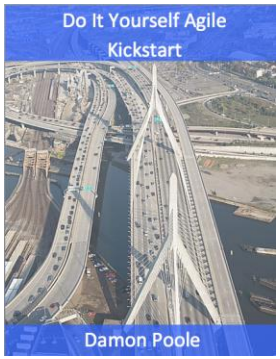
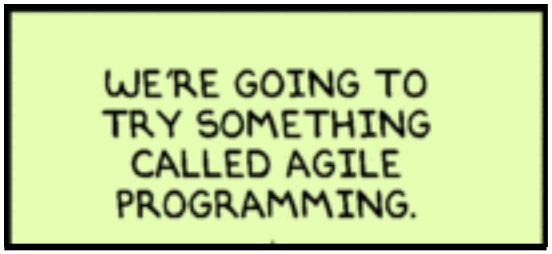
Damon Poole

- Chief Agilist, Eliassen Group's Agile Practice
- Creator of multiple Jolt-award winning products
- 20 years of process improvement ranging from small co-located teams to 80 team global development shops.
- Past President of Agile New England
- Author of "DIY Agile Kickstart"
- Founder and past CTO and CEO of AccuRev



© 2012 Valtivity and others. All Rights Reserved

ELIASSEN GROUP



© 2012 Valtivity and others. All Rights Reserved

ELIASSEN GROUP

Agenda

- Introduction
- Overview of Agile
- Being an Agile Programmer
- User Stories
- Backlog
- Story Splitting
- Visualize your work
- Limited Work in Progress
- Unit testing
- Refactoring
- TDD
- Continuous Integration

© 2012 Valtivity and others. All Rights Reserved

ELIASSEN GROUP

Agile Manifesto

We are uncovering better ways of developing software by doing it and helping others do it.

Values

"Working software over comprehensive documentation"

Principles

"Working software is the primary measure of progress."

© 2012 Valtivity and others. All Rights Reserved

ELIASSEN GROUP

Agile Manifesto

We are uncovering better ways of developing software by doing it and helping others do it.

Scrum?

Kanban?

XP?

Values

"Individuals and interactions over process and tools"

"Working software over comprehensive documentation"

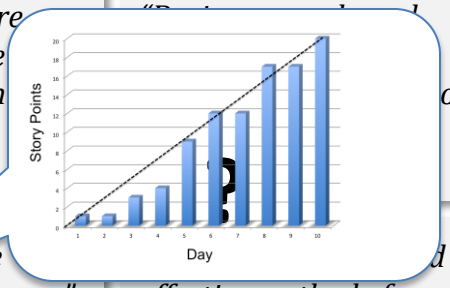
"Customer collaboratio[n] over contract negotiation"

[R]esponding to change over following a plan"

Principles

"Build projects aro[und] motivated individuals, give them the environment and support they need, and trust them to get the job done,

[W]orking software [f]requently, from a couple [of] weeks to a couple of mon[ths] with a preference to the shorter timescale."



[o]ut the

"At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly."

"Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely."

"Working softwar[e] is the primary measure of progress."

[a]nd effective method of conveying information to and within a development team is face-to-face conversation."

"Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage."

"Simplicity -- the art of maximizing the amount of work not done – is essential."

"The best architectures, requirements, and designs emerge from self-organizing teams"

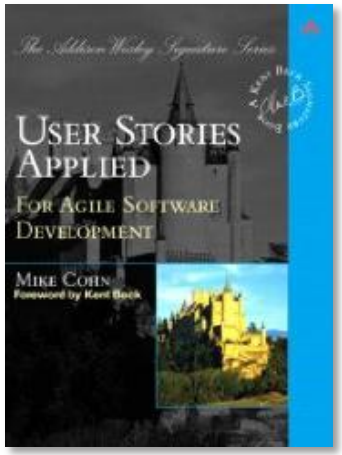
"Continuous attention to technical excellence and good design enhances agility."

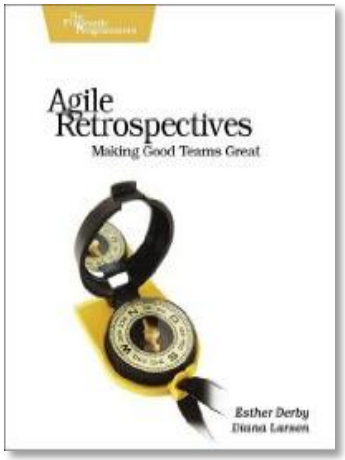
"Our highest priority is to satisfy the customer through early and continuous delivery of valuable software."

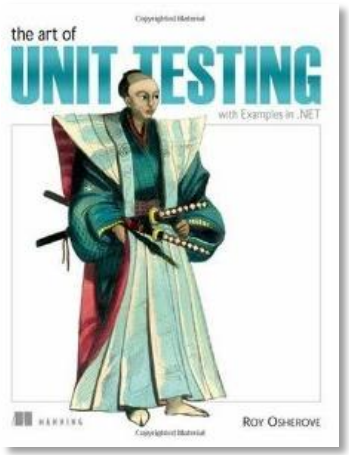
© 2012 Valtivity and others. All Rights Reserved

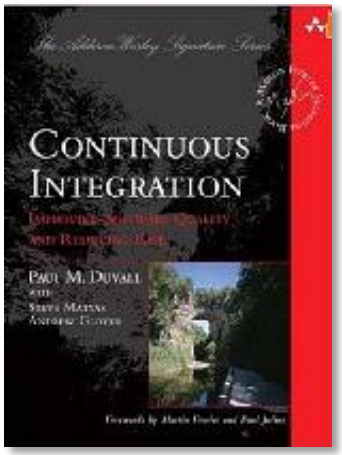
ELIASSEN GROUP

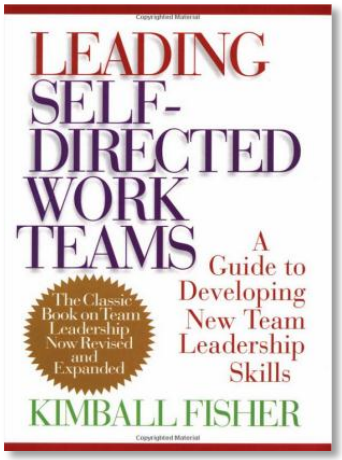
Many Practices are Subject of a Whole Book!

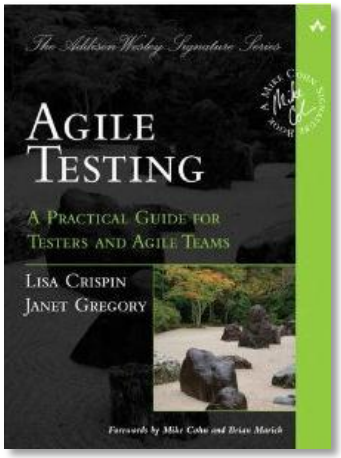


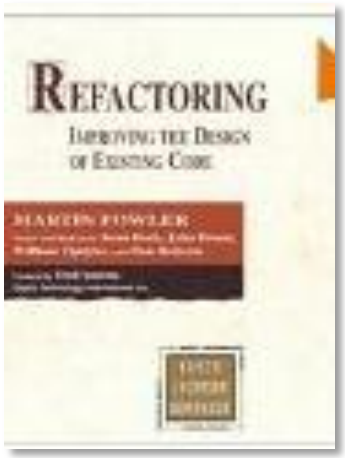


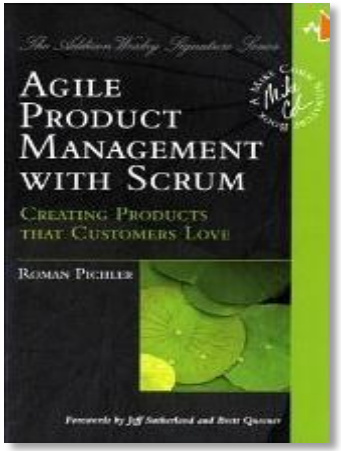


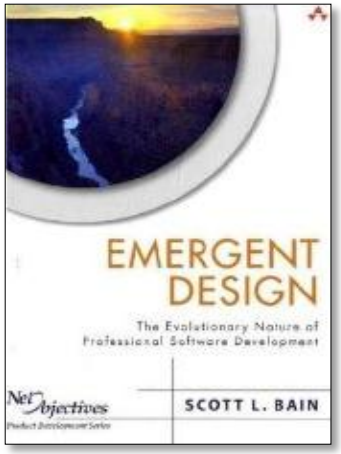


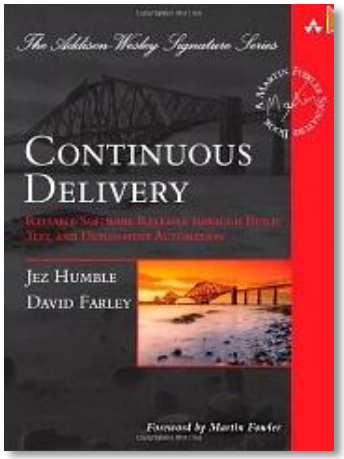












© 2012 Valtivity and others. All Rights Reserved

ELIASSEN GROUP

What's in a Feature?

Show loan status.

