Invited Talk

Recovering the Past through Computation – New Techniques for Cultural Heritage

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Abstract

Computation has provided new means for researchers and scholars in the humanities, fine arts and social sciences to address research questions long considered to be too difficult for conventional methodologies. The subject of this presentation will be to discuss emerging state-of-the-art scientific methodologies applied to discovery, recovery, restoration, representation, analysis and ultimately new understanding of a broad range of cultural heritage artifacts. Critically important remnants of the past are disappearing - through neglect, incidental destruction, neglect, and deterioration and looting. Many ancient artifacts are scattered about the world and reside in public and private collections, inaccessible to scholars and far removed from their original location and context of creation.

Digital representation is possible for numerous cultural heritage resources: script and drawings on a variety of media, manuscripts and documents, images, objects of all shapes and textures, and historic sites and events to name a few. Computation can provide means for recovering to some degree what was lost. Computation using geospatial and temporal data is central to visualizing and understanding mechanisms of change over extended periods of time, at once revealing and elucidating the events, social processes and practices that drive or accompanied change. This task involves, in part, processing massive amounts of raw data from a wide range of instruments and combining these with historic records to produce new information. At this point scholarly work, creative approaches, imaginative thinking and international interdisciplinary collaboration can be undertaken to create new knowledge and understanding and bring to light new segments of the human record.

Categories & Subject Descriptors: J.5 **[Computer Applications]:** Arts and Humanities

General Terms: Algorithms.

Bio

Stephen Griffin is a Program Director in the Information Integration and Informatics (III) cluster in the National Science Foundation's Division of Information and Intelligent Systems. For the period 1994-2004, Mr. Griffin managed the Special Projects Program which included the Interagency Digital Libraries Initiatives and the International Digital Libraries Collaborative Research and Applications Testbeds program. Prior to joining the Division of Information and Intelligent Systems, Mr. Griffin served in several research divisions, including the Divisions of Chemistry and Advanced Scientific Computing, the Office of the Assistant Director, Directorate for Computer and Information Science and Engineering, and staff offices of the Director of the NSF. He has been active in working groups for Federal high performance computing and communications programs, and serves on numerous domestic and international advisory committees related to digital libraries and advanced computing and networking infrastructure. In 2004-2005 he was on special assignment to the Library of Congress, Office of Strategic Initiatives, to assist with the National Digital Information and Infrastructure Preservation Program. His educational background includes degrees in Chemical Engineering and Information Systems Technology. He has additional graduate education in organizational behavior and development and the philosophy of science. His research interests are in topics related to interdisciplinary research and scholarly communication. He has been active in promoting cultural heritage informatics and computing and the humanities and arts.

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