

# What's new in Blaise 4.8.3 & 4.8.4

Blaise Team  
IBUC, April 24, 2012

# Additions

## Additions to Blaise since IBUC Baltimore

### ▶ Blaise 4.8.3

- Support for non-Western languages
- CATI extensions
- CAWI extensions
- CARI extensions
- ...

### ▶ Blaise 4.8.4

- Accessibility (Section 508)
  - CARI extensions
  - Partial rewrite of BOI handling
  - ...
- 

# Agenda

- ▶ Non-western language support
  - ▶ CATI extensions
  - ▶ CARI extensions
  - ▶ Accessibility (Tim)
  
  - ▶ If time allows some extras
    - Using XML to produce a report
    - Tips & Tricks
- 

# Non-western language support

- ▶ Increased use of different languages in one datamodel
  - Mixing Chinese, Hebrew, Arabic, Russian,... all in one datamodel
- ▶ Problems encountered
  - The currently active Windows code page is used to display the texts on the screen
    - Each character is represented by one byte
  - All texts are displayed left-to-right

# NWL support

- ▶ Some workarounds are already in use
  - Additional font definitions
  - Unicode Translated Interviewing Program (Unitip), CentERdata.
    - Paper '*An End-to-End Solution for Using Unicode with Blaise to Support Any Language*', IBUC 2009
  - Sometimes it just works when using the correct Windows version: Chinese
- ▶ B-CLUB asked to improve this
  - Without changing the whole system
  - Anticipating that it will be solved in Blaise 5

# NWL support

## Solution

- ▶ System still ANSI (single byte)
  - No changes to how meta and data are handled
  - No changes to Blaise editor
- ▶ Extension of the datamodel properties: user can specify for each defined datamodel language
  - The encoding
  - Whether the language is right-to-left
- ▶ Used only in the DEP and in Blaise Internet
  - DEP now uses Unicode controls (widechar based)
- ▶ Important: make sure a font is used that can represent the character set used!

# Encoding

Blaise supports several encodings

- ▶ Best one: UTF-8
- ▶ Second best: use existing codepage definitions
  - GB18030 – Chinese
  - CP874 – Thai
  - CP932 – Japanese Shift-JIS
  - CP949 – Korean
  - CP950 – Traditional Chinese
  - CP1250 – Central European
  - CP1251 – Cyrillic
  - CP1252 – Western European
  - CP1253 – Greek
  - CP1254 – Turkish
  - CP1255 – Hebrew
  - CP1256 – Arabic
  - CP1257 – Baltic
  - CP1258 – Vietnamese

# UTF-8 according to Wikipedia

- ▶ **UTF-8 (UCS Transformation Format — 8-bit)** is a variable-width encoding that can represent every character in the Unicode character set. It was designed for backward compatibility with ASCII and to avoid the complications of endianness and byte order marks in UTF-16 and UTF-32.
- ▶ UTF-8 has become the dominant character encoding for the World-Wide Web, accounting for more than half of all Web pages. The Internet Engineering Task Force (IETF) requires all Internet protocols to identify the encoding used for character data, and the supported character encodings must include UTF-8. The Internet Mail Consortium (IMC) recommends that all e-mail programs be able to display and create mail using UTF-8. UTF-8 is also increasingly being used as the default character encoding in operating systems, programming languages, APIs, and software applications.
- ▶ UTF-8 encodes each of the 1,112,064 code points in the Unicode character set using one to four 8-bit bytes (termed "octets" in the Unicode Standard). Code points with lower numerical values (*i. e.*, earlier code positions in the Unicode character set, which tend to occur more frequently in practice) are encoded using fewer bytes. The first 128 characters of Unicode, which correspond one-to-one with ASCII, are encoded using a single octet with the same binary value as ASCII, making valid ASCII text valid UTF-8-encoded Unicode as well.

# UTF-8 for dummies

- ▶ Unicode encoding in which each character is represented by 1, 2, 3 or 4 bytes
- ▶ For lower ASCII characters the representation is identical in UTF-8
- ▶ The dominant encoding on the WEB

▶ A = A

▶ Høllø World = HÃ«Å,Å,Ã, World  
DEP                      Blaise Editor

# UTF-8 editor

- ▶ Make UTF-8 using tools like Notepad+, Editpad Lite,...
- ▶ .BLA file as UTF-8 will have a BOM (Byte Order Mark)
  - First 3 characters of the file
  - Looks in Blaise editor as **ï»¿**
  - Ignored by the Blaise parser

