

Practical and Cost Effective Techniques for Modernising your Gen GUI applications



Type	Code	Name	Type	Owner	Ver	SR	Release	Sub System
AD	A2701	32701	PROC	1	D		R1.0	
ENT	T4670673	A	ENT	1	P		R1.0	
PROC	CLIENT	ABOUT_GUARDEN	PROC	1	C		R1.0	
PROC	CAB1	CAB_1	AB	1	C		R1.0	
PROC	CAB2	CAB_2	AB	1	D			
PROC	GIACORV	ORDER_INVOICE	PROC	1	D			
SPECTYPE	V6584953	CLIENT	VIAS	1	C			
VIAS	GIAC3ECC	COMMON_SECURITY	AB	7	D			
	GIAC3ECC	CREATE_CUSTOMER	AB	2	C		R2.0	
	GIAC3ECC	CREATE_ORDER	AB	4	C		R2.0	
	GIAC3ECC	CREATE_ORDER_EXT	AB	2	M		R1.0	
	T4642007	CUSTOMER	ENT	2	M		R1.0	
	V6769119	DOP	VIAS	1	C			
	GIAC3ECC	DELETE_ORDER	AB	4	D		R3.0	
	80001029	80001029	ENT	1	O			
	E7483712	E7483712	ENT	1	O			
	E7483942	E7483942	ENT	1	O			
	E7483946	E7483946	ENT	1	O			
	E7483940	E7483940	ENT	1	O			
	T1973258	ENT_1_1	ENT	1	D			
	T1973258	ENT_1_1	ENT	1	D			

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Agenda



- ▲ Introduction
- ▲ GuardIEn Case Study
- ▲ IETeGUI
- ▲ Conclusions

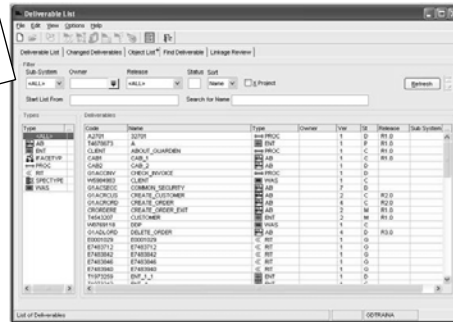
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GuardIEn Case Study



- ▲ GuardIEn developed with Gen
- ▲ How did we get from a standard Gen GUI to a modern, sophisticated windows application?



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GuardIEn Case Study



- ▲ Initial GuardIEn Release – TSO/3270
- ▲ First GUI Design created as essentially a block-mode design with GUI controls (using Composer 3)
- ▲ Recognised need to improve user interface, but with:
 - ▲ All business logic in Gen
 - ▲ All client windows to be Gen
 - ▲ Minimise use of OCXs or extensive additional code
- ▲ Design Approach
 - ▲ Use standard infrastructure EABs to interact with Windows

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GuardIEn Case Study – Phase 1

- ▲ Clickable Cells
- ▲ Tabs
- ▲ Right-Click Menus
- ▲ Timer Events (auto-refresh)

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Clickable Cells

Development Update 520 (Env DEV Rel R76) - R76

File Edit Tools View Help

Details Comments Content Execution

Installs: ☐ Highlight Out of Date Action Diagram ☐ Generate with Trace

Deliverable	Type	Model	Dyn	Oth	Trace	Code	Scrn	Initial
OFFPRM1	Proc	R76TSQ						
ODSAB	Proc	R76OLA						
ODAFM227	AB	R76OLA						

Deliverables scoped into the Content

ODN

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Clickable Cells



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Tabs



- ▲ Objective – achieve tab look & feel without using OCX controls
- ▲ Problem – 'seamless' movement between tabs without losing position or using transfer flows

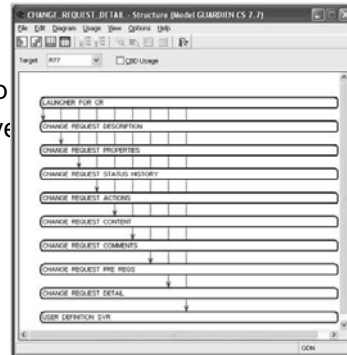
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Tabs

▲ Solution:

- ▲ Non-display 'launcher' p-step
- ▲ Flow to the launcher from calling p-step
- ▲ Launcher controls which 'tab' is displayed
- ▲ Each 'tab' is a separate window
 - ▲ Tabs are bitmaps
- ▲ Code logic to reset size / position
 - ▲ Or use IETeGUI
- ▲ EAB to draw tab border



```
SET temp_window ole guiobject TO CurrentWindow()
SET temp_window ole window_handle TO temp_window ole guiobject.Handle
USE eab_start_tab_border_manager
WHICH IMPORTS: Work View temp_window ole TO Work View in_window ole
```

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Right Click Menus

- ▲ Problem 1: Gen event co-ordinates provide the offset from the top of the displayed row and does not account for scrolling
- ▲ Problem 2: Gen co-ordinates affected by windows DPI setting



