

Modeling Ritual Activities of Intangible Cultural Heritage: A Case Study of the Pudu Rites (Universal Salvation) in the Ghost Festival

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In the era of growing globalization, intangible cultural heritage (ICH) is an important factor in maintaining cultural diversity. An understanding of the intangible cultural heritage of different communities helps with intercultural dialogue, and encourages mutual respect for other ways of life. To preserve this type of cultural asset, documenting by using various textual and visual media during activities is the basic and rapid method, and can also obtain a large amount of data resources. However, with the development of various digital media and digital communication, how to manage those multiple, treasurable resources of intangible cultural heritage by applying methods of knowledge organization to classify, distinguish, and maintain contextual integration of different stages of ritual activities, their hierarchy and related digital resources, as a basis for further digital application and data consumption, is a challenging task in recent years.

Therefore, this study will focus on the construction of an integrated semantic data model for intangible cultural heritage and its various information resources based on the ritual event of "Pudu Rites" (or "Universal Salvation") in Taiwan as an example. "Pudu Rites" is a religious ritual held in East Asia during the month of July in each lunar year. Main purpose of the rites is to show respect and commemoration for the deceased, ghosts, and ancestors. The concept and ritual process of this ritual event have different forms of expression in the East Asian countries. From its nature, "Pudu Rites" is a religious and cultural event consisting of multiple series of activities, each activity element containing a continuous sub-activity. The entire ritual event can be viewed as manifestation of a hierarchical knowledge organization. Therefore, by trying to construct a semantic model for this specific domain, we face the issues such as: 1) how to reuse existing event-based semantic models to construct an ontological framework that describes a multi-layered event structure as "Pudu Rites"; and 2) how to use model design to integrate and differentiate the concepts of similar and different "Pudu Rites" events in East Asia.

The main focus of this study is to propose an event-based ontology for describing ritual activities within intangible cultural heritage. The study employs method of field research to analyze the ritual structure and sacrificial process of the "Pudu Rites" in Taiwan by participating a real ritual event, the "Pudu Rites" event held in the Chih-shang county in Taitung, Taiwan, as study case. At the same time, we

also examine and correlate with event-based ontologies commonly used in the current semantic web, such as Event ontology, CIDOC-CRM, and event vocabulary in schema.org. Based on this analysis, the study designs an ontology structure suitable for the theme of ritual activities, including its core classes. In addition, the study attempts to analyze and integrate existing ontological designs that focus on describing concepts related to human cultural heritages, especially the Cultural Heritage in Digital Environment (CHDE) model, which is proposed by Shigeo Sugimoto, will be focused on in the study.

In the preliminary research, we used “Pudu Rites” in Taiwan as an example to develop an intangible cultural heritage ontology, called as “Religious and Cultural Event Model (RCEM)”, that is capable of describing festival activities and maintaining the event-based model characteristics. This model encompasses a three-layered description of festival activities, including events and their sub-events, as well as detailed ritual activities and processions. Furthermore, this model attempts to integrate and reuse the CHDE model and suggests to re-apply CHDE’s class “Instantiation” as node to connect the RCEM with CHDE, so that this integrated model can also manage various digital or non-digital resources recorded at different stages of a ritual activity, serving as the basis for data management, data retrieval, and research in the data repository for subsequent digital collections and digital curation. Finally, the study reuses the SKOS vocabularies as extension to enrich the existing CHDE model, which can demonstrate the similarities and distinguish the different contextual relations between ritual concepts of the “Pudu Rites” in the East Asian countries, and further confirm the cross-regional transmission and correlation of an intangible cultural heritage.

The greatest effect of this model development is to construct an ontology that can describe cross-regional rituals and celebrations. In addition, with the development of Buddhist culture in East Asia for more than 1,600 years, combined with the introduction of Taoist concepts, the processes of the “Pudu Rites” have gradually undergone localized variations among different East Asian countries. Through the construction of this ontology focused on intangible cultural heritage of ritual types, it becomes possible to integrate concepts, evolution and resources of these cross-regional and cross-cultural ritual activities.