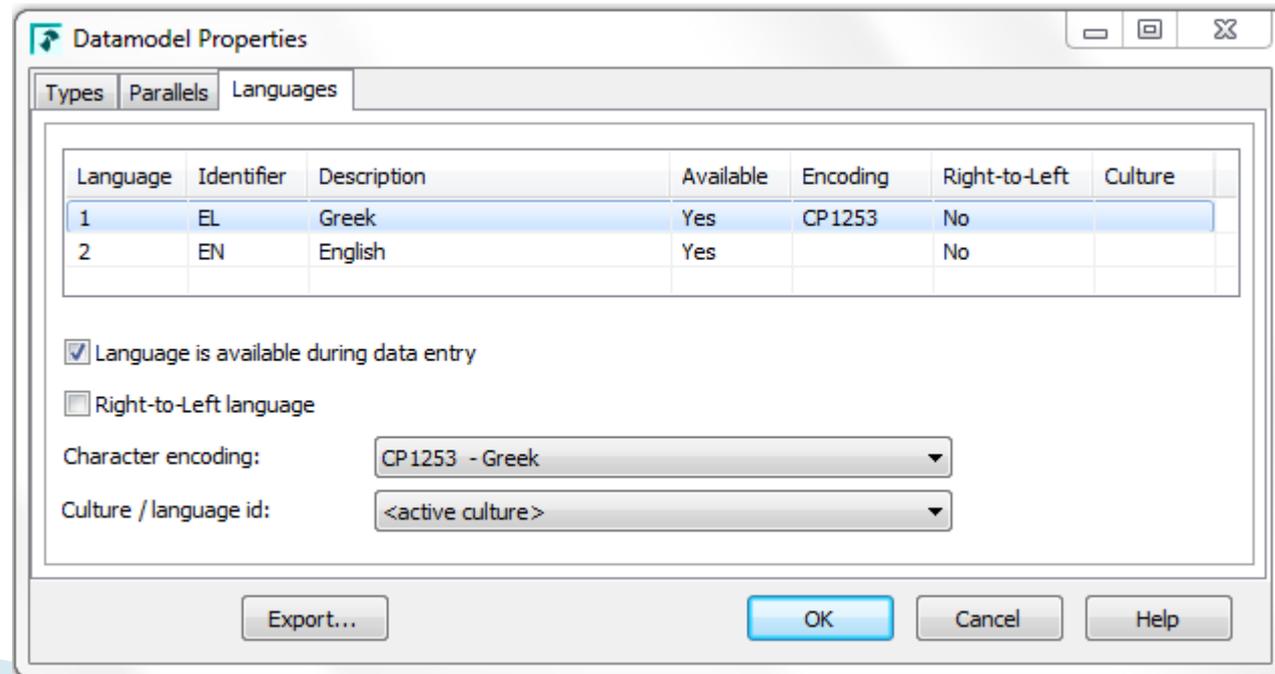
# NWL support

## Demo of Greek / English instrument

DATAMODEL HousingUnit

EL "ἘΡΩΤΗΜΑΤΟΛΟΓΙΟ ΓΙΑ ΤΗ ΜΟΝΑΔΑ ΚΑΤΑΒΛΗΤΗΣ

EN "QUESTIONNAIRE FOR THE HOUSING UNIT"



# NWL – Greek in the DEP

ΕΡΩΤΗΜΑΤΟΛΟΓΙΟ ΟΙΚΙΣΤΙΚΗΣ ΜΟΝΑΔΑΣ

Ερωτηματολόγια Απαντήσεις Πλοήγηση Επιλογές Βοήθεια

Οικιστική Μονάδα

ΜΕΡΟΣ Α. ΕΡΩΤΗΜΑΤΟΛΟΓΙΟ ΚΑΤΟΙΚΙΑΣ

1. Είδος Κατοικίας

- 1. Κανονική κατοικία (μόνιμη κατασκευή για σκοπούς οίκησης)
- 2. Κατοικία πρόχειρης κατασκευής (π.χ. παράγκες, καλύβες, σκηνές)

# NWL – right-to-left

Turned out to be hard to do

- ▶ Needed an implementation of the ‘Unicode Bidirectional Algorithm’ (bidi)
  - Handle @-formatting correctly
  - Bidi not doable in the HTML-based text control in DEP
  - A different control is used: Windows RTF control
- ▶ Infopane
  - Content is right adjusted
- ▶ Answerlist
  - First column becomes the most right column
  - Each answer itself is right adjusted
  - Code is put on the right side of the answer text

# NWL – right-to-left

- ▶ No changes to location of other controls
  - Parallel TABs
  - Menu
  - Formpane
  - Tables

All still left-to-right oriented
- ▶ Could still be done

# NWL – right-to-left

Survey of Migrant Workers in Qatar

Forms Answer Navigate Options Help

HRC

تحية طيبة، أنا \_\_\_\_\_ ، محاور من معهد البحوث الاجتماعية والاقتصادية المسحية بجامعة قطر في الدوحة، قطر. ونحن نجري دراسة مسحية حول العمال المهاجرين، وقد وقع عليك الاختيار بشكل عشوائي بحيث تكون ضمن المشاركين في الدراسة الخاصة بنا. ستحظى المعلومات التي ستقدمها إلينا بسرية تامة. لن يتم وضع اسمك أو استخدامه على أي من المستندات أو يرفق بأي من الإجابات التي ستقدمها عن الأسئلة. سيتم تقديم نتائج تحليل هذه البيانات بصورة مجمعة

1.  اكمل المقابلة

2.  الرفض المبدئي للمستجيب الذي تم الإتصال به

3.  عدم تأكد أو تردد المستجيب الذي تم الإتصال به بخصوص المقابلة

4.  مقاومة/رفض المشاركة من قبل عضو الأسرة

5.  رفض نهائي من قبل المستجيب

6.  رفض نهائي من قبل عضو الأسرة

7.  غير قادر على تحديد مكان المستجيب

8.  حاجز لغوي

9.  مرض المستجيب مؤقتاً

10.  المستجيب غير قادر على الكلام

11.  المستجيب مشغول

12.  المستجيب غير موجود في المنزل الآن

13.  أخرى

Decision

FJOB

FJOB5a

FJOB SUB

# NWL – ‘byproduct’

## **Extended support for HTML subset in the DEP**

- ▶ The answer list in the DEP now supports the HTML subset
  - It is now possible to display images and to use hyperlinks in the answer list
- ▶ Support for the HTML subset is now also available for the Answer Info control
  - Part of the infopane where the instruction for the answer is displayed

