Ning

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Web Semantics

Class Summary

[OPENING]: Talking about RDF structures and how they’re organized, and perhaps give insight to why they might be useful.

[SUMMARY]: We saw the problem in XML tags where there’s no consistency, and you can use different words to describe the same data (i.e: speaker, person). Thus, having a knowledge of connections is necessary (i.e: speaker is a person). This relates to how we know of RDF and the kind of “web” (graph) relationships it forms. In databased, we could reference the data in a RDF database as an entity of sorts, that way, it is consistent, and has some level of context. This is called a “webified” database, where every object is referred to as a web location/resource.

[SUMMARY]: There are 4 main principles when we are talking about organization in this context.

1. Use URI (uniform resource identifier) to name things.

2. Use HTTP to allow look up.

3. Provide info on look up.

4. Include links to more information.

[SUMMARY]: *Information Resource* is a resource that can be represented by bits, whereas a *Non-Information Resource* cannot be represented by bits. However, both can be named, and so both are resources still. URIs are connected together in some way, and those connections are also named.

[SUMMARY]: RDF can be represented by a graph-based knowledge. It is triples based, meaning every connection is made up of three parts: (Subject, Predicate, Object). These graphs can be talking about the same realities even if the graphs are not mathematically equivalent (meaning that these graphs can be structured differently depending on how you want to manage your data to solve your problem). Graphs are (mathematically) equivalent IFF the blank nodes are the only nodes that are different. It is important to be able to make statements about statements (i.e: Kense said “Korean is a Language”) and this process is called *Reification*. It treats a triple as an object so to speak. RDF contains reification vocabulary (in order to achieve this process of reification). You can also add info to a triple, this is a valid strategy.