InfoAktiv

Bring Information to Life

InfoAktiv

Audit Data Analysis

Guide

For InfoAktiv Version 3.2 - August 2010

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Preface

The purpose of this document is to enable Owners to prepare the Audit Data files produced by the InfoAktiv system for analysis. It uses a simplified set of data to demonstrate the methods used.

Where Badge scanning is used, this document will show Owners how to create a file of unique badge numbers, for the Registration service company, and then how to link the audit data and badge data files and produce a combined Excel spreadsheet for analysis.

This document will also show how to create Excel Pivot tables to produce analysis and graphs

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End of Day – Audit File Creation

The End of Day panel allows you to extract the data that InfoAktiv has collected. The '**Copy Data**' button is used to copy the audit file of the current Content Folder to a USB memory stick. When you click this button, you are prompted to select the location where the audit file is to be copied. A folder called <kioskID>-audit-<content folder>-<date> is created in the selected location. Within the folder, a file called '<kioskID>-audit-<content folder>-<date>.txt' is created. All the audit data is copied into this file.

If any "Email Requests" are encountered in the audit file, the document associated with the request is also copied into the folder created.

NOTE: If two files in different subfolders share the same file name, only one of them will be copied to the audit folder created.

The Copy Data process will download the entire audit file, not just one day's data; it also merges the audit header file in the process so that you know to what each column of data refers. To avoid confusion, once copied, you may want to delete the audit file from your Content Folder's '~config' sub-folder after downloading it, or move it from the ~config folder to another directory on the kiosk. InfoAktiv will automatically create a new audit file as soon as the content folder is selected and the start button is clicked/touched.

The ‘email request log’ Audit File – for Specialized Use

In addition to the standard audit file, InfoAktiv produces a second file that consolidates multiple email requests by the same user into a single row. It is in the same folder and called ‘<kioskID>-email request log-<content folder>-<date>.txt’. This can be used as input for email automation systems when you want to send Users one email each, with multiple hyperlinks or attachments, conditional upon the specific documents they requested.

It helps to understand the underlying process:
When creating the standard audit file InfoAktiv provides one column for each of the ‘Available Questions’ (questions in the qbase.txt and qbasemc.txt files). The columns are in the same order as the questions appear in the ‘Available Questions’ list. ie. All questions in qbase followed by all questions in qbasemc.

When InfoAktiv creates the Email Request Log it starts with the normal audit file and then:

1. Scans it to find the first question (column header) containing the word ‘email’.
2. It then uses this column to de-duplicate the email IDs in it and consolidate each email ID’s requests for documents.
3. InfoAktiv adds an extra column to the file for every unique document requested and puts a ‘1’ in those columns against the email IDs that requested that document.

For this to work properly, it is essential that the ‘email’ question you want to use for the consolidation is the first question in qbase (the ‘Available Questions’ list in Content Manager) to contain the text ‘email’.

If your Content Folder wasn’t set up with this in mind, you may well find the email request log unusable.

Importing the Audit File into Excel

The copied audit file will be a '.txt' file that can be opened and analysed using Excel or a similar product – the following procedure is using Microsoft Excel, and the options used within the wizard should be the default options. Within Excel, select the .txt file for opening and the text import wizard appears.

Step 1 - The file is delimited, starts at row 1 and the file origin is DOS. Click 'Next'

Step 2 – The delimiter selected is *'Tab'* and the qualifier is ***",*** Click *'Next'*

Step 3 – Column data format should be *'Text'*, Click *'Finish'* – selecting 'Text' avoids dropping the leading zeros from phone numbers for instance.

Step 4 – On the spreadsheet, adjust the column width as normal by double-clicking in the top lettered cell on the bar to the right of the cell.

Step 5 – From the spreadsheet toolbar, select 'Data/Filter/AutoFilter' and drop-downs should appear on each column. In Excel 2007, you will need to highlight all of your data (by clicking the box in the upper left border of the spreadsheet) and select Data/Filter.

Note that the more questions you have in your content, the more columns are present. Using the filter drop-downs, you can identify the various requests for information and contact as well as the content viewed.

Creating a Badge Number File

The company supplying the Badge service may require files in a specific format in order to provide matching badge data. So far you have imported the audit data file into an Excel spreadsheet. At this stage you can create a copy of the data and then use the copy to select only the column with the badge numbers and sort from low to high. It is likely that the data will need to be cleaned of obviously incorrect badge numbers (note, the format may use alphanumeric), duplicates and blanks.

In Excel 2007 you can use the Data/De-duplicate function to produce a file with one instance of each badge number in it.

You should end up with a column of pure and legal badge numbers in ascending order. The badge service company, in return, will need to supply you with a delimited text file of badge number records and the data associated with those badge numbers as the data of that record. i.e. 1123 Dave Slater InfoAktiv Ltd Software sector …..etc

It is important that the badge service company understand that you need the badge numbers themselves with their associated data and not just the registration data.

