


Focus Your Testing

Using the Agile Testing Matrix



Agile Vancouver – Conference
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With material from Lisa Crispin

Agenda

- A Bit About Testing
- Introduction to the Agile Testing Quadrants
 - Quadrant 1
 - Quadrant 2
 - Quadrant 3
 - Quadrant 4
- Planning your Testing Strategy
- References

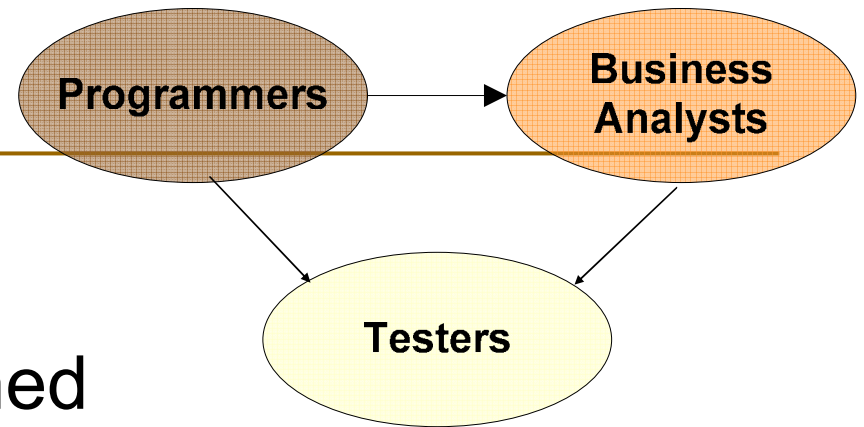


Why Do We Test?

- To find bugs
- Make sure system is reliable
- To learn about the application
- See if UI is usable
- Feedback to future stories
- Check for doneness
- Manage technical debt
 - deferred work
 - hacks, untidy work
 - Slows the team down



Traditional Testing



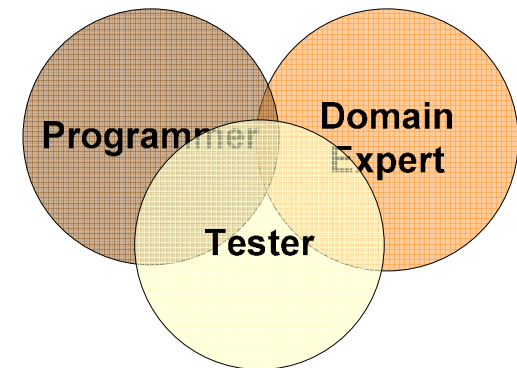
Phased / Gated Projects

- Done after coding is finished
- Works from requirements documents
- Can be a fight to be involved up front
- Organizational culture – silos
- Communicates through DTS
- Few face to face conversations
- Different language than developers



Agile Testing

- Principles / Values
 - Communication, collaboration, interactions
- Teams are test infected
- Testers are part of the team
- Whole team responsible for quality
- Tester's role
 - Help uncover hidden assumptions
 - Provide feedback
 - Elicit and clarify requirements
 - Drive development with examples



Agile Means a Change in Mindset

Focus on the 'why' we test

Change the way we think

- not about the when
- not about the how (ex. white box, black box)

Instead of

- We're here to break the software!

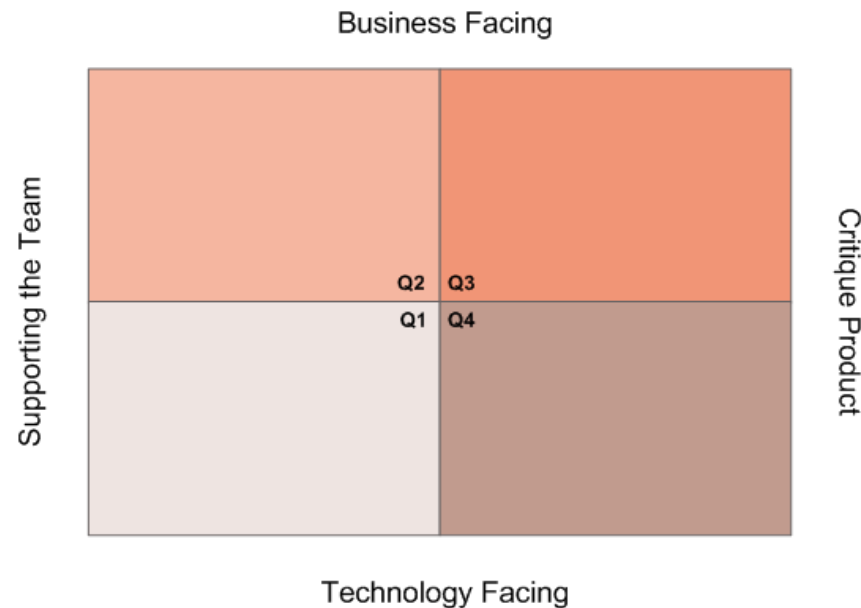
Think

- What can we do to help deliver the software successfully?



