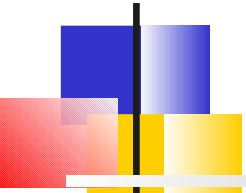


# Automation - Success or Failure?

■■■ *because all tools come with capabilities and drawbacks*



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*Step-Auto Forum  
Test Automation Conference  
Hotel Pride Executive , Pune  
30<sup>th</sup> July 2008*

**ZenSar**  
TECHNOLOGIES

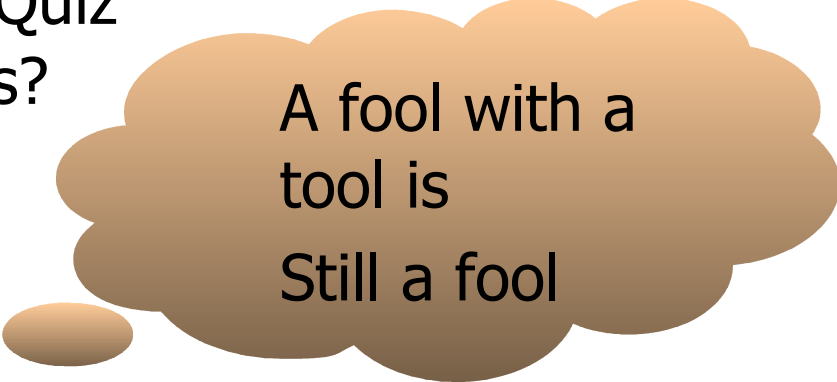
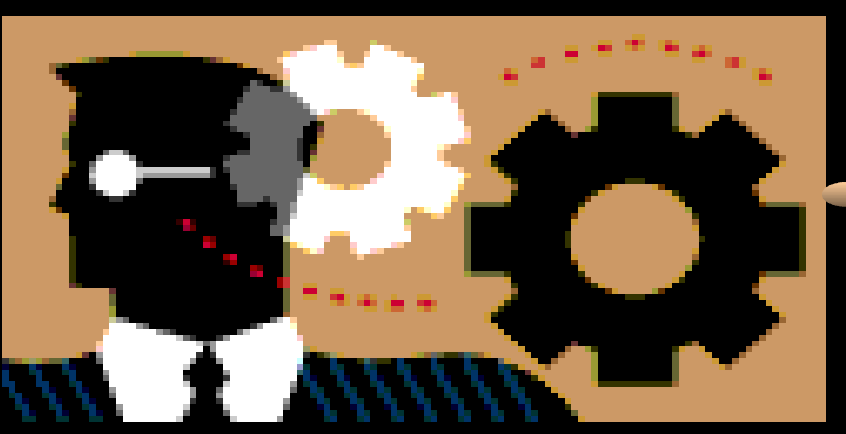
Your Transformation Partner



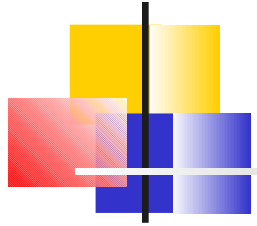
# Agenda

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- Thoughts on Automation
- Why worry about Automation Project?
- How to Judge Success or Failure?
- Some Examples and Quiz
- Why Automation Fails?