© 2012 Valtivity and others. All Rights Reserved

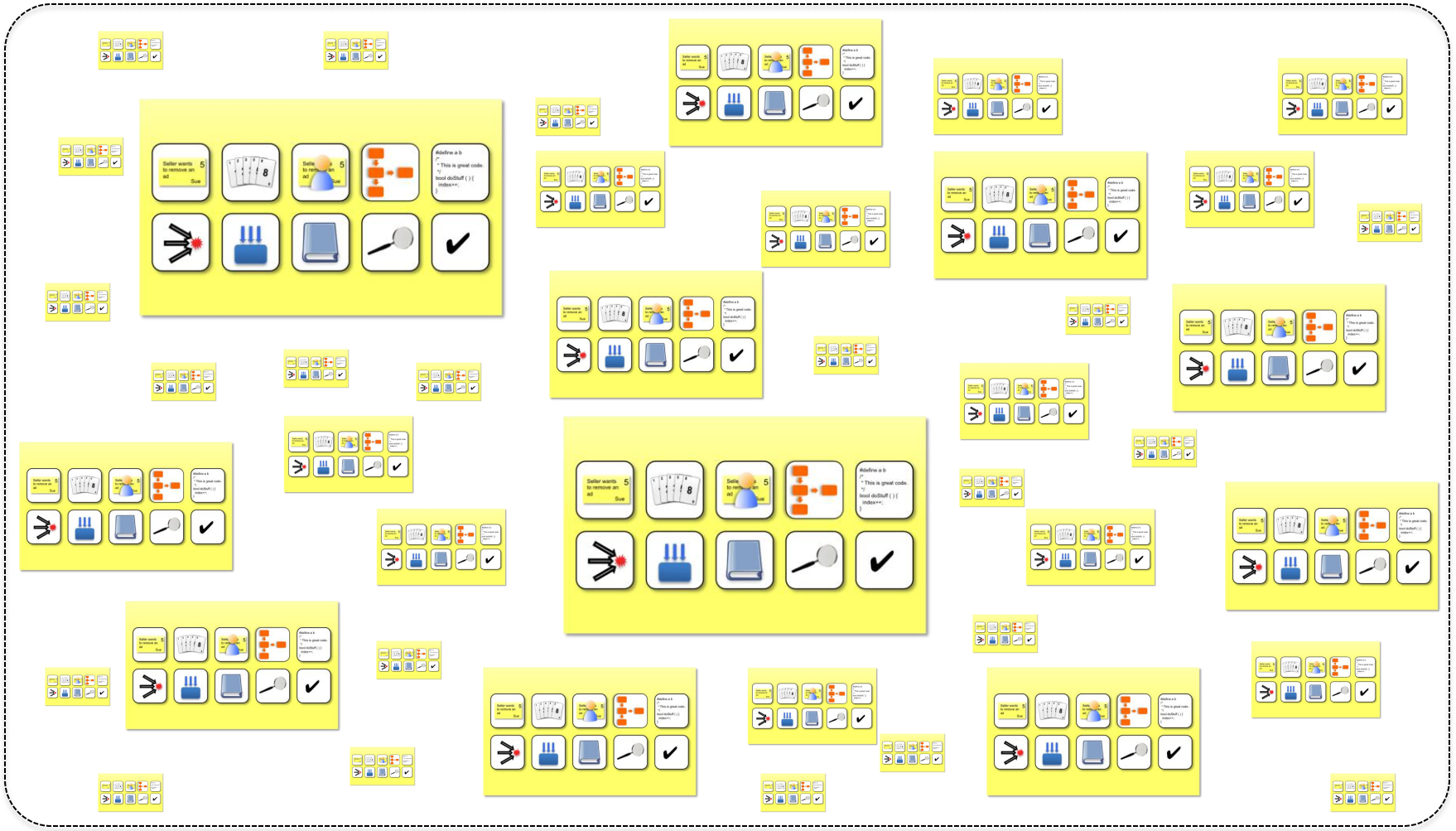
ELIASSEN GROUP

Each Feature is Comprised of Many Aspects

© 2012 Valtivity and others. All Rights Reserved

ELIASSEN GROUP

Every Project Contains Features of Many Sizes

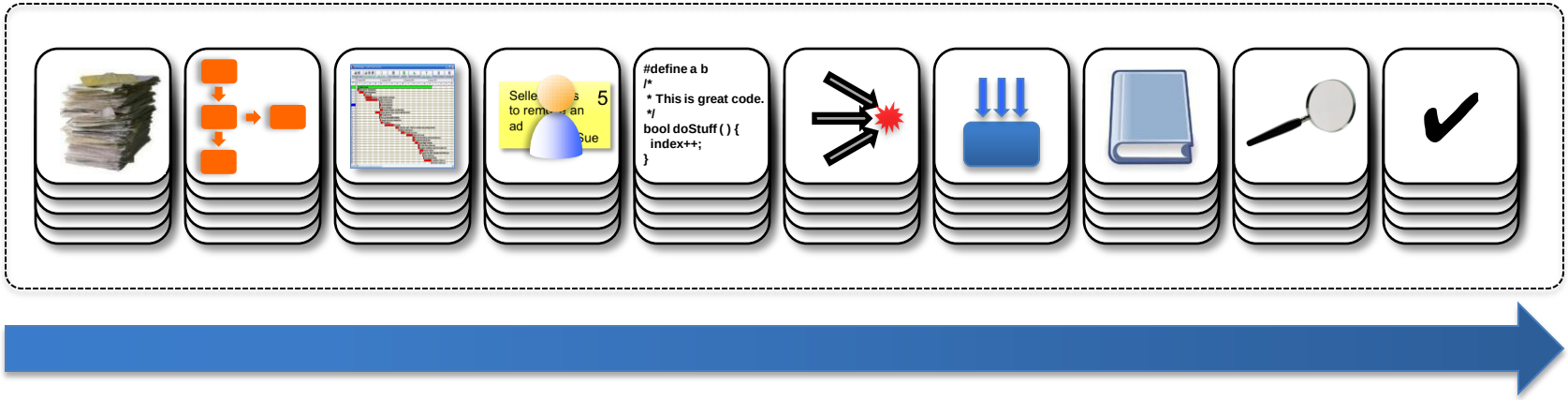


© 2012 Valtivity and others. All Rights Reserved

ELIASSEN GROUP

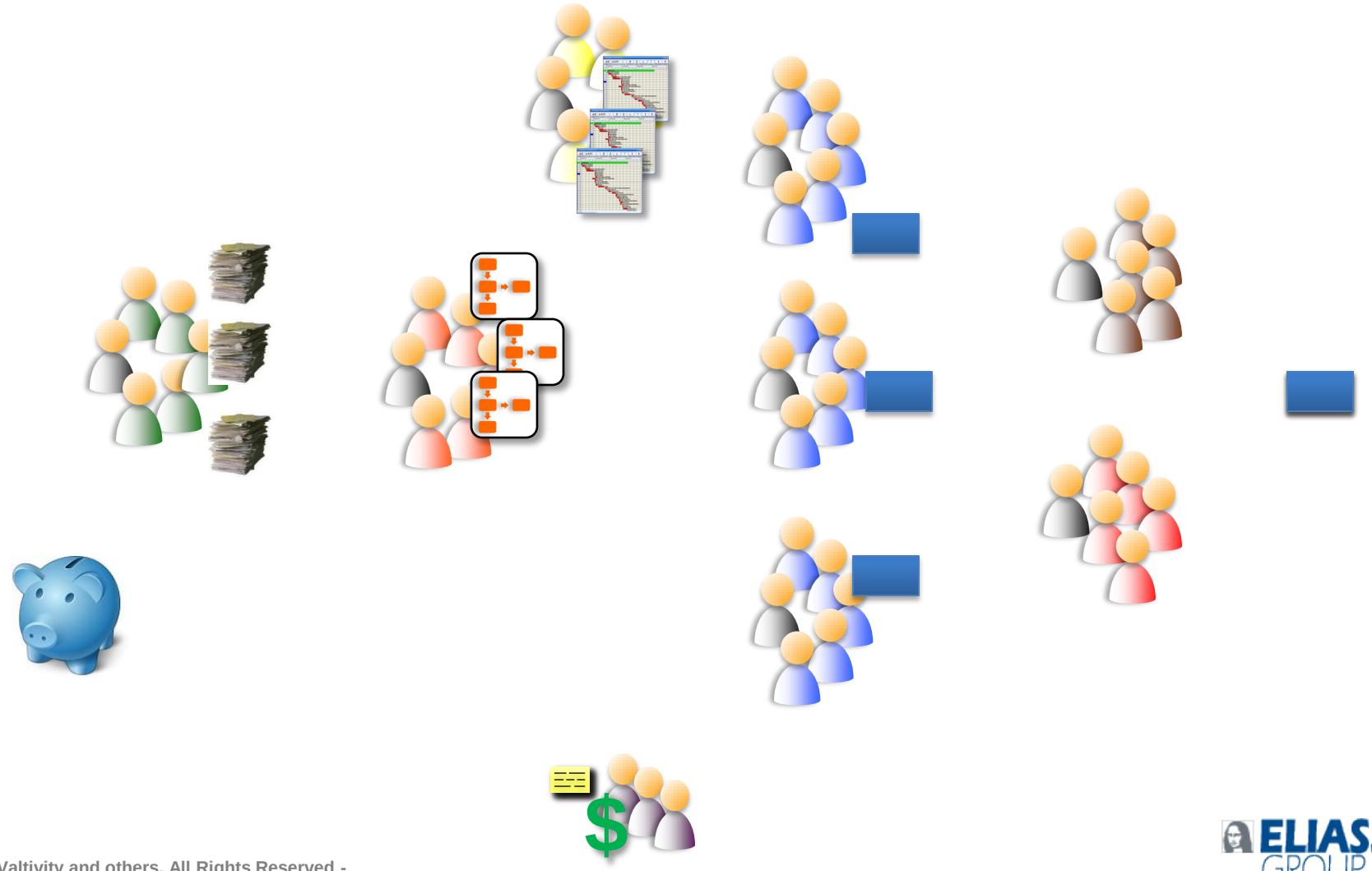
Traditional Development, More or Less

- Risk reduced
- Actual cost known
- Feedback available
- Problems known
- Able to change course
- Able to receive value

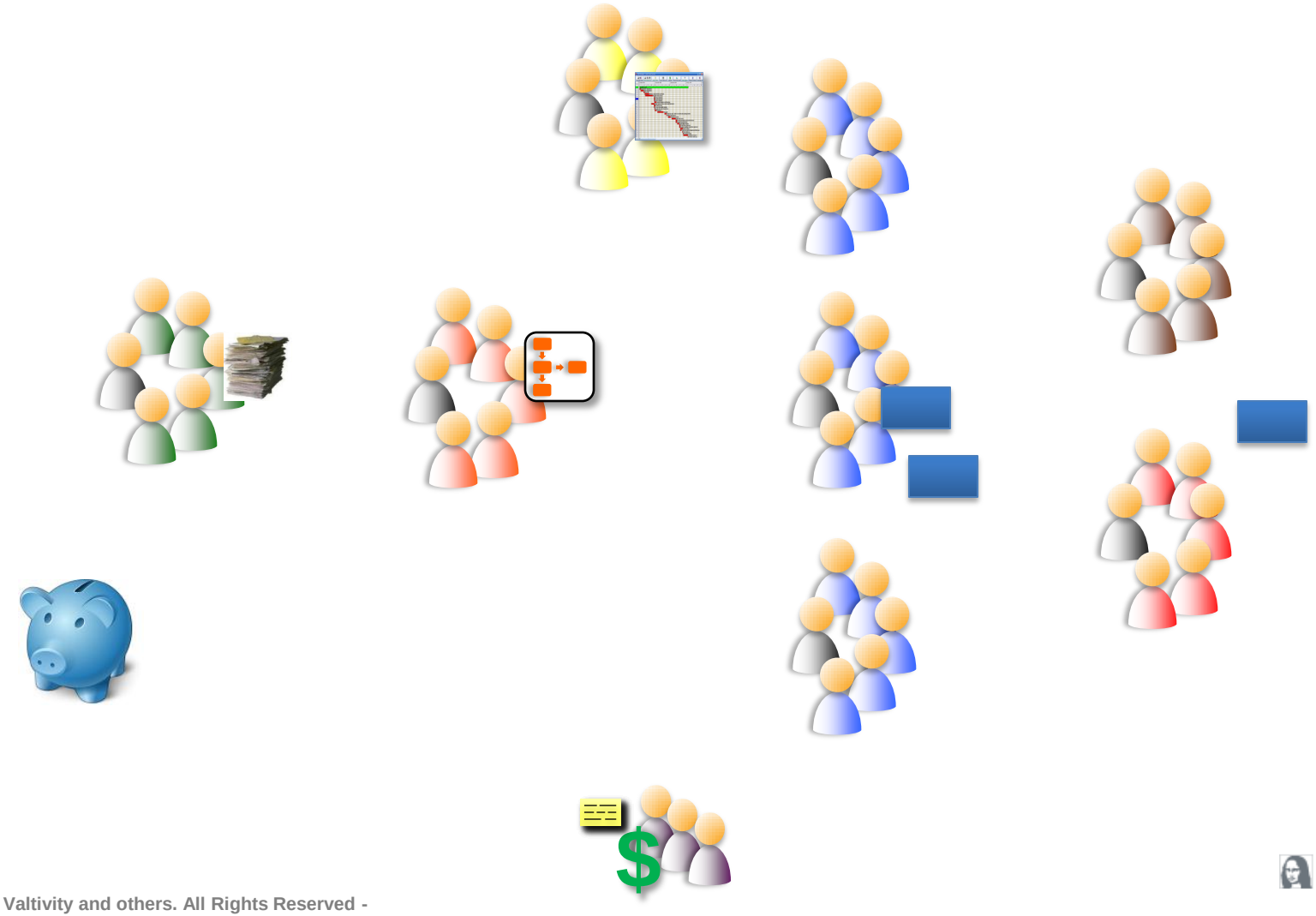


© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP



© 2012 Valtivity and others. All Rights Reserved -



© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Agile Development

- Risk reduced
- Actual cost known
- Feedback available
- Problems known
- Able to change course
- Able to receive value

Twitter

Higher Quality

Options

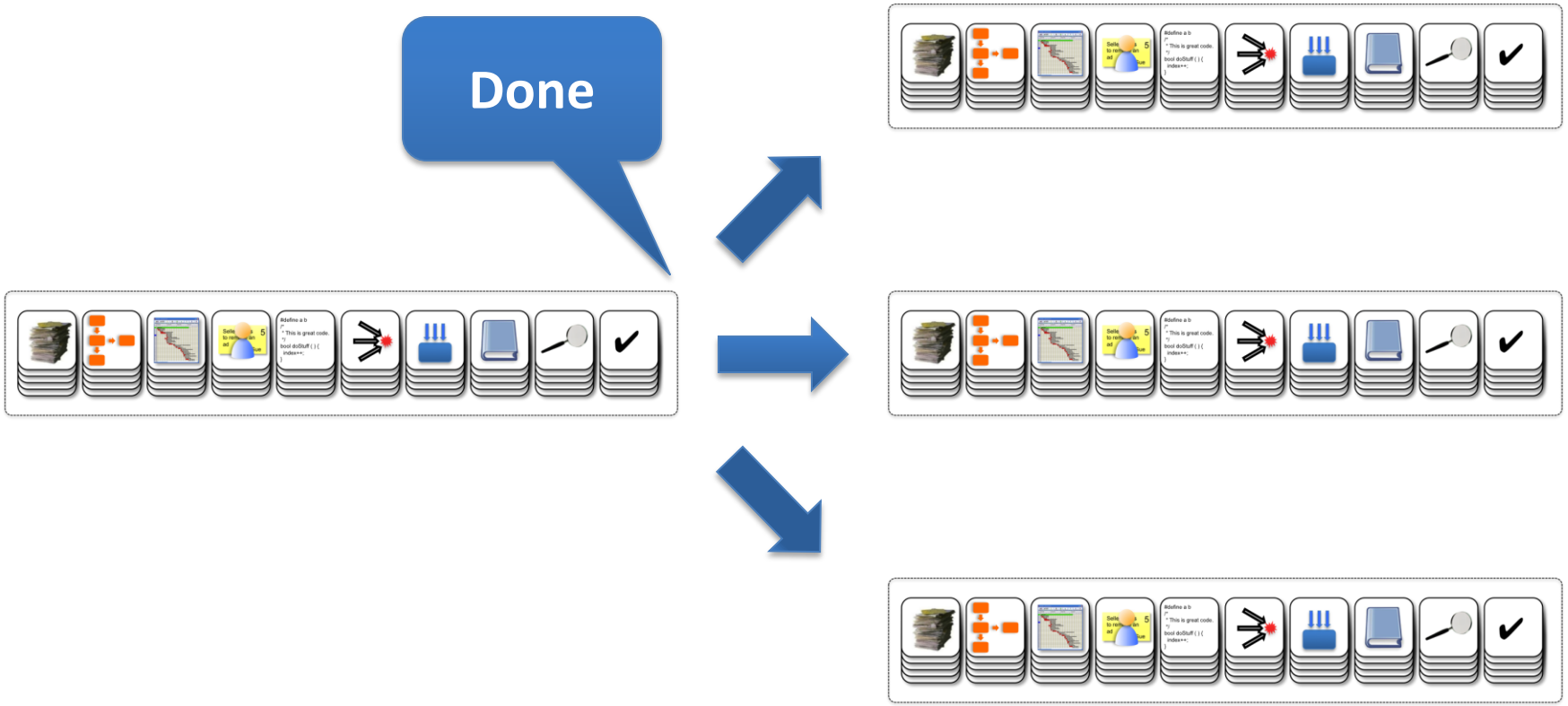
Visibility

Higher ROI Faster

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

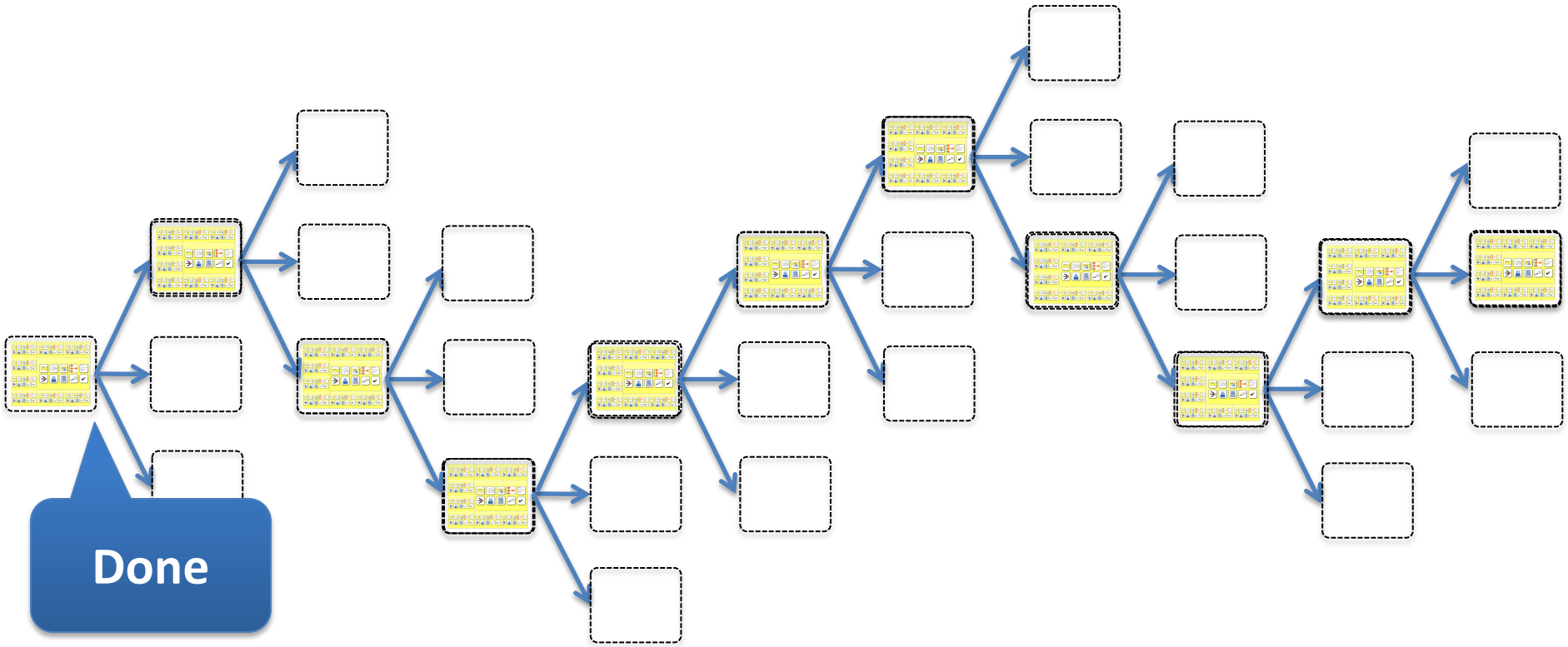
Operational Efficiency vs Business Value Efficiency



© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Operational Efficiency vs Business Value Efficiency



© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Agenda

- Introduction
- Overview of Agile
- Being an Agile Programmer
- User Stories
- Backlog
- Story Splitting
- Visualize your work
- Limited Work in Progress
- Unit testing
- Refactoring
- TDD
- Continuous Integration

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Why Bother?

