Back to the Future: Converting NCVS to Blaise5

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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

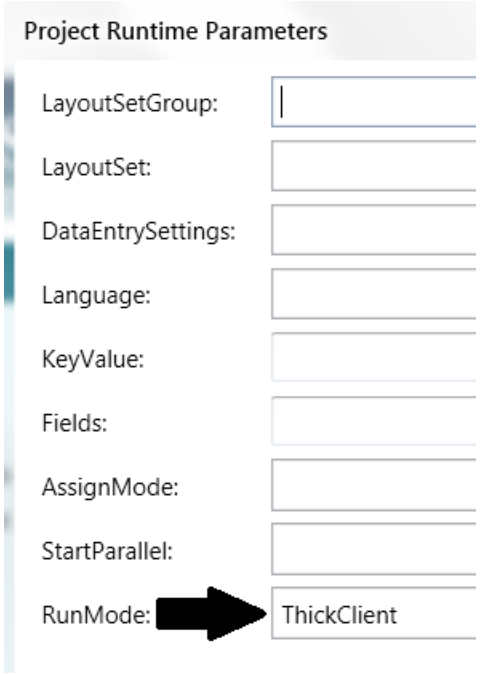
- Keyed testing scenarios in Blaise 4 and 5, running side-by-side
- Check for layout issues, rules navigation, and data values
- Re-test after each new build of Blaise 5 becomes available (every 2-3 months).
- Latest Blaise 5 Build that we had available is 5.0.2.721

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



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'.
⚠	145	38	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	79	The meaning of this expression differs from Blaise 4: it is only 'true' when the left hand side has been assigned the value '0'.
⚠	171	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'.

Emptying blocks

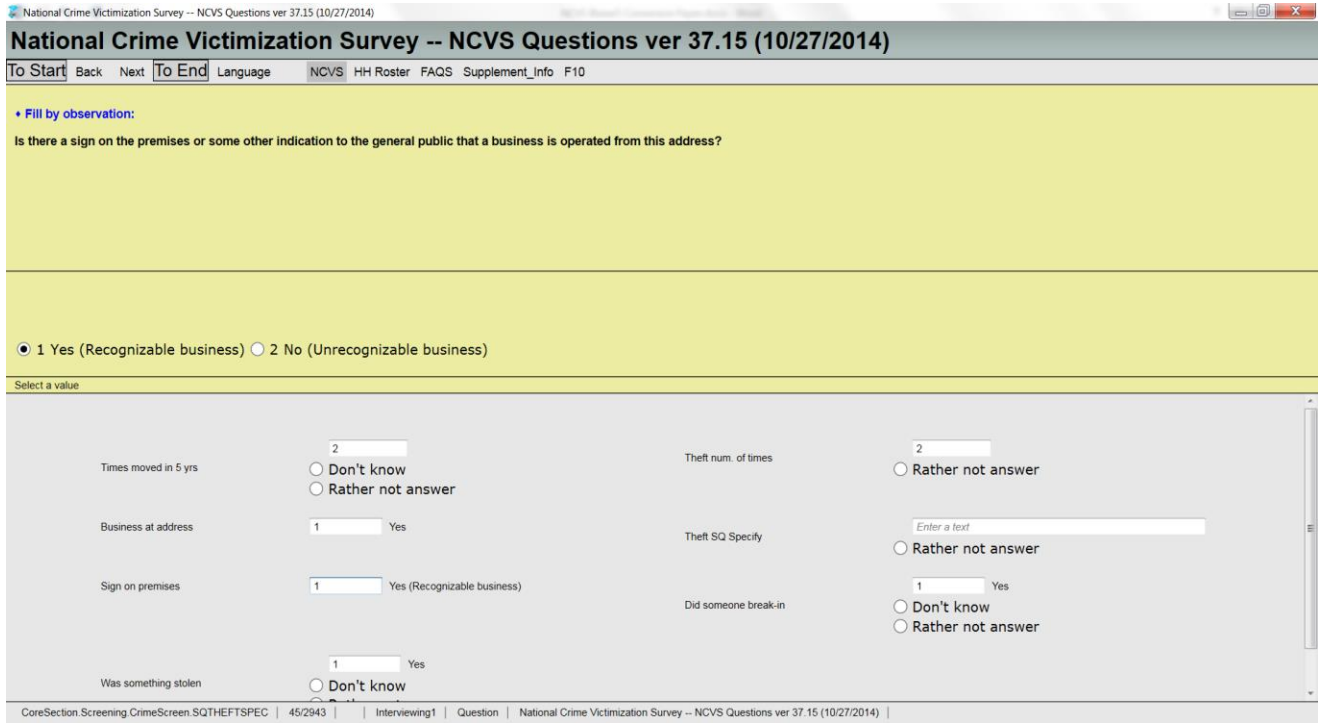
- Emptying blocks is part of NCVS navigation

