



Comparison of Digital Vita and Vivo Data Models

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BACKGROUND

- Development and implementation of research networking systems a strong trend in biomedicine
- Future landscape most likely to consist of a variety of systems of different provenance
- Interoperability at the data layer important first consideration
- NCCR-funded VIVOweb project primarily intended as a data platform
- Digital Vita, a CV-based research networking application developed at the University of Pittsburgh, as potential VIVOweb end user application

OBJECTIVE

- Perform an initial comparison of the respective data architectures and models to assess feasibility of implementing Digital Vita as an application on top of VIVOweb

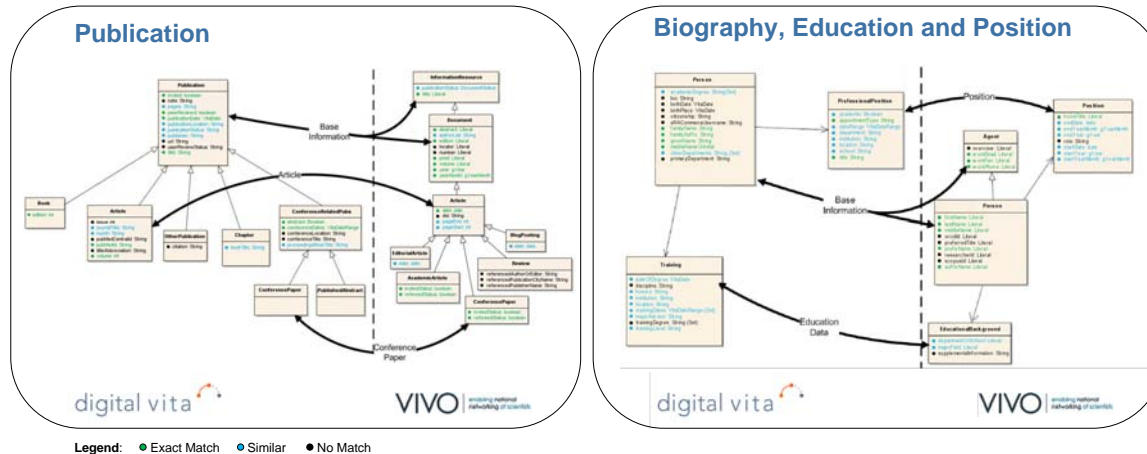
METHODS

- Analysis of Digital Vita 2.0 and VIVO 1.0 models
- Class by class comparison of the two models
- Comparison at the attribute level of intersecting classes

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COMPARISON OF SELECTED CLASSES AND ATTRIBUTES



Results

- Digital Vita and VIVO domain models intersect on the following information:
 - Bibliographic
 - Education
 - Collaboration
 - Biographic
 - Activity
- The models diverge with regard to:
 - Geographic location [VIVO]
 - Organization [VIVO]
 - Colleague status [DV]
- VIVO's domain model based on several standard ontologies (e.g. FOAF, Dublin Core and Bibontology), Digital Vita's on a custom information model
- Certain overlap at the field level, less so at the child/parent class levels
- Data fields, types and structure to be reconciled during mapping
- Mapping complicated by internal and external evolution of domain models

CONCLUSION

- One to one data mapping between parts of VIVO and Digital Vita possible
- Overlap in person's bibliographic, biographic, education and activity information
- Preferred approach: standardized service calls that encapsulate data structure

Abstract

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Digital Vita (DV) is a research networking application developed at the University of Pittsburgh. It is designed to provide a research networking application on top of VIVOweb. The purpose of this study was to compare the domain models of Digital Vita and VIVOweb. The study was conducted by comparing the class hierarchies and attributes of the two models. The results show that the two models intersect on several key areas, including bibliographic information, education, collaboration, biographic information, and activity. However, the models diverge in several other areas, such as geographic location, organization, and colleague status. The study also found that VIVOweb's domain model is based on several standard ontologies, while Digital Vita's is based on a custom information model. Finally, the study identified several areas where data fields, types, and structure need to be reconciled during mapping, and noted that the mapping process is complicated by the internal and external evolution of the domain models.

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