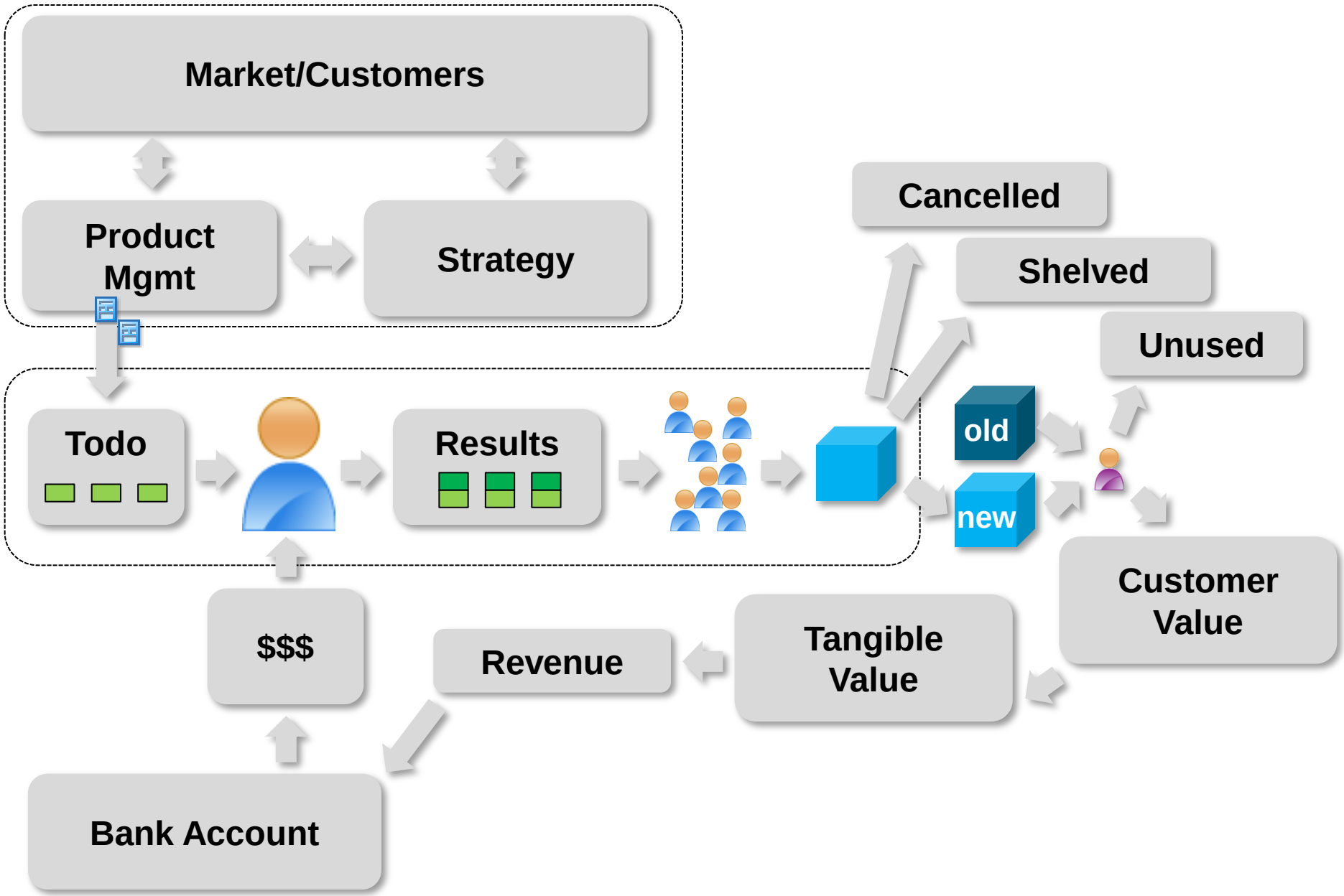
Column A

Column B

- Not able to take all vacation days
- Not clear how work provides value
- Working on boring projects
- Working on old technology
- Declining working conditions
- Company losing competitiveness
- Company value declining
- Not getting bonuses
- Benefit reduction
- Salary reduction
- Working long hours
- Project shelved
- Project cancelled
- Layoffs/RIFs
- Out of business

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP


Market/Customers
Product Mgmt
Strategy
Cancelled
Shelved
Unused
Todo
Results
old
new
$$$
Revenue
Tangible Value
Customer Value
Bank Account

Agenda

- Introduction
- Overview of Agile
- Being an Agile Programmer
- User Stories
- Backlog
- Story Splitting
- Visualize your work
- Limited Work in Progress
- Unit testing
- Refactoring
- TDD
- Continuous Integration

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

User Stories

- <user role> wants to <achieve some goal>

Traveller wants to enter a booking

Airline wants data on people booking hotels with flights

"Customer collaboration over contract negotiation"

Traveller wants to edit a booking

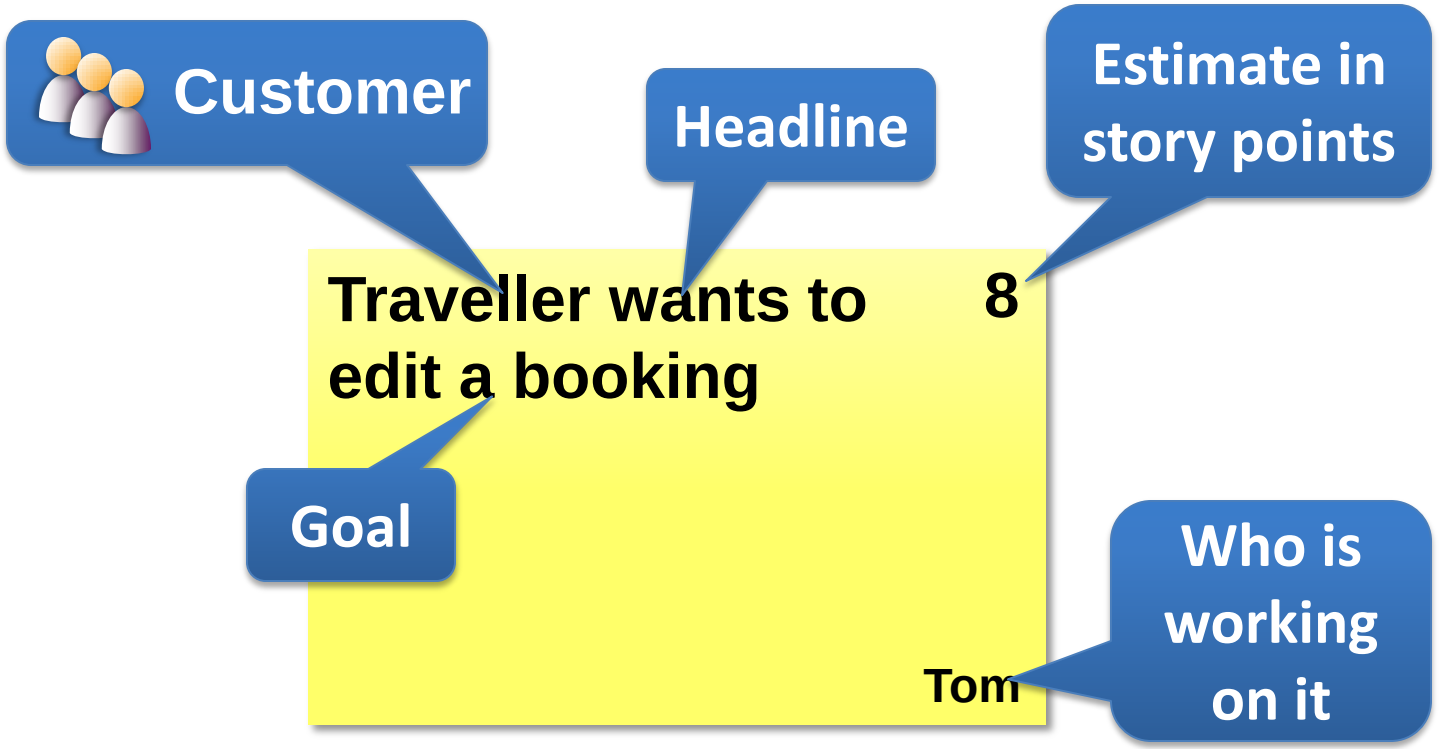
Admin wants a report of site-wide activity

"Business people and developers must work together daily throughout the project."

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

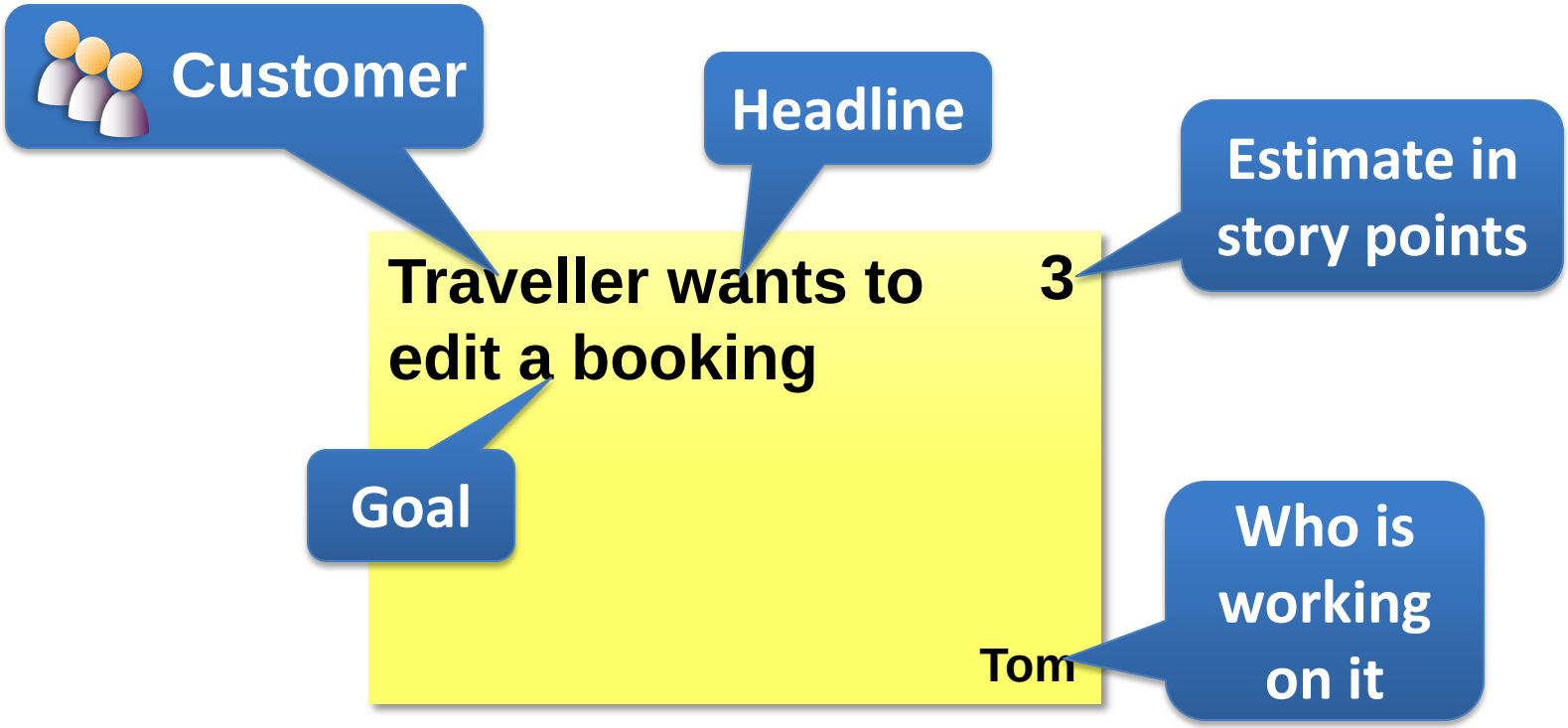
User Story



© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

User Story

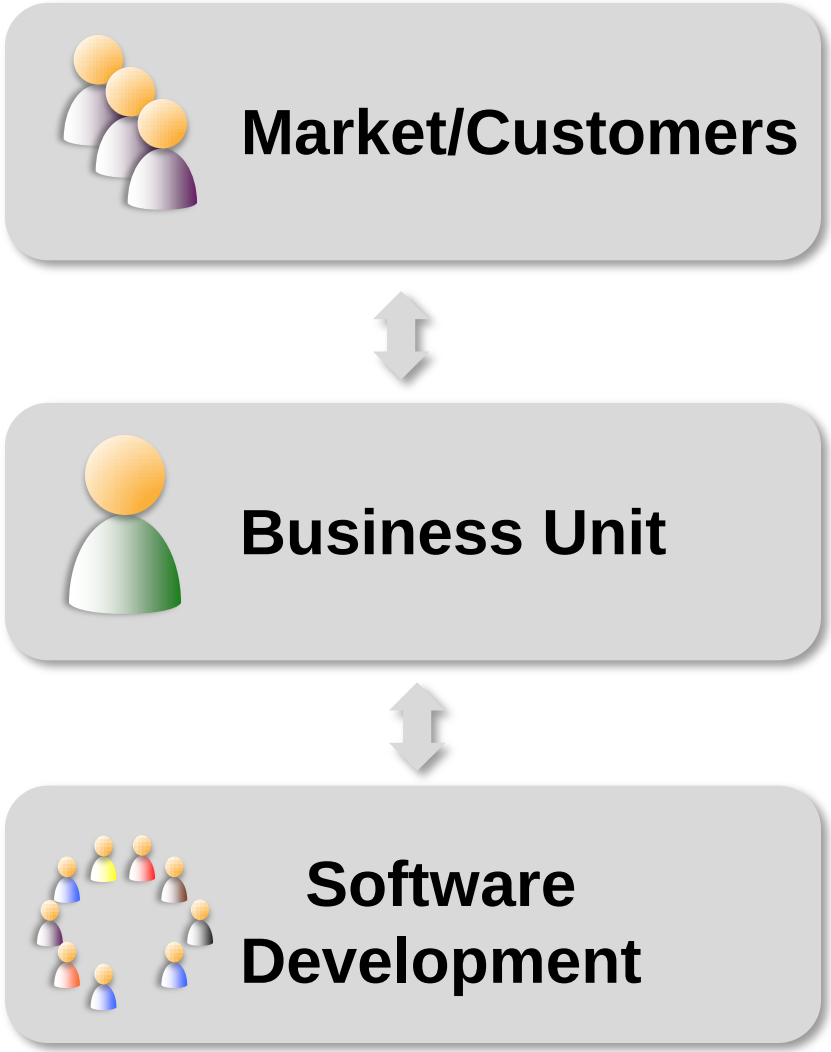


- **Customer focused**
- **Customer, customer proxy, scrum master, developer, tester, and documenter can all understand them**
- **Separates the “what” from the “how”**

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Who is “The Customer?”



© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Who is “The Customer?”

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Bill Wake's "INVEST" Guidelines

- Independent
  - Aside from core functionality, doesn't depend on other stories
- Negotiable.
  - A story is a conversation starter, not the end result
- Valuable to the user, can be used directly
  - "Implement Avatar api" has no value in and of itself
- Estimable
  - No research required, well understood
- Small
- Testable

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Agenda

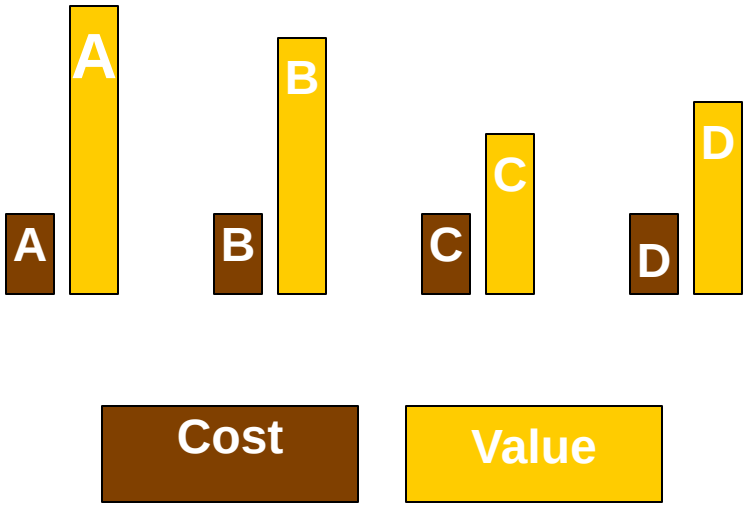
- Introduction
- Overview of Agile
- Being an Agile Programmer
- User Stories
- Backlog
- Story Splitting
- Visualize your work
- Limited Work in Progress
- Unit testing
- Refactoring
- TDD
- Continuous Integration

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Deciding Where to Invest

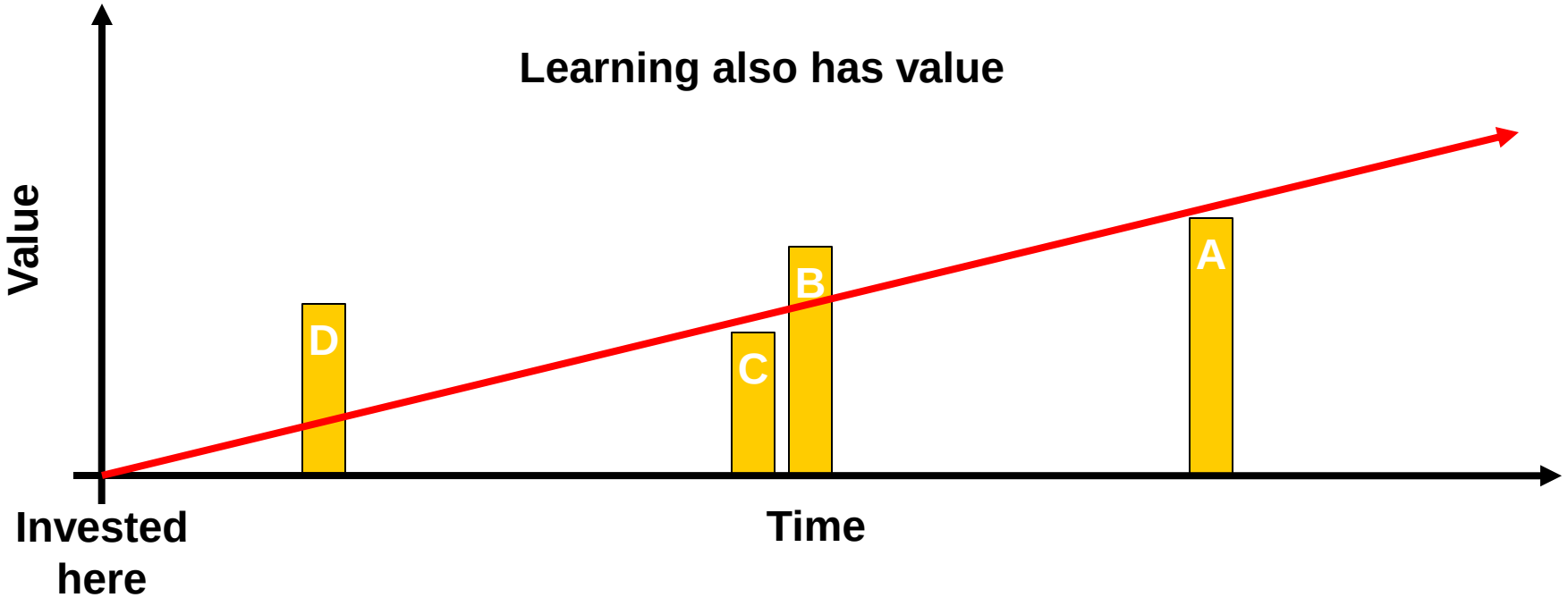
Who wants to make some money?



© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

The Time Value of Money



© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Managing Priorities

Priority	Definition
0	Committed to release
1	As soon as possible
2	Important
3	Nice to have
4	Not important

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Managing Priorities

Priority	Translation
0	Maybe

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

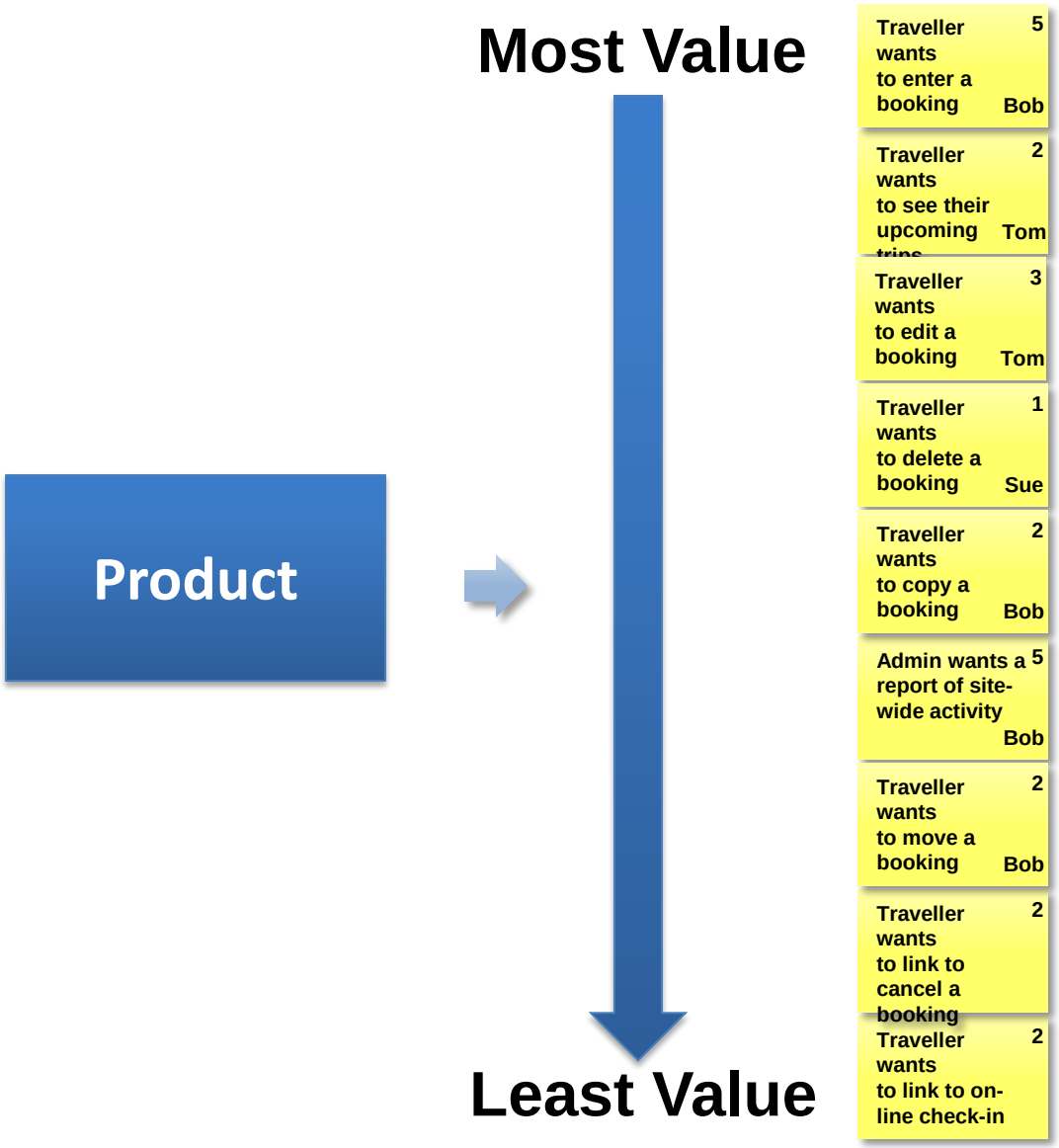
Managing Priorities

Priority	Translation
0	Maybe
1	No
2	No
3	No
4	No

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Backlog



"Responding to change over following a plan"

"Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage."

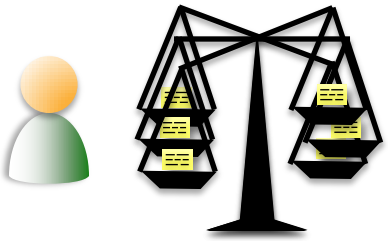
"Our highest priority is to satisfy the customer through early and continuous delivery of valuable software."

"Simplicity -- the art of maximizing the amount of work not done – is essential."

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Negotiation Tool



Traveller wants to e-mail an airline booking — 2

- Traveller wants to enter a booking — 5 — Bob
- Traveller wants to see their upcoming trips — 2 — Tom
- Traveller wants to edit a booking — 3 — Tom
- Traveller wants to delete a booking — 1 — Sue
- Traveller wants to copy a booking — 2 — Bob
- Admin wants a report of site-wide activity — 5 — Bob
- Traveller wants to move a booking — 2 — Bob
- Traveller wants to link to cancel a booking — 2
- Traveller wants to link to on-line check-in — 2

Release

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Agenda

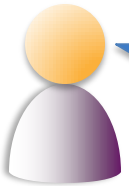
- Introduction
- Overview of Agile
- Being an Agile Programmer
- User Stories
- Backlog
- Story Splitting
- Visualize your work
- Limited Work in Progress
- Unit testing
- Refactoring
- TDD
- Continuous Integration

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Splitting out the Gold

User wants… **8**

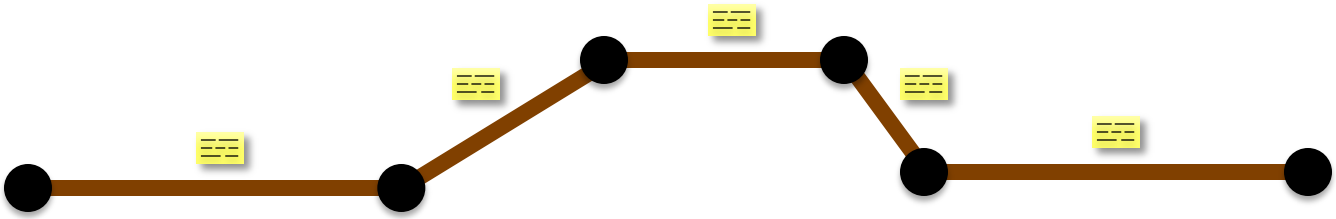


"Yes! I need that and can use it."

8

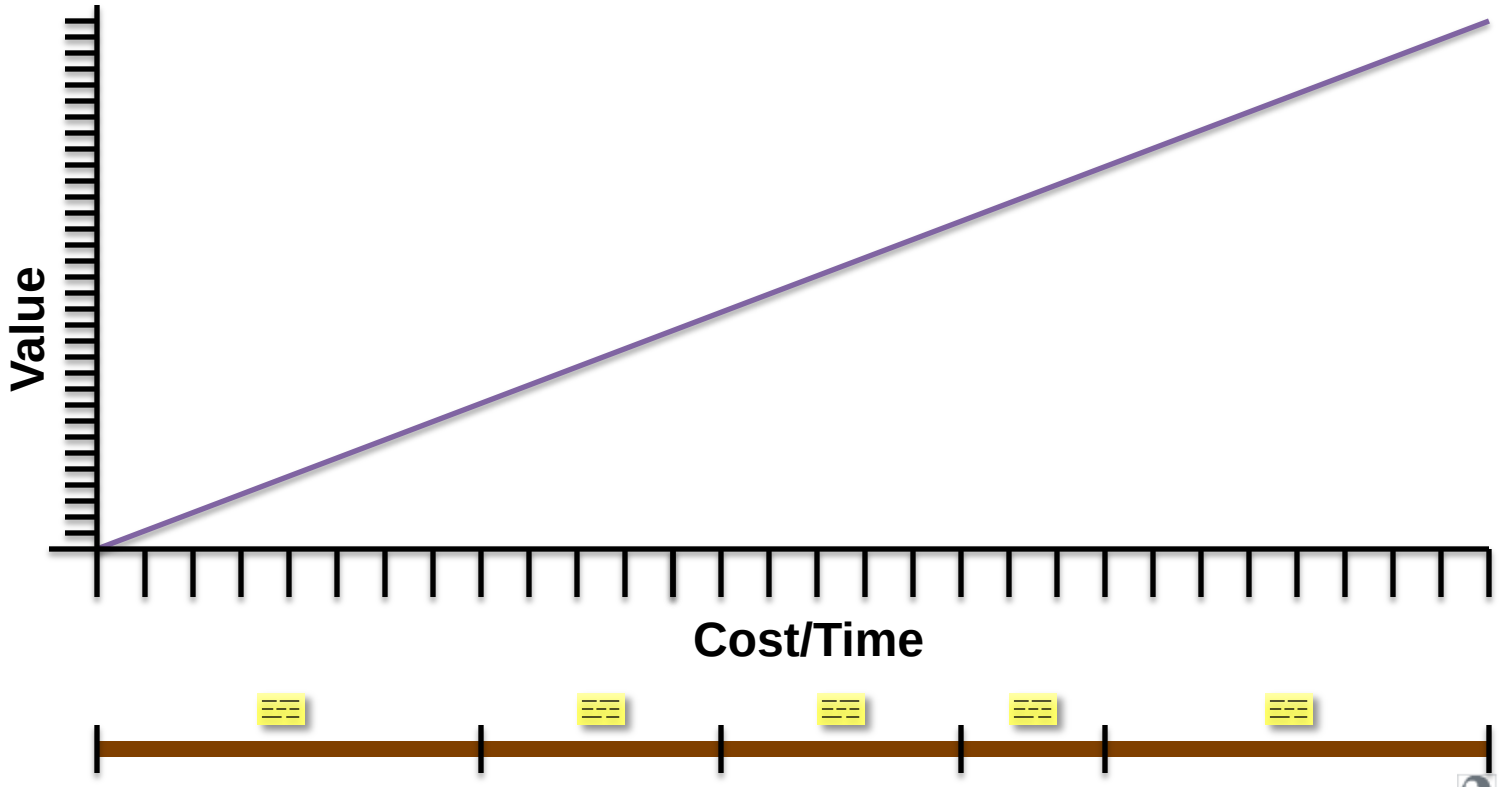
© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP



© 2012 Valtivity and others. All Rights Reserved -

Operational Efficiency vs. Business Value Efficiency



© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

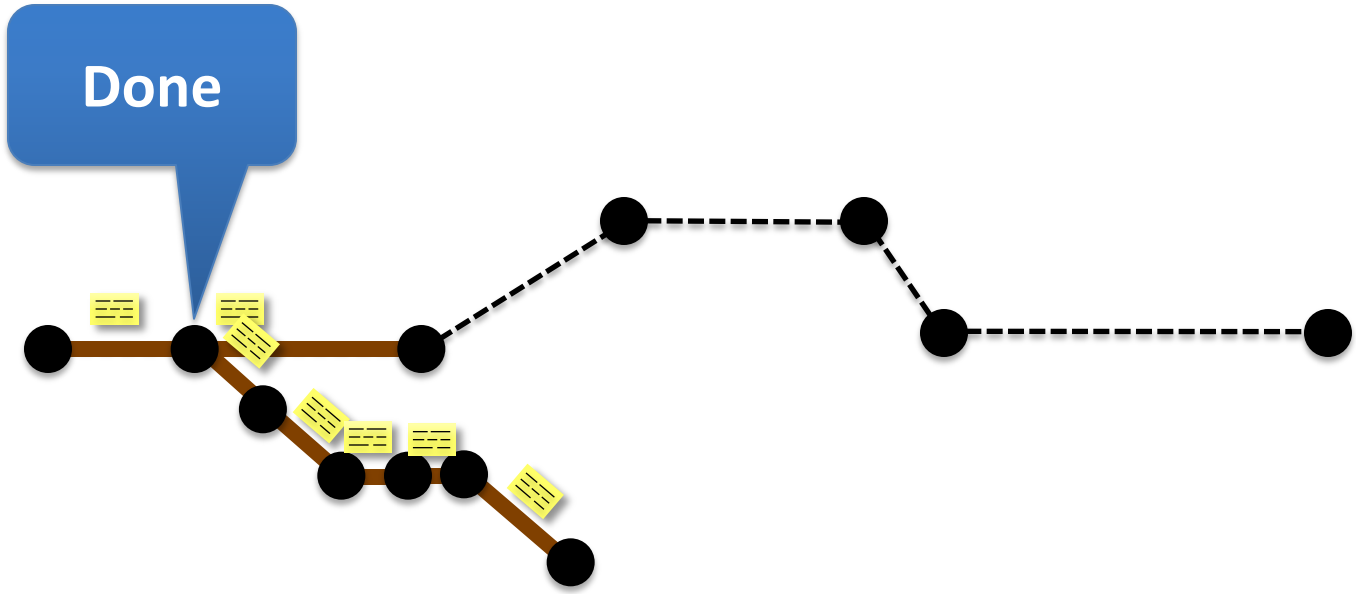
Splitting out the Gold

User wants… **3**

User wants… **5**

© 2012 Valtivity and others. All Rights Reserved -

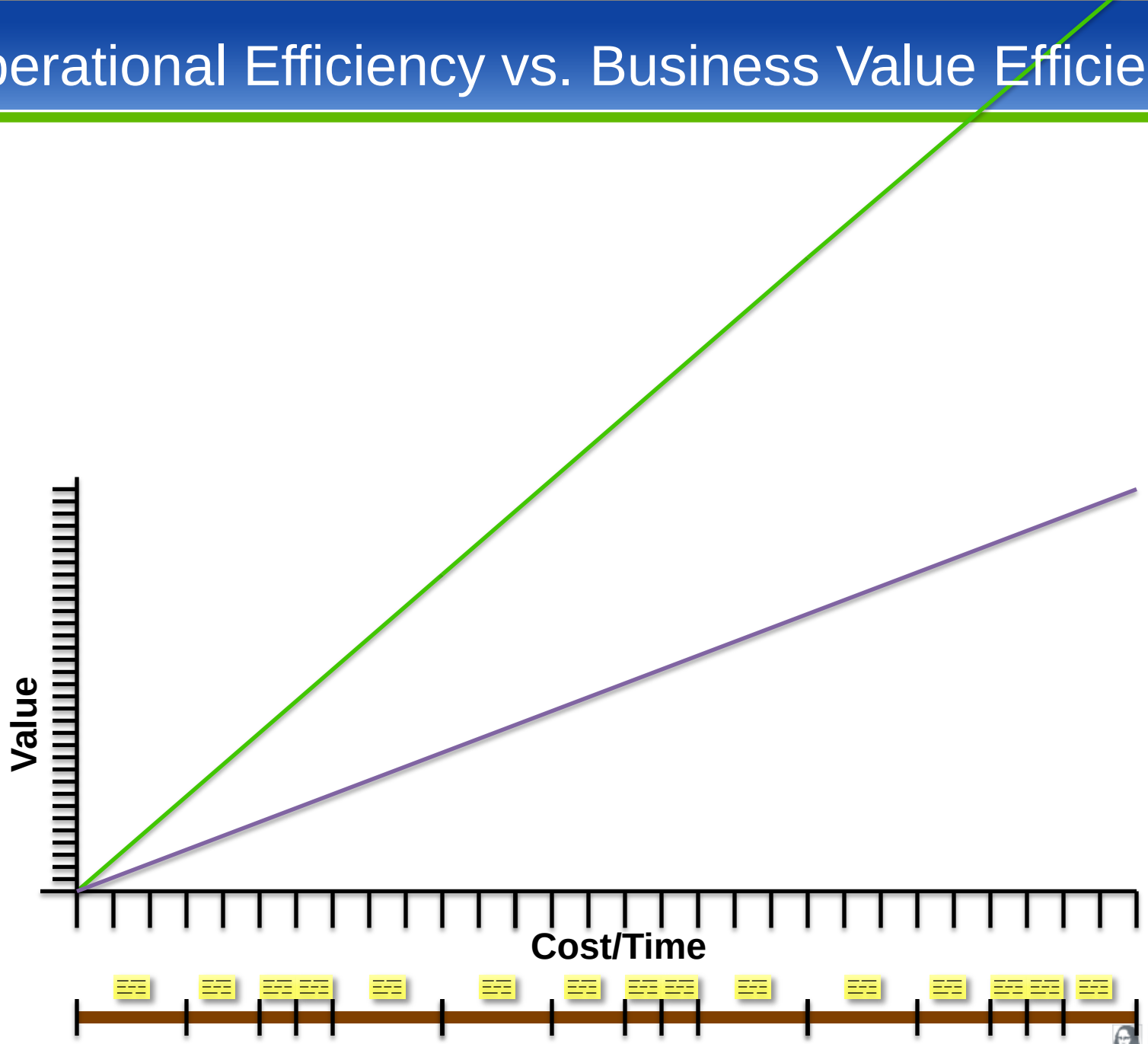
ELIASSEN GROUP



© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Operational Efficiency vs. Business Value Efficiency



© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

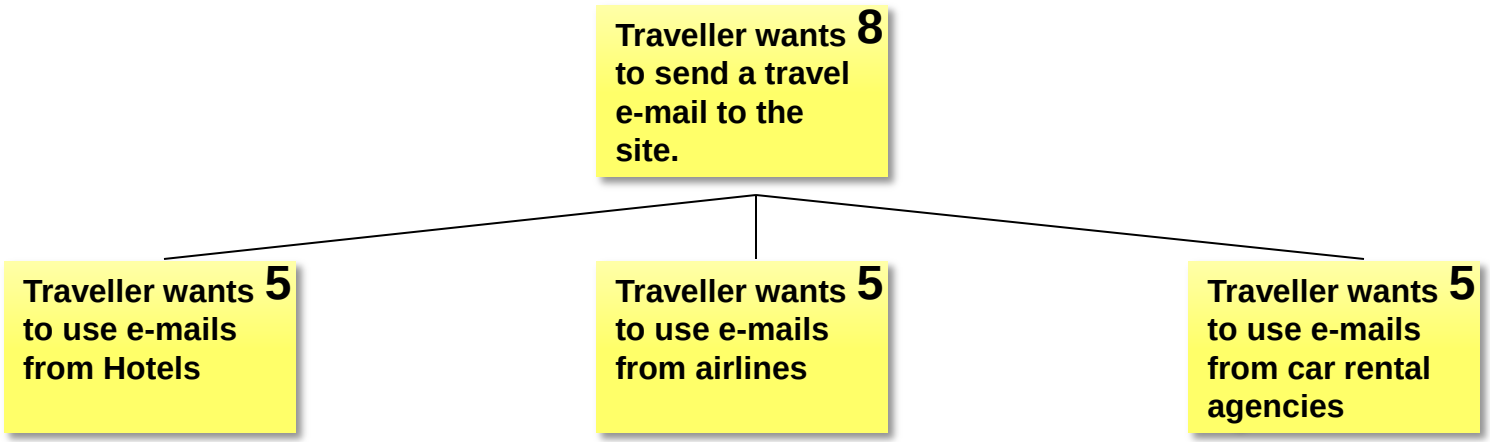
Story Splitting Techniques

- At “and” or “comma”
- By acceptance Test
- By user
- By grafting new technology onto old
- By workflow
- By level of value / constraining effort
- By numerical reduction
- Into Create/Read/Update/Delete
- By “going sideways”
- By use case

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Splitting by Acceptance Test



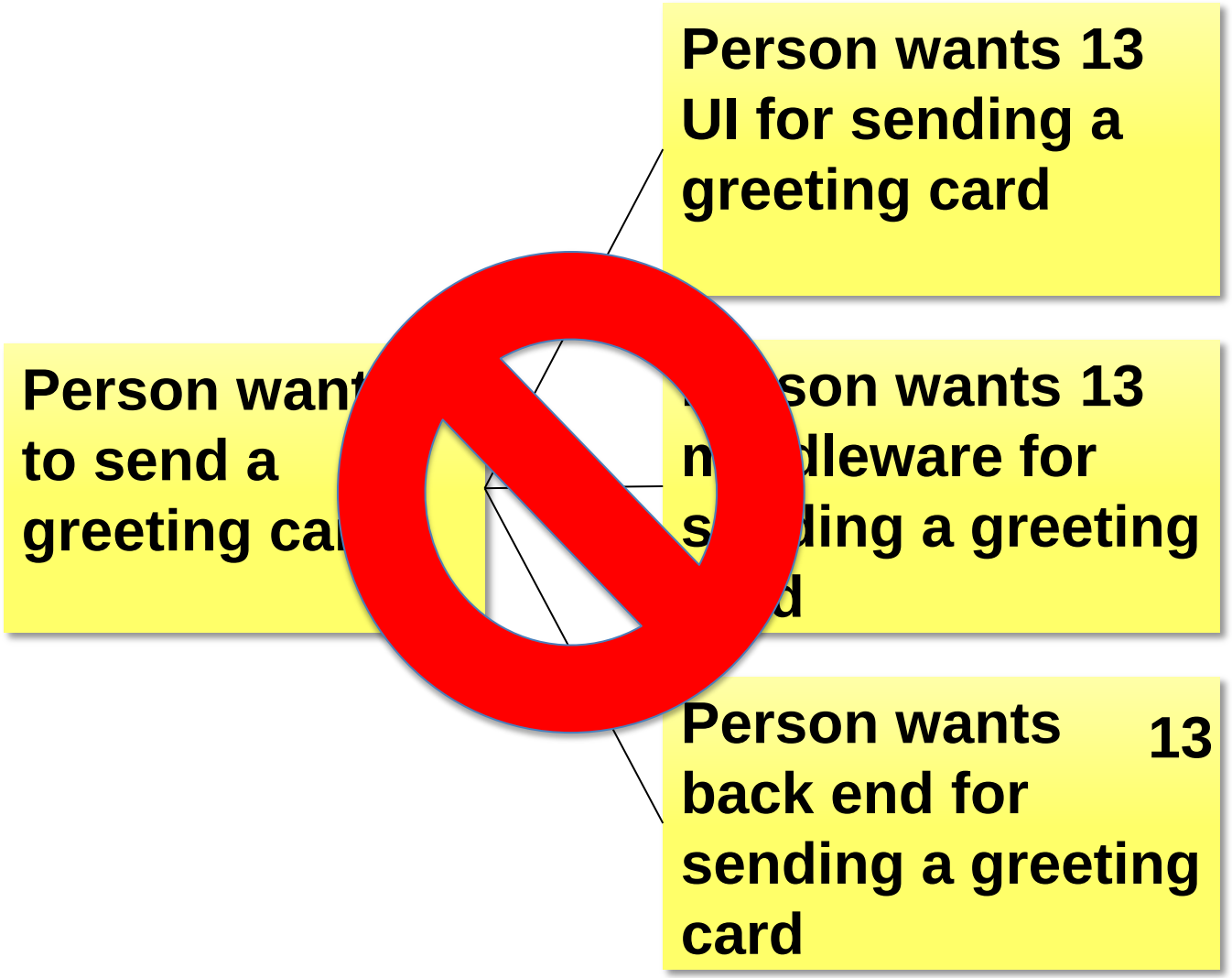
Acceptance Tests

1. **Handles a hotel booking**
2. **Handles an airline booking**
3. **Handles a car booking**

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Breaking Down by Layer



© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Splitting By Workflow

Velocity: 20

Person wants to select a card to send **5**	Person wants to customize the card **5**	Person wants to check a proof of the card **5**	Person wants to select delivery options **5**
Person wants to pay for the card **5**	Person wants error checking **5**		

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Person wants to select a card to send 5	Person wants to customize the card 5	Person wants to check a proof of the card 5	Person wants to select delivery options 5	Person wants to pay for the card 5
GUI for card selection	GUI for card customization	GUI for proofing	GUI for delivery options	GUI for payment options
Xmit card type to server	Textbox for recipient name	Display final card	Xmit delivery options	Validate payment information
Xmit card example to client	Textbox for address	Generate final card		Create card fulfillment data
Artwork	Textbox for card message			Place card order with partner
	Xmit custom information			

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Person wants to send a happy birthday card 8

Set card type as HAPPY_BDAY

GUI to collect Happy Birthday info

Set payment options as DLVR_GRND

GUI for card selection

GUI for card customization

GUI for proofing

GUI for delivery options

GUI for payment options

Xmit card type to server

Textbox for recipient name

Display final card

Xmit delivery options

Validate payment information

Xmit card example to client

Textbox for address

Generate final card

Create card fulfillment data

Artwork

Textbox for card message

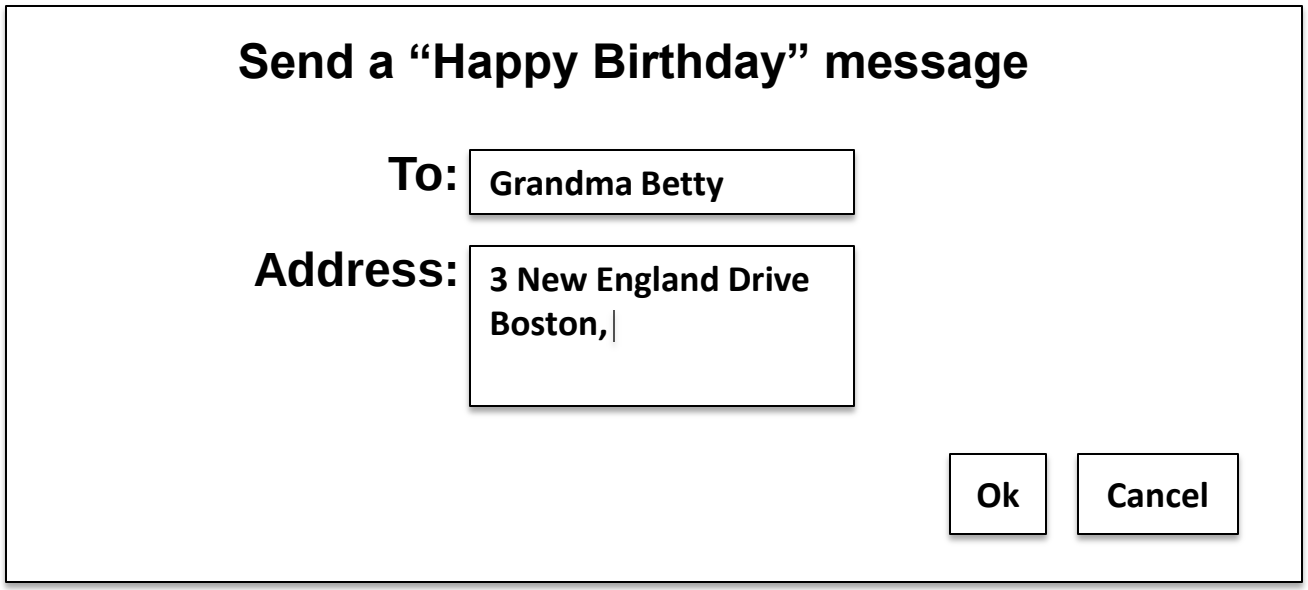
Place card order with partner

Xmit custom information

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Strawman



Person wants to send a happy birthday card **8**

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Person wants to send a happy birthday card **8**

Person wants to select a card to send **5**

Person wants to customize the card **5**

Person wants to select delivery options **5**

Person wants to check a proof of the card **5**

Person wants to pay for the card **5**

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Person wants to select a card to send 5	Person wants to customize the card 5	Person wants to check a proof of the card 5	Person wants to select delivery options 5	Person wants to pay for the card 5
GUI for card selection	GUI for card customization	GUI for proofing	GUI for delivery options	GUI for payment options
Xmit card type to server	Textbox for recipient name	Display final card	Xmit delivery options	Validate payment information
Xmit card example to client	Textbox for address	Generate final card		Create card fulfillment data
Artwork	Textbox for card message			Place card order with partner
	Xmit custom information			

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Person wants to select a card to send 5	Person wants to customize the card 5	Person wants to check a proof of the card 5	Person wants to select delivery options 5	Person wants to pay for the card 5
GUI for card selection	GUI for card customization	GUI for proofing	GUI for delivery options	GUI for payment options
Xmit card type to server	Textbox for recipient name	Display final card	Xmit delivery options	Validate payment information
Xmit card example to client	Textbox for address	Generate final card		Create card fulfillment data
Artwork	Textbox for card message			Place card order with partner
	Xmit custom information			

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Person wants to select a card to send 5	Person wants to customize the card 5	Person wants to check a proof of the card 5	Person wants to select delivery options 5	Person wants to pay for the card 5
GUI for card selection	GUI for card customization	GUI for proofing	GUI for delivery options	GUI for payment options
Xmit card type to server	Textbox for recipient name	Display final card	Xmit delivery options	Validate payment information
Xmit card example to client	Textbox for address	Generate final card		Create card fulfillment data
Artwork	Textbox for card message			Place card order with partner
	Xmit custom information			

© 2012 Valtivity and others. All Rights Reserved -

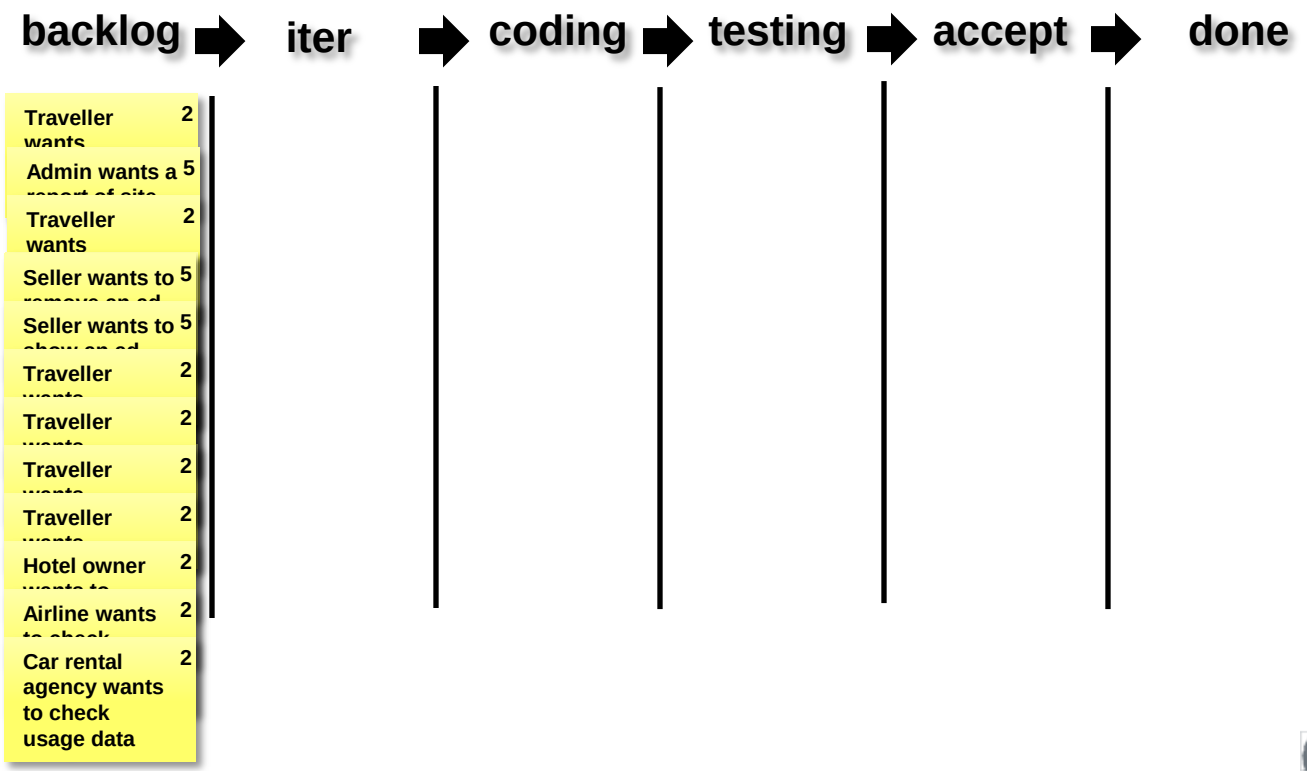
ELIASSEN GROUP

Agenda

- Introduction
- Overview of Agile
- Being an Agile Programmer
- User Stories
- Backlog
- Story Splitting
- Visualize your work
- Limited Work in Progress
- Unit testing
- Refactoring
- TDD
- Continuous Integration

