



RULES FEST



Agile Knowledge Elicitation

Leveraging use-cases
for an effective harvesting
of tacit knowledge

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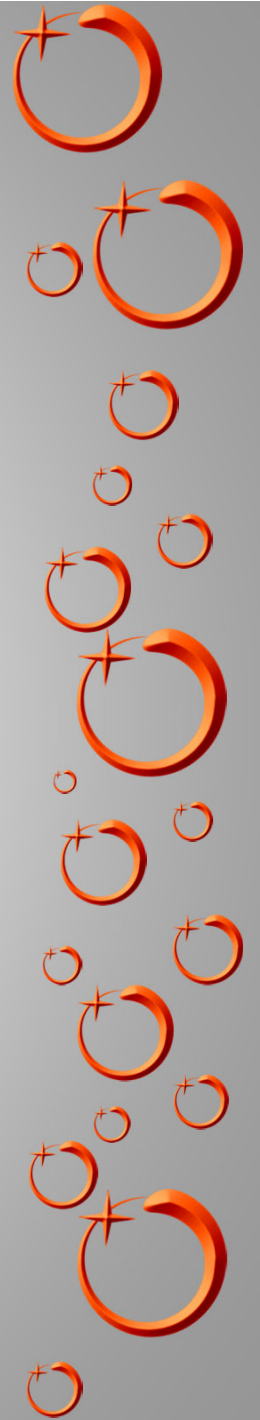
(408) 834-7002



Agile => Agility

DUH!

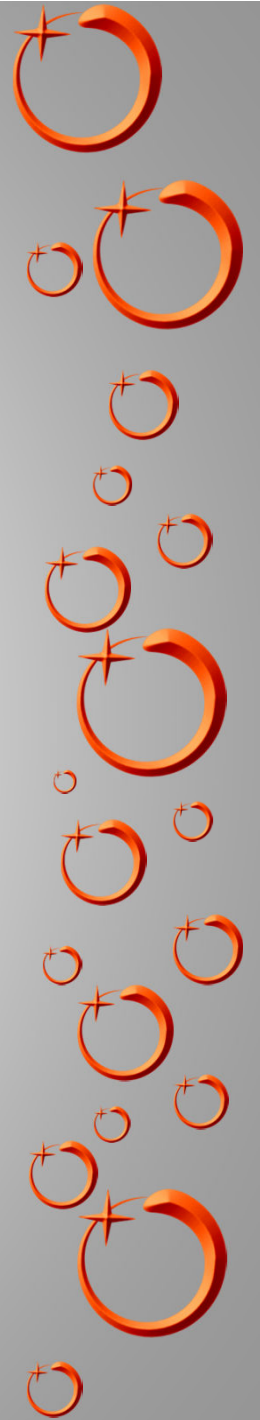
But it's really about the SDLC...



BRMS => Agility

DUH!

But what about Methodology?



Combining the Best of Both Worlds

Agile Knowledge Elicitation

What I am not going to do...

- BAKE
- CAKE
- FAKE
- LAKE
- MAKE
- RAKE
- STAKE
- TAKE
- WAKE

Agile is **Great** at least for...

