

# Back to the Future: Converting NCVS to Blaise5

Daniel Moshinsky  
US Census Bureau

# Purpose of this task

- Convert a current CAPI survey to Blaise 5
- Can we collect all the same data?
- What modifications do we need to make to syntax, design, and procedures?
- Test Blaise 5
- Learn Blaise 5

# Not part of this task

- This test is for a CAPI, stand-alone survey
- Not looking at
  - survey management
  - Layout design options
  - Multi-platform issues,
  - internet surveys, etc.

# Disclaimer!

- These are just my findings to the best of my understanding.
- I am not an expert in Blaise 5.
- I may be wrong.
- I'm probably wrong.
- Also all the issues may have been fixed in the new build!

# NCVS in Blaise 4

- Monthly household CAPI crime survey
- “Were you a victim of a crime? What kind of crime? How many times?”
- Every household member older than 12 is interviewed about each of their crimes

# Why we chose NCVS for conversion

- Large survey
- Complex Blaise language functionality
- Minimal use of runtime Manipula

# Conversion process

- Per recommendation, build in the latest version of Blaise 4.
- Convert source code to 5 using the converter
- Convert databases
- Convert externals
- No significant issues during the conversion process

# Testing approach

- Keyed testing scenarios in Blaise 4 and 5, running side-by-side
- Check for layout issues, rules navigation, and data values
- Re-test after each new build of Blaise 5 becomes available (every 2-3 months).
- Latest Blaise 5 Build that we had available is 5.0.2.721



# Settings for Standalone CAPI Rules

- Default in Blaise 5 is to re-execute at the end of a page
- We want to re-execute after every field
- The layout view contains an option to “Generate Critical Fields”. This is not for CAPI stand-alone.

# Settings for Standalone CAPI Rules - 2

- A project-level setting must be changed in the project's .blax file: select the **Settings tab > Advanced > Server Contact > check “After leaving a changed question”**.
- ThickClient runtime parameter

Project Runtime Parameters

|                    |  |
|--------------------|--|
| LayoutSetGroup:    | <input type="text"/>                         |
| LayoutSet:         | <input type="text"/>                         |
| DataEntrySettings: | <input type="text"/>                         |
| Language:          | <input type="text"/>                         |
| KeyValue:          | <input type="text"/>                         |
| Fields:            | <input type="text"/>                         |
| AssignMode:        | <input type="text"/>                         |
| StartParallel:     | <input type="text"/>                         |
| RunMode:           | <input checked="" type="radio"/> ThickClient |

# Build Time

- Initially, build time was 10 minutes.
- 3000 pages in the instrument
- Improved when we:
  - Used “*Build without generating pages*” option.
  - Uncheck *GenerateAllSections* option.
- Blaise documentation warns of a performance penalty

# Run-Time Lag

- Inferior performance compared to Blaise 4
- On average, 0.5-1 second delay between fields
- Two issues:
  - slower re-execution and
  - allowing to land on the next field before re-execution completes, and focus may be redirected

# Rules performance

- Overall, rules performed correctly
- All kinds of counters and flags and outcome codes were tested and found correct
- Needed some changes related to compare functions

# Compare Functions

- Stricter syntax in Blaise 5
- ***IF (howManyDays <> 0) THEN***  
***nextField...*** ← coming on route in Blaise 5 when howManyDays is empty. Did not in Blaise4
  - Modify to ***IF (howManyDays > 0)***
- **if Roster[I] = ''** ← always false in Blaise 5
  - Change to **if Roster[I] = EMPTY**

