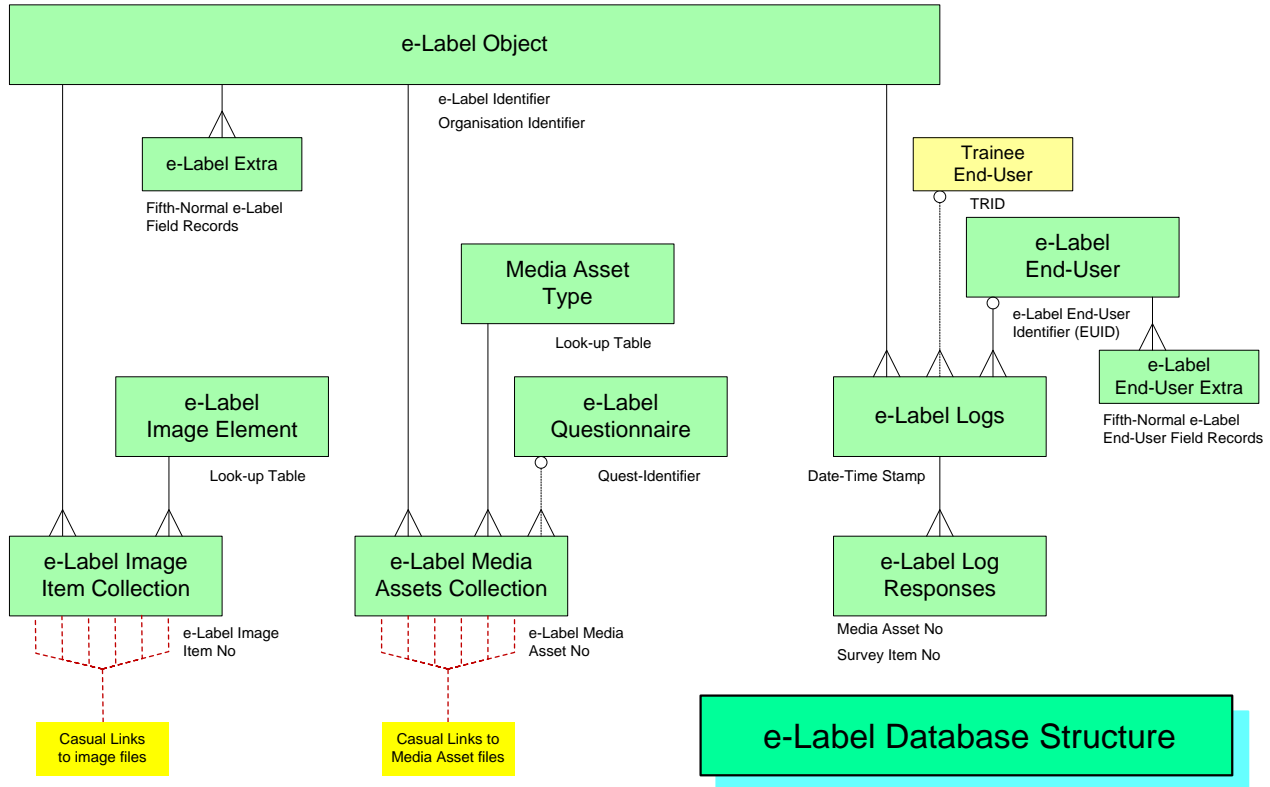
e-Label Site Diagram



The two halves of the e-Label; Customer Control and End-User Display.

