

Automation: ROI Robbers

Automation Guild 2017



Automation: ROI Robbers – First Contact

Once upon a time

there was a framework ...





Automation: ROI Robbers – First Contact









Automation: ROI Robbers – What is ROI

ROI?





Automation: ROI Robbers – What is ROI

ROI simply stands for Return on Investment





6

Automation: The Fine Line

- ROI is tough to hit in test automation
- More than simply building test automation
- Have the right things been automated?
- Has it been built correctly?



7

Automation: N-Curve





Automation: N-Curve with ROI Robbers





Automation: N-Curve with ROI Robbers





Automation: ROI Robbers - Landscape

These areas can all have an impact on automation ROI

			ROI Impact			
Talent	Tools	Training	Evaluation	Implementation	Execution	Maintenance



Automation: ROI Robbers - Landscape

These areas can all have an impact on automation ROI





Automation: ROI Robber #1 – Over Abstraction

 Defined: To add more complexity to solving a problem than is necessary



12



Automation: ROI Robber #1 – Over Abstraction

- Back to KRAD
 - Data strategy was too much of a good thing.
 - Too many spreadsheets
 - Too many tabs across all those spreadsheets
- Other common over abstractions
 - Coding shortcuts such as WITH statements
 - Over usage of Environment Variables
 - Hard coded data buried in automation code





Automation: ROI Robber #1 – Over Abstraction

- Avoiding Over Abstraction
 - Keep data to one spreadsheet (just one tab)
 - Use programming syntax that is easy to read (avoid WITH)
 - Learn how to access common data when you need it.
 - Never hardcode paths, filenames, usernames, etc. into your test automation.
- Overall
 - Consider if someone other than you will have to maintain your code.





Automation: ROI Robber #2 – Object Recognition

Defined: The process used by automation tools to interact with the application under test

Object Repository - All Object Repositories								
<u>File Edit Object View T</u> ools	<u>H</u> elp							
📄 🗠 🗠 🐰 🗈 🖻 🗶 🎼	4 20 🚯 💊 🔍 🗞 🐇 🗞							
Action: Action1	Object Properties							
E G Test Objects	Name: OK							
Flight Reservation	Class: WinButton							
	Repository: Local							
III Order No.	Test object details							
Button	Name							
	 Description properties 							
	1							



Automation: ROI Robber #2 – Object Recognition

Don't reinvent the wheel as in this example





Automation: ROI Robber #2 – Object Recognition

- Simplify object recognition to the most maintainable approach.
- Follow the method the tool vendor suggest.
- Know when to deviate (such as using descriptive programming)

🛃 QuickTest	Professional - [Test*]
Eile Edit	<u>View Insert Automation Resources Debug Tools Window H</u> elp
🚺 New 🔻 🛛	🧟 Open 🝷 🔜 🕵 🥭 🗏 🖄 📴 🚱 🔍
🕘 Record 🕨	• Run = Stop 🗞 🕼 🕸 🗐 🗿 🖬 🦓
II 🧐 🕼 🕯	
Test*	
Action	1 🗸
1:	Window("Flight Reservation").Activate
2:	Window("Flight Reservation").WinButton("Button").Click
3:	Window("Flight Reservation").WinObject("Date of Flight:").Type "111111"
4:	Window("Flight Reservation").WinComboBox("Fly From:").Select "Frankfurt"
5:	Window("Flight Reservation").WinComboBox("Fly To:").Select "London"
6:	Window("Flight Reservation").WinButton("FLIGHT").Click
7:	Window("Flight Reservation").Dialog("Flights Table").WinButton("OK").Click
8:	Window("Flight Reservation").WinEdit("Name:").Set "111"
9:	Window("Flight Reservation").WinRadioButton("Business").Set
10:	Window("Flight Reservation").WinEdit("Tickets:").Set "2"
11:	Window("Flight Reservation").WinButton("Insert Order").Click



Automation: ROI Robber #3 – Synchronization

 Defined: The process of getting automated test execution in step with the application under test.





Automation: ROI Robber #3 – Synchronization

Wait() = Hope()



Automation: ROI Robber #3 – Synchronization

- Use "Exist" and other techniques.
- Understand what can be monitored to know state.
- Whenever "Wait" must be used, use it sparingly.





Automation: ROI Robber #4 – Data Strategy

Defined: The way data is organized and used within the test automation.



