

# Adventures of a Blaise 5 API Jockey

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# “Who am I?”

- Graduated in Applied Statistics and Computing
- 20+ years on virtualization
- Moved to \*nix & MS Windows
- Temp’d at CBS on various projects
- Hired-in to work on the main data-collection chain tooling
- Now work for the Blaise group



# Manga (1)

Request:

- *“I have this Blaise 5 questionnaire and I want to manipulate the data. How?”*

Problem:

- It’s the year 3BM!



# Manga (2)

Obvious solution:

- *Write a console application to copy the data out of the .bdbx to another sort of file.*

Disadvantages:

- Has to go through our develop/test/acceptation/production cycle
- Changes have to be officially requested and prioritized
- Boring, boring, boring



# Manga (3)

Correct solution:

- *Write a language.*

Advantages:

- User has control over what happens with the data
- User has flexibility to write own programs
- Basic language facilities should avoid the need to request lots of changes
- Fun!



# Manga (4)

Manga WriteBlaiseRecord 'Writes a record to a .bdbx'

USES

datamodel flight 'C:\CBSTEMP\USER\Flight'

ENDUSES

INPUTFILES

ENDINPUTFILES

OUTPUTFILES

oBlaiseFile : flight : Blaise : "C:\CBSTEMP\USER\Flight.bdbx"

ENDOUTPUTFILES

UPDATEFILES

ENDUPDATEFILES



# Manga (5)

AUXFIELDS

    result : resultok

ENDAUXFIELDS

ELEMENTS

ENDELEMENTS

BODY

// Output an indication that we've started...

conswriteline ("Start prog...")

result := oBlaiseFile.assign("C:\CBSTEMP\USER\Flight")

oBlaiseFile.person := "Ford"

oBlaiseFile.age := 42

oBlaiseFile.flight := "Hitcher101"

result := oBlaiseFile.write

consolewriteline ("Done!")

ENDBODY



# Manga (6)

APIs:

- Meta (read field definitions from and provide link to .bmix)
- DataRecord (field type, structure type, datarecord, fields)
- DataLink (dataset, link to data source)

Also does:

loops, boolean algebra, record reading (forwards and backwards), datacopying via dataset, .bdix creation etc.



# BISdar (1)

Problem:

*“One of our B4 questionnaires occasionally loses it’s T-1 data for certain respondents.”*

Cause:

*“No-one knows.”*

Solution:

*“Can’t know until a cause is found.”*



# BISdar (2)

Proposal:

*“Graphically display the route through the questionnaire for a given set of data.”*

Technologies:

*“Blaise 5 API, Windows Presentation Foundation.”*

Program name:

*“BISdar.”*



# BISdar (3) – Sample display

**BDAR** BISdesign Active Routing

Values On Off Just left All Project

VarName	StartingValue	CurrentValue
ExtralInfo	6	
Flight.BookingDate	01-01-2001	
Flight.Carrier	1	
Flight.ConnectingFlights	5	
Flight.DepartTime	10:10	
Flight.FirstClass	1	
Flight.Miles	100	
Page_0		
Page_1		
Page_last		
PageDeterminer	1	
Person.Age	42	
Person.FirstName	fred	
Person.LastName	arbutnot	
Person.Town	Mercunial City	
PresentTime.Present		
PresentTime.When		



# BISdar (4) – How it works (1)

- request a .bmix and a .bdix for an instrument
  - the LayoutManger requires both these things
  - this is used in the alternate display (fields on a page)
- create a WPF User Control for each field
- draw the User Controls
- display the tab control
  - input datagrid
  - lists of fields on, off and just left the route
  - list of saved datasets



# BISdar (5) – How it works (2)

- type value(s) into the input datagrid (underlying type)
- calculate the route
  - assign the values to the fields in a datarecord
  - issue an ExecuteRules command
  - march the list of fields on the route
- calculate the display path
  - calculate start and end co-ordinates between fields
  - calculate path (A\* algorithm)
  - draw lines between nodes listed in path
  - repeat for all fields on route



# BISdar (6)

APIs:

- Meta (read field definitions from and provide link to .bmix)
- DataRecord (field type, structure type, datarecord, fields)
- Layout (group, page breaks etc.)

Also does:

- an alternate display of:
  - all fields on a page
  - all pages in the datamodel
- deprecated as the other display is more useful



# Thank you...

*... for listening!*

