The General Ontology Evaluation Framework (GOEF) & the I-Choose Use Case

A Proposed Infrastructure for the Ontology Development Lifecycle

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Semantic Web Development Methodology

Motivating Example: i-Choose

CHOOSING RESPONSIBLY!

WHY USE "RiCh"?

Because "RiCh" is

"Powered by I-Choose"

I-Choose architecture guarantees that the information provided to you are TRUSTWORTHY!

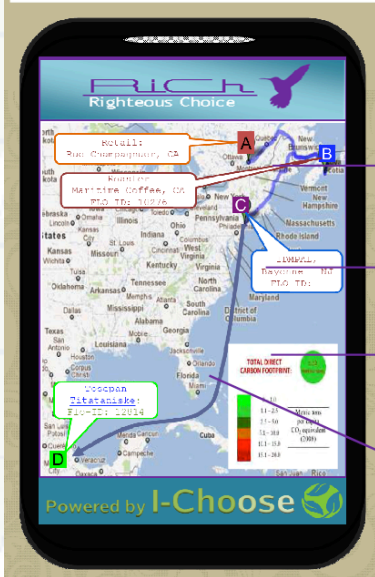
RiCh
Righteous Choice

WHAT IS "RiCh"?

"RiCh" is mobile application offering comparability and traceability functions for sustainable products.

"RiCh" provide easy to understand and trustworthy information.

"RiCh" will help you making socially and environmentally purchase that you know you can trust.



How much do you know about YOUR PURCHASING IMPACT?

With "RiCh" you can...

Trace the origin of your product. "RiCh" will enable you to trace the organization and/or persons responsible in making the products available in front of you.

"RiCh" will provide and compare the social, environmental, and health rating of the product.

Trace the carbon footprint of your product. "RiCh" will calculate the carbon footprint of the product you are interested.

"RiCh" will provide not only the expert based rating of your product but also your friend recommendation.

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Got More Questions?

"RiCh" CAN ANSWER YOUR OTHER QUESTIONS TOO!

Customer

- Who roasted the coffee packaged in this bag?
- What is the country of origin of the coffee beans in this bag?
- How much money was paid to the workers who picked the coffee from the plants?
- Who certified this coffee as organic or fair trade?
- Is this coffee labeled as Fair trade because the organization who sold it is FTF certified?
- What is the difference between the Rainforest Alliance seal and the Bird Friendly Seal from the Smithsonian?
- What are the principles that this certification implies?
- Are the principles from this certification verified by an independent third party?

Retailer /Roaster

- What is the contact information for organizations that have FLO/FTF/USDA Certification?
- For how long this company has held this certificate?
- What criteria should I meet to carry fair trade/organic products?
- What are the most purchased seals and certifications among consumers in this city?
- Who are the most valuable costumers in my area?
- Which certificates involve an independent inspection?
- What principles implied by this certificate are more effective in influencing purchasing behaviors when they are displayed together with the certificate?

IN NEAR FUTURE!!!

Certifiers

- What is the market share of my seal?
- What percentage of consumers in this country is interested in buying products that comply with environmental/social issues?
- What principles implied by my certificate are more effective in influencing purchasing behaviors when they are displayed together with the certificate?
- What are the common principles between my seal and others in the market?
- What are the principles that are unique to my certificate?

Producer

- What are the certifications with the biggest market share?
- What other producers in my region or country have the same certificate that I have?
- What is the contact information of roasters looking for coffee with the certifications I have?
- What criteria should I meet to produce fair trade/organic products?
- What are the most purchased seals and certifications among consumers in this city/country?
- Which certificates involve an independent inspection?

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Overview of Sustainability Certification Schemes

A certification system generally consists of a *standard setter* and a *certification body*.