# CATI extensions

# Multi scheduler

- ▶ Often a large number of surveys in a CATI call centre
  - Mixture of small and large surveys
  - In various stages of completion
- ▶ Hard to manage
  - Done 'by hand'
  - Difficult to make sure appointments are handled
- ▶ Can something be implemented to help?
  - But without changing the CATI survey concept
- ▶ Exploration resulted in

BTPLUS = **B**laise ca**Ti** **PLU**ral **S**cheduler

A new tool in Blaise

# BTPlus – extension of DEP

- ▶ The tool is an extension of the DEP
- ▶ It can handle several surveys at the same time
  
- ▶ Short DEMO

# BTPlus – multiple surveys

- ▶ Requirement: each survey must support the full set of DEP command line parameters
- ▶ Solution: use Blaise Command line options File (BCF)
  - INI file that stores all command line options
  - Start 'Run parameters', press Store button
- ▶ BCF's are the basis for BTPlus
  - Each survey corresponds with one bcf
- ▶ Surveys can be grouped in a BCG = Blaise Call Group
  - INI file; A reference to one or more BCF

```
[CallGroup]
```

```
Count=4
```

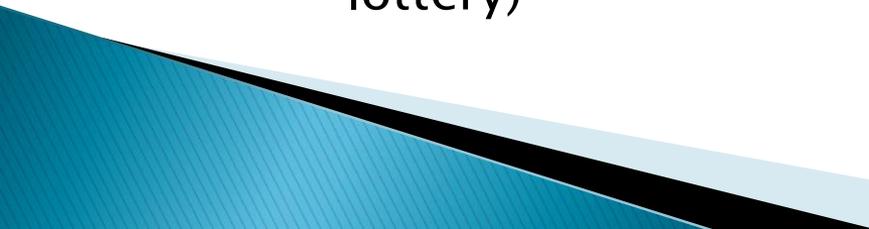
```
Survey1=\\CATIS1\Surveys\QAN\wave1\main.bcf
```

```
Survey2=\\CATIS1\Surveys\QAN\wave2\main.bcf
```

```
Survey3=\\CATIS2\Surveys\BBQ\wave1\main.bcf
```

```
Survey4=E:\LAB\session.bcf
```

# BTPlus – best number

- ▶ BTPlus delivers ‘the best number’ accross all surveys
    - Works in auto delivery mode only
  - ▶ Selection algorithm
    1. For each survey determine which case is the next one to deliver to the interviewer
    2. For those cases determine which is the most appropriate one to deliver to the interviewer
      - A. Determine which case has the highest priority.
      - B. If there are several cases with the highest priority, select the one that is most urgent.
      - C. If there are several cases with the same urgency then one of those will be selected at random to be delivered (a lottery)
- 

# BTPlus – next case

- ▶ In theory each case presented to the interviewer can be for another survey than the one he/she just worked on
  - ▶ This is probably not always desirable
  - ▶ BTPlus offers two ways to influence this:
    - Survey preference
    - Stay with same survey
- 

# BTPlus – survey preference

- ▶ A way to tell the system the relative importance of the surveys
- ▶ BTPlus delivers the best case while taking the survey preference into account
- ▶ It is an extra step in the case selection algorithm:
  - O. Determine which case has the highest preference
  - A. If there are several cases with the highest preference, determine which case has the highest priority
  - B. If there are several cases with the highest priority, select the one that is most urgent.
  - C. If there are several cases with the same urgency then one of those will be selected at random to be delivered (a lottery)

# BTPlus – survey preference

- ▶ Specified in the BCG file in the settings section:  
PreferenceX=<number>

```
[CallGroup]
Count=4
Survey1=\\CATIS1\Surveys\QAN\wave1\main.bcf
Survey2=\\CATIS1\Surveys\QAN\wave2\main.bcf
Survey3=\\CATIS2\Surveys\BBQ\wave1\main.bcf
Survey4=E:\LAB\session.bcf
```

```
[Settings]
Preference1=1
Preference2=1
Preference3=2
```

- ▶ Survey 1 and 2 have same preference, Survey 3 a higher preference, Survey 4 has no preference specified

# BTPlus – survey preference

- ▶ Exception can be made for hard appointments
  - Allow for delivery of a hard appointment from a survey with less preference.

[Settings]

AlwaysDeliverHardAppointments=1

- ▶ Hard appointments will now always be delivered, while maintaining survey preference

# BTPlus – stay with same survey

- ▶ A way to tell the system to continue with the same survey instead of the lottery (step 2C)

[Settings]

MaxTheSame=5

MaxTheSame1=10

- ▶ For all surveys maximum of 5 cases, for survey 1 maximum of 10 cases

# CATI – extensions

## New appointment parameters

- ▶ **Keep time of missed hard appointment**
  - This setting is used when a missed hard appointment is added to the daybatch as a medium appointment
  - Start time used for the medium appointment will be the same as the time of the missed hard appointment
- ▶ **Show hard appointment summary in appointment dialog**
  - When active the appointment dialog will display a view of all available hard appointments for the currently selected survey day in the calendar

