Digital Preservation of Cultural Heritage
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Project Purpose
The primary purpose of this study is to contribute to the development of Indonesian cultural infrastructure. Specifically, it will develop a digitised prototype system for capturing, annotating, and storing a selected category of unique Balinese culture artefacts by tapping into the community-level understanding and knowledge of cultural heritage. This will be realised by sourcing inputs, feedback, and detailed assessment of experts (professionals) and community members in order to acquire high quality content.

Introduction
Balinese culture is facing the problem of cultural heritage extinction or depletion as a result of socio-political unrest, migrations, natural disasters, mismanagement, excessive multinational developments, and mass tourism. Furthermore, the poor documentation of the largely tacit and fragmented of cultural knowledge also accelerates the loss of the richness of the knowledge. Therefore, the availability of online multimedia system based on community-based crowdsourcing can help systematically capture, store and preserve the richness of cultural heritage knowledge.

This system will be made available online for further refinement through community-based crowdsourcing. A related purpose of the project is advance a systematic methodology for the preservation of critical cultural artifacts which can be of benefit to similar communities and cultural groups elsewhere.

Balinese Kulkul
The kulkul artefacts are part of the Balinese traditional communication system and varies from one Balinese village to another. Kulkuls are made of wood or bamboo and are installed in the bale kulkul (typically near temples and village banjar) in every village. These objects and the cultural practices and messages surrounding the different kulkul sounds represent a distinct and unique dimension of Balinese cultural heritage.

The Kulkul Ontology
There is a need for an abstract representation of the domain knowledge for which an ontology will be helpful. This will include the key concepts in the Kulkul domain, their attributes, and the inter-relationships among the concepts. The Kulkul ontology will be developed in consultation with selected Balinese experts and knowledgeable members from the community.

Development, Testing, and Evaluation
We will employ the rapid prototyping method for the development of the web-based multimedia system. This approach to software construction places emphasis on development through multiple rounds of rapid feedback. The prototype system will be evaluated by cultural Balinese heritage experts and community members for the veracity of the cultural knowledge and the ease of use.

Project method
Design Science Research Methodology (DSRM)

* This project will involve Udayana University cultural experts and Indonesia centre of excellence for cultural heritage as collaborators