The Agile Testing Quadrants

- Can be used to ensure we accomplish all goals
 - Q1 - Technology-facing tests that support the team
 - Q2 - Business-facing tests that support the team
 - Q3 - Business-facing tests that critique the product
 - Q4 - Technology-facing tests that critique the product



The Quadrants

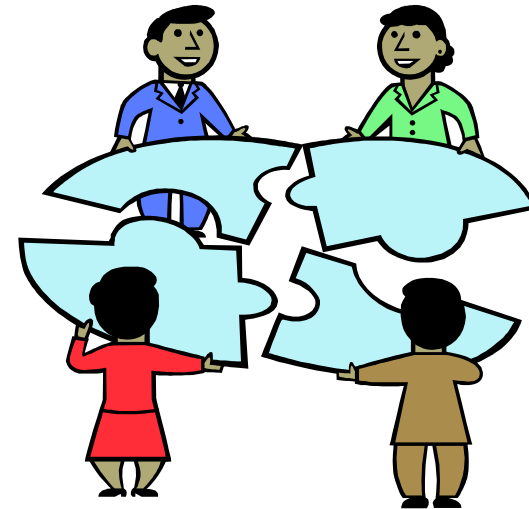
- Can be used as a communication tool
 - To the project team
 - To management
 - To explain testing in a common language
- Emphasize whole-team responsibility
 - Focus on collaboration
 - Whole team participation



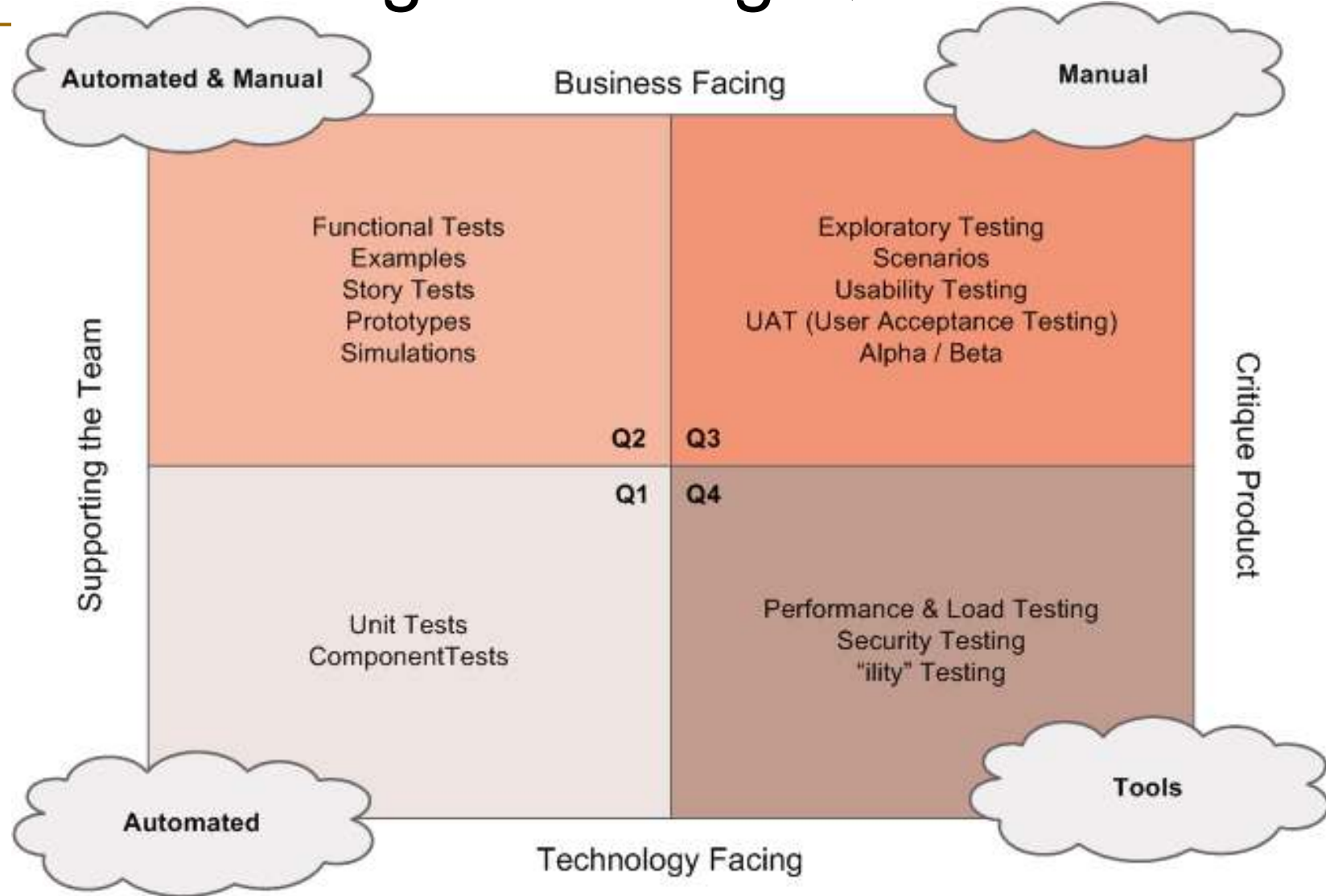
Use to define 'Doneness'