# CATI – extensions

- ▶ Support for a description field
  - It is used in BTPLUS and in the caption of the dial menu dialog
- ▶ Extra Dial menu dialog settings. You can now set:
  - Font name and font size
  - Background color
  - Dial menu width

# CARI extensions

# CARI – history

- ▶ Demonstrated during IBUC Riga (2009)
- ▶ Released as part of 4.8.2 (April 27, 2010)
- ▶ Workshop during Baltimore IBUC (2010)
- ▶ Requests by B-CLUB: added to 4.8.3
- ▶ Some small additions triggered by the CARI meeting November 2011, Michigan: added to 4.8.4
  
- ▶ Mark Pierzchala is working on extended CARI documentation
  - Will be added to a future 4.8.4 update

# CARI – extensions in 4.8.3

## Two additions

- ▶ Create an archive file
  - It is possible to create a .zip file that contains all files produced for a case
  - Zip can be encrypted with a password using AES (Advanced Encryption Standard)
- ▶ Record several questions to one audio recording
  - Auto stop setting
  - Default is *true*: recording ends when question is finished
  - Set to *false*: recording is paused when question is finished and same recording is resumed when needed

# CARI – extensions in 4.8.4

## Some additions

- ▶ CARI recorder hook. A COM–interface that can be used when the built–in audio capabilities are not adequate, for instance
  - you need to record voice over IP
  - you need to control a video camera
  - ...
- ▶ Case log
  - Logging per case
  - Added to archive

# The CARI COM-interface

- ▶ The CARI COM- interface defines a set of methods that your own recorder object can support, without dictating anything about the implementation:
  - InitRecorder
  - EnterForm
  - Start(Filename)
  - Stop
  - Pause
  - Resume
  - TimeElapsed
  - Status
  - LeaveForm
  - ExitRecorder

# Accessibility

# Overview

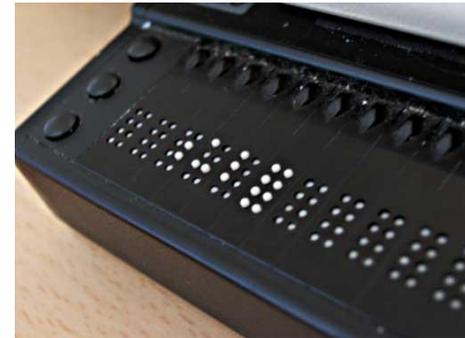
- ▶ What is accessibility?
  - ▶ How to be accessible?
  - ▶ Connecting to screen readers
  - ▶ Challenges
  - ▶ Blaise Internet implementation
  - ▶ Designer guidelines
  - ▶ Known issues
  - ▶ Demo
- 

# What is accessibility?

- ▶ US Law: Section 508 (Section 1194.22)
  - Require Federal agencies to make their electronic and information technology (EIT) accessible to people with disabilities
    - Make your software work with Assistive Technology (AT), e.g. screen readers like JAWS
    - Make it possible to enter all required input using the keyboard
- ▶ WCAG 2.0 (Web Content Accessibility Guidelines)
- ▶ Other countries increasingly have similar requirements

# How to be accessible?

- ▶ Large print
- ▶ High contrast
- ▶ Assistive Technology:
  - Hardware
    - Braille terminal
    - Large key keyboards
  - Software:
    - Screen readers
    - Screen magnifiers



# Connecting to screen readers

- ▶ All information in non-text elements should be available in text form as well (images, colors, multimedia, ...)
  - ▶ Dynamic webpages: new standard being developed: WAI-ARIA (Web Accessibility Initiative - Accessible Rich Internet Applications)
- 

# Challenges

- ▶ Implementation challenges:
  - Different browsers, different screen readers, different implementations, WAI-ARIA standard still under development
    - First focus on Internet Explorer with JAWS