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…

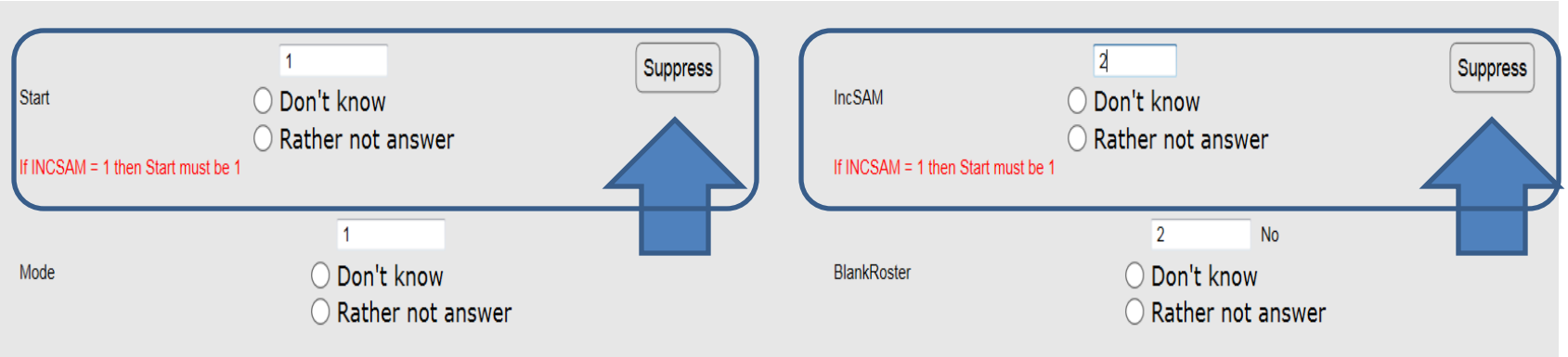


Keyboard shortcuts

- 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:



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

Saving Data

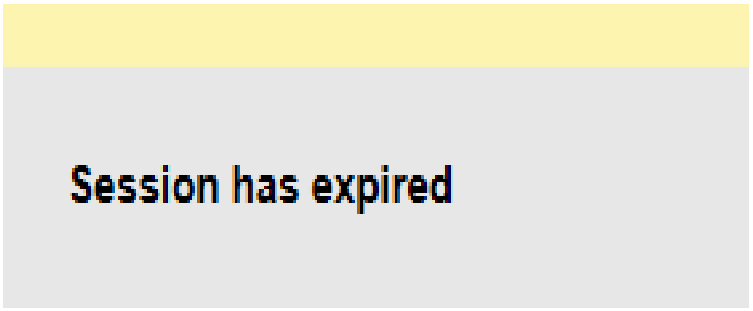
- Incomplete, open data entry session is continuously being saved into *RuntimeSessionData2.db*.
- Field values are moved into the instrument database only after the last field on route in the form is reached – or via a Save action.
- Partial or abruptly ended interviews are a problem

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

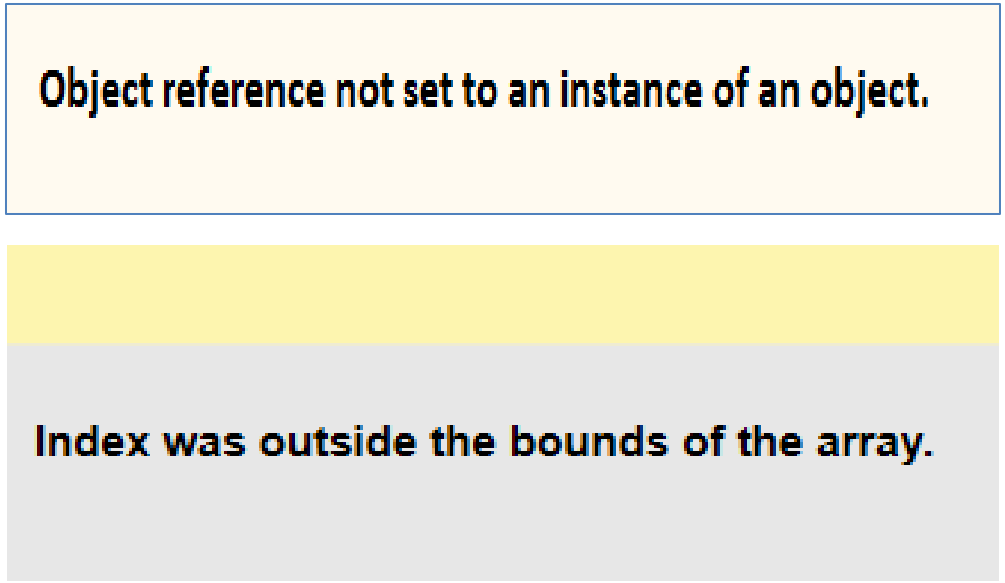
- After about 30 inactive minutes, session quits