Defining “doneness” for release readiness

- ❑ No story is done until tested
- ❑ Customer requirements captured as passing tests
- ❑ Automated regression tests
- ❑ Delivers value
- ❑ “Doneness” in all quadrants



The Agile Testing Quadrants



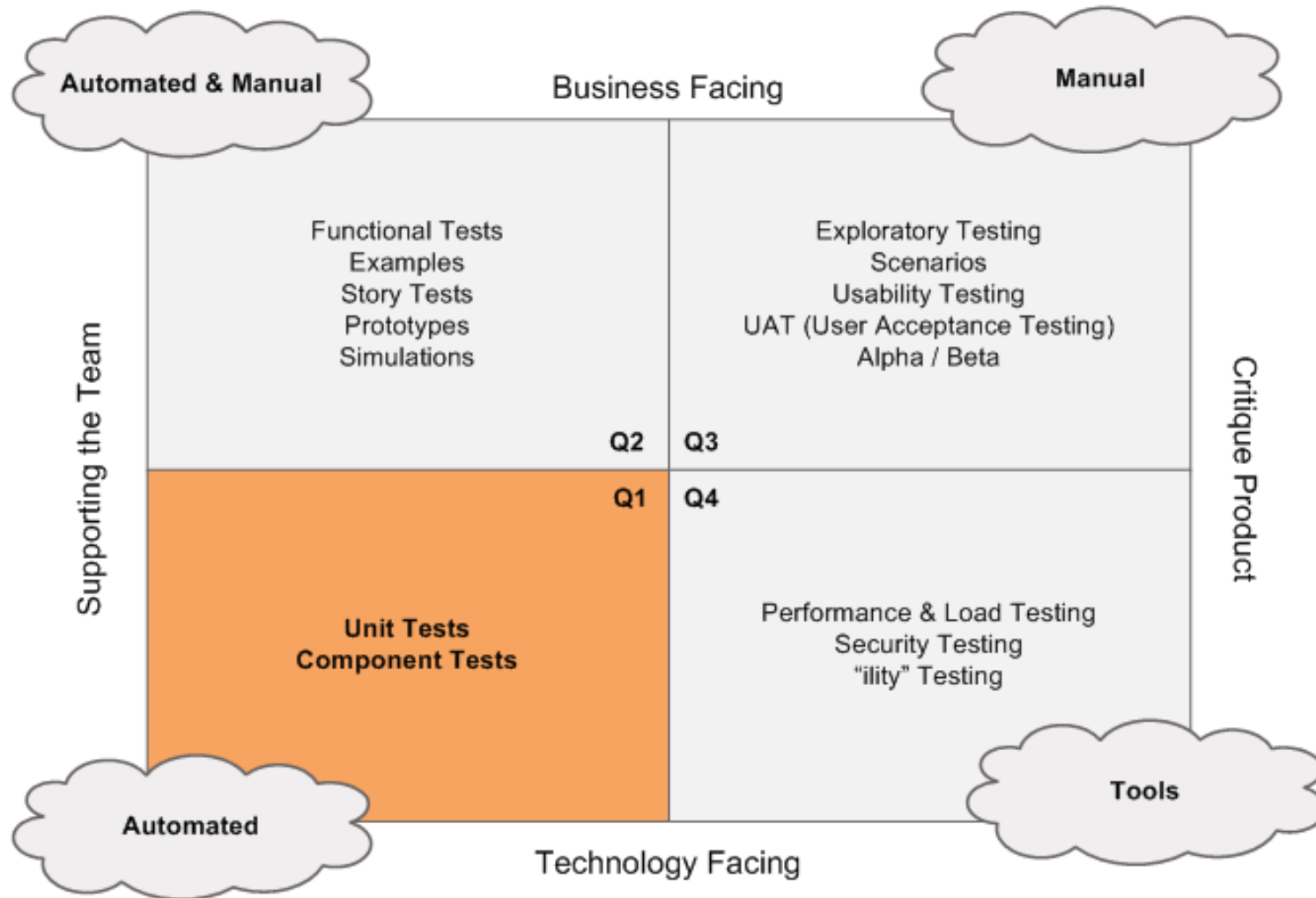
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Quadrant 1