IE1, FF1, Chr1, Op1

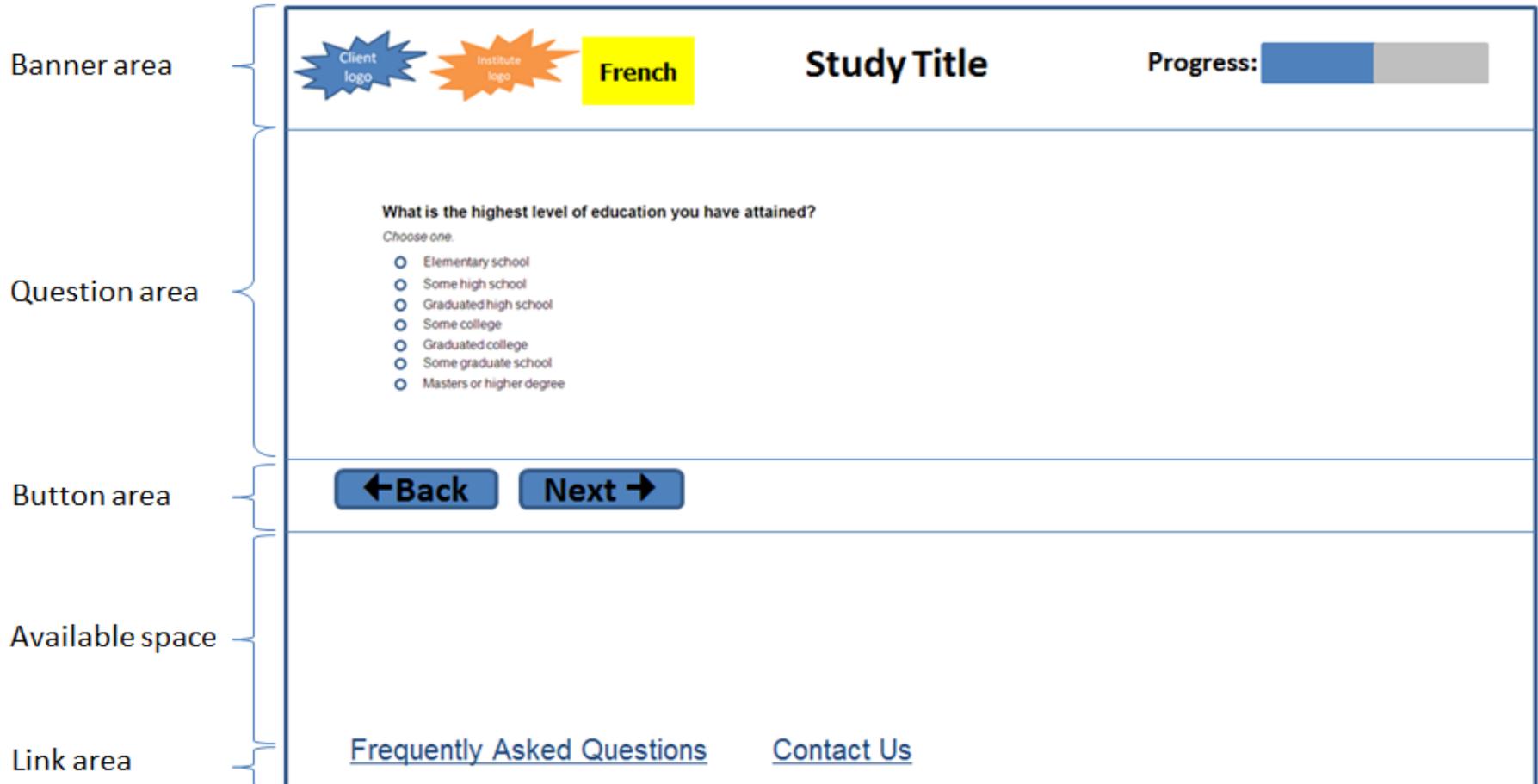
IE2, FF2, Chr2, Op2

- ▶ Conceptual challenges:
  - What to read?
    - Enumeration questions
  - When to read?
    - Panels with general information
    - Show fields

→ Solution: dynamic labeling

IE demo

# Blaise Internet implementation



# Blaise Internet implementation (2)

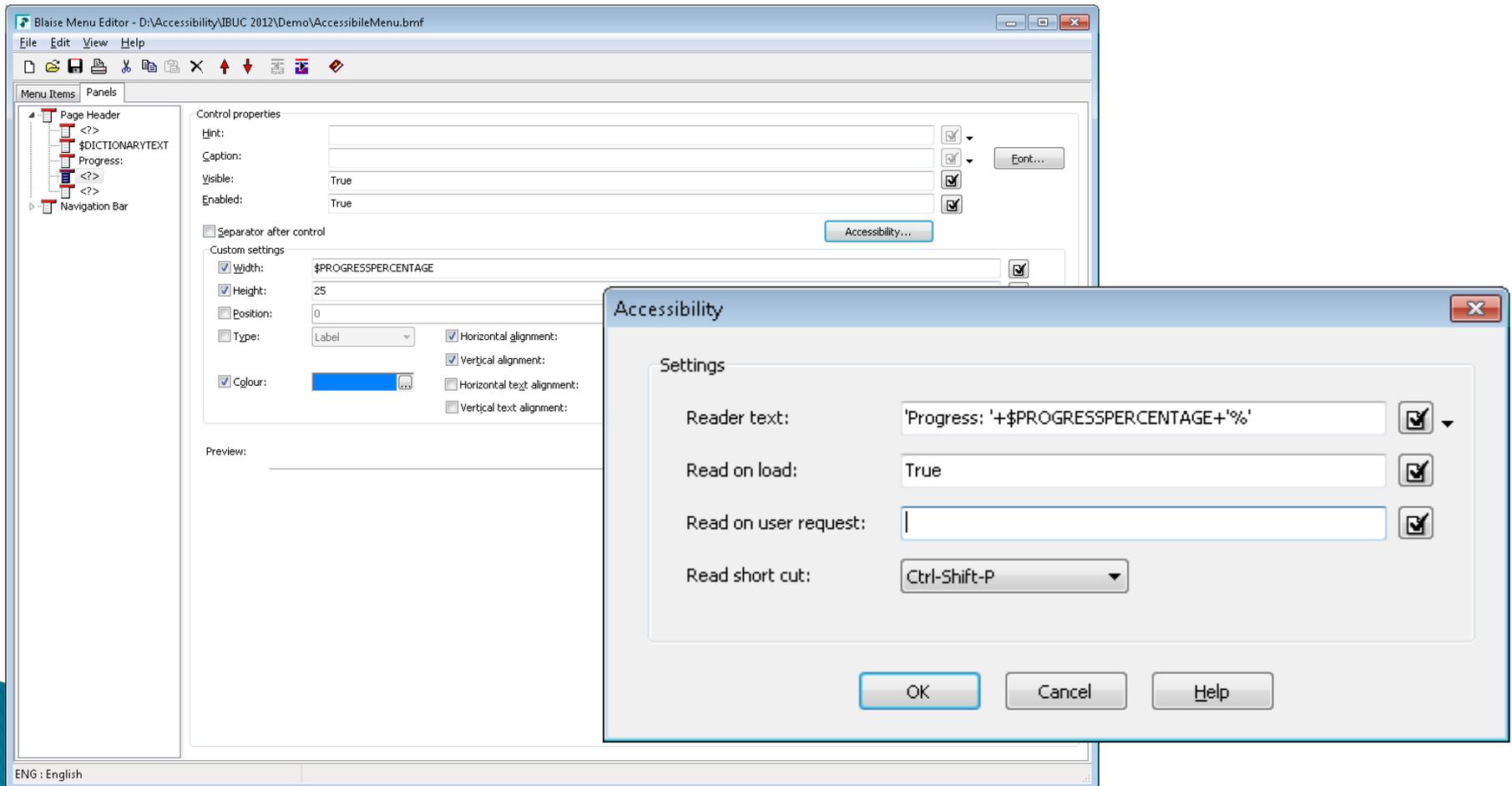
- ▶ First, panel information is read (menu file)
  - ▶ Then, a general instruction text is read (stylesheet)
  - ▶ Then, the focused question is read (datamodel)
  - ▶ By using short cut keys, the user can get selected information contained in the panels (menu file)
- 