Breaking the Waterfall Model



into TRANSPARENT sprints

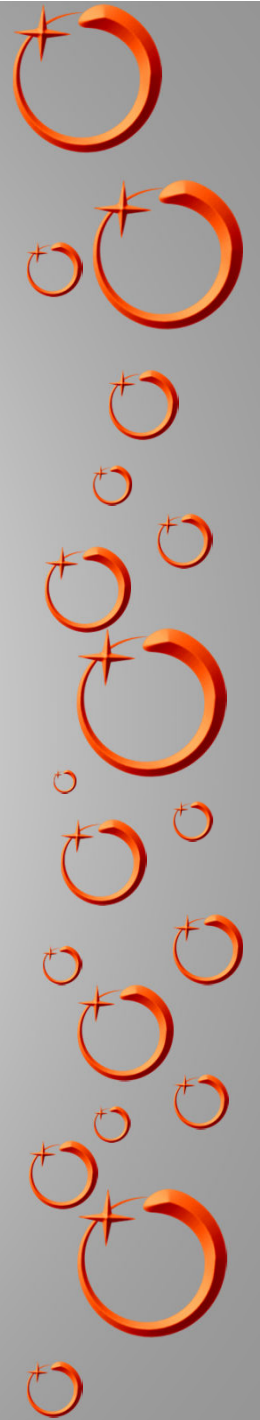


The Key: **TRANSPARENT**

Clear & Measurable
Objectives

Documented
Use Cases

“Over”
Communication



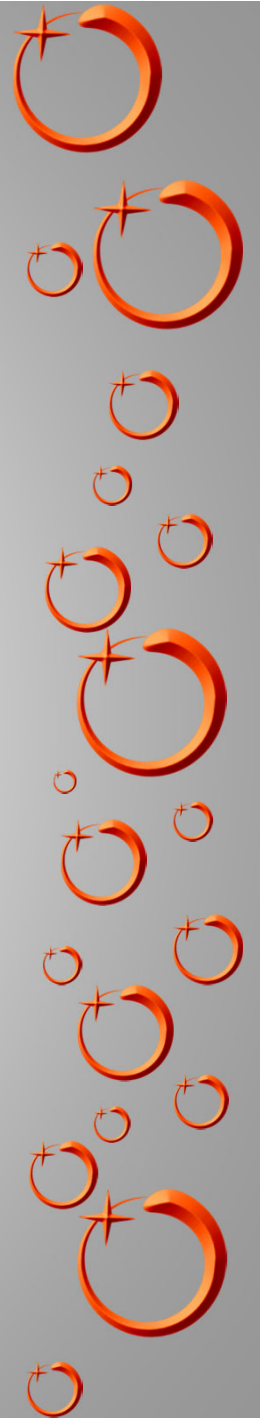
How does it apply to **Decision Management?**

Clear & Measurable
Objectives

Documented
Use Cases

“Over”
Communication

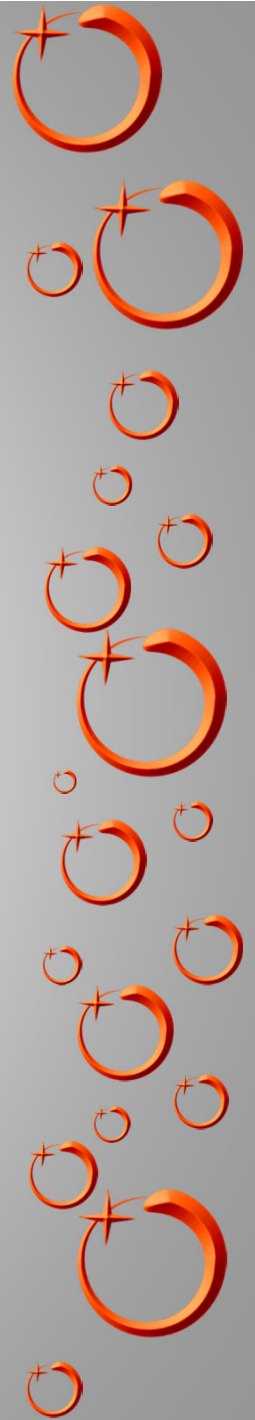
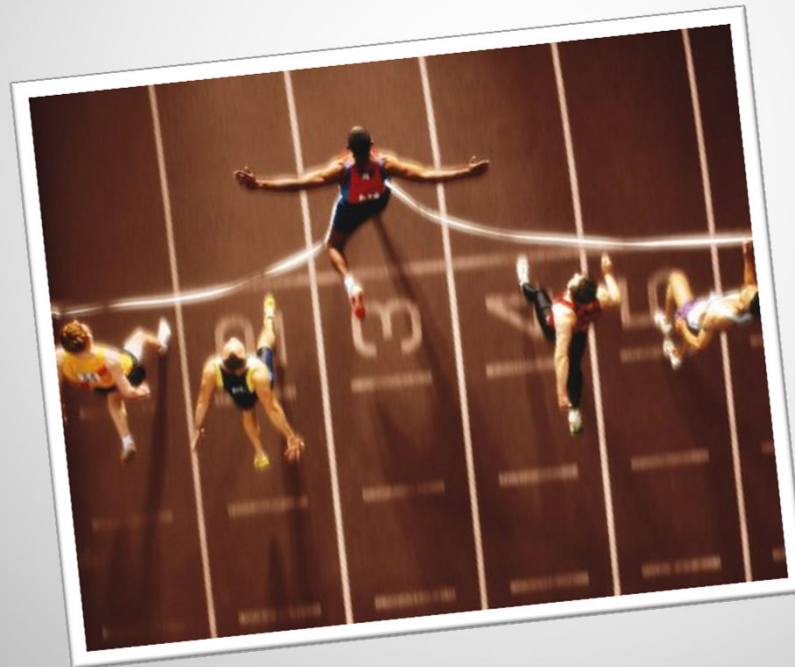
But not too literally...