# Lots of Compare Functions warnings....

|   |     |    |   |
|---|-----|----|---|
| ▼ | 176 | 16 | The meaning of this expression differs from Blaise 4: it is only 'true' when the left hand side has been assigned the value '0'.  |
| ▼ | 145 | 16 | The meaning of this expression differs from Blaise 4: it is only 'true' when the left hand side has been assigned the value '0'.  |
| ▼ | 293 | 63 | The meaning of this expression differs from Blaise 4: it is only 'true' when the left hand side has been assigned the value '0'.  |
| ▼ | 340 | 3  | Layout section is ignored.  |
| ▼ | 125 | 19 | The meaning of this expression differs from Blaise 4: it is only 'true' when the left hand side has been assigned the value '0'.  |
| ▼ | 162 | 57 | The meaning of this expression differs from Blaise 4. It is only 'false' when the left hand side has been assigned the value '0'. |
| ▼ | 162 | 55 | The meaning of this expression differs from Blaise 4. It is only 'false' when the left hand side has been assigned the value '0'. |
| ▼ | 164 | 33 | The meaning of this expression differs from Blaise 4. It is only 'false' when the left hand side has been assigned the value '0'. |
| ▼ | 165 | 37 | The meaning of this expression differs from Blaise 4: it is only 'true' when the left hand side has been assigned the value '0'.  |
| ▼ | 189 | 48 | The meaning of this expression differs from Blaise 4: it is only 'true' when the left hand side has been assigned the value '0'.  |
| ▼ | 205 | 29 | The meaning of this expression differs from Blaise 4. It is only 'false' when the left hand side has been assigned the value '0'. |
| ▼ | 321 | 22 | The meaning of this expression differs from Blaise 4. It is only 'false' when the left hand side has been assigned the value '0'. |
| ▼ | 331 | 41 | The meaning of this expression differs from Blaise 4. It is only 'false' when the left hand side has been assigned the value '0'. |
| ▼ | 337 | 83 | The meaning of this expression differs from Blaise 4. It is only 'false' when the left hand side has been assigned the value '0'. |
| ▼ | 144 | 50 | The meaning of this expression differs from Blaise 4. It is only 'false' when the left hand side has been assigned the value '0'. |
| ▼ | 250 | 21 | The meaning of this expression differs from Blaise 4: it is only 'true' when the left hand side has been assigned the value '0'.  |
| ▼ | 284 | 36 | The meaning of this expression differs from Blaise 4: it is only 'true' when the left hand side has been assigned the value '0'.  |
| ▼ | 580 | 17 | The meaning of this expression differs from Blaise 4: it is only 'true' when the left hand side has been assigned the value '0'.  |
| ▼ | 280 | 49 | The meaning of this expression differs from Blaise 4: it is only 'true' when the left hand side has been assigned the value '0'.  |
| ▼ | 303 | 19 | The meaning of this expression differs from Blaise 4: it is only 'true' when the left hand side has been assigned the value '0'.  |
| ▼ | 316 | 36 | The meaning of this expression differs from Blaise 4: it is only 'true' when the left hand side has been assigned the value '0'.  |
| ▼ | 393 | 19 | The meaning of this expression differs from Blaise 4: it is only 'true' when the left hand side has been assigned the value '0'.  |
| ▼ | 504 | 76 | The meaning of this expression differs from Blaise 4: it is only 'true' when the left hand side has been assigned the value '0'.  |
| ▼ | 598 | 25 | The meaning of this expression differs from Blaise 4: it is only 'true' when the left hand side has been assigned the value '0'.  |
| ▼ | 613 | 71 | The meaning of this expression differs from Blaise 4: it is only 'true' when the left hand side has been assigned the value '0'.  |
| ▼ | 113 | 14 | The meaning of this expression differs from Blaise 4: it is only 'true' when the left hand side has been assigned the value '0'.  |
| ▼ | 117 | 16 | The meaning of this expression differs from Blaise 4: it is only 'true' when the left hand side has been assigned the value '0'.  |
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# Emptying blocks

- Emptying blocks is part of NCVS navigation

**BlkDemographics := EMPTY**

- Not yet implemented



# Keyboard navigation

- Out-of-the-box layouts are geared toward a keyboard-free environment
- Hope Blaise4Layout sample can be fixed...

National Crime Victimization Survey -- NCVS Questions ver 37.15 (10/27/2014)

**National Crime Victimization Survey -- NCVS Questions ver 37.15 (10/27/2014)**

To Start Back Next To End Language NCVS HH Roster FAQS Supplement\_Info F10

• Fill by observation:

Is there a sign on the premises or some other indication to the general public that a business is operated from this address?

1 Yes (Recognizable business)  2 No (Unrecognizable business)

Select a value

Times moved in 5 yrs   Don't know  Rather not answer

Business at address  Yes

Sign on premises  Yes (Recognizable business)

Was something stolen  Yes  Don't know

Theft num. of times   Rather not answer

Theft SQ Specify   Rather not answer

Did someone break-in  Yes  Don't know  Rather not answer

CoreSection.Screening.CrimeScreen.SQTHEFTSPEC | 45/2943 | Interviewing1 | Question | National Crime Victimization Survey -- NCVS Questions ver 37.15 (10/27/2014)

# Keyboard shortcuts

- No keyboard shortcuts possible
  - Home/End/PageUp/PageDown and parallels can be done with buttons
  - Ctrl-D/Ctrl-R
  - F1 – item-level help
- No way to empty/uncheck a radio-button field

# Checks and Signals

- Involved fields:

The image shows a screenshot of a data entry form with two sections. The left section has a 'Start' field with a value of '1' and a 'Supress' button. Below it are radio buttons for 'Don't know' and 'Rather not answer'. A red note below the radio buttons reads 'If INCSAM = 1 then Start must be 1'. The right section has an 'IncSAM' field with a value of '2' and a 'Supress' button. Below it are radio buttons for 'Don't know' and 'Rather not answer'. A red note below the radio buttons reads 'If INCSAM = 1 then Start must be 1'. A blue arrow points from the 'Start' field in the left section to the 'IncSAM' field in the right section. Below the 'Start' field is a 'Mode' field with a value of '1' and radio buttons for 'Don't know' and 'Rather not answer'. Below the 'IncSAM' field is a 'BlankRoster' field with a value of '2' and the text 'No' next to it, and radio buttons for 'Don't know' and 'Rather not answer'.

