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## A Methodical Approach to Creating Test Automation Strategy

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**Practices Experience Knowledge Automation**



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Welcome to  
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Abhijit Nadgonda  
Abhay Joshi  
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## Presentation Path

- Test Automation – State of the Art
- Typical Test Automation Methodology
- Resulting problems
- Need for Automation Strategy
- Goals of Automation Strategy
- Automation Strategy – our methodology
- Tool evaluation criteria
- Effort estimation
- Case study

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## Test Automation - State of the Art

A critical goal in SDLC

- Product life cycles getting shortened
- IT budgets getting squeezed

Benefits

- Cost saving
- Time saving
- Reliability and predictability of results
- Reduced infrastructure requirement

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## Typical Test Automation Methodology

- Tool selection
  - The most popular tool out there
  - Unused in-house tool license
- Estimation based on a few sample test scenarios
- Hire programmers, train on the tool
- Automation implementation
  - Start as soon as test scenarios are ready
  - Automate scenarios one by one
- Little thought given to automation architecture & design

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## Resulting problems (1 of 2)

### Project Management Issues

- Late discovery of tool inadequacies causing resetting of the cycle
- Disruption to the product developers due to ambiguous test cases
- Effort turns out to be wildly out of track
  - Higher maintenance
  - Cost of automation project goes up
  - Cost of testing goes up – need to continue manual testing

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## Resulting problems (2 of 2)

### Automation development issues

- Test case quality
  - Automation priority
- Automation scalability
  - Business goals of the product

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## Need for Automation Strategy

- A well-defined test automation vision
  - Define SMART goals
- Scope for the Automation
  - What and how much to automate
  - When to automate and how
- Define process for Automation
  - Prioritized test automation plan

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## Goals of Automation Strategy (1 of 2)

- Select a tool that is best suitable
  - Technology
  - Business goals of the product
  - Cost
- Define practical ROI
- Identify dependencies
  - Impact of changes in dev plan, features

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## Goals of Automation Strategy (2 of 2)

- Make recommendations on the time-line for automation
  - Realistic budget for automation
- Define automation priorities
- High level automation design
- Maintenance plan

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## Automation Strategy - Methodology

### Discovery

- Understanding the product and its life cycle
- Understanding the test effort
- Understanding the test practices

### Envisioning

- Test Automation scope definition

### Implementation and planning

- Tool selection or design
- Effort estimate

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## Tool evaluation criteria

- Platform & Browser Support
- Validation
  - Functionality
  - Response time
- Web Services Testing - Features
- Protocol support
- Data-driven testing
- External interfaces

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## Effort estimation

Influencing factors

- Framework design
- Scalability
- Testing
- User documentation
- Maintenance

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Case Study:

UI with Embedded  
Graphics

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## Challenges

- Tool support a big question mark
- No prior exposure to test automation
  - Unrealistic expectations
- Quality of test cases unclear
- No team in place to maintain automation

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## Solutions

- Selection of a good test automation tool
- Expectation alignment
- Prioritization of product features
  - Test case modification
- Knowledge transfer

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## Going forward

- Improve our strategy approach to include Agile development

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## Tips to succeed

- Obtain sponsorship from senior management
- Validate and align expectations upfront
- Define realistic milestones
- Review and report periodically

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