Agile Testing Quadrants



Q1 Kinds of Tests

- **Unit Tests**

- Tests developer intent - program design
- Tests a small piece of code
- Makes sure it does what it should

- **Component Tests**

- Tests architect intent – system design
- Tests that components work together correctly

Technology-facing Tests that Support the Team



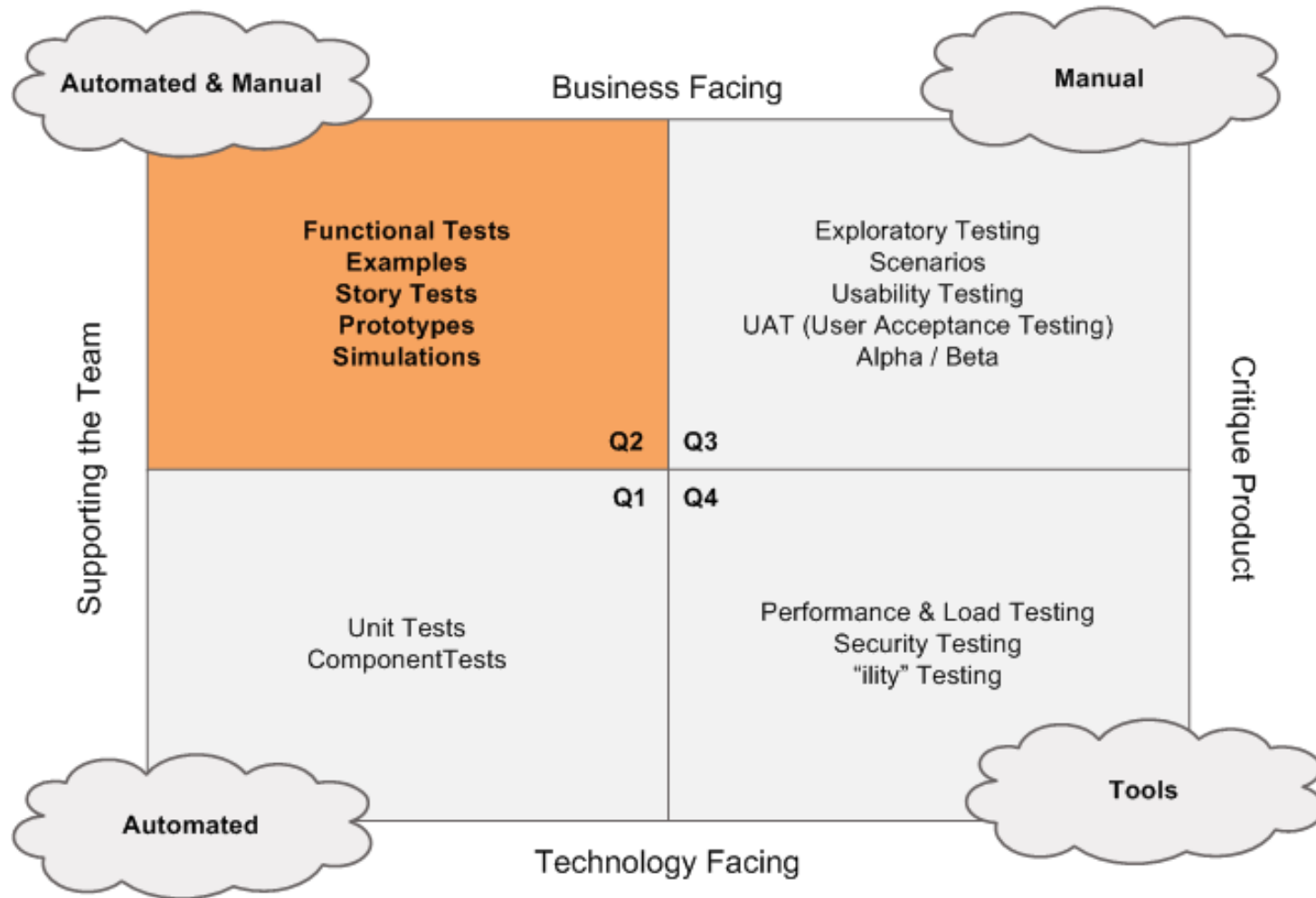
Reasons / Benefits for Q1 Testing

- Focus on internal code quality
- Go faster, do more
 - Unit tests provides safety net and refactoring support
- Builds quality in
- Provides instant feedback
- TDD increases confidence in design
- Forms the foundation of automation suite
- Builds testability into code