A fool with a  
tool is  
Still a fool



# Automation Thoughts





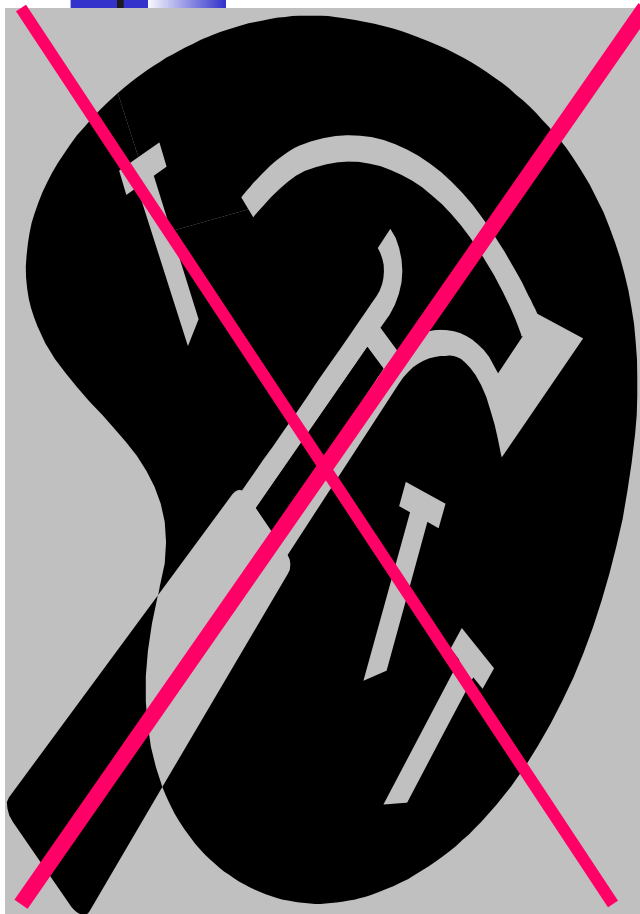
# Thought - 1

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“Software development is still labor intensive process even today. Although, in recent past we had tools available in the market, but the fact remains ... and believe me, its still labor intensive”

- Watts S Humphrey – Managing Software Process

## Thought - 2



When we do not feel like using a tool?

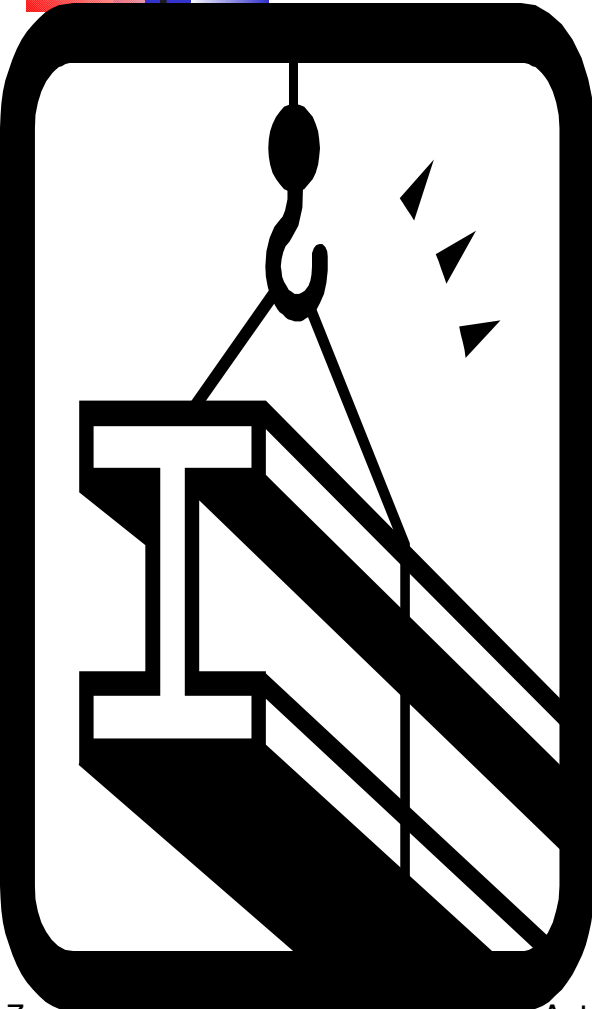
- If the task is one off a nature
  - No tool needed
- If the task is not complex
  - No tool needed
- If the task takes relatively small effort
  - No tool needed

## Thought - 3

When we feel like using a tool

- When there is a repetitive work
- To reduce effort
- To increase productivity
- To reduce human strength..
- To minimize human mistakes
- Do the task better