- Would be nice to disable this setting

System Errors

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



- 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***

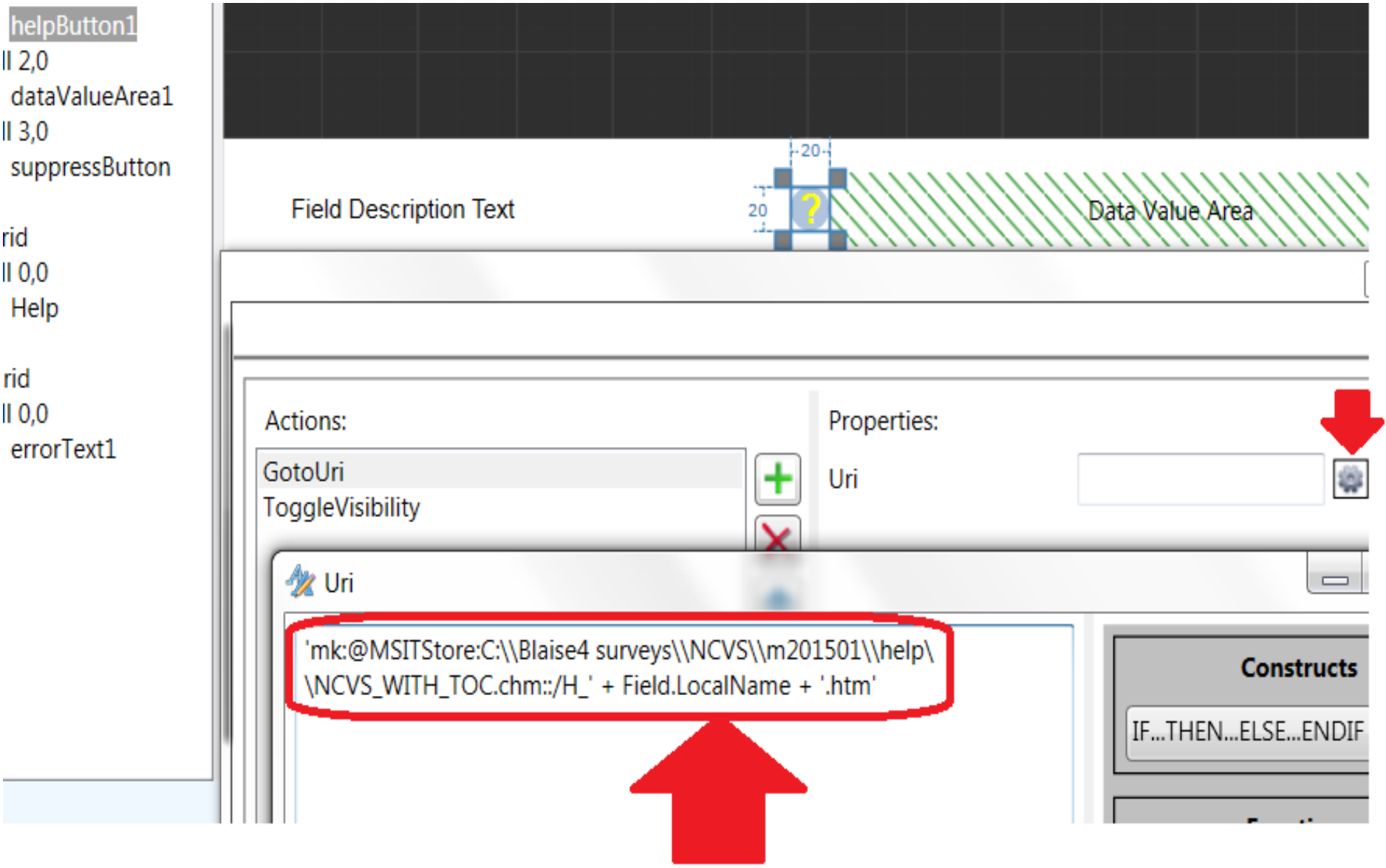
..

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
ll 2,0
dataValueArea1
ll 3,0
suppressButton
rid
ll 0,0
Help
rid
ll 0,0
errorText1
20
20
Field Description Text
Data Value Area
Actions:
GotoUri
ToggleVisibility
Properties:
Uri
Uri
'mk:@MSITStore:C:\\Blaise4 surveys\\NCVS\\m201501\\help\
\NCVS_WITH_TOC.chm::/H_' + Field.LocalName + '.htm'
Constructs
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?

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