- What if not on the same page? Difficult to locate all the involved fields

# Saving Data

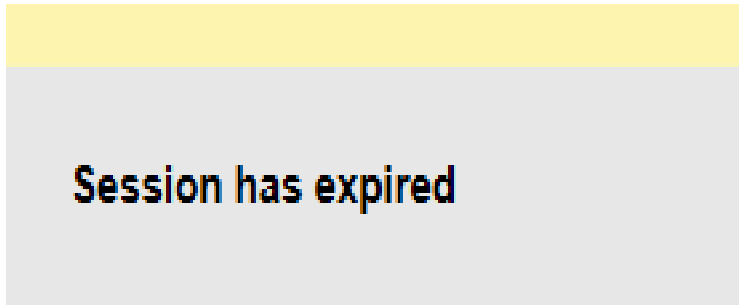
- Incomplete, open data entry session is continuously being saved into *RuntimeSessionData2.db*.
- Field values are moved into the instrument database only after the last field on route in the form is reached – or via a Save action.
- Partial or abruptly ended interviews are a problem

# Exiting a case

- Would be nice to mimic Blaise 4 functionality:
  - Disable “X”
  - Save data when switching parallels
  - Ability to quit form at the end of the Back parallel
  - Save data to BDBX whenever a case exits

# Timeout

- After about 30 inactive minutes, session quits



- Would be nice to disable this setting

# System Errors

- As in Blaise 4, crashes are not very informative:

**Object reference not set to an instance of an object.**

**Index was outside the bounds of the array.**

- How do we report or debug these?

# Font tags

- Blaise 4 font tags (e.g. @F, @\, @ |) are converted

"<newline><tab><newline><z>s</Z><L> Ask or  
verify:</L>"



# Fill strings

- Font tags inside a fill are not converted, show up on the screen

The string you entered is aa. Formatted it looks like `<L>aa</L>`

- Fill reference must be placed in curly brackets:
  - MyField "Formatted it looks like `^{MyFill}`": 0..1

The string you entered is aa. Formatted it looks like `aa</L>`  
Enter 1 to go to Field A

# Fill Length

- String length:

The string you entered is aa. Formatted it looks like aa</L>  
Enter 1 to go to Field A

**MyFill : string[6] ← *old blaise 4 length***

..

**MyFill := '<L>aa</L>' ← *converted length is 9, so value is truncated to fit.***

- Also impacts input and output data lengths
- Needs manual checking and correction

# Item-Level Help

- Able to use compiled HTML help just as in Blaise 4
- Attach event to the Help button
- Create a regular expression to make a dynamic reference that uses field name

helpButton1

|| 2,0

dataValueArea1

|| 3,0

suppressButton

rid

|| 0,0

Help

rid

|| 0,0

errorText1

The screenshot shows a software development environment with a dark theme. At the top, a header bar is divided into two sections: "Field Description Text" on the left and "Data Value Area" on the right. The "Data Value Area" has a green diagonal hatched pattern. A small blue square with a yellow question mark is positioned between the two sections, with dimension lines indicating a width of 20 and a height of 20. Below the header, there are several panels. On the left, there is a list of actions: "GotoUri" and "ToggleVisibility", each with a green plus and red minus icon respectively. On the right, there is a "Properties" panel with a text input field labeled "Uri" and a gear icon. Below these panels, a "Uri" property is expanded, showing a text area with the following code: `'mk:@MSITStore:C:\\Blaise4 surveys\\NCVS\\m201501\\help\\NCVS_WITH_TOC.chm::/H_' + Field.LocalName + '.htm'`. This code is circled in red. A large red arrow points up to the code, and another large red arrow points down to the gear icon in the "Uri" property panel. On the far right, a "Constructs" panel is partially visible, showing a snippet of code: `IF...THEN...ELSE...ENDIF`.

# Effort

- Significant learning curve and initial effort
- Thorough, complete testing required
- We are still far from a fully functional NCVS instrument

# What Worked Well

- Data and outcome codes are correct
- Questions come on route correctly
- Parallel tabs and tables converted with modifications (more in the paper)

# What needs more work

- CAPI Stand-Alone DEP speed needs to improve
- Keyboard support
- Handling of checks
- Enforcing graceful exit from a case

# What we did NOT discuss

- More information in the paper
- Focused only on how well old CAPI DEP features map onto Blaise 5 CAPI
- Did not explore many NEW features of Blaise 5 that may offer great new possibilities for future survey design



# Questions?

Daniel Moshinsky

[Daniel.Y.Moshinsky@census.gov](mailto:Daniel.Y.Moshinsky@census.gov)