Why the caveat?

**SDLC Sprint =
2 weeks**

**Rule Deployment =
2-3 days**



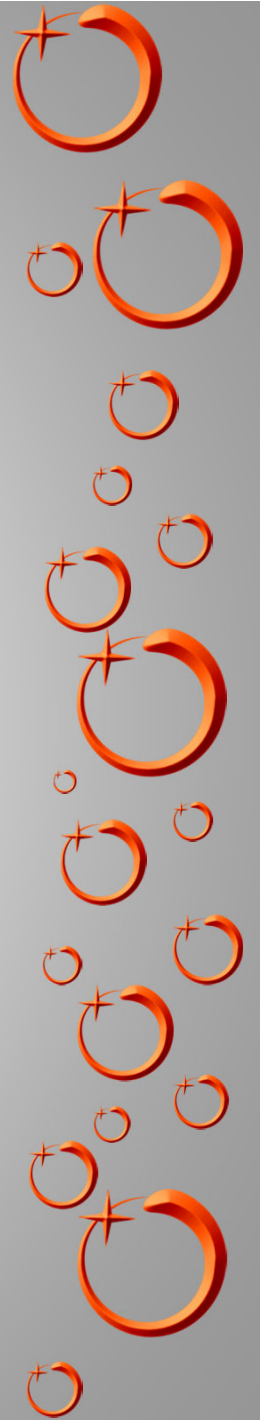
Removing the



a miracle
happens

Coding is not the Problem actually...

Knowledge Elicitation is **THE** Hard Problem



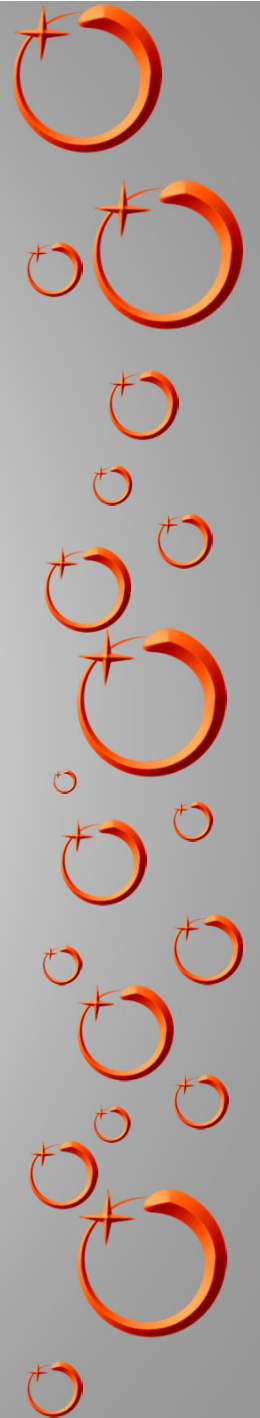
“

Learning turned out to be more important than knowing. In the 1960s and 1970s, many A.I. programs were known as “Expert Systems,” meaning that they were built by interviewing experts in the field (for example, expert physicians for a medical A.I. system) and encoding their knowledge into logical rules that the computer could follow. **This approach turned out to be fragile, for several reasons. First, the supply of experts is sparse, and interviewing them is time-consuming. Second, sometimes they are expert at their craft but not expert at explaining how they do it.** Third, the resulting systems were often unable to handle situations that went beyond what was anticipated at the time of the interviews.

Peter Norvig, New York Post, “**The machine age**”, 2/12/2011

Read more:

http://www.nypost.com/p/news/opinion/opedcolumnists/the_machine_age_tM7xPAv4pI4JsIKOM1Jtxl#ixzz1bgVHngxG