# Blaise Internet implementation (3)

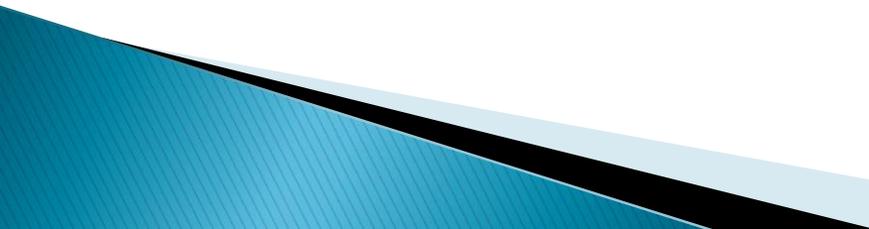
- ▶ Menu panel settings:
  - Reader Text
  - Read on Load
  - Read on User Request
  - Short cut key
- Two levels: panel and control

# Blaise Internet implementation (4)

## ▶ Screenshots from Menu Editor



# Designer guidelines

- ▶ Explain in what form the input is required in your question text: “What is your birthdate? Please specify in the format MM/DD/YYYY.”
  - ▶ Refer to the suppress button in your soft error text
  - ▶ Refer to the lookup button in your question text, or choose the stylesheet setting to automatically add this
  - ▶ Add reader text to important information on your menu panels (logo, progress, etc.)
- 

# Known issues

- ▶ Reading non-focusable elements at request
  - ▶ Possible timing issues
  - ▶ Full support by browsers still under development
- 

# Using XML to produce a report

# Generating Custom Reports using Manipula

- ▶ Cyprus Census team wanted ‘nice’ reports to track the status and progress
  - In Greek and English
  - On screen and on paper
  - Using minimal programming resources
- ▶ Manipula can generate reports using PRINT
  - Something from the past
  - Printer oriented, no viewer
- ▶ Better approach needed. Two (obvious) candidates
  - Spreadsheet
  - Browser
- ▶ After some exploration it was decided to use the browser

# How should report look

Sorted on Enumeration block | Sorted on Enumerator | Sorted on Supervisor

## Summary data for all enumeration blocks - Sorted on Supervisor

Source: Supervisors data

DISTRICT: Lefkosia

Report date: 11-09-2011

No. of households: 30  
No of Occupied HU: 29  
No of Not Occupied HU: 58  
Nr of HH members: 46  
%Edit: 30,0%  
Total number of completed enumeration blocks: 5

Supervisor	Enumerator	Enum block	No. of households	No of Occupied HU	No of Not Occupied HU	Nr of HH members	%Edit	Completed EB
52005	51204	500000801	1	1	1	3	0,0%	
52005	51204	500000802	0		1			
52005	51205	500000900	1	1	3	1	0,0%	
52005	51205	500001000	1	1	1	1	100,0%	yes
52005	51209	500001202	10	10	19	15	60,0%	yes
52006	51206	500001100	1	1	2	1	0,0%	
52007	51202	500000500	2	2	3	2	50,0%	
52007	51210	500001203	4	3	7	7	0,0%	yes
52008	51201	500000100	1	1	5	3	100,0%	

# HTML reports

- ▶ Two approaches possible
  - Generate HTML directly by coding it in Manipula
  - Use style sheets (XSLT)
- ▶ Style sheet approach adopted
  1. Design the report
  2. Represent the content of a report in XML
    - Outputfile in Manipula
  3. Use XSLT to transform the XML to HTML
    - Create a style sheet
      - With some help from Tim...
    - Using a batch program from Microsoft
  4. Browser to display the HTML and to print it

# HTML reports

Step 1: agree with the client on the content and look of the report(s)

- ▶ Sounds easy but it is not...