Quadrant 2

Agile Testing Quadrants



Q2: Kinds of Tests

- Elicit requirements
- SDD or ATDD (Acceptance Test Driven Dev)
 - allows developers to code until the tests pass
 - Fit / Fitness
- Examples
- User Experience
 - wire frames
 - Mock-ups / prototypes
- Pair Testing

Business-facing Tests that Support the Team



Reasons / Benefits for Q2 Testing

- Drive development with business-facing tests
- Obtain enough requirements to start coding
- Help customers achieve advance clarity
- Capture examples, express as executable tests
- Focus is external quality
- Know when we're done
- Customer – developer – tester collaboration

Business-facing Tests that Support the Team



Toolkit – Turning Examples into Tests

Set-up: Create a variety of users that start with the first initial, have the same name, similar email address, and unique ids.

| | | | | | | | | | | | |
|----------------------------------|---------|-------------------|--------|------------------|----------|----------------------|------------------------------|---------------------|--|--------------|-------------------|
| create user with login id | frankb | first name | Frank | last name | Billian | email address | frankb@dragonfire.xx | phone number | | roles | Quality Assurance |
| create user with login id | junebug | first name | Juno | last name | Williams | email address | junebug@dragonfire.xx | phone number | | roles | Quality Assurance |
| create user with login id | fillpot | first name | Darien | last name | Fillpot | email address | fillpot_darien@dragonfire.xx | phone number | | roles | Quality Assurance |
| create user with login id | joneero | first name | Jone | last name | Roberts | email address | Jone.Roberts@dragonfire.xx | phone number | | roles | Operations |
| create user with login id | billboa | first name | Bill | last name | Bia | email address | bill_bia@dragonfire.xx | phone number | | roles | Employee |
| create user with login id | june | first name | Juno | last name | Will | email address | junebug1@dragonfire.xx | phone number | | roles | Employee |

Query users - return all: no criteria set (sort by login id)

| query users with login id | first name | | last name | email address | phone number | roles |
|----------------------------------|-------------------|-----------------|------------------------------|----------------------|--|--------------|
| <i>first name</i> | <i>last name</i> | <i>login id</i> | <i>email address</i> | <i>phone number</i> | <i>roles</i> | |
| Idi | Administrator | administrator | idi_administrator@ngx.com | 403-974 4957 | Employee,Operations,Production Support,Quality Assurance | |
| Bill | Bia | billboa | bill_bia@dragonfire.xx | | Employee | |
| Darien | Fillpot | fillpot | fillpot_darien@dragonfire.xx | | Quality Assurance | |
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| Juno | Will | june | junebug1@dragonfire.xx | | Quality Assurance <i>expected</i> | |
| Juno | Williams | junebug | junebug@dragonfire.xx | | Employee <i>actual</i> | |
| Juno | Williams | junebug | junebug@dragonfire.xx | | Quality Assurance | |

Query users based on last name

| query users with login id | first name | | last name | email address | phone number | roles |
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| <i>first name</i> | <i>last name</i> | <i>login id</i> | <i>email address</i> | <i>phone number</i> | <i>roles</i> | |
| Bill | Bia | billboa | bill_bia@dragonfire.xx | | Employee | |
| Frank | Billian | frankb | frankb@dragonfire.xx | | Quality Assurance | |

Query users based on email

| query users with login id | first name | | last name | email address | phone number | roles |
|----------------------------------|-------------------|-----------------|------------------------------|----------------------|---------------------|--------------|
| <i>first name</i> | <i>last name</i> | <i>login id</i> | <i>email address</i> | <i>phone number</i> | <i>roles</i> | |
| Darien | Fillpot | fillpot | fillpot_darien@dragonfire.xx | | Quality Assurance | |