Knowledge Elicitation

too much emphasis on the rules

What they care about

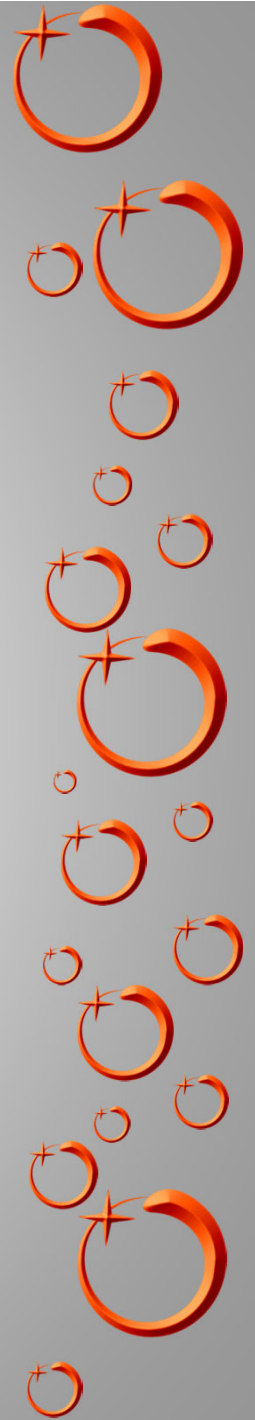


What you care about

**Tell us about
your rules?**

...

**What is a rule
exactly?**



Knowledge Elicitation

too much emphasis on the business

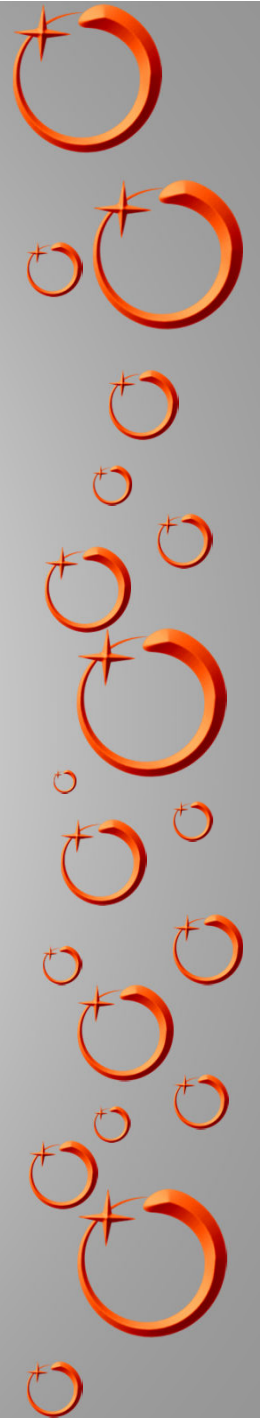
What they care about



What you care about

What do you
do when...?

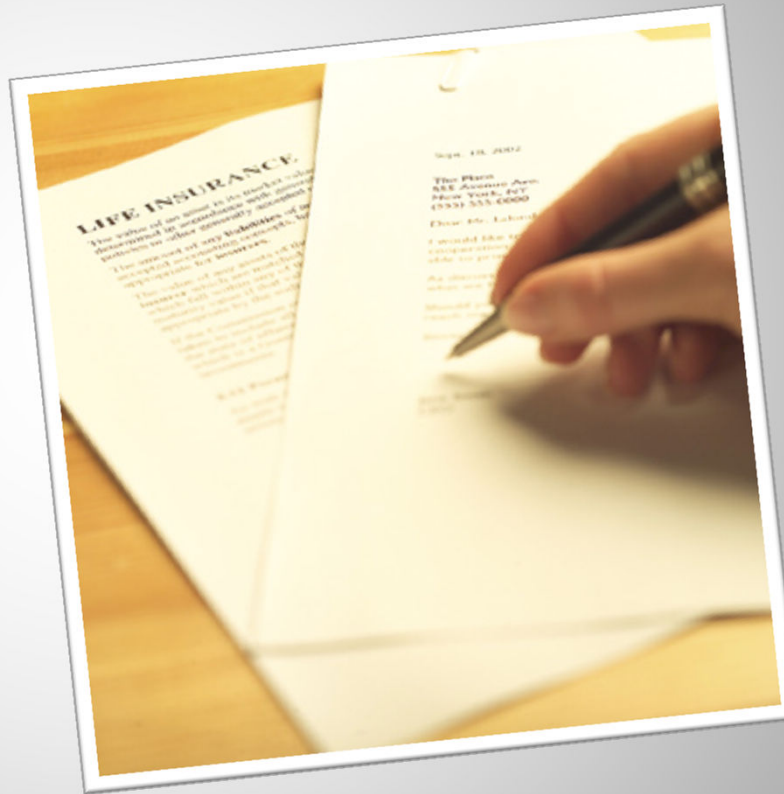
Oh yeah, happened last week actually...
We got an application with 3 young siblings
living together – triplets in facts. One of
them was a wreck, already 3 accidents in
the few months he had had his license. We
had to re-price manually because we had
never seen that kind of risk before...