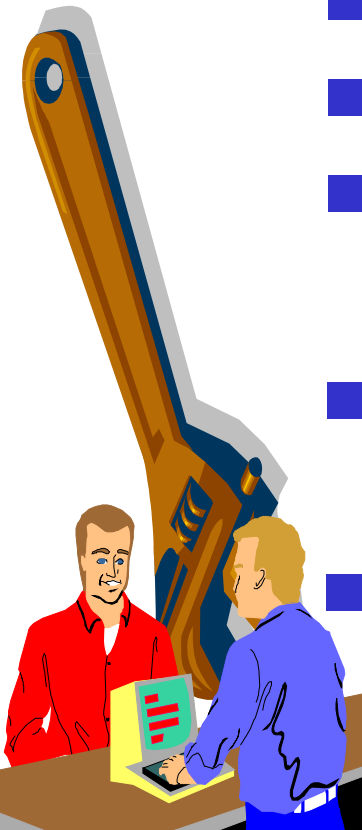
cranes, robots, dumpers,  
excavators , machines ...  
also assist us as tools



# Thought - 4

Automation tools are merely part of the solution

- They are not magic answers to testing problems
- They cannot replace analytical skills of humans\_
- They are seen as an enhancement to manual testing process
- The notion of management that automation tools can do everything in “Testing Process” is **false**
- We need multiple tool to support all testing tasks





# Different tool – Different purpose

Sr. No.	Type of Tool	Description
1	Code Coverage Analyzers	Identify un tested code
2.	Memory Leak Detection	Identify memory is managed properly in Application
3.	Test Data Generators	Generate Test Data
<b>4.</b>	<b><u>Test Management Tools</u></b>	<b><u>Manage Test Process</u></b>
5.	Network Testing Tools	Test Performance of bandwidth of networks
<b>6.</b>	<b><u>Testing tool</u></b>	<b><u>Capture and Play back</u></b>
<b>7.</b>	<b><u>Load Testing Tools</u></b>	<b><u>Test Load / stress of application</u></b>
8.	Metrics Reporting tool	Capture measurements and provide metrics.

■ *Costly and most frequently used tools*



## Thought - 5 ...

- What is the purpose of Test automation?
  - Speed up testing
    - e.g. I18N App, Compatibility tests, Regression
  - To reduce testing effort
    - e.g. 3000 test case –50 testers take 8 days  
script take only 2 days ..



If I had not got this tool, I would have spent a week to dig, I did it in just a day ...



## Thought -6 ...

---

“If your testing process is disorganized, or development

Of AUT happens in Chaotic process then

... any tool is not going to solve the problem for you!  
rather they create more problems “

- Elfriede Dustin – Effective Software Testing



## Thought -7 ...

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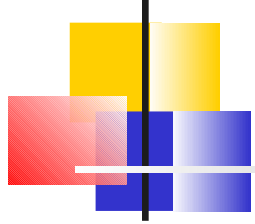
“How effectively we use a “**purchased**” tool depends on how effectively the tool **fits** our project purpose”

- Cem Kaner – Lessons Learned in Software Testing

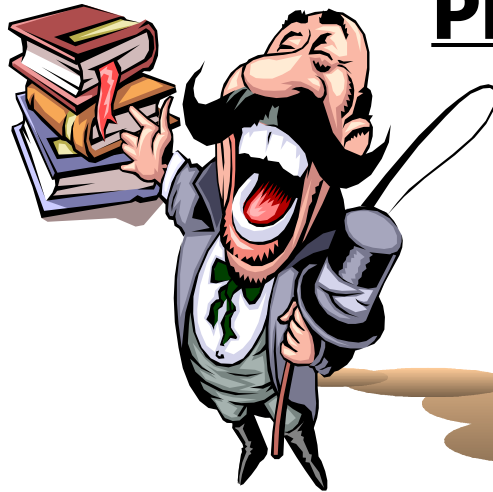
# Quiz .. ?

- In your project, whatever automation you did till now ..  
List down the below ...

Do testers waste time correcting script just to make them work for a specific test in a specific environment	Yes, how much approximately	No , Never
Did scripts had Hard coding?	Yes, too much	No, not at all
How many times script fail during execution?	Every time	Some times



# Why worry About Automation Project



Let me look at this why it  
worries me!