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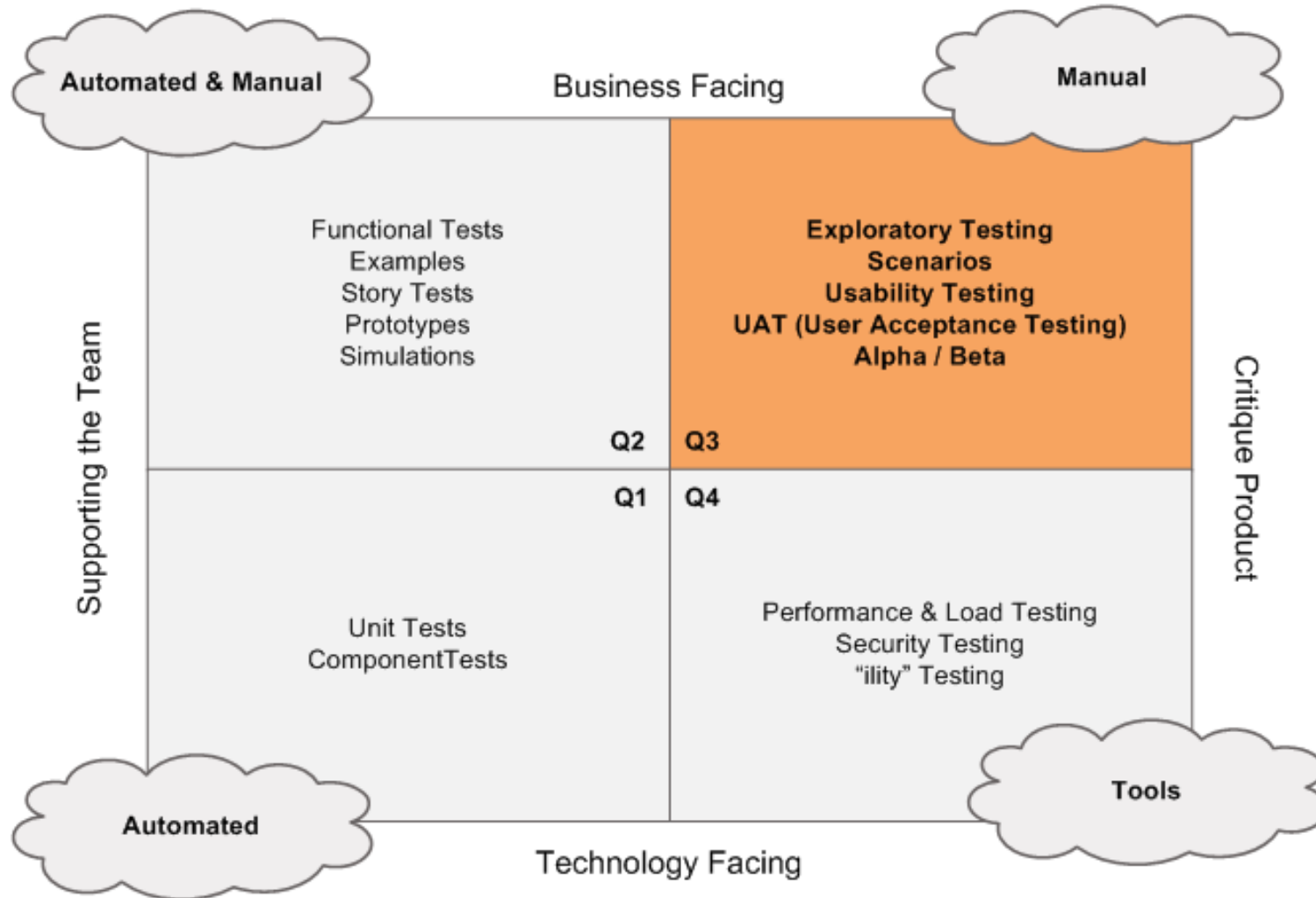
Query users based on email

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|----------------------------------|-------------------|-----------------|------------------------------|----------------------|---------------------|--------------|
| <i>first name</i> | <i>last name</i> | <i>login id</i> | <i>email address</i> | <i>phone number</i> | <i>roles</i> | |
| Darien | Fillpot | fillpot | fillpot_darien@dragonfire.xx | | Quality Assurance | |



Quadrant 3

Agile Testing Quadrants



Q3: Kinds of Testing

- Exploratory Testing
 - feedback into stories
 - work with customers to understand what you think
 - work with developers if you have questions
- Test for Usability
 - understand end users - personas
 - who will be using the system
- Pair test with customers
- User Acceptance Testing

Business-facing Tests that Critique the Product



Q3: Collaborative Testing

- Provide feedback
 - Discuss with technical, customer team
 - Turn what you learn into tests that drive new features
 - Change process as needed
- Iteration reviews
 - Builds confidence
 - Quick feedback loop
- Informal demos
 - Pair exploratory testing with customer
 - Even on unfinished code