# HTML reports

- Step 2: describe the content you need in XML
- ▶ Needed a datamodel in the setup that contains all the 'variables' used in the report
  - ▶ In the Census report the variables are
    - Text (in Greek or English)
    - The actual data
  - ▶ Simple task
- 

# HTML reports

Step 3. do a XSLT transformation

- ▶ Create a style sheet that does the job you want...
  - Knowledge needed of how the XML generated by Manipula is structured
  - Knowledge of XSLT needed
  - Knowledge of HTML needed
- ▶ Be aware of cAsiNG...
  - Field name in datamodel = <tag> in XML
  - XML / XSLT are case sensitive...

# HTML reports

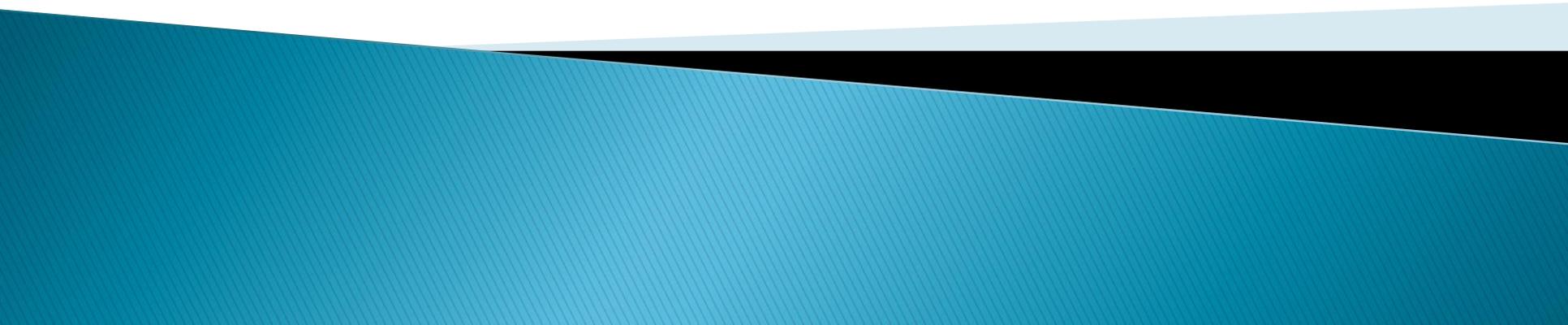
- ▶ XML in Blaise
  - See help
- ▶ Introduction to XSLT
  - [http://www.w3schools.com/xsl/xsl\\_intro.asp](http://www.w3schools.com/xsl/xsl_intro.asp)
- ▶ Download and run 'Command Line Transformation Utility', msxsl.exe
  - Small batch program
  - Input: xml and xslt
  - Output: html
  - RUN('msxsl.exe in.xml trans.xsl -o report.htm')

# HTML reports

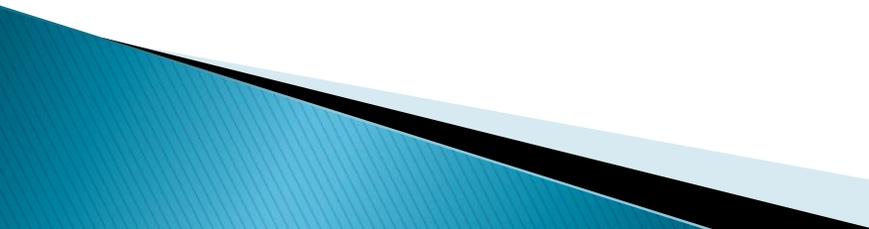
Step4: start the browser

- ▶ When using Internet Explorer
  - RUN('iexplore.exe <html-file>')
  
- ▶ Demo

# Tips & Tricks



# Modelib editor

- ▶ Full name: Emily.exe
  - ▶ Purpose: create / edit modelib files (.bml)
  - ▶ A .bml is used during prepare to create the data entry pages
  - ▶ Pages are stored in .bdm files, but also the modelib that is used to create them
  - ▶ A .bmi file contains all info to create the pages based on a .bml file
- 

# Modelib editor

- ▶ Suppose you have .bmi and .bdm and lost your modelib .bml file
- ▶ Use Emily to extract the .bml:
  - Start Modelib editor
  - File | Open
  - Select the .bmi
  - File | Save as...
  - Give the modelib a name and press 'Save'

# Modelib editor

- ▶ Suppose you received a .bmi, no sources and no pages .bdm
- ▶ Use Emily to create a .bdm:
  - Start Modelib editor
  - File | Open to select a .bml or  
File | New to create a new .bml
  - File | Attach datamodel to select .bmi
  - File | Save datamodel

# Modelib editor

- ▶ Some perhaps lesser know features:
  - The preview mode
  - The colour scheme
  - Demo