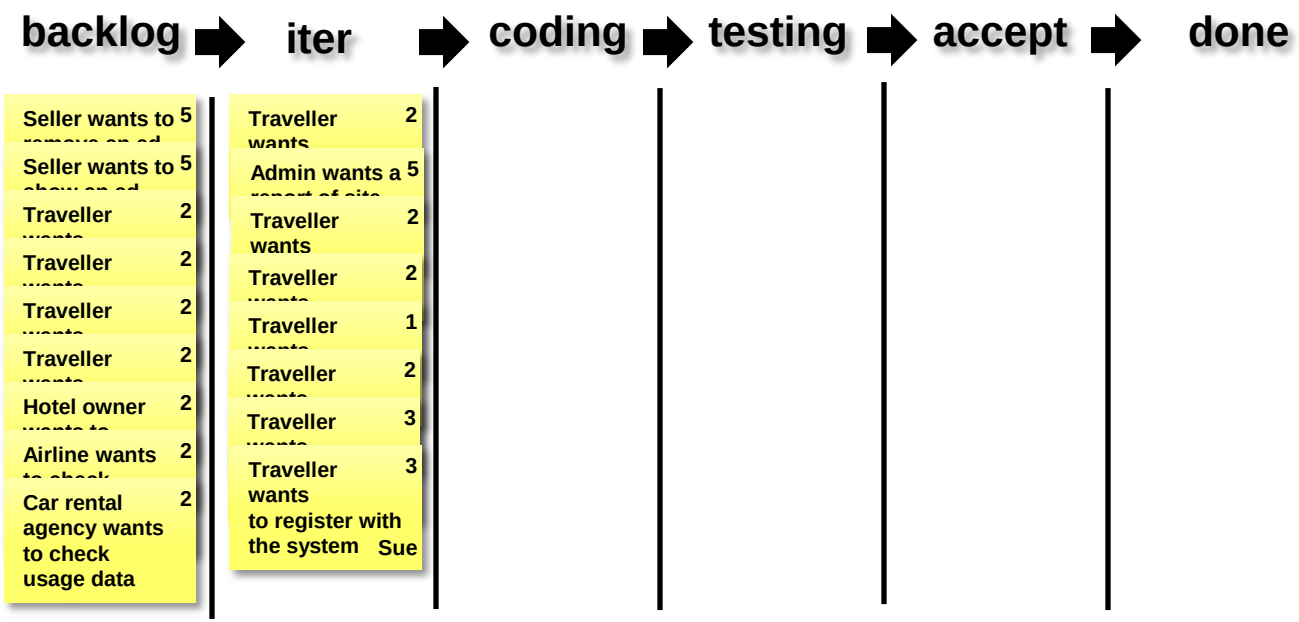
© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

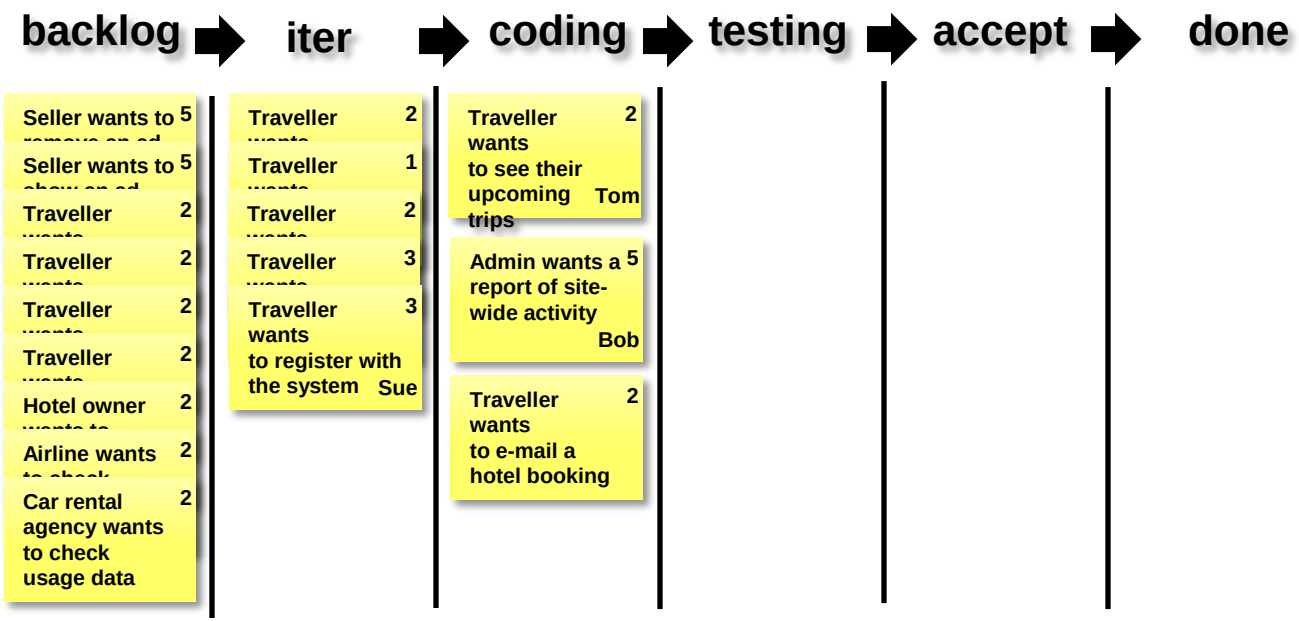


© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

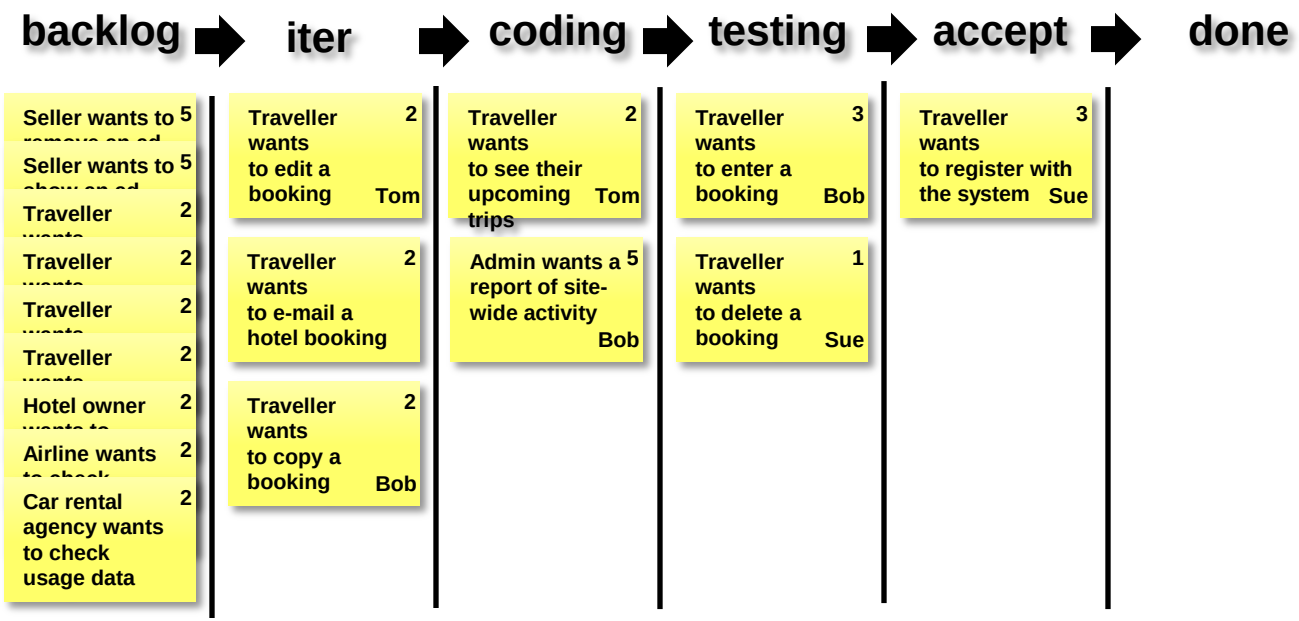


© 2012 Valtivity and others. All Rights Reserved -



© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

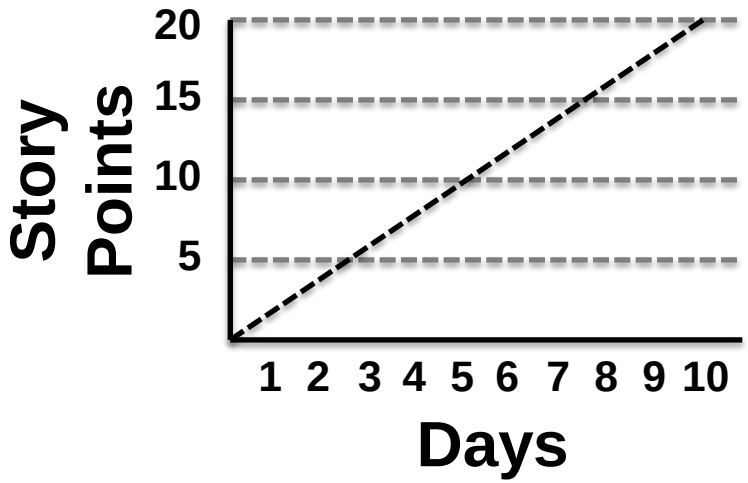


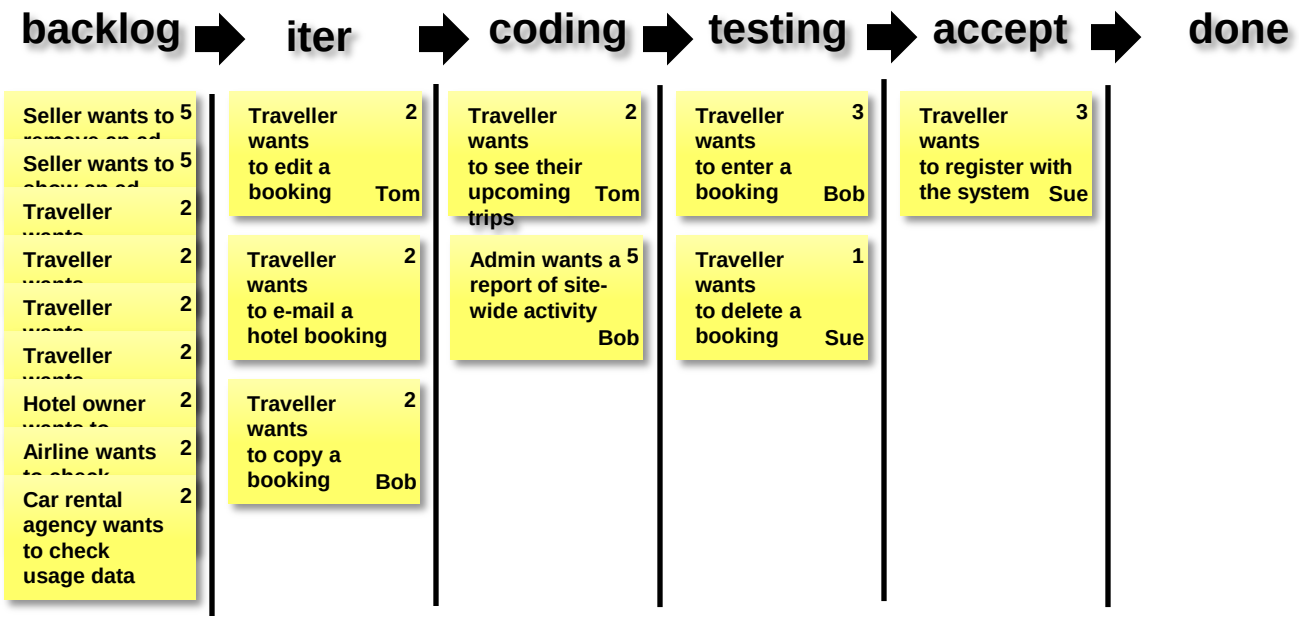
© 2012 Valtivity and others. All Rights Reserved -