- E.g. **Fairtrade International (FLO**) : creates standards and manages the labeling initiative

- E.g. **Flo-cert** : internal certification body but independent to FLO; interprets the standard into verifiable control points called *compliance criteria*

Certification Mark/Label

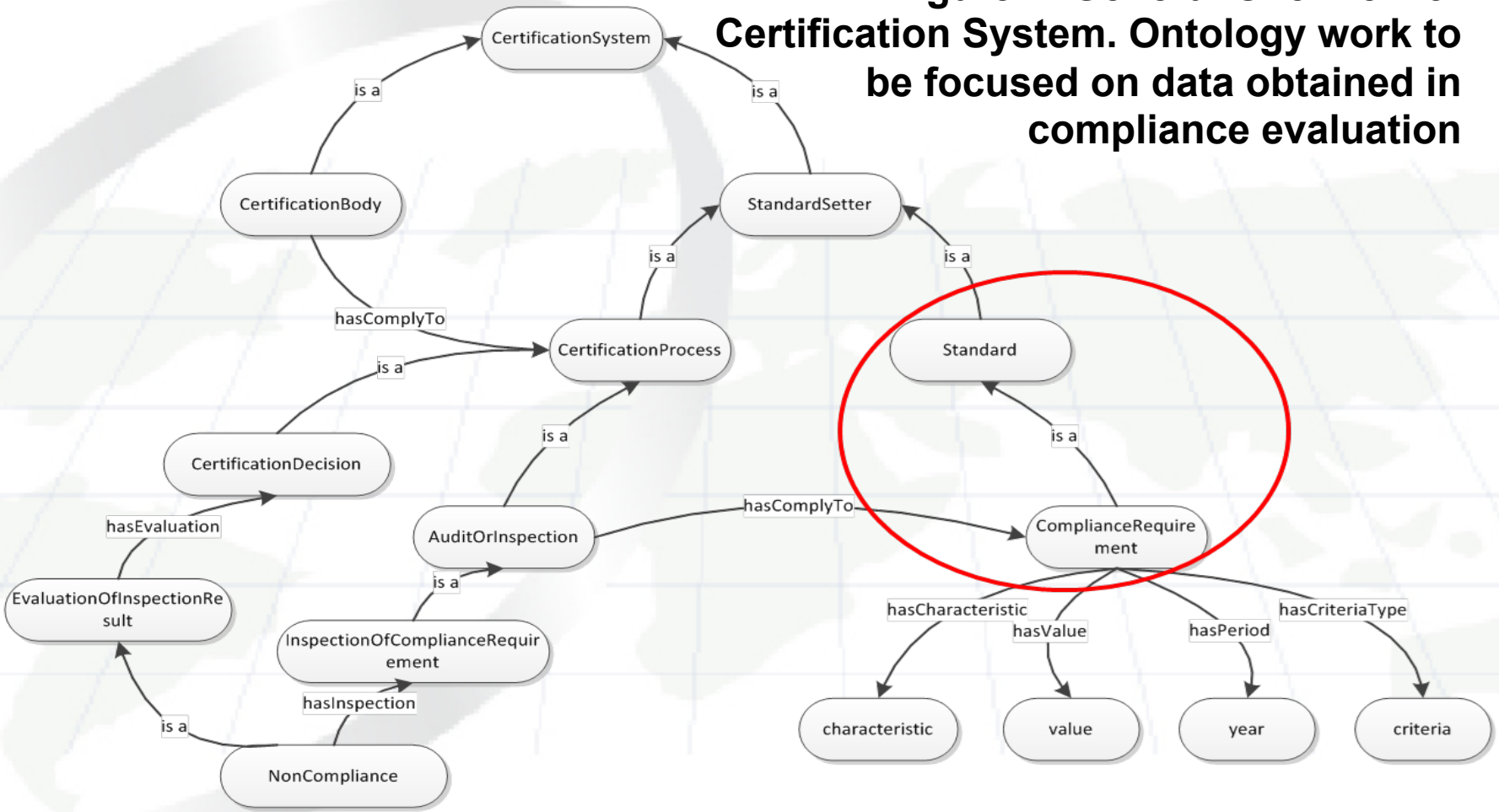
- An applicant wishing to receive the Fairtrade (FLO) certification will be evaluated against a list of compliance criteria by an inspector/auditor appointed by Flo-cert

