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# **The Perceived Value of Authoring and Automating Acceptance Tests Using a Model Driven Dev. Toolset**

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# The Concept

## Keyword Driven Testing

Planning: Define Keywords  
(a.k.a. Action Words)

Tool provides test editor

Develop driver to interpret  
tests automatically

Tool provides versioning,  
reporting, management

## Domain Specific Modeling

Planning: Define Meta-Model  
(a.k.a. Domain Specific Lang)

Tool provides model editor

Develop driver to interpret  
models automatically

Tool provides versioning,  
reporting, management

# The Potential Benefits

Step Type	1 <sup>st</sup> Parameter	2 <sup>nd</sup> Parameter
<b>Open Form</b>	Account	
<b>Edit Field</b>	Customer	<b>John Doe</b>
<b>Check Field</b>	Amount	<b>0.0</b>
<b>Edit Field</b>	Amount	<b>1000.00</b>
<b>Check Action</b>	Withdraw	<b>Enabled</b>

- Auto-completion while editing tests
- Validation as you work
- Automated impact analysis
- Detailed coverage queries

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# Methodology

## ■ Questionnaires

- ❑ 9 testers using the toolset on a daily basis
- ❑ Average 15 months, minimum 6 months with toolset
- ❑ 6 had previous experience with other tools
- ❑ Same organization & methodology, two year period
- ❑ Anonymous questionnaire, open & closed questions

## ■ Interviews

- ❑ Two test teams leads
- ❑ Owned planning, tracking, training and effectiveness

# Authoring Tests

Compared to writing free-form tests for manual testing, how long does it take to ...

Write a test scenario?	<b>12% shorter</b>
Update test scenarios when specs change?	<b>40% shorter</b>

- Auto-completion is critical
  - This feature alone reduces test writing time by 40%
  - Fewer keystrokes, spelling mistakes, hours to learn
- Impact analysis eliminated 25% of testers' work

# Executing Tests

Compared to executing manual tests,  
how long does it take to ...

Execute a single test?	<b>48% shorter</b>
Execute the entire test suite?	<b>67% shorter</b>
Reproduce an application bug?	<b>49% shorter</b>
Decide if a failed test is a new or existing issue?	<b>30% shorter</b>

- Execution refers to cycle of setup to bug entry
- Perceived as effective as other test auto. tools

# Planning & Estimation

Compared to an environment in which tests are written and executed manually, evaluate the ...

Ease of estimating the time required to write tests

**8 of 9: Easier**

Ease of estimating the time required to execute tests

**7 of 9: Easier**

- Both team leads said “much easier”
  - Predictability: Developed # of minutes to test each new/changed UI action, transaction or data field
  - Flexibility: Anyone can test, with similar speed

# Staffing & Training

Compared to an environment in which tests are written and executed manually, evaluate the ...

Required professional level of a tester	<b>7 of 9: Higher</b>
Time required to train a new Tester	<b>12% Longer</b>

- Perceived as easy as other test auto. tools

# Summary: The Bottom Line

Compared to an environment in which tests are written and executed manually, what is the ...

Time from a code complete to a delivered product?	<b>63% Shorter</b>
Number of defects that go undetected?	<b>34% Smaller</b>

- Tools perceived as a big step forward from the commercial automated test product it replaced
- Promising results from early adopters

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# Thank You!