# DEP configuration

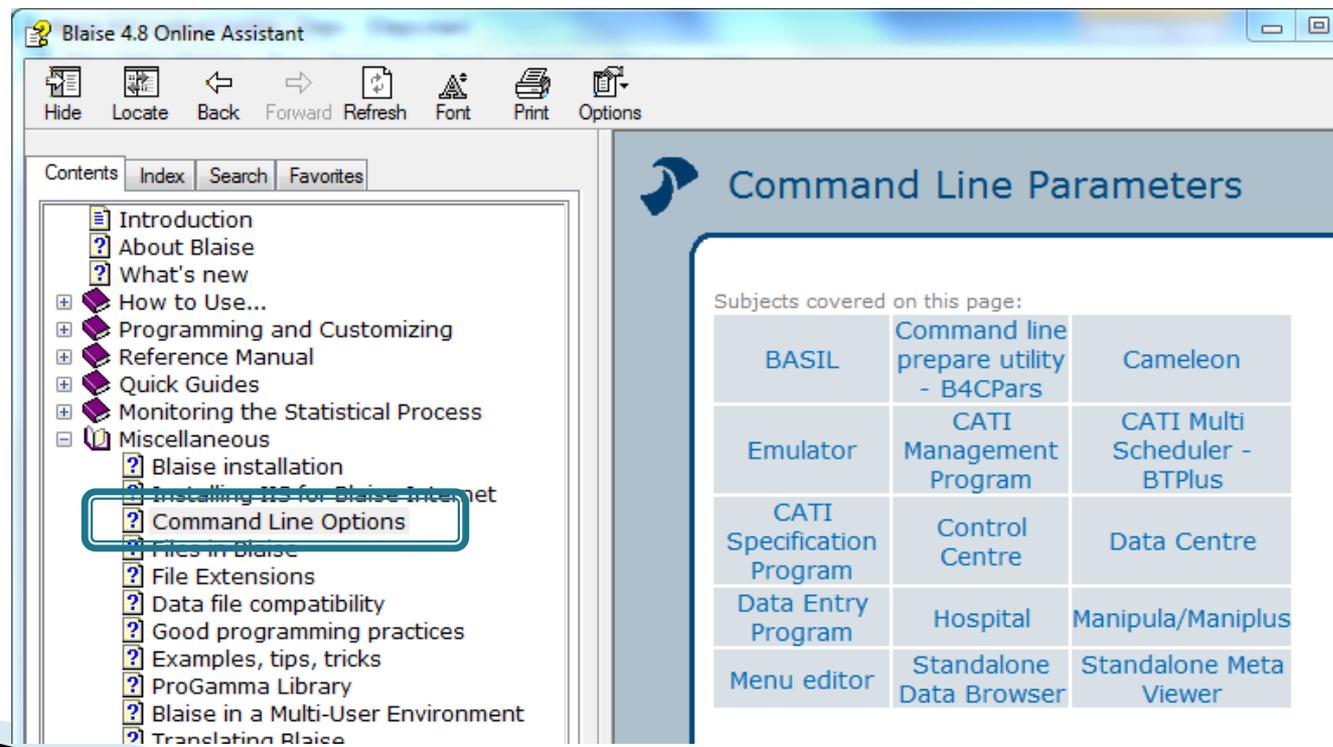
- ▶ Full name: DEPCfg.exe
  - ▶ Purpose: create / edit .DIW ini file to modify modelib settings
  - ▶ This program has a preview mode just like Emily
- 

# Blaise Emulator

- ▶ Full name: BLEmu.exe
- ▶ Purpose: Program to stress test multi user behaviour of Blaise
- ▶ Can do a lot of things
  - CATI (daybatch based) and non-CATI (select a form at random)
  - Put data in forms
    - Scripted
    - Generate random data according to the route

# Command line options

- ▶ Most of the Blaise tools have many command line options
- ▶ They are all listed in the help



Blaise 4.8 Online Assistant

Hide Locate Back Forward Refresh Font Print Options

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## Command Line Parameters

Subjects covered on this page:

BASIL	Command line prepare utility - B4CPars	Cameleon
Emulator	CATI Management Program	CATI Multi Scheduler - BTPlus
CATI Specification Program	Control Centre	Data Centre
Data Entry Program	Hospital	Manipula/Maniplus
Menu editor	Standalone Data Browser	Standalone Meta Viewer

# Alien Manipula

- ▶ A procedure in a Maniplus script can be called in
  - The Rules of a datamodel
  - In a Manipula / Maniplus script

```
procedure HelloWorld
alien ('utils.msu', 'world')
endprocedure

procedure ChangeName
parameters
  import name: string
  export newname: string
alien ('utils.msu', 'changenname')
endprocedure
```

```
procedure world
instructions
  display('hello world', wait)
endprocedure

procedure ChangeName
parameters
  import name: string
  export newname: string
instructions
  if name='lon' then
    newname:= 'LPMB Hofman'
  else
    newname:= 'someone'
  endif
endprocedure
```

# Centralised license info

- ▶ Blaise 4.8.2+ supports a centralised license file
- ▶ It works as follows
  - Store the Blaise license file in a folder on a server where all Blaise users have the right to open a file
  - Add a new 'string value' with name **LicenceKey48Path** to the registry of the user under the key  
HKEY\_LOCAL\_MACHINE\Software\StatNeth\Blaise
  - Specify as value for the **LicenceKey48Path** entry the location of the license file

# Create a license file

- ▶ Can be done using BCPLic.exe
  - Located in Blaise bin folder
- ▶ By default license information is stored in the registry
- ▶ By using the command line parameter /S2 the program creates a license file BlaiseWE.Lic
  - Created in the folder of BCPLic.exe

# Easter eggs

- ▶ (Wikipedia) Easter eggs are messages, videos, graphics, sound effects, added game levels, new characters in games or an unusual change in program behavior that sometimes occur in a software program in response to some undocumented set of commands, mouse clicks, keystrokes or other stimuli intended as a joke or to display program credits...
- ▶ How many easter eggs does Blaise 4 have?
- ▶ At least two that we want to share...
  - Info dialog. Press ctrl-alt-shift and click on icon...
  - Blaise Internet Workshop. Enter 'BlaiseIS' in description field, put focus somewhere else and press alt-F1 ...