Agile Knowledge Elicitation relies on a Balanced Business-IT “talk”

Unambiguous Common Ground:

- Business Form
- Transaction
- Business Application Screenshot



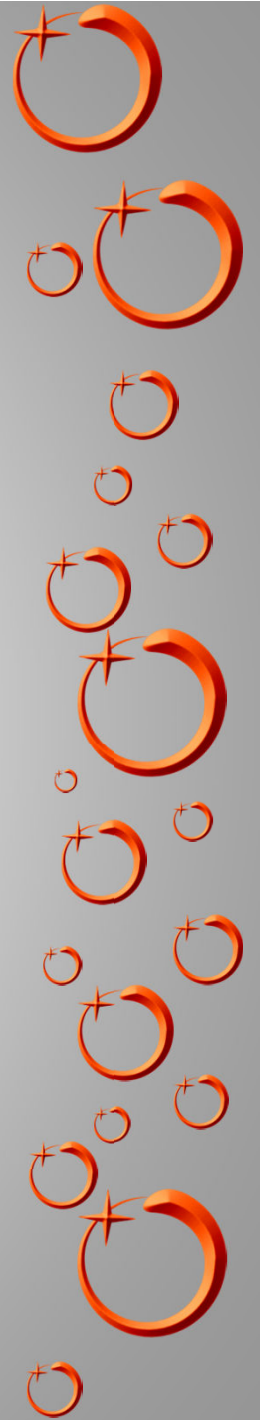
Expert Interview: “Business As Usual”

Let the experts
do all the work

- Make Decisions
- Document Why
- Elaborate on Limits

Note: We do not endorse any
particular brand of pens...

The Almighty Tool:





Lead No.: 6067967
Enter Date: 4/3/2003 5:10:00 PM MST

Contact Information

John Q Public
123 Main St
Highlands Ranch, CO 80130
Douglas County

home: 303-555-3030
work: 720-555-7200
mobile: 303-555-3031
fax: 720-555-7201
email: jqp@insurecom.com

Time at Curr. Res.: 4 yr., 9 mo.
Time at Prev. Res.: 2 yr., 7 mo.
Notes:

Auto

Drivers

John Q Public

Gender: Male

DOB: 5/1/1963 (39)

Marital Status: Married

Occupation: Engineer-Electrical (5+ yrs.)

Income: 100000

Smoke: No

License No: CO12345

License State: CO

License First Issued: 5/1/1980

SSN:

Non-Drinker: No

Violation Date	Type	Description
3/21/2002	Speeding more than 10 MPH over	Construction zone.

Accident Date	Type	At Fault	Injury	Property	Description
9/22/2001	Rearended by another person	No	300	8200	Hit while waiting at a stop light.

Joan Public

Gender: Female

DOB: 6/2/1964 (38)

Marital Status: Married

Occupation: College Professor (5+ yrs.)

Income: 80000

Smoke: No

License No: CO23456

License State: CO

License First Issued: 6/2/1981

SSN:

Non-Drinker: Yes

Violation Date	Type	Description
5/19/2002	Carpool lane violation	I was in a hurry to get to work.

Claim Date	Type	Amount	Description
6/12/2002	Hail damage	2739	Roof, hood and windshield.

Vehicles

2002 CHEVROLET CORVETTE Convertible

VIN: 1G1YY37G*2*****

Usage: (From Work (6 mi. Alar Audible Alarm

Air Bags: 2

each

Ann

Garage

(comp/col



RULES FEST

Make Decisions

APPROVE

MANUAL
REVIEW

DECLINE

Sparkling™
[logic]

Document Why

Speed,
Speed,
Speed...
=> Bad Risk

 Lead No.: 6067967
Enter Date: 4/3/2003 5:10:00 PM MST

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Drivers

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5/19/2002	Carpool lane violation	I was in a hurry to get to work.

Claim Date	Type	Amount	Description
6/12/2002	Hail damage	2739	Roof, hood and windshield.

