Spring 2024 COMP 523 Application Info
"Swayambhu Stories"

Dr. Lauren Leve
Dept. of Religious Studies, UNC-CH

Project description (please give a few paragraphs that cover the basics… the application domain, do you see this as a web application, mobile, app, etc., who will the software serve, what problem will it solve for them, are there other systems that it must interact with… etc.). The more information you can provide here, the better we can evaluate the suitability of the idea for a team in this course. *

Project Overview

The broader work from which the proposed COMP 523 project emerges is a joint endeavor between Dr. Lauren Leve, Associate Professor of Religious Studies at UNC and the Nepali heritage organization Baakhan Nyane Waa ("Come Tell Stories," in the Newari language), a group of Nepali cultural heritage activists based in Kathmandu. Members of Baakhan Nyane Waa are architects, engineers, artists and filmmakers who came together to help reconstruct a major cultural site in Kathmandu that was destroyed in the 2015 earthquake. Professor Leve is an expert on Himalayan Buddhism and Nepali Buddhist culture. They met in the summer of 2018 when Professor Leve traveled to Nepal to create 3D models of Buddhist temples in the Kathmandu Valley.

This meeting led to a plan to create a publicly accessible internet-based record of tangible and intangible religious heritage in Nepal. This will take the initial form of a VR-accessible 3D model of Swayambhunath stupa (a major cultural monument and UNESCO World Heritage site) that is linked to an archive of recorded interviews and historical documents and is annotated with audio, video, photos and text that illustrates its many meanings and deep significance to the diverse local and international communities that focus their ritual and cultural lives there.

Professor Leve and her Nepali partners began modeling work in 2022. Alongside this, they have been filming ritual practices, and recording interviews with Buddhist monks, priests, scholars, and other stakeholders and visitors to the site. The goal of these interviews was to document cultural and ritual knowledge, record devotees' descriptions of their connections to and practices at the site and capture the kinds of religious and cultural changes that are taking place in response to globalization and modernization in Nepal in an engaging, user-friendly way. These interviews will integrate into the model as audio and/or visual annotations.

The project's desired ultimate outcome is a dynamic webpage/application that hosts a 3D model of the Swayambhu heritage site displayed in a way that allows user to explore and

experience the site in a natural way, and which contains annotations that allow users to click on items in the model and pop-up text, photo, audio and video. For example, the user would be able to hear an old man talking about visiting the site as a child, what it was like back then, and how he loved to play with the object that the visitor clicked on while his grandpa performed prayers. Or they might click elsewhere to access an explanation of an object and a link to another page containing a video of someone doing a ritual that uses it. Clicking in a different location might bring up a monk telling a story of how a Buddhist deity produced monkeys at the temple from the lice in a yogi's hair, or a list of statues that have been stolen from the premises that are now in private collections or European museums, or a pilgrim explaining that she came to the stupa to complete the death rituals for her mother, or a twenty-something would-be soldier explaining that he recently applied to a competitive army position after which he came to the temple to play a game that he'd seen on TikTok and believed would tell him his luck.

There is a diversity of myth, knowledge, experience and cultural history embedded in Himalayan traditions and materialized at the site. We seek to make this accessible to audiences that include UNC students. The final product should be compatible with computers, tablets and mobile phones (or develop 3 unique products). It should load 3D models smoothly with some animation where needed and incorporate the annotations in an elegant way. It will also ideally have an option to switch between various languages so that English speakers can listen to translations of the audio or video interviews while speakers of local language can hear the interviews in their original languages. Last semester (Fall 2022), a team from COMP 523 initiated work on the project and were able to produce a prototype/proof of concept using the Potree platform (see https://tarheels.live/teamd/). We have realized, however, that in order for the final product to be VR compatible, we need a Unity-based platform. Therefore, I'm seeking a team that can recreate the annotated model using Unity and, ideally, add onto the basic framework that's been created (more annotations, more complex annotations, perhaps some animation if there is time) and optimize it for VR.

Together, the 3D model and annotations/archive of interviews that we are producing constitute important records of the tangible and intangible heritage of Nepal. They will preserve vital knowledge of both cultural practices and the built Buddhist environment into the future. This is a crucial need given that the Kathmandu Valley is still geologically active with more earthquakes expected and considering the rapid pace of cultural change. We expect that the site will attract users with a variety of types of interest in Buddhism and/or Nepali culture. UNESCO has expressed interest in promoting our completed product, as has the US Embassy in Kathmandu and the Tourism ministry of Nepal. Professor Leve will integrate it into the courses on Buddhism she teaches at UNC; she expects it may be appealing to faculty and students at other colleges as well.