Activity vs Achievement

© 2012 Valtivity and others. All Rights Reserved -

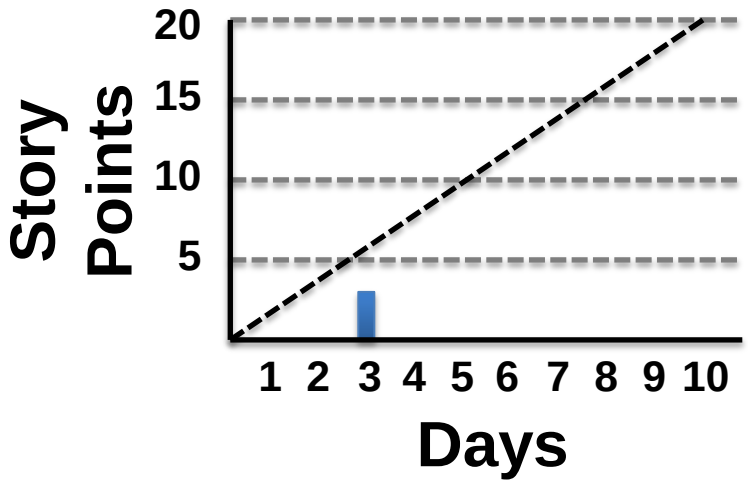
ELIASSEN GROUP

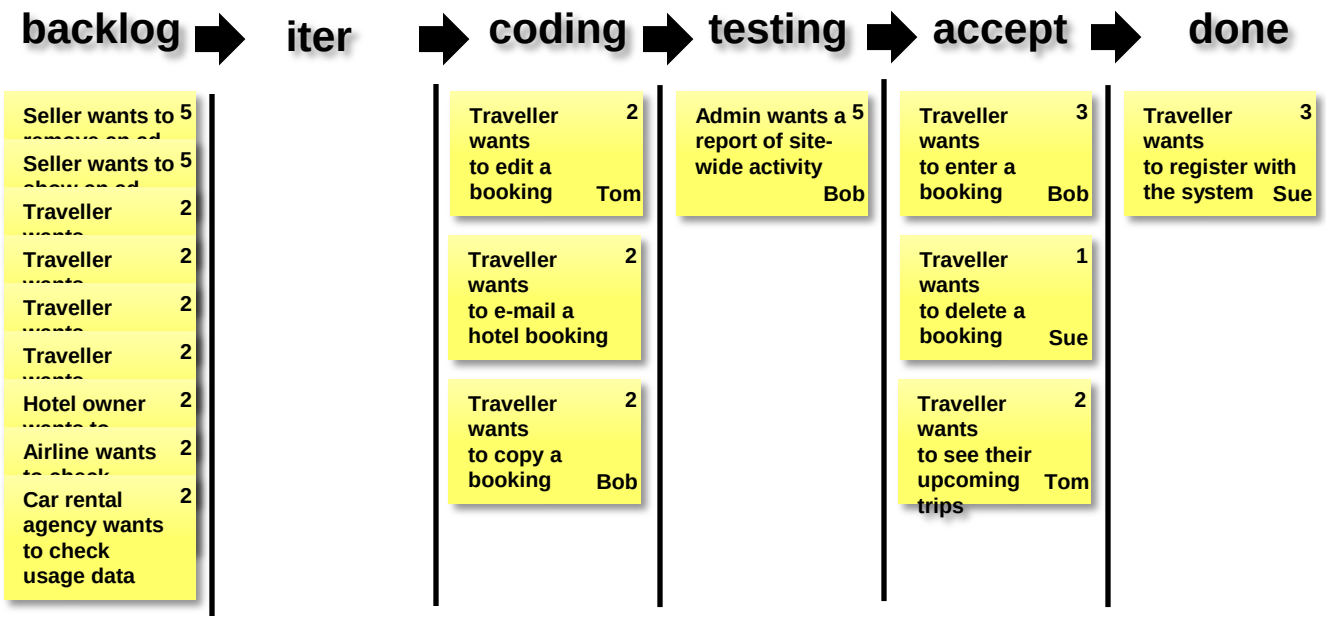




© 2012 Valtivity and others. All Rights Reserved -

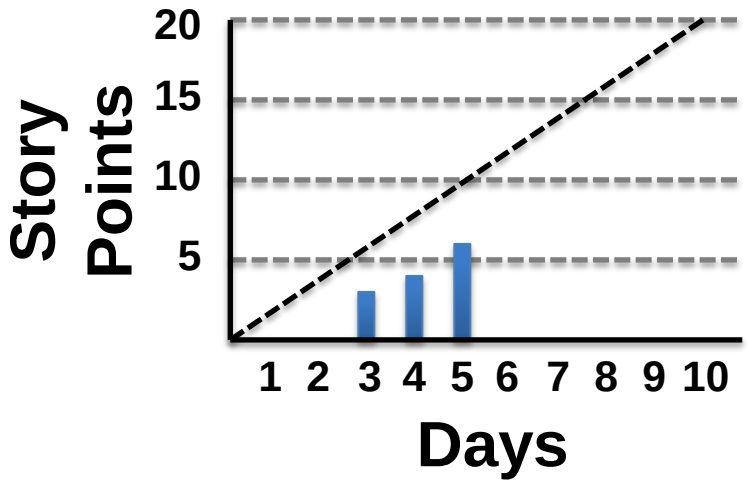
ELIASSEN GROUP

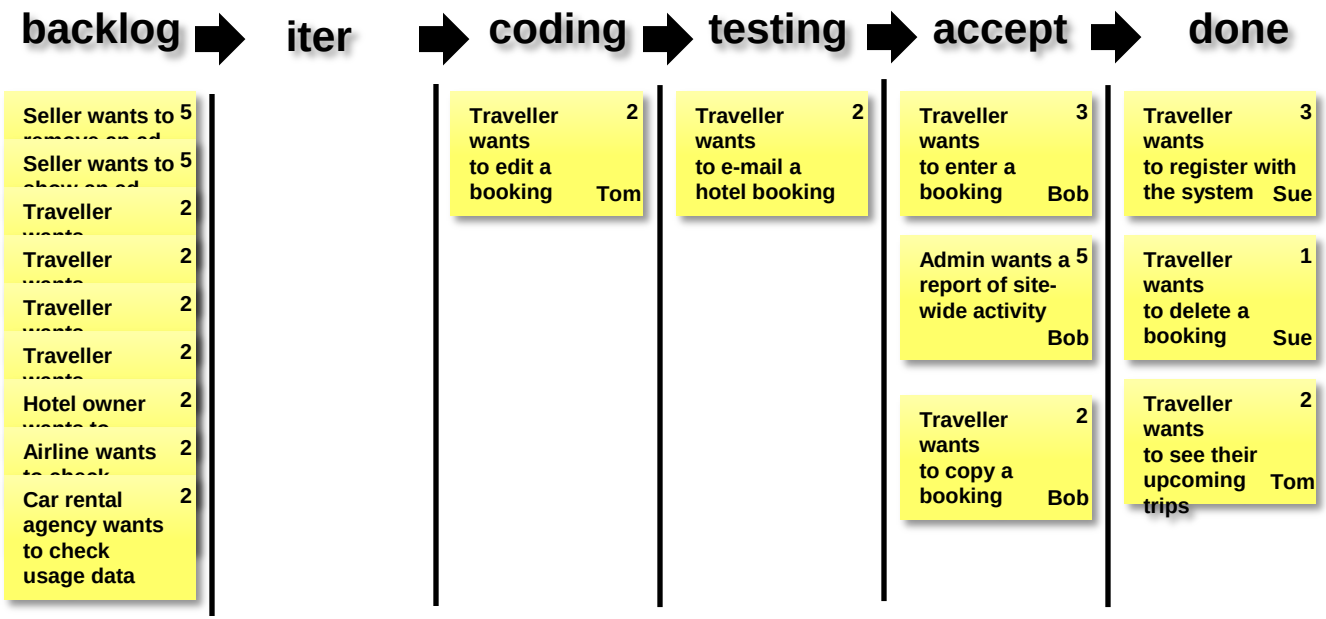




© 2012 Valtivity and others. All Rights Reserved -

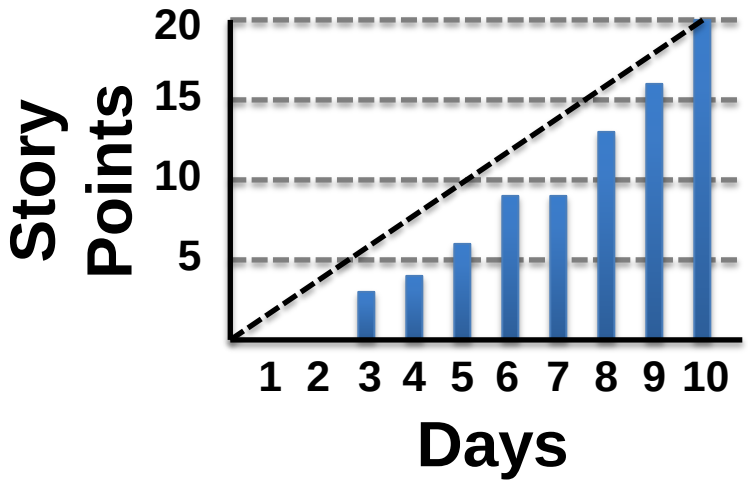
ELIASSEN GROUP

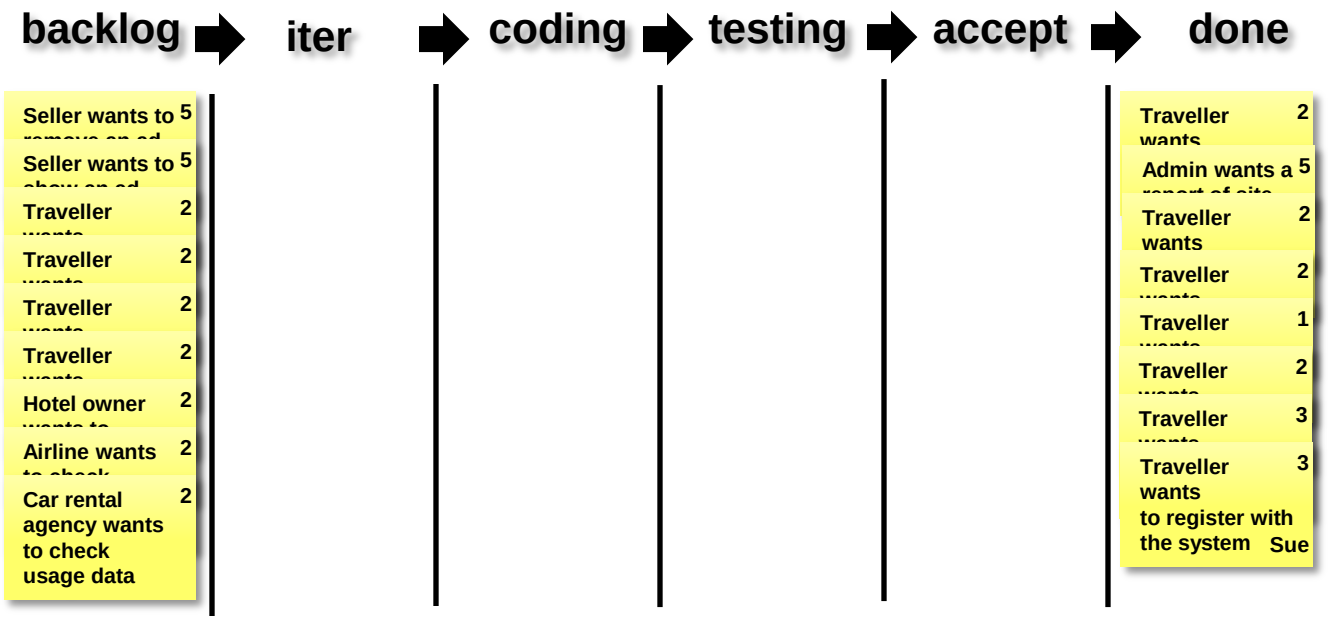




© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP





© 2012 Valtivity and others. All Rights Reserved -

Agenda

- Introduction
- Overview of Agile
- Being an Agile Programmer
- User Stories
- Backlog
- Story Splitting
- Visualize your work
- Limited Work in Progress
- Unit testing
- Refactoring
- TDD
- Continuous Integration