Vehicles

2002 CHEVY CORVETTE Convertible VIN: 1G1YY37G*2*****

Usage: from work (0 mi.) Air audible Alarm Air Bags: 2

each year

Ann

Garage

(comp/col)

Elaborate on Limits

insureme Lead No.: 6067967
Enter Date: 4/3/2003 5:10:00 PM MST

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Vehicles

2002 CHEVY CORVETTE Convertible VIN: 1G1137G 2

Usage: from work (0 mi.) Air Bags: 2

each (comp/col)

Anything 10 MPH or more

Keyword "hurry"

Corvette, Ferrari, Porsche....

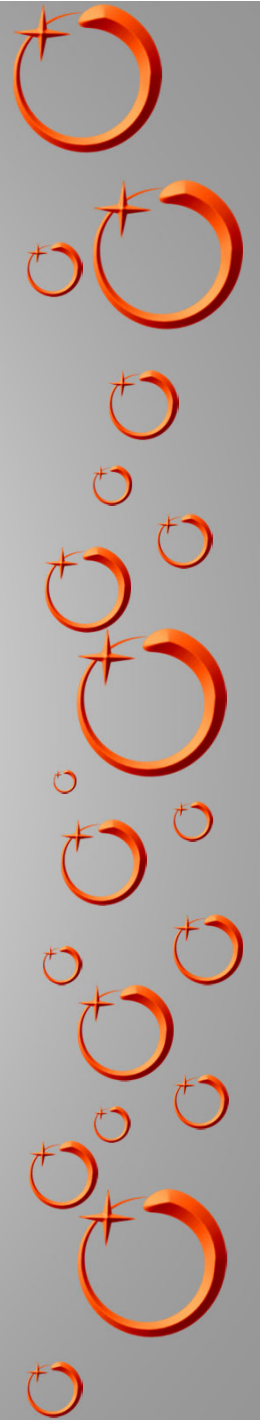
Business Rules & Vocabulary Seamlessly Harvested

Annotations easily turn into

- Explicit Business Rules
- Business Vocabulary
- Calculations



- Reducing Miscommunication
- Clearly Understandable both ways



a miracle
happens

Knowledge Elicitation: When are you done?