Linking Audit Data with Badge Data

If you have the skills, this can be accomplished using Excel macros, if not then you can use Microsoft Access or other similar database products. The following example uses MS Access.

First it is suggested that the audit data file is cleaned of unused columns and any invalid rows, such as those used to test the setup before going live. The data should then be exported as a 'txt' file. Access can also import 'xls' files but I have chosen to use text formats.

Import the data files

Open a new access database, click 'File', 'Get External Data', 'Import';

Select the Audit data for import and note that the first row is column headings:

To a New Table:

Go to the Bage Number field, index it with duplications allowed. This enables links and searches to be quicker by using an index, don't worry if you miss this, you probably won't notice the speed difference!

Let access add the primary key:

Give your table a name:

Now import the badge data, note that the badge numbers should be unique, i.e. no duplicates.

It is delimited:

The data is forming a new table:

Select the Badge numbers to be indexed, no duplicates and very importantly, select the badge numbers as 'Text' – if you miss this you will not be able to join the tables.

This time, you choose the key:

Name the badge table and click ‘Finish’:

You now have both the Audit and Badge data as Access Tables

Linking the Tables

Now we need to link the tables. On the menu bar select 'Tools' and from the dropdown, select 'Relationships'. Add both the tables through clicking the 'Show Table' tool icon.

You then add both the tables that you want to join. Now the trick is to make the badge field on the audit file viewable and drag the cursor from the audit badge field to the Badge Data badge field. This causes an 'Edit Relationships' window to pop up:

Click the 'Join Type; and select option 3:

Create a Query

Back on the Objects toolbar, click ‘Queries’ and use the wizard. The first step looks like the following where you can select the field you want from each table that we linked.

Add all the fields and then select the Badge Table and select all fields.

Show every field of every record:

Name the query and tick the 'open the query to view the information' box:

Export the combined data

Because you selected to view the information, Access displays the contents of the query, all you need to do now is get hold of that data. So, Select ‘File’ and ‘Export’ from the menu bar and choose to save as an Excel 4 ‘xls’ format.

Congratulations, you now have a complete set of linked data to analyse with Excel pivot tables.

Creating and Using MS Excel Pivot Tables

In this section I will use the combined data file which I have also modified to include information requests. Your real data is likely to have a lot more useful information to analyse, but, at least the principle shown here will translate to a larger data set.

The data to be analysed is shown in the screenshot below. I will be creating a summary of Request types, a list of all those customers who made a request and a list of all actions carried out on the collateral. This last piece of analysis could be useful in assessing the popularity of certain material for a given audience for instance.

	A	B	C	D	E	F	G	H	I	J	K
1	ID	KioskID	Repositor	Session	ActionNo	Timestamp	ActionTyp	Document	Request	Badge Nu	Field2
2	1	DEFAULT	C:\InfoAkti	793	1	20/08/2009	New Session		email	1111	Dave
3	2	DEFAULT	C:\InfoAkti	796	1	20/08/2009	New Session		email	1112	Steve
4	3	DEFAULT	C:\InfoAkti	797	1	20/08/2009	New Session		contact	1113	Alf
5	4	DEFAULT	C:\InfoAkti	798	1	20/08/2009	New Session				
6	5	DEFAULT	C:\InfoAkti	798	2	20/08/2009	Viewed	C:\InfoAktiv\Sample Content\Paper - The Environmental Catastrophe.pdf			
7	6	DEFAULT	C:\InfoAkti	799	1	20/08/2009	New Session				
8	7	DEFAULT	C:\InfoAkti	799	2	20/08/2009	Viewed	C:\InfoAkti	usb	2222	Hanna
9	8	DEFAULT	C:\InfoAkti	800	1	20/08/2009	New Session		usb	2223	Barbara
10	9	DEFAULT	C:\InfoAkti	801	1	20/08/2009	New Session				
11	10	DEFAULT	C:\InfoAkti	802	1	20/08/2009	New Session				
12	11	DEFAULT	C:\InfoAkti	803	1	20/08/2009	New Session				
13	12	DEFAULT	C:\InfoAkti	804	1	20/08/2009	New Session				
14	13	DEFAULT	C:\InfoAkti	805	1	20/08/2009	New Session				
15	14	DEFAULT	C:\InfoAkti	806	1	20/08/2009	New Session				
16	15	DEFAULT	C:\InfoAkti	807	1	20/08/2009	New Session				
17	16	DEFAULT	C:\InfoAkti	808	1	24/08/2009	New Session				
18	17	DEFAULT	C:\InfoAkti	809	1	24/08/2009	New Session				
19	18	DEFAULT	C:\InfoAkti	810	1	24/08/2009	New Session				
20	19	DEFAULT	C:\InfoAkti	811	1	24/08/2009	New Session				
21	20	DEFAULT	C:\InfoAkti	811	2	24/08/2009	Viewed	C:\InfoAkti	email	1420	Goldy
22	21	DEFAULT	C:\InfoAkti	811	3	24/08/2009	Viewed	C:\InfoAkti	email	1420	Goldy
23	22	DEFAULT	C:\InfoAkti	812	1	24/08/2009	New Session				
24	23	DEFAULT	C:\InfoAkti	812	2	24/08/2009	Viewed	C:\InfoAkti	contact	1534	Locks
25	24	DEFAULT	C:\InfoAkti	813	1	24/08/2009	New Session				
26	25	DEFAULT	C:\InfoAkti	813	2	24/08/2009	Viewed	C:\InfoAkti	usb	1533	Fred
27	26	DEFAULT	C:\InfoAkti	813	3	24/08/2009	Viewed	C:\InfoAkti	usb	1533	Fred
28	27	DEFAULT	C:\InfoAkti	814	1	24/08/2009	New Session				
29	28	DEFAULT	C:\InfoAkti	814	2	24/08/2009	Viewed	C:\InfoAkti	email	1766	Barney
30	29	DEFAULT	C:\InfoAkti	815	1	24/08/2009	New Session				
31	30	DEFAULT	C:\InfoAkti	815	2	24/08/2009	Viewed	C:\InfoAkti	email	1890	Wilma
32	31	DEFAULT	C:\InfoAkti	815	3	24/08/2009	Email Rec	C:\InfoAkti	email	1890	Wilma
33	32	DEFAULT	C:\InfoAkti	816	1	24/08/2009	New Session				
34	33	DEFAULT	C:\InfoAkti	817	1	24/08/2009	New Session		usb	2370	Ian
35	34	DEFAULT	C:\InfoAkti	818	1	24/08/2009	New Session				
36	35	DEFAULT	C:\InfoAkti	819	1	24/08/2009	New Session		usb	2360	Neil
37	36	DEFAULT	C:\InfoAkti	820	1	24/08/2009	New Session				

