



# THE 8<sup>TH</sup> INTERNATIONAL CONFERENCE ON ARTS AND HUMANITIES 2021



HEALTH IN THE ARTS AND HUMANITIES

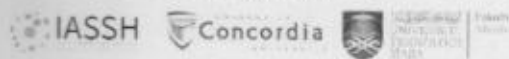
21<sup>ST</sup> -22<sup>ND</sup> SEPTEMBER 2021  
VIRTUAL CONFERENCE



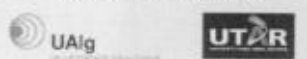
# BOOK OF ABSTRACTS

ICOAH  
2021

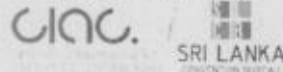
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[45]

## DIGITIZATION OF MURAL PAINTINGS FOR THE CONSERVATION OF TWO-DIMENSIONAL (2D) ARTIFACTS IN SRI LANKA

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### ABSTRACT

Digitization is an emerging technology from the 20th Century. Currently, digitization process of mural paintings derived from tangible culture has several issues. This research aims to propose an approach to digitize mural paintings for the conservation of 2D artifacts in Sri Lanka. A case study which is a documentation of Bellanwila Temple murals was used to collect the data and analyse the findings. A literature review in the area of digitization for conservation was used to critically analyse the findings in this broad area. Author identified that the creating panoramic images is a solution for the digitization of mural paintings. It is an application of image stitching technique. Image stitching is one of the main techniques in the area of computer vision. Based on the findings, the author required to test existing tools and identified drawbacks or issues during the digitization process of mural paintings. Accordingly, author could propose a new method for creating a panoramic image for mural paintings. It has 6 major steps: image acquisition, preprocessing, sorting the images, developing a panoramic image, fine-tuning the output panorama and displaying the output panorama. So this method was implemented into a new software using the stitch class in OpenCV software library. At the testing phase, Photoshop, Hugin and new software were used for creating panoramas. At the evaluation, color balance, image noise & distortion and overall quality attributes of above panoramas were rated against 4 levels of each attribute. According to the results, Author can show that new software will display higher accuracy than the other two algorithms. Hence, this proposed method can be used effectively and easily for the digitization of mural paintings for the conservation of two-dimensional artifacts in Sri Lanka.

Keywords: Digitization, Mural painting, Conservation, Two-dimensional artifacts, Image stitching