Value Addition Driven Ontology Modeling of Beijing Traditional Villages from the Perspective of Smart Metadata

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Poster Description

The traditional culture represented by traditional villages is becoming more important for keeping human civilization [1]. Traditional villages contain various tangible and intangible cultural heritage, whose cultural context shall be well documented for long-term protection and inheritance for future generations. However, many traditional ethnic villages are situated in areas with complex geographical and environmental conditions, often characterized by high mountains, deep valleys, and frequent geological hazards. Ontology modeling offers methodology and foundation for clarifying the concepts and knowledge of traditional villages. Recent research on digital humanities explored the application of intelligent information processing technology to cultural heritage resources and conducted semantic organization on intangible cultural heritage [2]. However, how to organize diverse and heterogeneous cultural heritage data remains to be a crucial academic and practical issue for the current conservation and development of traditional villages.

This study aims to construct an ontology for Beijing traditional villages from the perspective of smart metadata. Smart data is a concept that arises in the context of big data and is seen as a method to realize the value of big data by enhancing data insights, revealing knowledge associations, and giving countermeasures through the use of credible, contextualized, relevant tangential, cognizable, predictable, and consumable data. Smart metadata is built on smart data and refers to intelligent metadata that enhances data usability through semantic, contextual, and dynamic management. It provides information context about the data including source, usage, and quality, enabling systems to adapt and optimize data management and data governance. This study establishes eight major classes: Physical space Class (ctvo:SpatialContext), Information Resources Class (bf:Work), Ideological and Spiritual Class (ctvo:Ideological), Traditional Village Class (crm:E1 Entity), Agent Class (foaf:Agent), Historical Context Class (ctvo:HistoricalContext), Intangible Cultural Heritage Class (crm:E28ConceptualObject), Application

Scenario Class (ctvo:ApplicationScenario), with a particular focus on revealing the historical context and application scenarios of traditional villages. Future studies shall excavate, develop and share the cultural genes of the traditional villages in China, cater to the diversified and personalized knowledge needs of the users, and promote the scenario-based knowledge creation and utilization of traditional village.

References

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