The Zamani Project

Key points:

1. The Zamani Project at the University of Cape Town (UCT) captures spatial information of tangible cultural heritage sites across Africa and beyond.
2. The Zamani Project team, in collaboration with UCT Libraries, is in the process of ingesting their processed data products to ZivaHub, the University's institutional data repository, powered by Figshare for Institutions.
3. Uploading their data to ZivaHub allows the Zamani Project team to securely store and share large amounts of data and provide for efficiently managed reuse.
4. Through the use of ZivaHub, the reach of the Zamani Project has broadened exponentially. By citing and embedding their ZivaHub data items on the project's website, the team hopes to deepen their connections with researchers from a variety of disciplines and to enable future scholarship opportunities.

Prof Ruther, principal investigator of the Zamani Project, with a laser scanner on a field campaign in Bagan, Myanmar. Heinz Rüther [CC BY-SA (https://creativecommons.org/licenses/by-sa/4.0)] https://commons.wikimedia.org/wiki/File:Emeritus_Professor_Heinz_Ruther_of_the_Zamani_Project.jpg

ABOUT HEINZ

Professor Heinz Rüther is an emeritus professor in the Geomatics division of the School of Architecture, Planning and Geomatics, in the faculty of Engineering and the Built Environment at UCT. He is the principal investigator of the Zamani Project, which he conceptualised in 2001. His current research interests lie in the area of digital photogrammetry and laser scanning for 3D-modelling of architectural structures and the documentation of heritage sites.

Professor Rüther has enjoyed a long career in the field of Geomatics and has worked on photogrammetric and surveying projects across the globe. From 1990 to 2007, he was the Head of the Geomatics Department at UCT, and he is a fellow of numerous societies and institutions, including UCT, the South African Academy of Engineers and the International Society for Photogrammetry and Remote Sensing (ISPRS). Professor Rüther is a member of the South African Academy of Science and an Honorary Member of the South African Geomatics Institute (SAGI).

ABOUT THE ZAMANI PROJECT

Access the data collections here: https://zivahub.uct.ac.za/Zamani_Project.

This case study explores the Zamani Project collection, which consists of born-digital file sets of unprocessed and processed data collected on-site at cultural heritage sites across the world. To date, Rüther and his team, Roshan Bhurtha, Ralph Schröder, Bruce McDonald and previously Stephen Wessels, Christoph Held and Rudi Nesser, have documented some 250 monuments across 65 sites in 18 countries in Africa, the Middle East and Southeast Asia. Data collected includes scans, GPS and photographs. These data exist as raw, unprocessed file sets, as well as processed 3D models, point clouds, panorama tours, GIS layers and virtual worlds.

The team are in the process of migrating their processed file sets to ZivaHub. Data is ingested site-by-site by the cross-functional data curation team. While file sets are prepared for ingestion, special attention is paid to creating rich metadata to accompany the data, a process to which the Digital Library Services team at UCT Libraries was of significant value.

The file sets in ZivaHub's first Zamani site (the Kua Ruins) were uploaded less than three months ago, and since the upload in November 2019, the data has been viewed 3680 times and downloaded 1176 times. This reflects a keen and widespread interest in the Zamani Project data, and in the broader areas of digital cultural heritage and cultural heritage preservation. Moreover, current affairs, particularly in the Middle East, indicate that the protection of tangible cultural heritage is critically relevant. Sites of cultural importance are extremely vulnerable to a multitude of threats, including natural disaster, climate change, cultural terrorism, war and political instability and simply age and decay. The data produced by the Zamani Project serve as digital records that can be used for conservation,

restoration and preservation; they can be used to provide material for education, research, site management, local tourism and to increase awareness of cultural heritages, which remain still less well documented and researched than those of the Global North. By reaching a broader audience through being on ZivaHub, the Zamani Project data can now also lead to unanticipated new collaborations and research questions.

This is a 3D Model of Mosque 2 in Kua, Tanzania. The model consists of 1 million polygons and is textured. Rüther, Heinz; Schröder, Ralph; Bhurtha, Roshan; Wessels, Stephen; McDonald, Bruce (2019): 3D Model File Set of Mosque 2, Kua Ruins (Mosque_2_1mil.obj). figshare. Media. https://doi.org/10.25375/uct.10011698.v2

Professor Rüther is deeply committed to telling the story of humankind and allowing for these digital spatial data of cultural heritage sites to serve as records for future generations. However, he recognises that the data need careful curation and rich metadata in order to do justice to the stories they can tell. These terabytes of data could just be anonymously sitting on a storage device, unutilised and deteriorating, but instead, they are now being actively curated, shared and reused. As technology advances and the capabilities of computer processing power grows, the Zamani Project has continued to evolve and improve its methods, workflows and outputs, which are steadily growing. Today, a single field campaign can result in 10 terabytes of data!

ZivaHub makes it possible for the Zamani Project to share heterogeneous digital formats and large file sets to an ever-expanding audience. Moreover, it allows for a secure space to manage critical research data. Furthermore, the intuitive user interface of Figshare for Institutions makes private sharing of not openly publishable data safe and easy.

View the Zamani Project website here: zamaniproject.org (data stored on ZivaHub will soon be referenced here via embeds and citations).