

*Welcome to today's BRMS 30-minute webinar. We will begin shortly.*

# Rule Writing

*Best Practices and techniques to support them*

February 12, 2009

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- Atomic Decisions/Atomic Rules
- Separating Decisions from their enforcement
- Rule Organization
  - Process-driven organization
  - Functional organization
- Rule Vocabulary
- Categorization of rules and vocabulary

JRules provides a great deal of flexibility in how rules can be written, but our experience shows that there are some best practices that will make those rules easier for business people to understand, write and maintain.

A business policy is an atomic, natural language statement that describes the way business people want some aspect of their business to operate.

One and only one decision should be represented in a given rule

# Which of these are Atomic Decisions?



- Is the customer eligible for a loan?
  - Is the customer data valid?
    - Is the customer address valid
      - Is the zip code valid?
      - Does the address exist in a postal database?
    - Is the customer SSN valid?
      - Is the SSN numeric?
      - Does the SSN checksum validly?
  - Does the customer have sufficient income?
  - Does the customer have good credit?
    - Has a credit check been run?
    - Is the credit score above the threshold score?

**All of these are atomic rules!**

- Is the zip code invalid or the address not in a postal database?
- Has a credit check with a score above the threshold been run and received?
- Is the customer a US Citizen or a Permanent Resident?
- Get the customers income and run a credit check.

- Is the customer address valid
  - Is the zip code valid?
  - Does the address exist in a postal database?

if  
the city of the zip code lookup is the  
city of the address  
then

make it true that the zip code is valid

if  
there exists an address in the postal  
database  
    where this address is the address  
    of the customer  
then

make it true that the address exists in  
the postal database

if

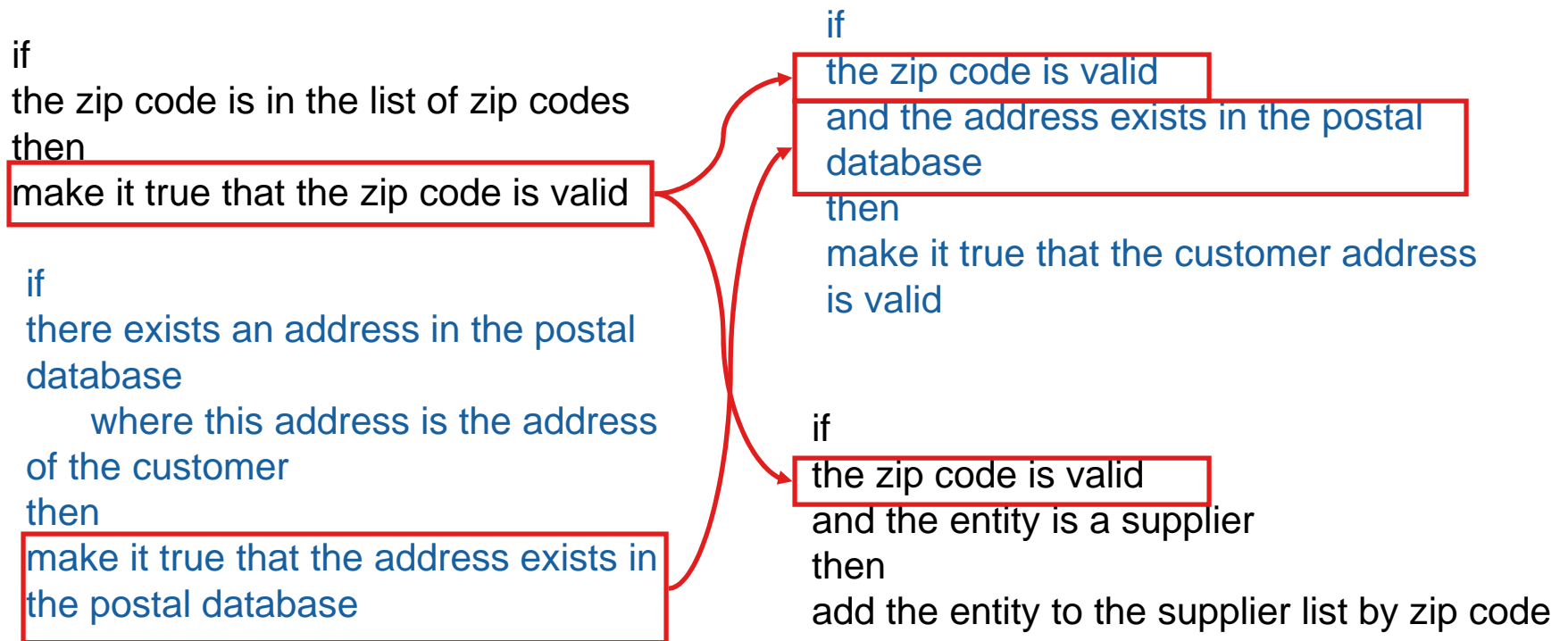
the zip code is valid  
and the address exists in the postal  
database

then  
make it true that the customer address  
is valid

# One reason why is this important



- Changing logic can be changed in one place
  - Even if the logic is used in more than one place



Chaining Logic should be used only if it naturally reflects the business logic.



- Easier audit tracing
  - you know what went wrong in a rule
- Easier rule validation
  - Overlaps, redundancies, gaps, can be far more easily found, and can be found with automated tools
- Rules are more easily understood

- There is an OR in the conditions
  - Exceptions – *true* equivalence

Example:

if

(the age of the borrower is at least 21  
and the borrower has signed the application)

OR

(the age of the borrower is less than 21  
and the age of the co-borrower is at least 21  
and the co-borrower has signed the application)

**Be careful – this should be something that will not change!**

- There is an **AND** in the results
  - Exceptions – if the two results are part of the same logical result
  - Very common exception
    - Do something
    - Write a log file entry about doing something
- There is an **ELSE** clause
  - An ELSE clause always means the rule is non-atomic
  - Exception – a *true* binary condition

IF

the value is more than the value threshold

THEN

Send an email report to John Smith

“Hey John, the value ” value “ exceeded the  
threshold ” value threshold “ today.”

- Rules represent business logic

IF

the value is more than the value threshold

THEN

report to the owner of value

- Enforcement represents IT logic

- What if John Smith moves?
- What if we decide to send a pager message, or a blackberry message?
- Enforcement requires an IT development cycle!
- Note that enforcement MAY use rules! Just a different set of rules!

- In large projects organization of rules can be very important.
- Two primary methods of organizing rules:
  - Process-driven organization
    - Organize rules by their location within the business process, i.e., what comes first, next, etc.
  - Functional organization
    - Organize rules using a functional category, in banking for example credit cards, mortgages, signature loans
- Using both is a frequent choice

- Rule vocabulary should reflect the rule writer's view of the domain – usually the business terms
- Rule vocabulary standards should be identified and enforced consistently

- Large vocabularies can be hard to navigate and work with.
- It is possible to categorize vocabulary and rules in JRules
- Categorization can be done on any basis
  - Determine what are the breakdowns for your business
  - Think through how this will affect rule writing



- For all loans, we need information about
  - Borrower, employment, credit worthiness
- For mortgages we need information about
  - Property, State tax assessments, lot, mortgage insurance, inspections, real estate agents
- For corporate credit cards we need
  - Corporate guarantor

Do we really want all that mortgage information when processing a corporate credit card or a signature loan?

# Questions & Answers

*Thank You*

*Please find more information on our blog*

*<http://blogs.ilog.com/brmsmodeling/>*