# Automation is Special ..because

Lot of



Is spent on ...

**Tools Training Resources ...**

*Upfront **even before** getting  
automation deliveries*



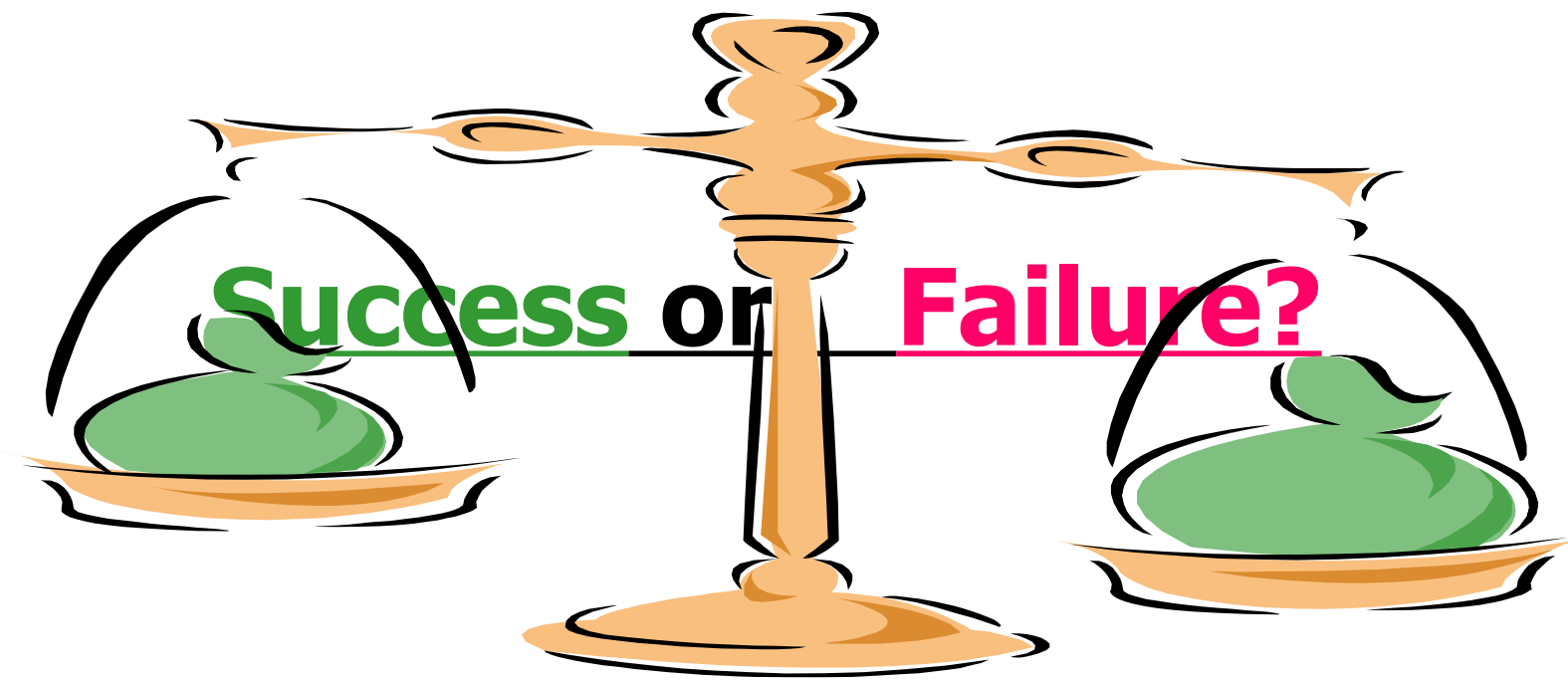
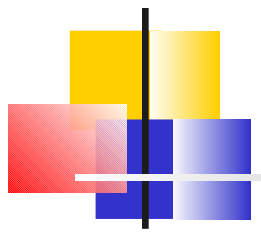


# Automation is Special ..because

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## **It requires .....**

- Application ( AUT ) knowledge
- Tool and their capability knowledge
- Studying and understanding manual test cases
- Scripting knowledge
- Framework knowledge( data, keyword, hybrid)
- Testing process knowledge
- Knowledge of third party controls (e.g. ActiveX)
- Knowledge of object orientation
- Trouble shooting skills





# Question for you guys ..?

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Do your boss ever call you and ask!!

