Web 2.0 Patterns

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Abstract:

This is a pattern to illustrate a simple pattern for semantic web declarations.

Status:

This document is conformant with the Mackenzie-Nickull Architectural Patterns Meta-model located at:

http://www.nickull.net/work/MacKenzie-Nickull_ArchitecturalPatternsReferenceModel-v0.91.pdf

1.1 Name

The Semantic Web Resource Tagging pattern.

1.1.1 Also known As (optional)

n/a – may wish to point out related patterns such as the relationships between resources and the Causality-Event pattern.

1.2 Business Problem (Story)

Resources on the web require some form of semantic declaration in order to aid entities wishing to find resources. By inspecting the claims about a resources semantics and comparing it to a real world effect or the attributes of the resources itself, entities may adaptively infer probable results and best choices on future searches.

NOTE: it is probably a good idea to use Tim's examples as a starting point for finding W2P0 patterns. For example – Ofoto (Web 1.0) becomes Flickr (Web 2.0). Find the differences and express them as a pattern using the MN template.

1.3 Context

The context of this pattern is any place where multiple resources exist and some form of declarations are required to aid entities wishing to locate specific resources.

1.4 Derived Requirements

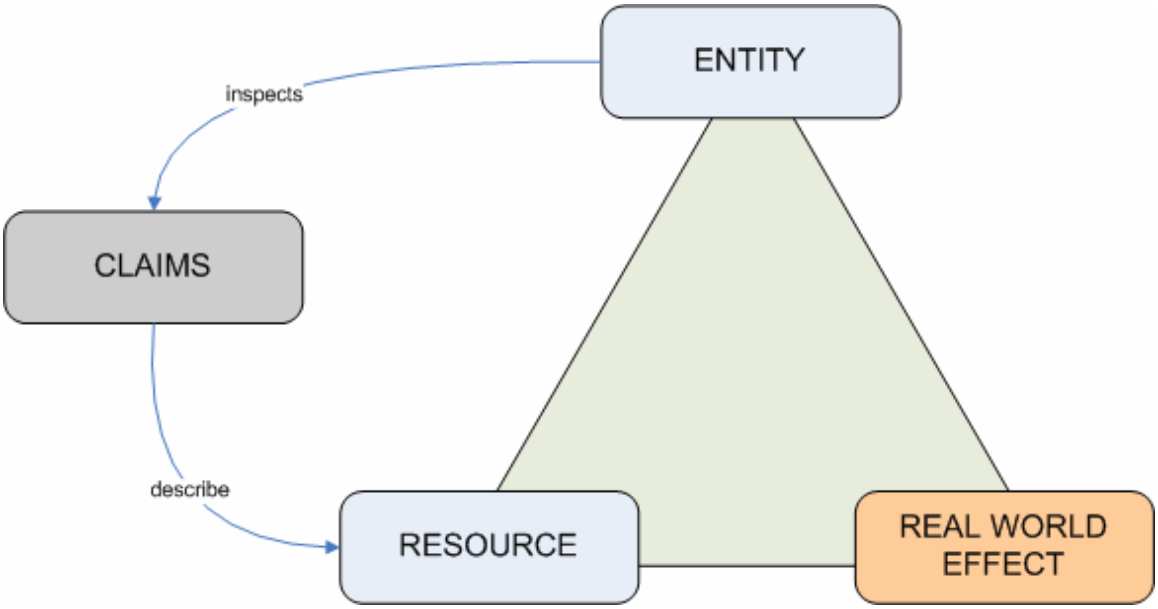
In order to facilitate this pattern, a mechanism must exist for structured exchange of metadata that allows claims to be made about resources. The claims must be in a syntax that is universally parse able by all entities of a fabric. The claims must be linked to specific resources and each resource must be uniquely identified.

The entities using the claims should employ a mechanism to reconcile the claims against the observable real world effect in order to facilitate cause and effect auditing. This should allow adaptive inference on future resource claims based on a history of claims vs. real world effects. Such a mechanism may be a shared resource for tracking search requirements and juxtaposition those requirements to observable behavior.

1.4.1.1 Generalized Solution

The generalized solution is a mechanism whereby resources are tagged with metadata which relays claims to entities seeking a resource or a set of resources. The tagging enables entities to make claims about the resource based on their views and experiences with the resource.

1.4.1.2 Static Structure



The figure above illustrates the simple pattern for resource claims and reconciliation with real world effects.

1.4.1.3 Dynamic Behavior

TBD – usually a UML sequence diagram showing the temporal actualization of the static pattern to provide further insight into the pattern.

1.4.2 Implementation

Here we discuss how the pattern is implemented. We can use XML metadata as an example of one way it could be implemented byut not yet in full detail. The idea is to remain abstract enough that the pattern still has a wide range of applicability.

1.4.3 Business Problem (Story?) Resolved

This section of the pattern contains reconciliation between the solution and the business problem (story) of the pattern. This section may contain additional details not yet covered by the solution and implementation sections and their subsections.

1.4.4 Specializations

Specializations are specific or customized instances of the generalized solution. An example could be to outline two specializations such as Slashdot's use of tagging to provide metadata for stories. The Slashdot example is done by allowing members to make tags for each new story. For an example, a recent story on using cellphones as servers at :

http://hardware.slashdot.org/article.pl?sid=06/06/03/1311231

was tagged with the following words:

stupid, apache, nokia

1.4.5 Known Uses

Adobe's XML, Technorati, Google etc.etc.

Example :

Google uses an adaptive learning mechanism to track the search term entered by an entity seeking a resource, then observes the resources behavior to determine if the claims made about the resources are meaningful and useful to the entity. When a search page is returned from google, even though the actual URL's are shown on the page, Google tracks the entities choices of the search results by flowing the entities choice back through a google controlled URL and matching it against the unique IP address of the searcher. A URL on the search result page can be inspected to reveal this behavior. For example, the search for "Mackenzie-Nickull" yields this return choice:

http://www.google.com/url?sa=t&ct=res&cd=1&url=http%3A%2F%2Fwww.nickull.net%2Fwork%2FMacKenzie-Nickull_ArchitecturalPatternsReferenceModel-v0.91.pdf&ei=17aBRKOuCaz6YJ7Nje8L&sig2=pdt4i7x6oSVZA1xdObv6ig

Google uses the entities interactions with this URL to determine which results are most relevant and an algorithm adjusts the results for the next searcher. If enough people select a certain resources URL, eventually that resources is inferred to be most relevant for others searching the same search term.

This is far more advanced as a pattern that simple string matching which was employed by late 1990's search engines.

1.4.6 Consequences

The benefits the pattern provides and any potential liabilities or caveats. This is an analysis of the consequences imposed by the Generalized Solution. Consequences of specialized solutions may also be discussed herein.

In this example, the consequences may be noted such as you are still relying on individuals who may see the world completely different based on their views. You may also note that Google, by using its adaptive learning algorithm, caters only to the majority and there will always be a minority that is not served well.

1.4.7 References

A set of reference to other patterns or information relevant to the problem, context and solution. URL’s in this case to the examples, known uses and other related patterns