Business-facing Tests that Critique the Product



Reasons / Benefits for Q3 Testing

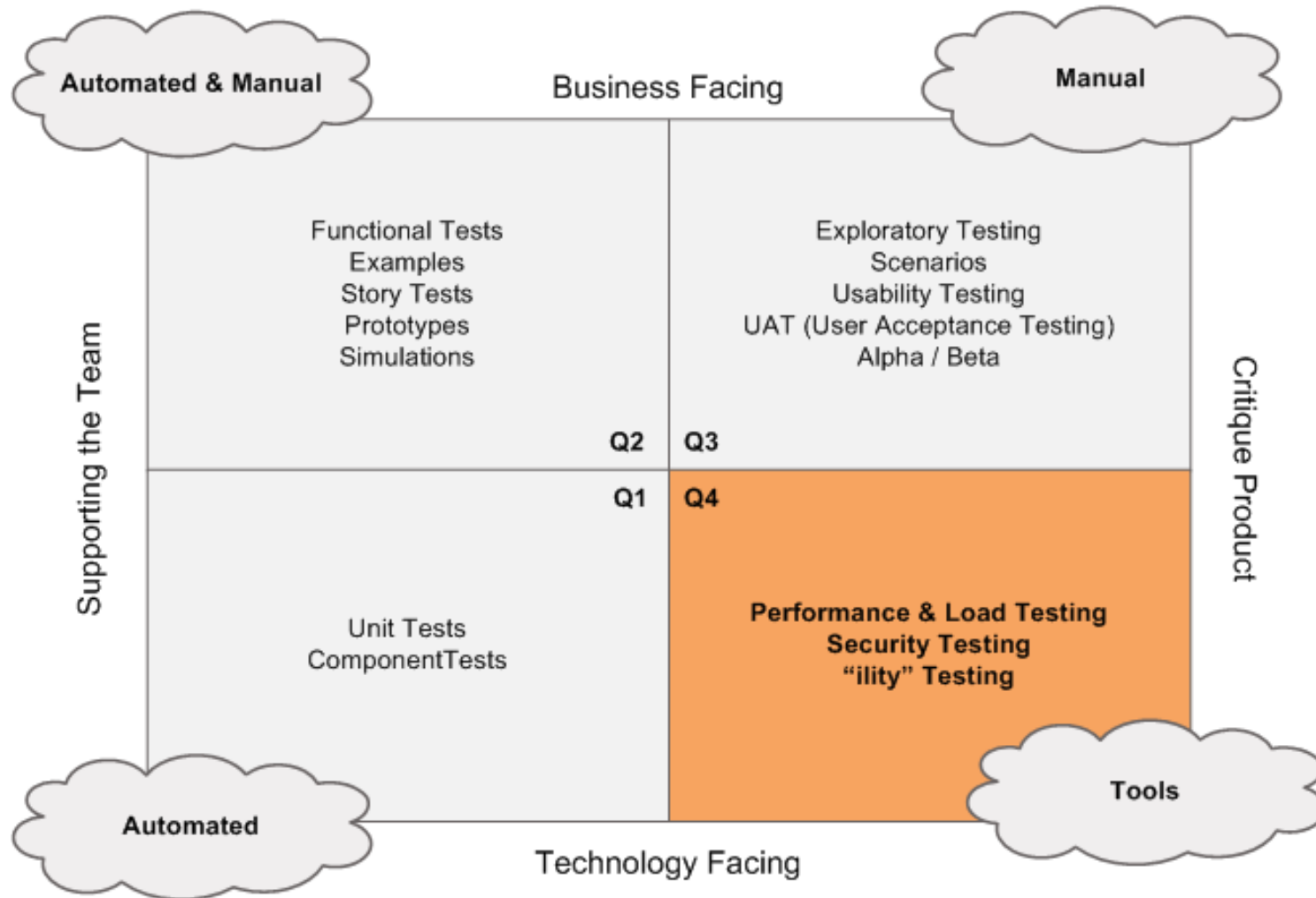
- Feedback to Quadrants One and Two
- Evaluate the product
- Recreate actual user experiences
- Realistic use
- Learn as you test
- Context
 - What works for your situation
 - “It depends”
 - A tool, not a rule
- Constructive

Business-facing Tests that Critique the Product



Quadrant 4

Agile Testing Quadrants



Q4: Kinds of Tests

- Nonfunctional or parafunctional tests
- “ility” testing
- Performance, scalability, stress, load
- Memory management
- Security testing
 - Roles & permissions
 - System ‘hacking’
- Data migration
- Infrastructure Testing
- Recovery