Rule

Rule

Rule

Rule

Rule

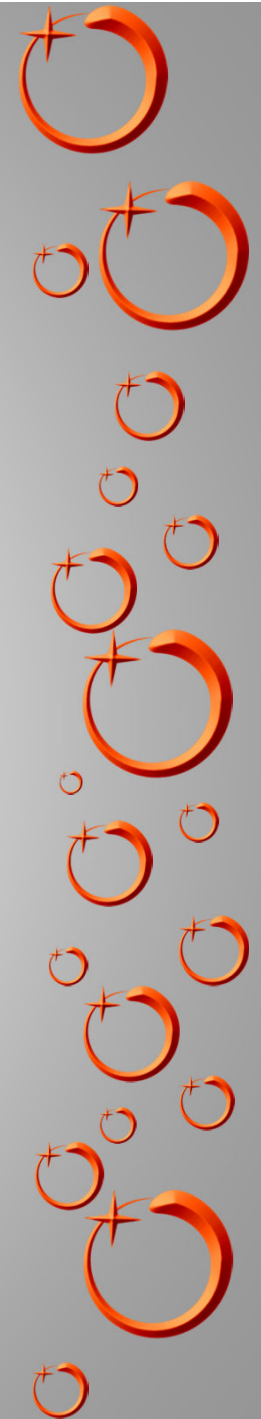
Rule

Rule

Rule

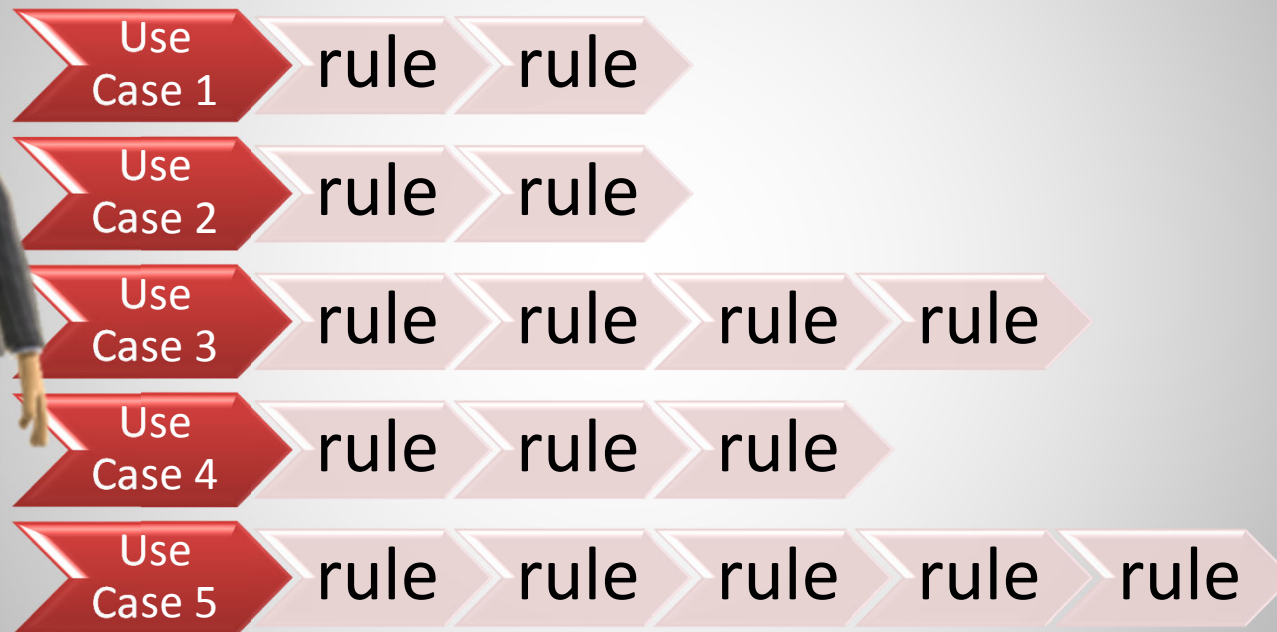
Rule

Rule



Agile Knowledge Elicitation

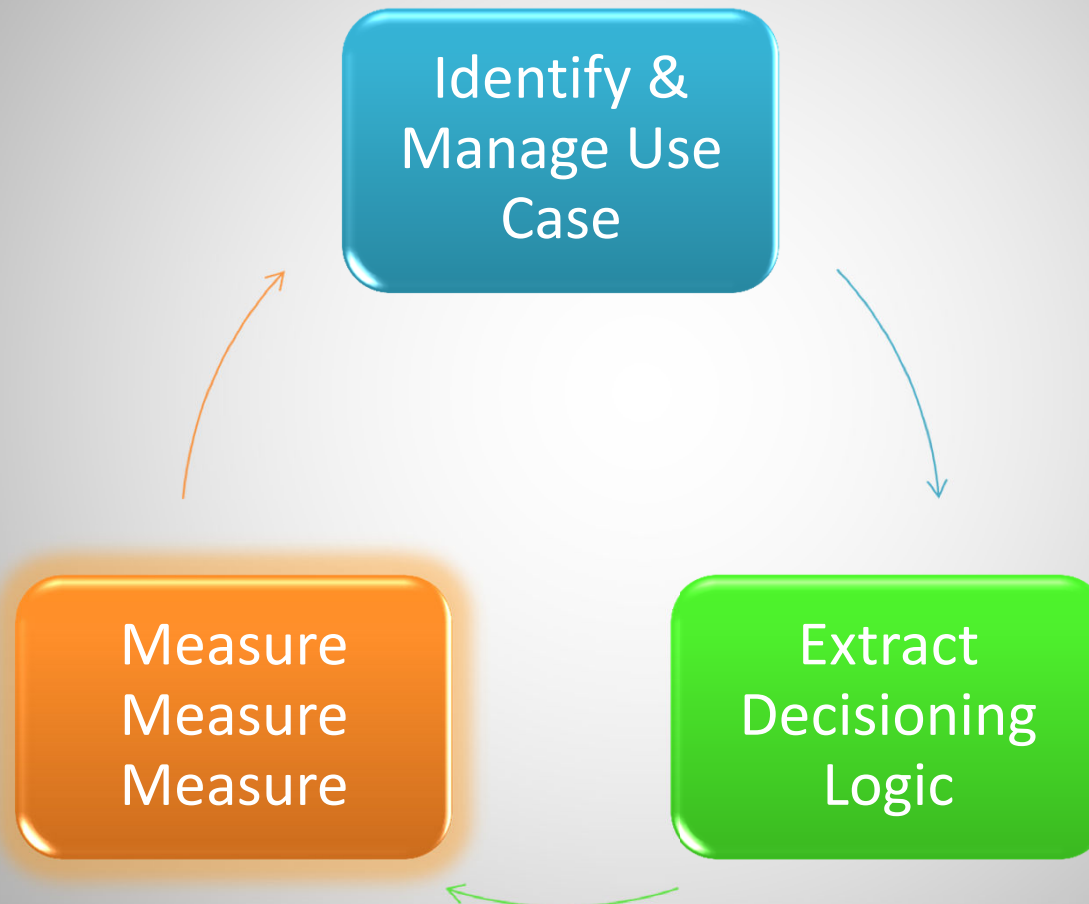
Incremental approach to building your knowledge base