“You remember .. We brought a tool last year spending \$10000 .. Can you tell how we are using it?”

What did you reply?

# Did you reply?

Yes we got the tool but its with IT dept, I tried to read user manual but not getting much time. I asked him to do a small experimentation, but have not heard yet, let me check and get back to you ...I think, project X is using this tool, but I have no idea how effectively they are using, may be we have to set up a meeting to check what they are up to . Can we meet next week and discuss this?



# Question for you guys ..?



How often you get into this confronting situation ...your management says

“buddy , you wasted money in the name of automation”

What did you reply?

# Did you reply?

Yes! It's a sad part of story, I cannot help. X was using this tool and he left this company, Y has taken over and says lot of project functionality is not captured by tool, the tool vendors support is also not responsive, we did record AUT but when tried to play, we see errors here and there but let me tell you, scripts work in SQE environment not in stage .. Seems lot of hard coding is there

**That is the reason we are still using manual methods to do testing ...**



# Difficult times ..

These are difficult times, there is a High pressure on

- Producing more with less resources
- Optimum utilization of budget
- Control on spending
- Cut down cost
- Beat competition



If your project is one which is "Highly Visible" "Highly Important" then management has every reason to Question you .. If there is no output on automation



# Quiz . . ?

---

In last one year or so. Did you buy any automation tool  
In your organization?

If yes, list down how many projects are using this tool.

Which project “Not using” this tool and why?

Did you hear any mandate from management  
“ guys! We **have to** use this tool, because we have spent  
money”

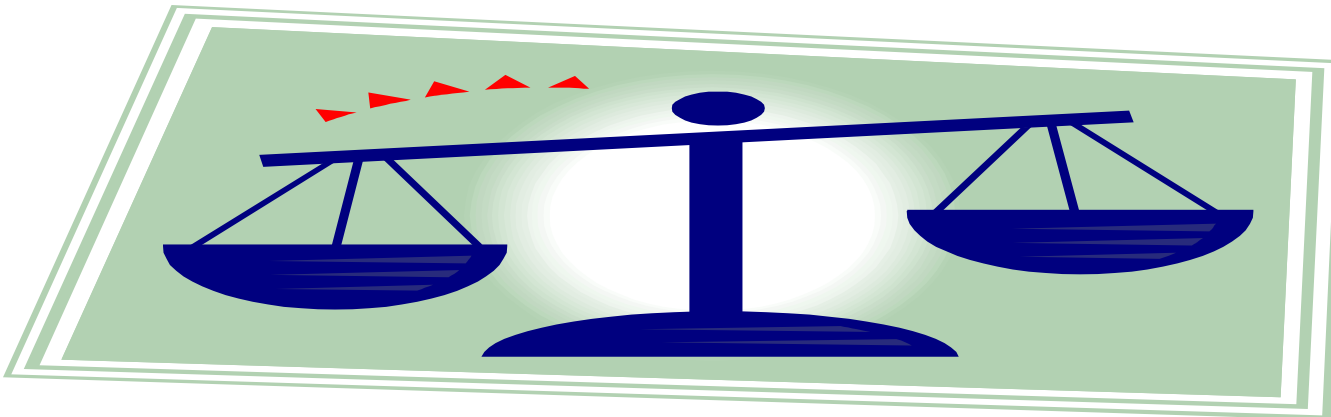


# Return on Investment

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Use ROI as a **method** to measure success or failure.