4	А	В	С	D
	First Name	Last Name	Account ID	Account Name
2	Gwendolyn	Nieves	003D00000rKSqk	Acme Machines
;	Aladdin	Carlson	003D00000rKSqK	Acme Machines
Ļ	Ezekiel	West	003D00000rKSQk	Acme Machines
5	Allen	Ingram	003D00000rKSQK	Acme Machines
;	Alice	Cervantes	003D00000rKsqk	Acme Machines
Ċ.,		A CALL	MARKA ALAM	

21



Automation: ROI Robber #4 – Data Strategy

- Reminiscent of the KRAD example
 - To complex a data strategy (overly abstract)
 - Not easy to maintain
- Datasheet troubles
 - Endless spreadsheets
 - Endless tabs





Automation: ROI Robber #4 – Data Strategy

- Simplify Datasheets
 - One Row = One Test
 - Keep column naming logical
 - Resist over abbreviating
 - Consider using one row just for details about the column
 - Store Datasheets in reliable location

TestAction	TestID	TestType	1	UserID	UserPW	I	TenderType	TenderAmt	ChkRouting	ChkNum	TravChkID	T	ValFee	ValTotal	I
Skip	00	Deposit Balance End of Day	I			I	Cash Check Travelers Check					I	[Skip] = bypass	[Skip] = bypass	T
Execute	BT01	Set Reset Users Data	T			I						I			1
Execute	BT02	Launch Application				1						I			1
Execute	BT03	Configure Application	Ι	5555	5555555a	I						I			T
Execute	01	Deposit	I	1111	11111111a		Cash	120.00				I	8.66	113.66	1
Execute	02	Deposit	Ι	1111	1111111a	I	Check	113.66	123456780	101		I	8.66	113.66	
Skip	03	Deposit	I	1111	1111111a		Travelers Check	120.00			122334	I	8.66	113.66	1
Execute	04	Balance	I	4444	444444a	I						I			
Execute	05	End of Day	1	4444	4444444a							I			1
Execute	AT01	Exit Application	1			1						I			1



Automation: ROI Robber #5 – Scalability

Defined: The ability for test automation to adapt and grow over time.





Automation: ROI Robber #5 – Scalability

- Poor automation frameworks ensure future problems.
 - Abandoned automation efforts
 - Retrofitting scalability
- Common Indicators
 - Hard coded paths, filenames & user credentials
 - Dependencies on the local file system
 - Can only execute on a single machine.





Automation: ROI Robber #5 – Scalability

- Test Management tools (Quality Center/ALM)
 - Store all test assets here; Scripts, Libraries, Datasheets, Object Repositories
- Build to be flexible, adaptable, scalable
 - Run simultaneously
 - Run on multiple environments
 - Run with variable data
 - URĽs
 - User ID's
 - Data





Automation: ROI Robbers

- Over Abstraction
- Inability to Scale
- With Statements
- Hard Coded Data, File Paths
- Code Duplication
- Environment Variables
- Undocumented Code
- Unconventional Looping Practices

- Unconventional Data Strategy
- Unconventional Error Handling
- Unconventional Synchronization
- Unconventional Object Recognition
- Reinvention of IDE Functionality
- Not designed with Maintenance in Mind
- Substitution of Functions for Reusable Actions
- Improper Usage of Subroutines and Functions





Final Thoughts



Contact Information





I would enjoy hearing how you're using the teachings from this presentation.

	TS Physical Test Grid									
Category	Critical	High	Medium	Low						
Pages	Page completes loading	Loading completes in a reasonable amount of time	Page loading consistent between browser versions	Page loading time reasonable under load						
Tugoo	Graphics, text and other elements seem to be in correct locations	Page has logical flow	Color contrast issues							
	Graphics loading completely	Graphics completed loading within same time frame	Consistently loading every time							
Graphics	Scaling, cropping or image quality problems	Highly artifact (distorted) image quality	Unpredictable color rendering at various bit depths	Non-browser safe color pallet used						
	Rollover graphics displaying correctly	Graphic rollover state providing correct transition illusion	Preloaders working correctly for quick screen redraw							
	Graphical text within graphic is legible	Correctly spelled text within graphic								
	Dropdown menus are	Dropdown menu contains all desired options	Submitted form contains dropdown menu selection(s)							
	Tunctional	Dropdown items are spelled correctly								
	Radio Buttons are functional	Radio button effect, turning off related radio buttons is working	Submitted form contains radio button selection							
		Radio buttons are spelled correctly								
	Checkboxes are functional	Selection of multiple checkboxes is possible Checkbox text is spelled correctly	Submitted form contains checkbox selection(s)							
Forms	Text fields and boxes are	Text field and boxes have correctly spelled default text	Text fields allow enough room for a typical data entry							
	functional		Submitted form contains text field and text box information							
	Buttons are functional	Button submitting or resetting form correctly Buttons are spelled correctly								
	Forms submitting correctly	Hitting Return/Enter submits form								
	Form data being received	Data from submitted form validated and correct								
	Form validation working correctly									
	Hyperlinks working	Hyperlinks going to correct destinations	Link to page is not an error page							
Links	- yponinio norking	Hyperlinks spelled correctly								
Links	Image links working.	Image links going to correct destination								
	Email links working.	Email links launching email client	Email link addressing mail client correctly	Email links going to correct recipient						

Need a better Manual and Automated Test Strategy? Learn more about Greg's Minimal Essential Testing Strategy. METSTesting.com

TECHNOLOGY TEAM



Interested in Test Automation? Greg shares from 30 years of experience in "Test Automation in the Real World". RealWorldTestAutomation.com