Size does matter

Adjust your Use Case sample to the Expert (team) bandwidth

Clear & Measurable Objectives



Only for Expert Interviews?

Legacy Modernization Challenge

COBOL...

Mining
the Legacy Code...

But sometimes the
decisioning logic is here

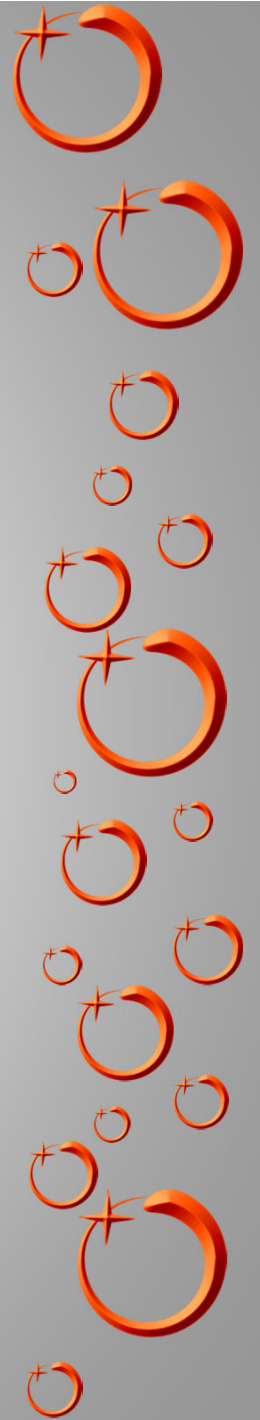
Only for Expert Interviews?

Legacy Modernization Challenge



Instead focus on
input / output

Aka... Use Cases!



Goal-Driven Harvesting



The diagram features two large, overlapping red arrows. The left arrow points left and contains the word 'Unbiased'. The right arrow points right and contains the word 'Biased'. A vertical dashed line separates the two sections. To the left of the 'Unbiased' arrow is a stack of pink document icons. To the right of the 'Biased' arrow is another stack of pink document icons. The background is a light gray with a vertical column of orange circular icons on the far right, each containing a small star.

Unbiased

For unbiased Harvesting,
get the most representative
historical transactions

**e.g. increase
Automation Rate**

Biased

For Biased Harvesting,
get the transactions
that need “improvement”
**e.g. reduce risk/losses
& increase profitability**



Thank You!

Carole-Ann Matignon

Co-Founder & CEO

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(408) 834-7002



Abstract

This talk presents a new approach to knowledge elicitation that combines Agile and AI concepts for the modern usage in Decision Management systems.

In particular, attendees will learn how to accelerate harvesting time and increase the quality of the extracted business rules at the same time.

“Tell us your business rules and we will execute them”. This deceptively simple promise of Business Rules Management Systems underestimates the pain felt by practitioners going through their first project. Turning tacit knowledge into executable business rules is a difficult task.

The famous quote from Michael Polanyi, “We know more than we can tell”, summarizes beautifully the challenges faced by business users, business analysts and rules architects. Although partially documented in regulations and business manuals, knowledge is mostly buried deep in the head of knowledge workers and simply asking for it is easier said than done.

- Is the resulting body of rules comprehensive enough?
- Is it specific enough?
- Is it correct and accurate?

In the 1980-90’s, the Artificial Intelligence community invested heavily on various techniques for expert interviews to tackle this very problem. With the winter of AI, expert systems became less popular and so did those efforts. Experts were too few and their time too valuable to participate in those time-consuming interviews.

More recently, Agile Programming transformed development cycles by, among other things, bringing test cases at the forefront of the effort. Communication between product managers and developers has improved by discussing requirements in the context of use cases well established up-front.