ROI = Benefit Vs Cost or Benefit / Cost





# Return on Investment

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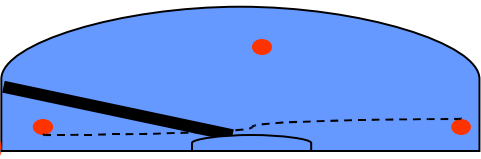
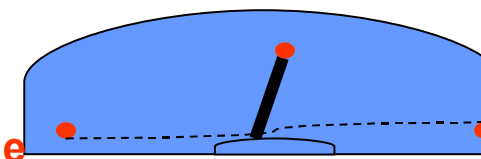
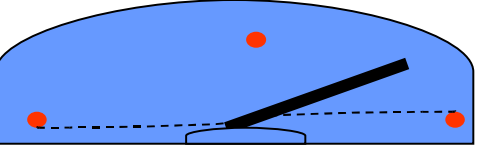
Since the investment is “money” , return also is measured in “money”

ROI – How much we get in return (\$) for the investment (\$) we are making or made

**\$** *measured against* **\$**



# Return on Investment

 <p>Deep Trouble</p> <p>ROI Meter</p> <p>Good Show</p>	<p>ROI &lt; 1</p>	<p>Bad</p>
 <p>Deep Trouble</p> <p>ROI Meter</p> <p>Good Show</p>	<p>ROI = 1</p>	<p>Just Ok</p>
 <p>Deep Trouble</p> <p>ROI Meter</p> <p>Good Show</p>	<p>ROI &gt; 1</p>	<p>Good</p>



# Case Study

Before Implementing Automation	After Implementing Automation *
<p>1000 Test Cases 4 Test Engineers</p>	<p>500 Test Case Automated Total 1500 Test Cases 4 Test Engineers 1 Dedicated and 3 Manual</p>
<p>Test Effort : 25 days for 4 *** people for testing 1000 test cases</p>	<p>Test Effort : 27 days for testing 1500 test cases ** 1000 manual, 500 auto</p>

- \* *Say after Six months or so*
- \*\* *27 days as against 37.5 days, saving of 10.5days*
- \*\*\* *10 test cases per day per tester*

# Example - Benefit

Sr. No.	Description	Data	Data To collect
1.	No. of Test Engineers reduced	None	What was strength of Test team six months ago and today?
2.	Days saved approx 10.5 by executing test cases by automation than manual, for 4 Test Engineers for 6 months	6 months x \$136 x 3 X 10  <i>\$3000 per tester/            PM, \$136            PD/PT</i>	Collect data, how much time it takes to do testing using manual test case and by using script. Rates of resource

# Example - Cost

Sr. No.	Description	Measure	Data To Collect
1.	Tool cost	\$7500	Tool cost for the project
2.	Yearly licensing fee	\$1200	Consider only if paid
3.	1 Automation Engineers doing framework, scripting, execution, monitoring, defect logging and maintenance of scripts.	1 x \$3000 x 6 months	The whole cost of automation development usually done by dedicated resources



# Return on Investment

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*Make ROI Calculations a simple exercise. Too much of math  $\mu \Omega \beta \zeta \int x \infty$  or stats means ... your bosses may not understand what you wanted to say.*

*Make ROI easy to calculate and easy to interpret*



# Quiz!

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What was the ROI in our example?





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# Why Automation Fails?



Ladies and Gents, This is Captain speaking, we do not know where we are , we are trying to contact port control. Stay tuned for updates



# Some Symptoms ...

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- Set unrealistic expectations
- Demand 100% automation
- No manual Testers needed syndrome
- Wrong tool selection
- Wrong framework selection
- No Training to resources
- Rely totally on Capture – playback
- Lack of standard
- Hard to maintain scripts

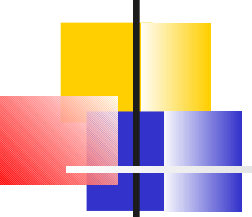


# Automation ...

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## Some Points to Consider



- 
- 
- While selecting a tool do not limit selection to one single project , instead look at organizational requirements
  - Do not demand for 100% Automation
  - Create library of reusable functions
  - Modular and iterative script development
  - Version Control
  - Creating Test Shell or Test Wrapper containing many test scripts is an efficient way to do automation
  - Be knowing less capable/light tools Vs Automation goals



# Thanks

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## Question Answers

### Contact Details

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