- The result from the audit/inspection will be used for the ultimate certification decision which, in this case, will grant the particular Fairtrade International certification mark/ label to be attached to the product

FAIRTRADE INTERNATIONAL

Overview of Certification System

Figure 1. General Overview of Certification System. Ontology work to be focused on data obtained in compliance evaluation



Data Provenance

AUDIT

FLO-ID	YEAR	AUDIT NO.	AUDIT_DATE	AUDIT_TYPE	SERVICE	AUDITOR	CERT_OFFICER
24525	2010	AO-00158	30/03/2010	Initial Audit	Producer+HL-Single Plantation	Nyagoy-Kenya	Janssen Martina

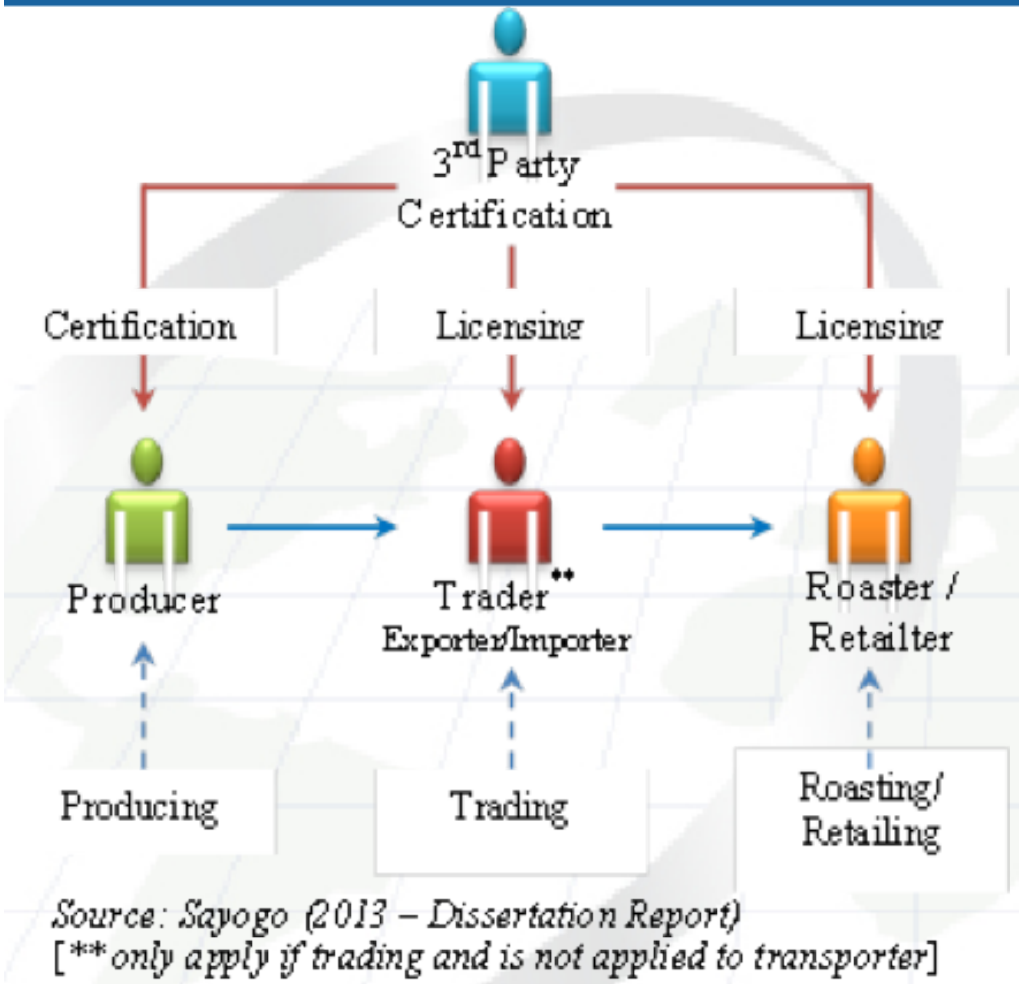
AUDIT DETAILS

AUDIT NO.	CC NO.	COMPLIANCE CRITER	NC_AUDIT	STATUS_NC	REASON_FOR_CHANGE	NC_CERT	CM_AUDIT
AO-00158	1.2.1.2.1	More than 50% of the n	less than 50%				
	1.2.1.2.2	Small producers are un					
	3.3.3.01	children below 15	indication of child				
	3.3.3.02	non-suitable work cond	indication of non-				