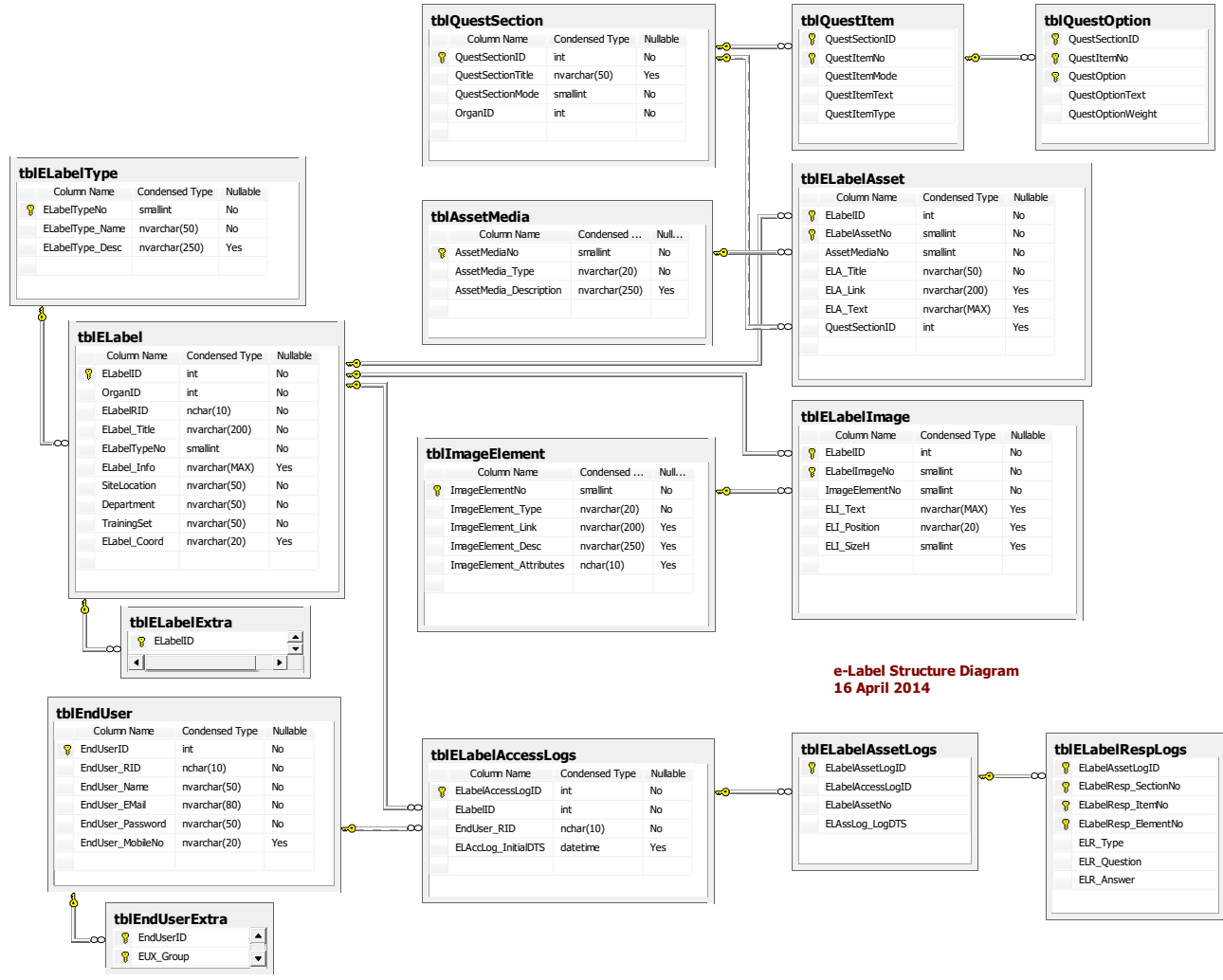
Database

Relationship Structure Diagram



e-Label Database Structure

All tables



Conclusions and Recommendations for Initial Release Version

e-Label System

A new server is to be used to house both the web-site and database. It can be one of the little used systems we currently have, either UK2net or Hostway. This will allow for the complete independence from both of the e-Learning and CMS servers, improving reliability and response times for all web-sites.

Web-Site

This web-site is to be built using HTML5 rules, with support for HTML4 based browsers, but not previous versions. The web-site is to use Microsoft dot-net technology on the server and to use Java-Script and J-Query on the client. Using Server Forms based, Server MVC based, or Client MV* based paradigms; depending on discussions yet to take place. All of the web-site pages and sub-pages are to use the same Master page to contain oft-used routines and common style-sheet rules. Web-services will be used to log-accesses and provide asset-data for display, as these can be re-used by the mobile 'Apps' version of e-Label display.

Database Changes

e-Label

- Remove 'ParentELabelID' field from tblELabel, this can be done using 'Extra-Data' records if needed. **done**
- Add 'ELabel_RID' field to tblELabel, and use instead of 'ELabelID' field in access-log table. **done**

Image Elements

- Move the external-link-URL from tblELabelImage to tblImageElementType, and rename tblImageElementType to tblImageElement. **done**
- Change 'ELI_Scale' field to 'ELI_Size' field (horizontal A4 page, 120 point per inch scaling), to allow for source image changes (size) not affecting previous layouts. **done**
- Other changes to tblImageElement to reflect on its new usage.