Technology-facing Tests that Critique the Product



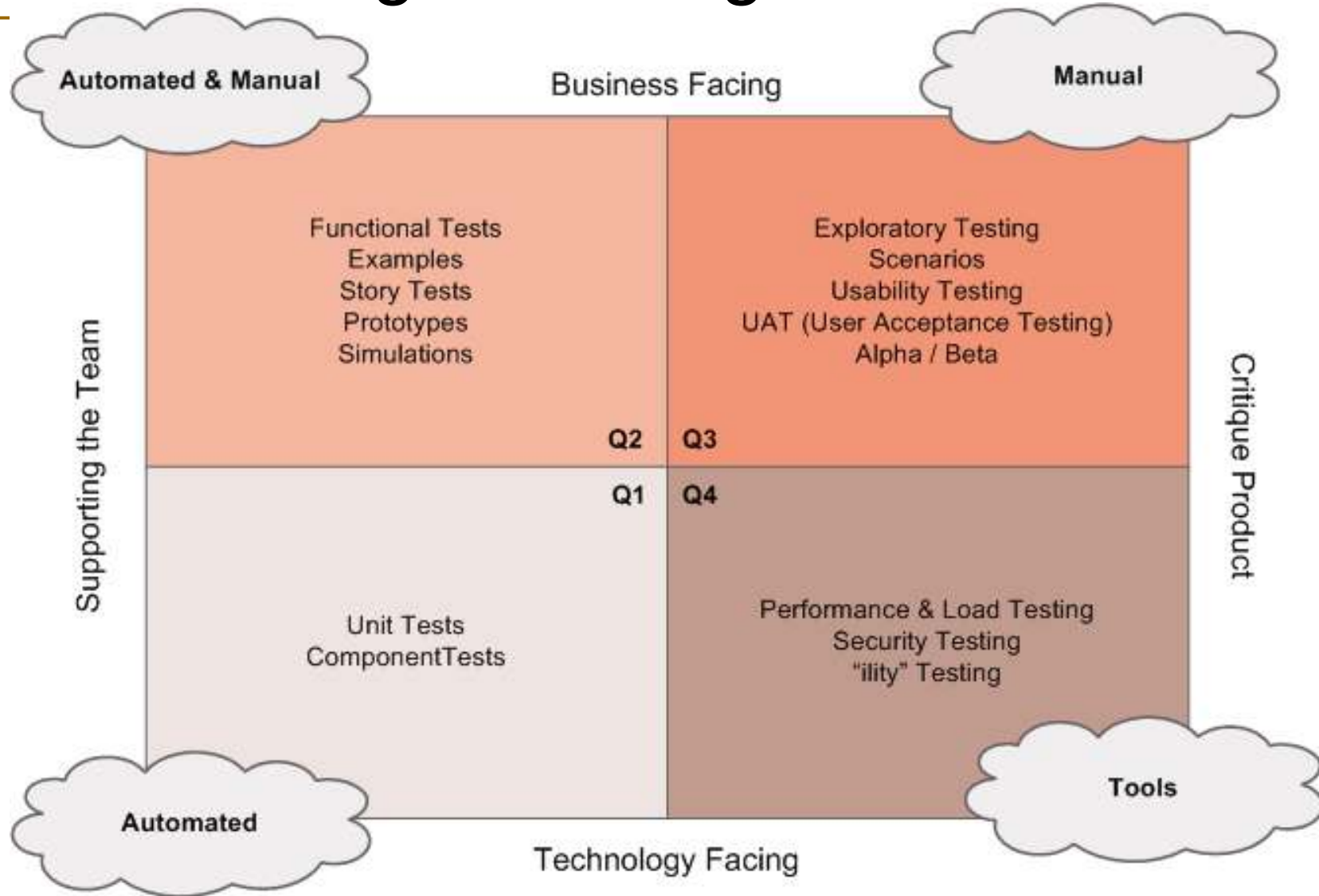
Reasons / Benefits for Q4 Testing

- “Non-functional” requirements may be higher priority than “functional”
 - Performance
 - Stability
 - Security
- Specialized expertise might be needed
 - Collaborate to transfer skills
- Makes the ‘finished’ product
- Does your application deliver the ‘right’ value

Technology-facing Tests that Critique the Product



The Agile Testing Quadrants



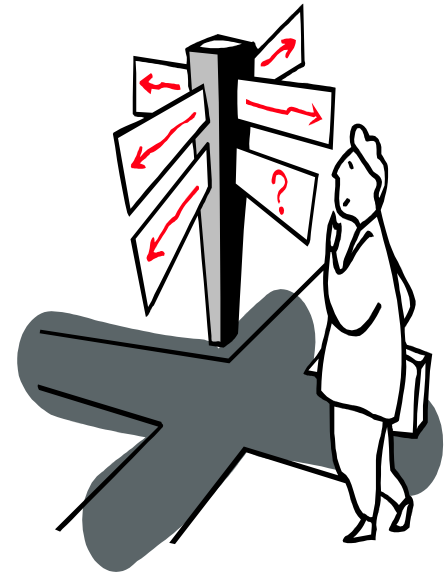
Original idea by Brian Marick, www.exampler.com

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Planning Your Test Strategy

- Consider scope, priorities, risks
- Tools that solve the problem
- Involve customers
- Collaborate with programmers
- Consider all four quadrants
- Test matrix - big picture
 - allows whole team to understand
- Document only what is useful
- Use lessons learned to improve



Resources

- www.exampler.com
- *Collaboration Explained*: Jean Tabaka
- *Testing Extreme Programming*, By Lisa Crispin and Tip House
- *Fearless Change: Patterns for introducing new ideas*, Linda Rising and Mary Lynn Manns
- agile-testing@yahooogroups.com



Coming in January 2009!

Agile Testing: A Practical Guide for Testers and Agile Teams

By Janet Gregory and Lisa Crispin

Available on

- Amazon.com
- Amazon.ca

www.agiletester.ca

www.janetgregory.ca