CC No.	: The number of the checkpoint of the checklist used by the auditor		
COMPLIANCE CRITERIA	: The text of the checkpoint of the checklist used by the auditor		
NC_AUDIT	: the non-conformity as documented by the auditor during the audit		
STATUS_NC	: indicator whether the text of the non-conformity was change after the audit by the certification analyst		

Source: Sayogo (2013) – Dissertation Report – adapted from Flo-cert

Data Provenance



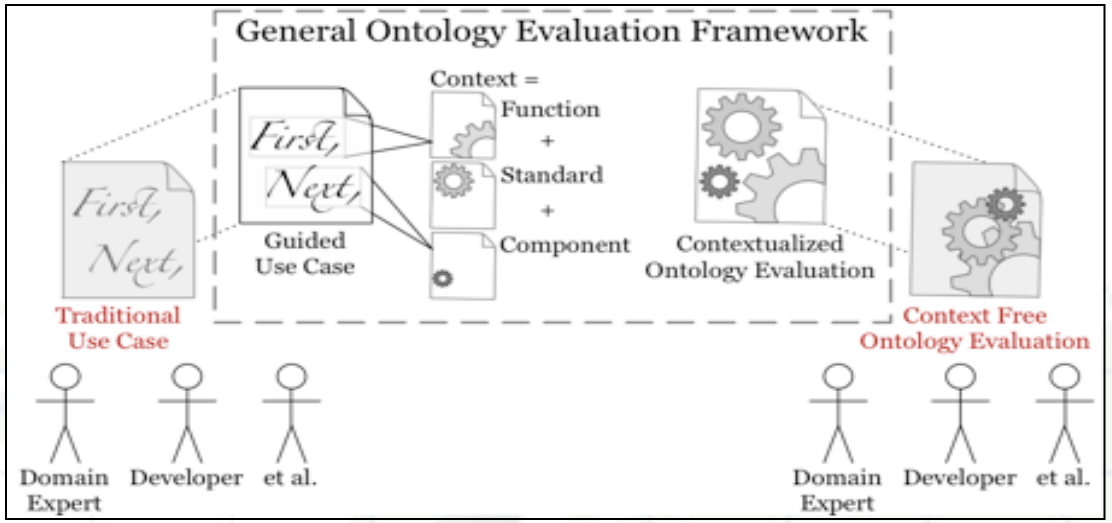
Source: Sayogo (2013 – Dissertation Report)
*[** only apply if trading and is not applied to transporter]*

Data provenance enables exposure of relations between consumer products and their supply chains to consumer advocates.

From an encoding perspective, there are two requirements for provenance records:

- Lineage for the consumer product
- Semantics for individual members of the lineage

Use Case Management in GOEF



Add a New Use Case

Or, Select a Pre Registered Use Case

LISTING
CoMP GBU Quality Metric
Wine Pairing
Flo-Cert
Small Farmers Organization (SPO)

About "Child Labor Compliance Criteria 3.3.7

An ontology representing the FLO-CERT compliance criteria.

USE CASE DESCRIPTION
Function [Details]
Standard [Details]
Components [Details]

Select Use Case

Application of "CoMP GBU Quality Metric" Use Case to "Data Quality (DQ)" Ontology

NAME	SCORE	DETAILS
Completeness	.85	
Coverage of terms	.85	[Click Here]
Correctness	1.00	
Logical Consistency	1.00	[Click Here]
Type Checking	1.00	[Click Here]
Utility	.5	[Click Here]