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Right Click Menus

- ▲ Solution 1: EAB to return the topmost displayed row
- ▲ Solution 2: Custom Function to provide DPI setting and adjust co-ordinates

```
EVENT ACTION right_mouse_down
SET temp_ole_guiobject TO CurrentWindow().ListBox("MainList")
SET temp_listbox_handle ief_supplied count TO temp_ole_guiobject.Handle

USE get_listbox_top_row
WHICH IMPORTS: Work View temp_listbox_handle ief_supplied TO Work View in_handle ief_supplied
WHICH EXPORTS: Work View temp_top_row ief_supplied FROM Work View out_top ief_supplied

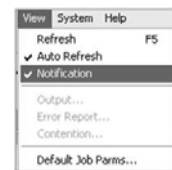
SET temp_clicked_row ief_supplied count TO (out_rightmousebutton1 ycoord / ietgetstandardydfontheight(14)) + temp_top_row ief_supplied count + 1
```

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Timer Events

- ▲ Timer events allow the client p-step to automatically invoke a client event after a preset interval
 - ▲ E.g. to refresh data from the server
- ▲ Approach:
 - ▲ EAB to setup a Windows Timer, which then posts a message to the client to execute a command or TIREVENT



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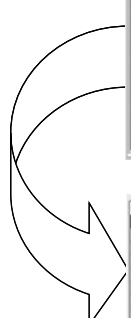
GuardIEn Case Study – Phase 2

- ▲ Further Enhancements
 - ▲ List Box Enhancements
 - ▲ Window Resizing

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Enhanced List Boxes

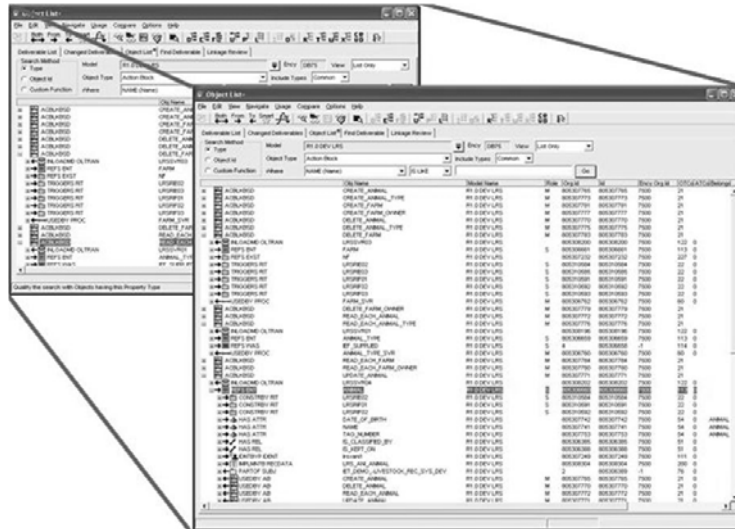


Deliverable	Type	Variant	Target	Version	St	Release	Date	Time	Cko
EXTMP	EXTMAP	NT	DEV	2.0	D	R1	20040505	123334	
EXLM1	EXLM	NT	DEV	2.0	D	R1	20030709	110952	✓
EXLM2	EXLM	NT	DEV	1.0	D	R1	20030709	110952	✓
EXTN 1	EXTN	NT	DEV	2.0	D	R1	20010719	113935	✓
	EXTN	SERVER	DEV	1	P	R1	20050413	154903	
FRCONEN	HTML	NT	DEV	1	D	R1	20000508	120639	
FRMAIN	HTML	NT	DEV	1	D	R1	20000508	120642	
GAZ2	SCRIPTS	SERVER	DEV	1	D	R1	20000711	152817	
GBSECEX_EXTERNAL	AB	MVS	DEV	3.0	W	R1	20030708	092958	
	AB	NT	DEV	2.4	D	R1	20030930	180615	✓
	AB	UNIX	DEV	3.0	W	R1	20031021	161054	
GDNTBA	AB	UNIX	DEV	1.0	D	R1	20040608	152828	
GDNTBB	AB	UNIX	DEV	1.0	D	R1	20040608	152827	
GLOBDATA 2	H	NT	DEV	1.0	M	R1	20031006	111259	✓

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Window Resize



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Why is this hard in Gen?

- ▲ Could be achieved with extensive coding & OCX controls, but:
 - ▲ A lot of effort per p-step
 - ▲ Need to enhance entire application to achieve consistent user interface and standards

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Benefits

- ▲ Better user experience
- ▲ Standard behaviour across all applications
 - ▲ List boxes consistent with Windows standards
 - ▲ Use of bitmaps improve data readability
 - ▲ Window and Dialog Box resizing with automatic resizing of list boxes and moving of selected controls
 - ▲ Remembers windows sizes, positions, column settings
- ▲ Minimal development effort

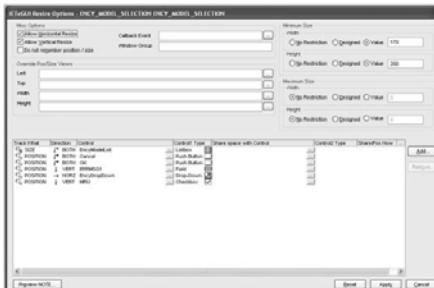
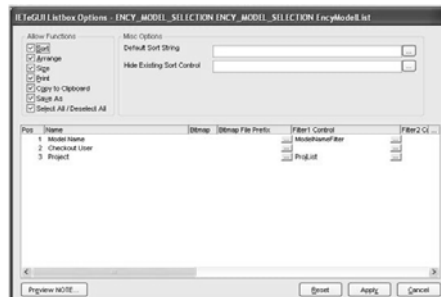
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IETeGUI



- ▲ IETeGUI – IET Enhanced GUI
- ▲ Commercially available product for enhancing Gen GUI applications
- ▲ Based on GuardIEn enhancement project
- ▲ Works with Gen 6.5 and above



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