© 2012 Valtivity and others. All Rights Reserved -

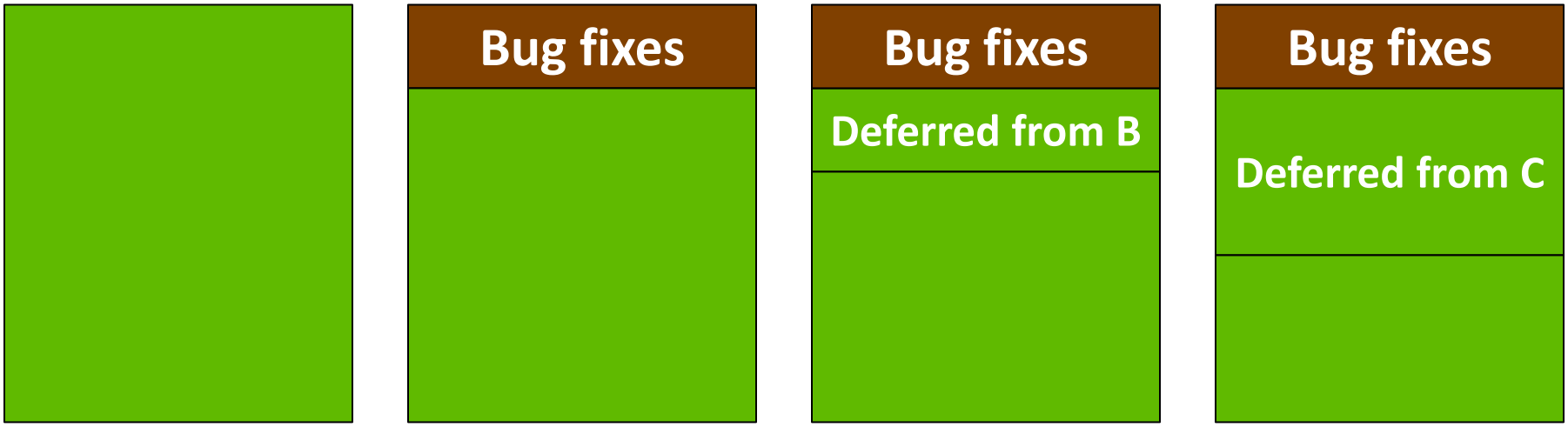
ELIASSEN GROUP

Bugs are *NOT* OK

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

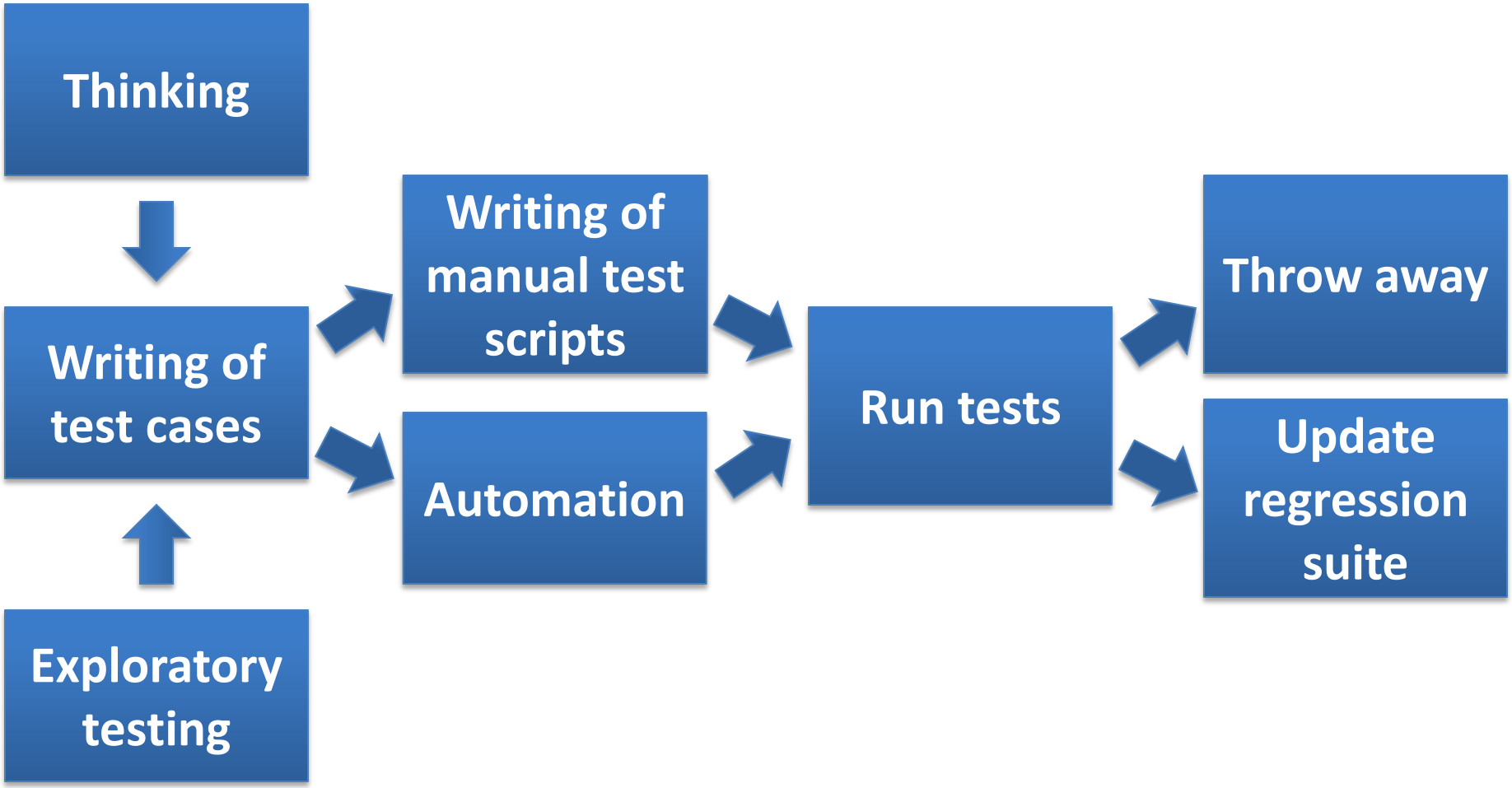
Bugs Displace Value



© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

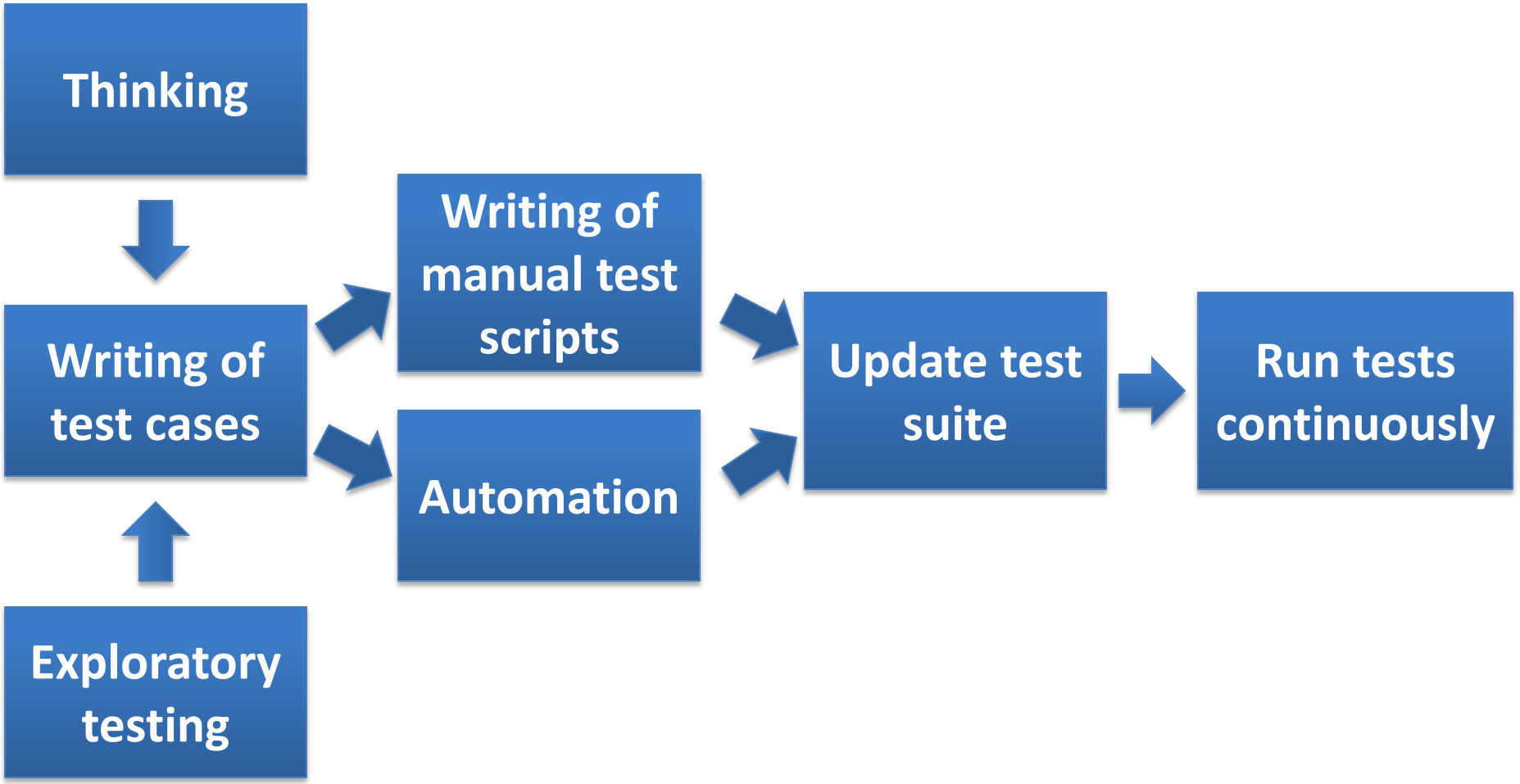
Typical Test Cycle



© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Moving away from concept of “regression” testing



© 2012 Valtivity and others. All Rights Reserved -

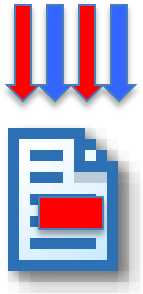
ELIASSEN GROUP

Unitized Testing

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Unitized Testing

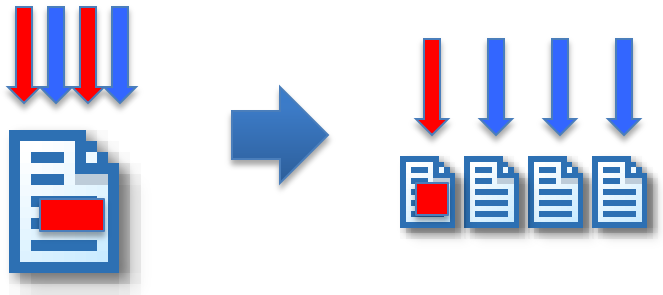


© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Unitized Testing

Refactor

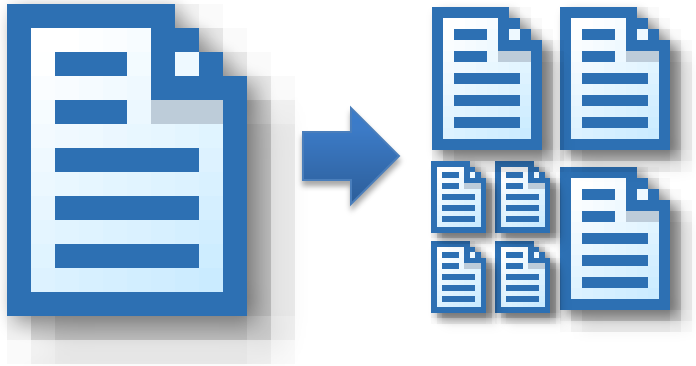


- Open/Closed pattern from OO programming

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Unitized Testing

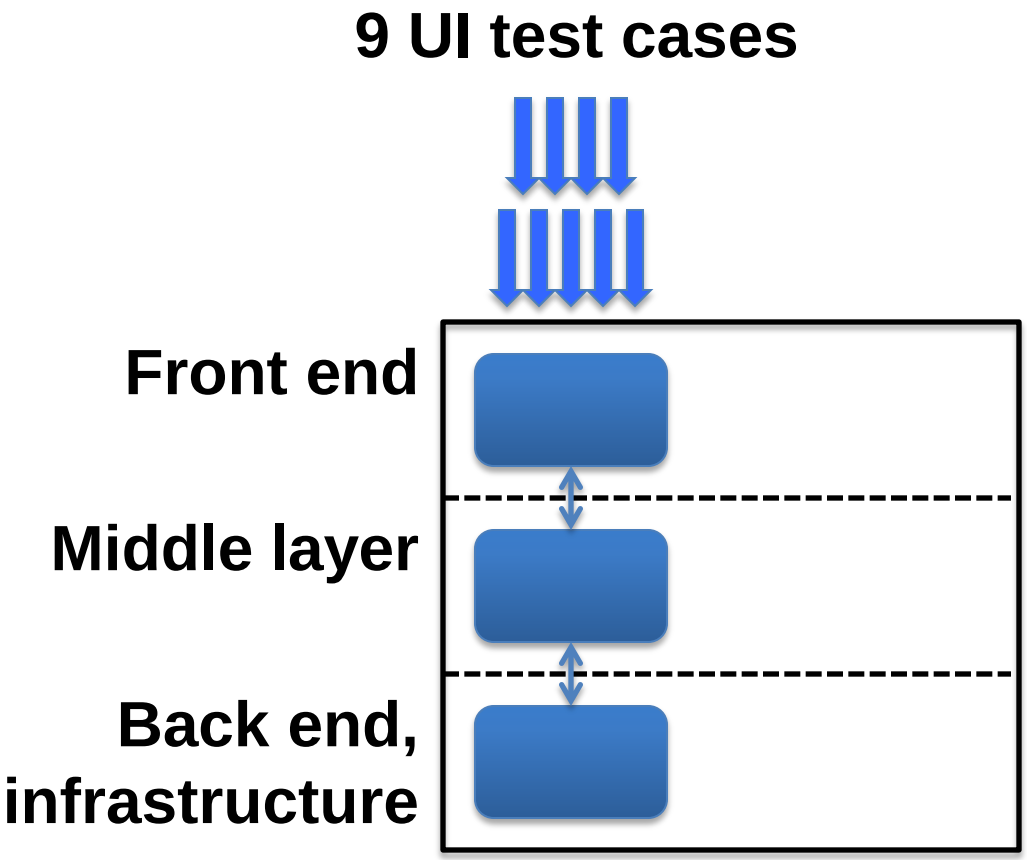


- Time spent writing unit tests and refactoring replaces time spent debugging and manual testing

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Holistic testing



© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

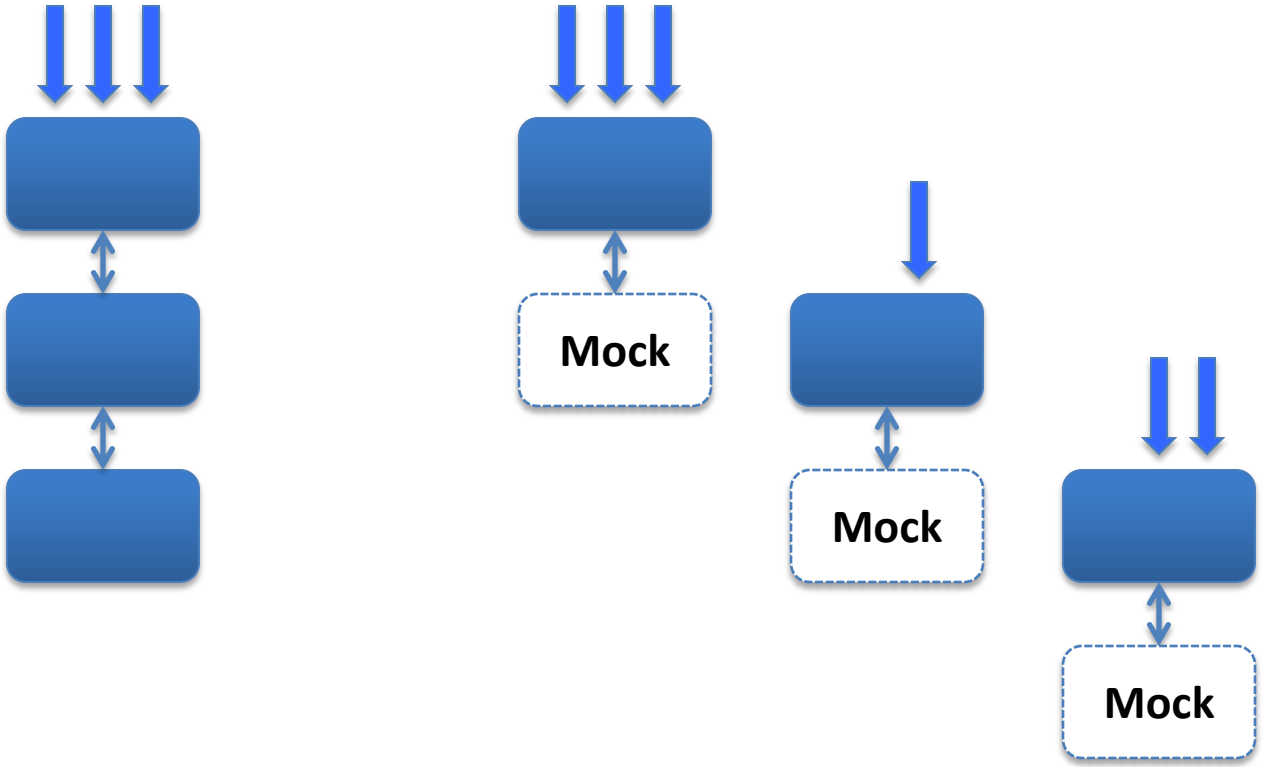
Holistic Testing

9 total test cases

Front end (QTP+Unit)

Middle layer (SoapUI+Unit)

Back end, infrastructure (Unit+others)



© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Unit Test Opportunities

- UI code
- Services
- Middle tier code
- Server code
- Database: triggers, stored procedures
- Deployment activities

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Agenda

- Introduction
- Overview of Agile
- Being an Agile Programmer
- User Stories
- Backlog
- Story Splitting
- Visualize your work
- Limited Work in Progress
- Unit testing
- Refactoring
- TDD
- Continuous Integration

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Test Driven Development

- Programmers write unit tests prior to coding
- If you can't write a test, you aren't ready to code
- Writing tests first will change how you write code
- Writing tests after you have written the code is "too late"
- Writing test cases (not test scripts) prior to writing should also be considered

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Agenda

- Introduction
- Overview of Agile
- Being an Agile Programmer
- User Stories
- Backlog
- Story Splitting
- Visualize your work
- Limited Work in Progress
- Unit testing
- Refactoring
- TDD
- Continuous Integration

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

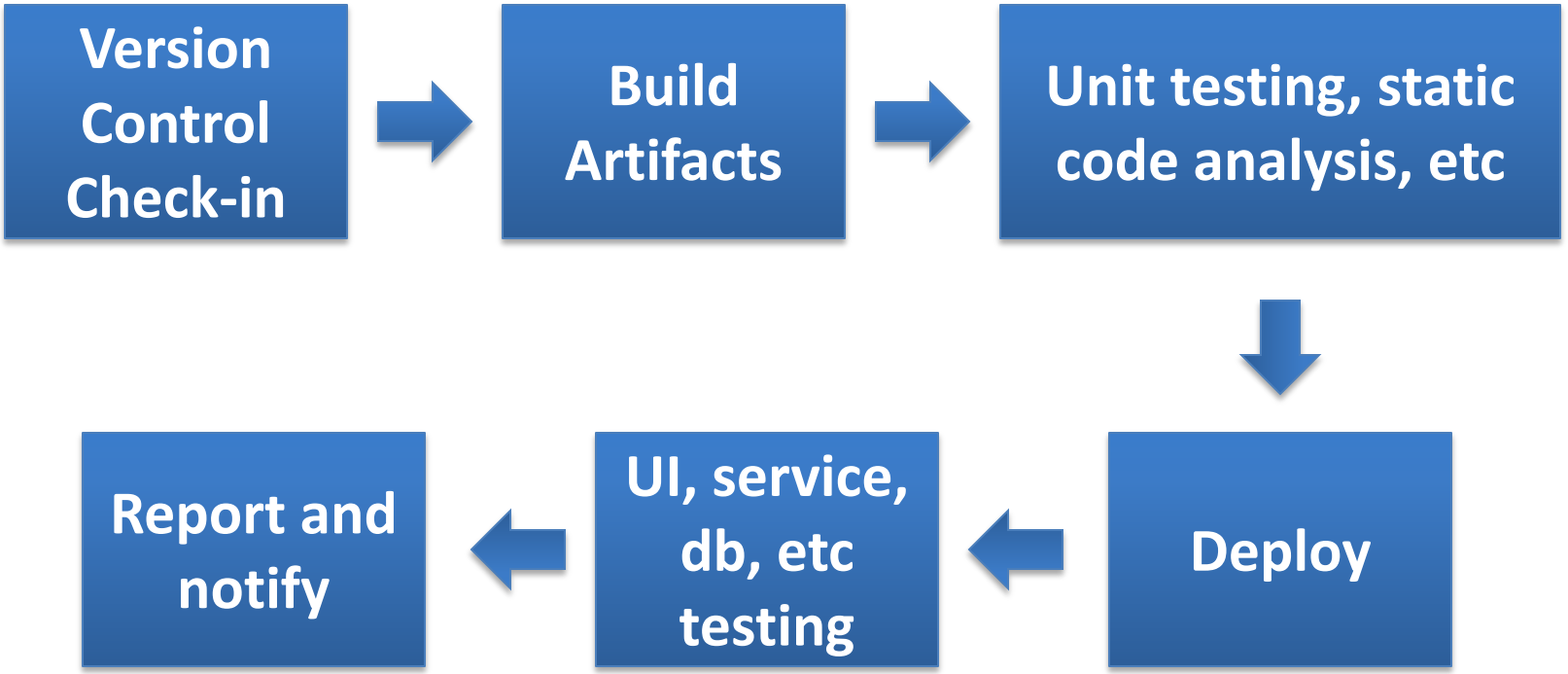
All Tests Run All the Time

- Reduces the risk of making a change
- Reduced risk enables moving quicker
- Problems are found sooner

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Continuous Integration

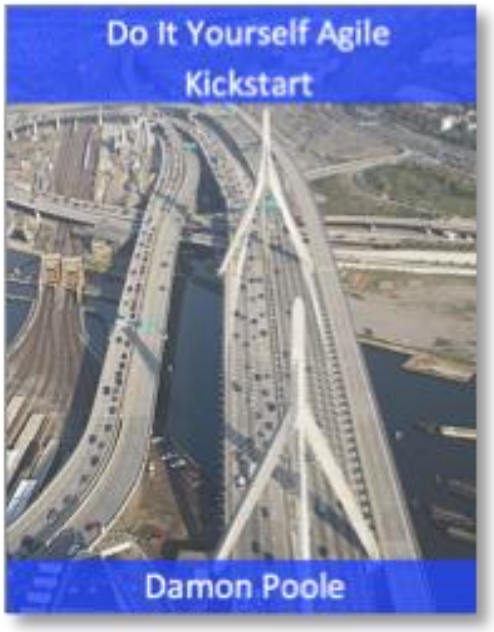


betterCode = unitTesting + refactoring + CI;

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP

Q&A



damonpoole.blogspot.com

© 2012 Valtivity and others. All Rights Reserved -

ELIASSEN GROUP