Log Tables

- Add 'Question-Type' field to tblELabelRespLogs. **done**
- Add a 'sub-ItemNo' or 'Item-ElementNo' key field, to simplify the multiple-select question responses. **done**

Web-Site Pages

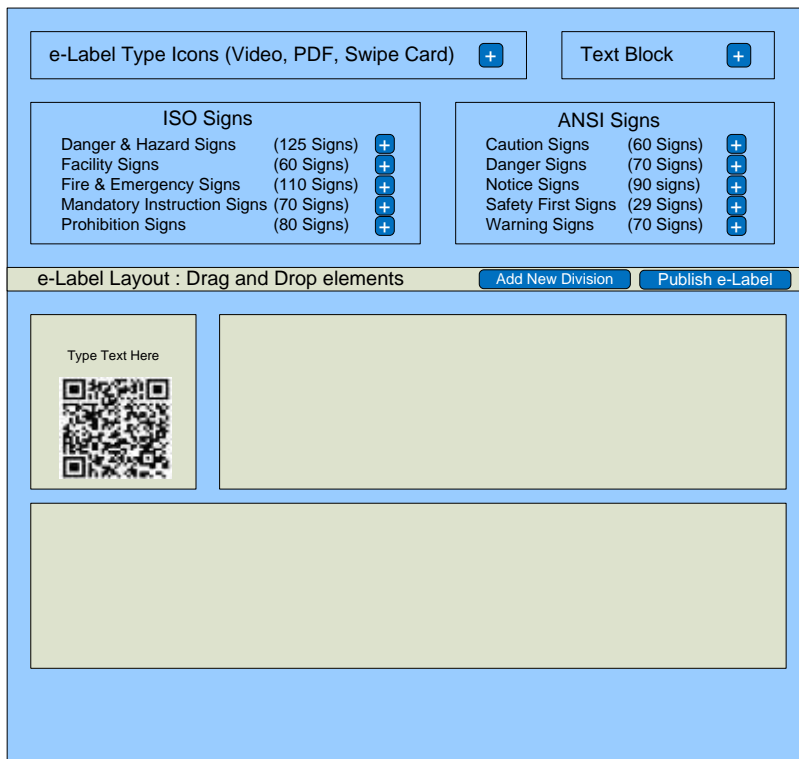
The two halves of the web-site are the Control-side and the Display-side; both can use landing pages or direct access using inline-frames on other web-sites. There is no conventional web-page navigation, aside from links to sub-pages with associated 'back' links or bread-crumbs navigation. The balance between server-side and client-side processing, is biased towards the client, as there will be web-services needed by the HFI-Mobile 'Apps' versions so there is no need to duplicate effort.

e-Label Control page

The Customer 'e-Label Control' web-page is to be accessed as an Inline-Frame, contained on the e-Learning system initially. There is a Customer Landing-page available for independent access; if it is needed in the future, we can expand it to use self-authenticating credentials (very hard passwords) stored in the database as a special 'End-User'.

e-Label Image Editor sub-Page (skeleton)

The Prototype only produced a skeleton page, although with a functioning QR-Code image generator. The Initial Version is to follow the page layout as described in the Feasibility-Study, reproduced here.



'+' buttons open child windows with symbols, click to insert in to parent selected block, then drag to desired position. Previously inserted symbols can be selected and dragged or deleted. Text blocks can be edited directly, and re-sized.

**e-Label Image Editor
Web-Page Layout Guidance**

e-Label Asset Editor sub-Page

This page works well in the Prototype Version, but will require a different layout for the editing and selection of media assets, along with the expansion of the display layout and data. The 'wysiwyg' section can continue to use pop-out windows, duplicate the methods used in the e-Label Display page, or use the e-Label Display page with end-user processing and logging inhibited, in an inline-frame; this could also be achieved by using 'User-Controls' to build this functionality.

e-Label Access Report sub-Page

This page works well but the filtering and survey reporting has not been implemented. The detailing of registered end-users has not been decided upon as regards what is wanted and required by Customers.

e-Label Display Page

The End-User 'e-Label Display' web-page may be accessed after scanning a QR-Code image, via a landing page by redirection, by use of a landing page containing an inline-frame that loads the display web-page, or by use of a single self-contained landing-display web-page.

On the Prototype version, this page contained two separate ways to handle the Media-Assets display. The top part of the page showed an automatic presentation style, where the media were presented one after the other in-situ, in the same manner as the e-Learning training programmes. In the bottom part there was a collection of media-asset boxes, with scant details, where the user selected them at random and they displayed or played in a pop-out window.

For the Initial Release Version, it was decided to use a combination of these two paradigms for various reasons; the slow response to the use of pop-out windows combined with their prohibition by some browsers, as well as the possible unwelcome data-charges for smart-phone users from automatic playback. For the Initial Version we will use the collection of media-asset boxes, with thumbnails and scant details, combined with in-situ display; with the exception of 'Documents' which will have to use a pop-out window to retain simplicity. This form also works well with smart-phones which often have limited screen display resolution. The web-page should detect mobile devices and morph the contents to fit appropriately, using sub-screens and inline-frames if necessary.