

Theoretical Strategies to devise Structural Semantics of Ontology Inferencing Graph Techniques

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ABSTRACT

Ontology reprocess offers nice edges by measure and scrutiny ontologies. However, the state of art approaches for measure ontologies neglects the issues of each the polymorphism of metaphysics illustration and therefore the addition of implicit linguistics information. a technique to tackle these issues is to plan a mechanism for metaphysics measure that's stable, the essential criteria for automatic measure. during this paper, we tend to gift a graph derivation illustration primarily based approach (GDR) for stable linguistics measure, that captures structural linguistics of ontologies and addresses those issues that cause unstable measure of ontologies. This paper makes 3 original contributions. First, we tend to introduce and outline the idea of linguistics measure and therefore the idea of stable measure. We tend to gift the GDR primarily based approach, a three-phase method to rework associate metaphysics to its GDR. Second, we tend to formally analyze necessary properties of GDRs supported that stable linguistics measure and comparison will be achieved with success. Third however not the smallest amount, we tend to compare our GDR {based|based mostly|primarily primarily based} approach with existing graph based ways employing a dozen world model ontologies. Our experimental comparison is conducted supported 9 metaphysics measurement entities and distance metric, that stably compares the similarity of 2 ontologies in terms of their GDRs.

Keywords: ontology, semantic, rdf, owl, GDR

I. INTRODUCTION

A elementary operation in metaphysics utilise is to figure similarity and difference among metaphysics entities such one will establish sure level of correlation between metaphysics entities utilized in completely different ontologies by predefined measures and linguistics comparison. Most of the present metaphysics measures up to now square measure outlined supported graphical models representing metaphysics structure, that have incontestable potential and initial success in measure and comparison of the linguistics of ontologies .problem of polymorphism of metaphysics illustration has been neglected in most of the literature up to now, that refers to the actual fact that an equivalent linguistics data may be expressly portrayed

victimization completely different linguistics structures. Though most of the metaphysics languages, like raptor, give a shared vocabulary, a way to use such vocabulary in modeling domain data still depends on domain scientists and specific applications. Often, the implicit kinship of parts and structures is sort of completely different and springs from the initial ontologies supported the advanced ideas that square measure iteratively outlined by different advanced ideas. These and different linguistics derivation cases square measure the common causes for the matter of polymorphism of metaphysics illustration. Such issues create completely different linguistics data unmatched and sometimes result in mindless metaphysics measure and comparison. Moreover, other technical barriers, like non-direct relations with transitive property and cycles of

inheritance, will become the hidden causes of unstable linguistics measure, which may create the matter of polymorphism a lot of more durable to tackle. Third however not the smallest amount, we tend to additionally would like the fundamental criteria to avoid or minimize double count in metaphysics measure technology so as to get meaningful and stable metaphysics measure results. With these issues in mind, during this paper, we tend to propose a graph derivation (GDR) based mostly approach for stable linguistics measurements of ontologies in 3 phases. In Phase 1, we tend to generate a GDR for every idea during a given metaphysics by recursively applying a series of derivation. In Phase 2, we tend to utilize the combination operations to merge multiple GDRs to supply associate degree initial integrated GDR for the given metaphysics. In Phase 3, we tend to generate the whole GDR illustration for the given metaphysics by treating those relations that cause unstable linguistics measurements, like the issues of non-direct transitive relations, cycles of inheritance, and double count. We tend to argue that the GRD based mostly approach can considerably facilitate reliable metaphysics measure and comparison. This paper makes 3 original contributions.

- We formally outline the ideas of linguistics measure and stable measure and develop a graph derivation illustration (GDR) based mostly approach, that recursively remodel associate degree metaphysics to its GDR by a series of derivation rules.
- We introduce 2 categories of GDR treatments to polymorphism of metaphysics illustration for automatic and reliable measure and comparison of the structural linguistics of ontologies.
- We give the formal analysis of the vital properties of GDR. we tend to through an experiment compare our GDR approach with existing graph based mostly technique in terms of 9 metaphysics measure entities over a dozen globe model ontologies. A GDR based mostly graph isomorphy approach is additionally wont to stably compare the similarity of 2 ontologies.

The remainder of this paper is structured as follows. In Section a pair of, we tend to review the connected work. Section three presents the fundamental notions concerning metaphysics illustration, definitions of linguistics and stable measurements, and also the definition of GDR. Section four describes provides a summary of the GDR based mostly approach. Sections five associate degree six discuss a way to generate and treat the GDR of metaphysics severally. we tend to formally analyze vital properties of GDR in Section seven and report our experimental comparison of our GDR approach with existing graph based mostly approach for stable metaphysics measure and comparison in Section eight. Section nine concludes the paper with an outline and an overview of the longer term work.