Next we create the Pivot table by selecting the ‘Insert’ tab and ‘Pivot Table’

The first task is to highlight the range of data used in the analysis so click the icon at the end of the top box in the drop down and a smaller window replaces the Pivot drop down. My selection is outlined by the dotted line in the shot following.

Click the close ‘x’ on the drop down and we are back to the Pivot drop down as shown below. I like my table to be on a new worksheet, so I have selected the appropriate location box.

Click ‘ok’ and you will see the following screen, which is the workings of the Pivot Table selection and display. Notice the display to the left and ‘field list’ to the right.

Note that the table is organised in row & column format and that you can drag and drop fields either into the display area or into the boxes in the field list area, both of which are shown here in more detail.

The first analysis I want to see is how many requests of each type were made. Selecting the 'Request' filed automatically makes this a row heading. To make it a column heading then just drag and drop to either the display or field list area. Likewise, I want a sum of the actions so again, either drag the 'Request' field to the display data area or the $\sum$ area. This then creates the following screen:

Notice that we also have an entry (blank) and also by the Field name we have a drop down arrow. Which on selecting causes the following drop down to appear in which you can sub select the required actions to analyse.

Now I want to know who made those requests, again, note the fields that were dragged over to the boxes in the Field List, and that in the Display area, I have deselected '(blank)'

	A	B	C
1	Drop Page Fields Here		
2			
3	Count of Badge Number		
4	Request	Field2	Total
5	contact	Alf	1
6		Locks	1
7	contact Total		2
8	email	Barney	1
9		Dave	1
10		Goldy	2
11		Steve	1
12		Wilma	2
13	email Total		7
14	usb	Barbara	1
15		Fred	2
16		Hanna	1
17		Ian	1
18		Neil	1
19	usb Total		6
20	Grand Total		15
21			
22			
23			

Quite easy so far!

For the next step, note on the toolbar, the icon for 'Pivot Chart', clicking this will produce the next screenshot.

Have a browse of all the formats available. Select 'ok' and you now have a graphic representation of the data as shown in the following screenshot.

Take your time to look at the toolbar, undo and try other formats for instance. Also note the 'Filter Pane' drop down, check it out while it's here, then close it.

One last thing before the end, analysis of collateral viewed. First go to the top of the toolbar and select the 'Analyse' tab then 'Clear Data', click in the blank chart and press delete. This clears the decks for the next analysis. Click in the blank data area if everything still looks empty.

Now drag the 'document' field to both the 'row' and the summation boxes; also add the Badge Number field into the 'Row' box which should give you something like the screen that follows.

The results in this case aren't very exciting as this is using some very limited data, but, at least it demonstrates how versatile Pivot Tables are in analysing data. It is also worth bearing in mind at the design stage of your Content Folder, what questions to ask users that would give you meaningful analysis, or test how successful a show, format of the display, or attractiveness of the collateral was.

This ends the Audit Data Analysis section.