II. METHODS AND MATERIAL

A. Existing system

The problem of polymorphism of metaphysics illustration has been neglected in most of the literature thus far, that refers to the actual fact that identical linguistics information are often expressly depicted victimization completely different linguistics structures. Though most of the metaphysics languages, like bird of prey, give a shared vocabulary, the way to use such vocabulary in modeling domain information still depends on domain scientists and specific applications. These and alternative linguistics derivation cases square measure the common causes for the matter of polymorphism of metaphysics illustration. Such issues build completely different linguistics information one and infrequently cause hollow metaphysics measure and comparison. What is more, another technical barriers, like non-direct relations with transitive property and cycles of inheritance, will become the hidden causes of unstable linguistics measure, which might build the matter of polymorphism abundant tougher to tackle. Third, we have a tendency to conjointly want the essential criteria to avoid or minimize double enumeration in metaphysics measure technology so as to get meaningful and stable metaphysics measure results

B. Proposed System

We propose a graph derivation (GDR) based mostly approach for stable linguistics measurements of

ontologies in 3 phases. In Phase 1, we have a tendency to generate associate degree Ontologies files for every conception during a given metaphysics by recursively applying a series of derivation. In Phase 2, we have a tendency to utilize the mixing operations to merge multiple Ontology's to supply associate degree initial integrated GDR for the given metaphysics.

In Phase 3, we have a tendency to generate the whole GDR metaphysics illustration for the given metaphysics by treating those relations that cause unstable linguistics measurements, like the issues of non-direct transitive relations, cycles of inheritance, and double tally. We have a tendency to argue that the GRD based mostly approach can considerably facilitate reliable metaphysics measuring and comparison. We have a tendency to introduce 2 categories of GDR treatments to polymorphism of metaphysics illustration for automatic and reliable measuring and comparison of the structural linguistics of ontologies

C. Modules

- Ontology Dataset's.
- Graph Derivation (GDR) Ontology Generation.
- Complete GDR Ontology.

Ontology Dataset's:

In this Module, we've taken on-line seat management as our net application. Students ought to enter into web site register concerning their personal info into the info. Once registering they're going to be giving a novel watchword. Mistreatment that watchword students ought to enter into their accounts and update their tutorial details in to the info. Solely those students United Nations agency have cleared their subjects will able to apply into this website. These marks square measure used as a datasets for ontologies.

Ontology Generation

The main reason for polymorphism of metaphysics illustration is that there's a scarcity of uniform metaphysics illustration model for stable metaphysics mensuration and comparison. Existing metaphysics languages and models focus a lot of on quality instead of stable metaphysics mensuration. We tend to develop the graph derivation illustration (GDR) based mostly approach for mensuration and comparison structural linguistics of ontologies, aiming towards the goal of uniform metaphysics illustration. Once Students updates

their details within the info faculty admin has logged in and that they can produce Associate in nursing metaphysics files for the whole info on daily bases. Ontologies files are going to be 2 varieties one can hooter File and another are going to be RDF File. Each file is going to be generated and hold on in server.

Complete GDR Ontology

In this Module, Students will ready to check their standing of their application whether or not they square measure eligible for the applying or not. For this Admin must range the candidate list. Admin can choose the actual student name and can retrieve their marks from the bird of Minerva file and RDF file.

When retrieving, the marks can check whether or not it happy their condition or not. If happy admin can generate a separate bird of Minerva file for that individual student and intimation are sent to student. We have a tendency to get Associate in nursing integrated GDR for the given metaphysics at the top of this part

III. RESULTS AND DISCUSSION

Architecture

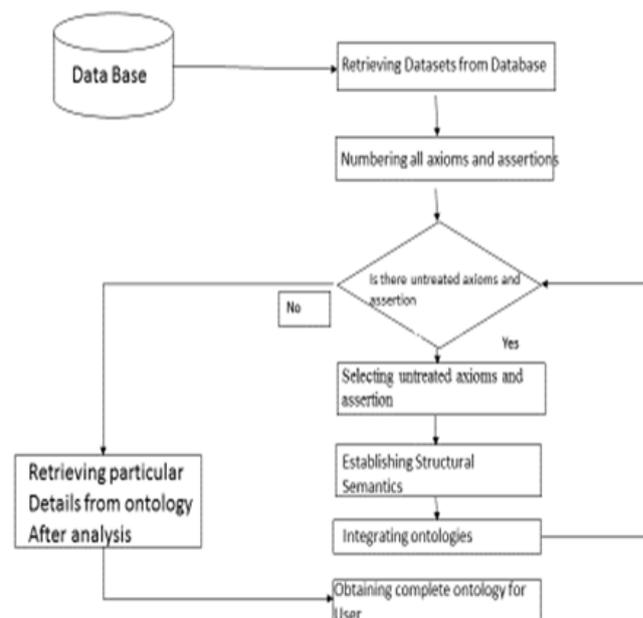


Figure 1: Architecture Diagram

IV. CONCLUSION

We have a tendency to analyze and appraise the utility of our GDR approach and compare our GDR with standard graph models (GM). We have a tendency to draw 2 vital conclusions. First, the GDR approach offers stable and reliable linguistics live of ontologies and provides a possible answer for machine-driven metaphysics comparison and measuring. Second, the measuring and comparison supported GDRs area unit a lot of helpful and purposeful for the ontologies with an oversized variety of complicated ideas. Thus, our GDR primarily based approach also can be used as a complementary mechanism by the present metaphysics measuring approaches. We'll explore scrutiny the similarity between ontologies with equivocalness and toponomy. Second, by the GDR-based metaphysics comparison, the candidate ontologies that area unit most the same as a given metaphysics are often elite from the metaphysics repositories. The chosen ontologies are often more accustomed facilitate users enrich the metaphysics style and improve its quality for specific application domain of interest. Three, we will more explore new strategies for metaphysics recycle by utilizing the semantically clean and enriched structures in GDRs.

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VI. REFERENCES

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