# White Paper Report

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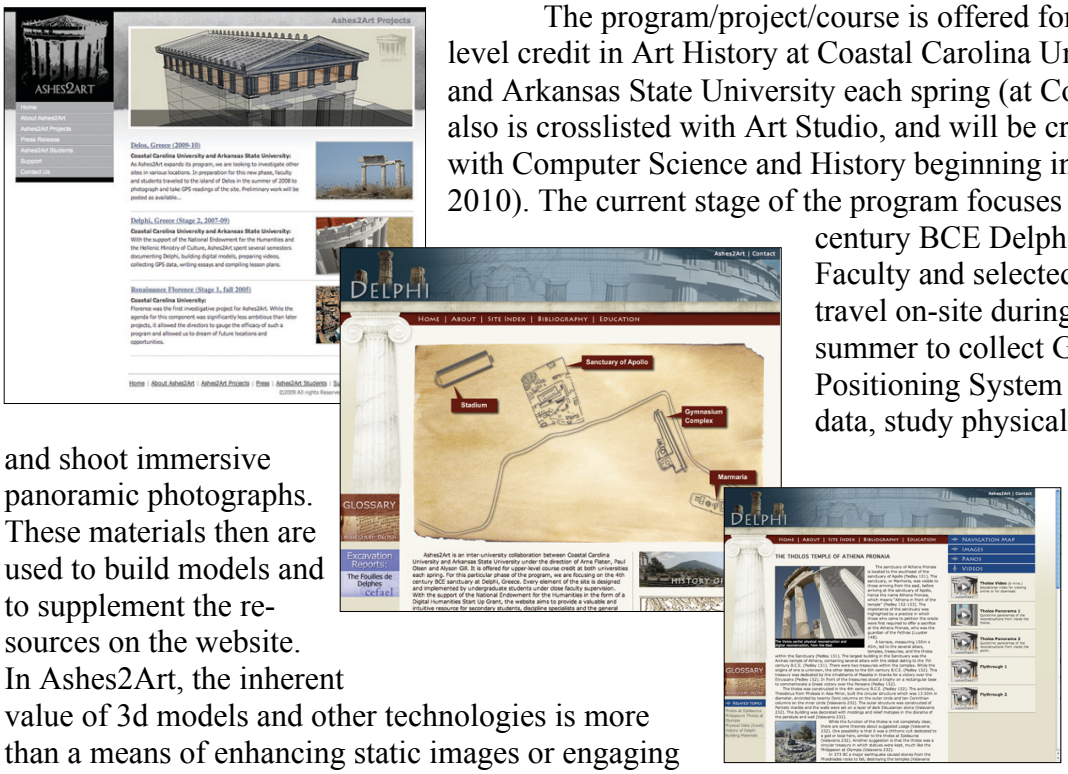
WHITE PAPER

Ashes2Art: Digital Reconstructions of 4th Century BCE Delphi
ID #: HD-5-111-07
Arne R. Flaten, Alyson A. Gill, Paul Olsen

## Introduction

Ashes2Art (www.coastal.edu/ashes2art), an interdisciplinary and inter-university collaborative project, inverts the traditional pedagogical model in the humanities with a heuristic approach to art history. With faculty supervision, undergraduates build 3d digital models of ancient monuments, write essays, design interactive maps, compile primary and secondary source bibliographies, build and populate databases, create educational and flythrough videos, write extensive lesson plans in accordance with U.S. National Standards (with supplemental Powerpoint presentations for each), and design intuitive Java and Flash-based websites to house and support the materials.

Digital model of the tholos of Athena Pronaia, Delphi. Greg Schultz, Coastal Carolina University



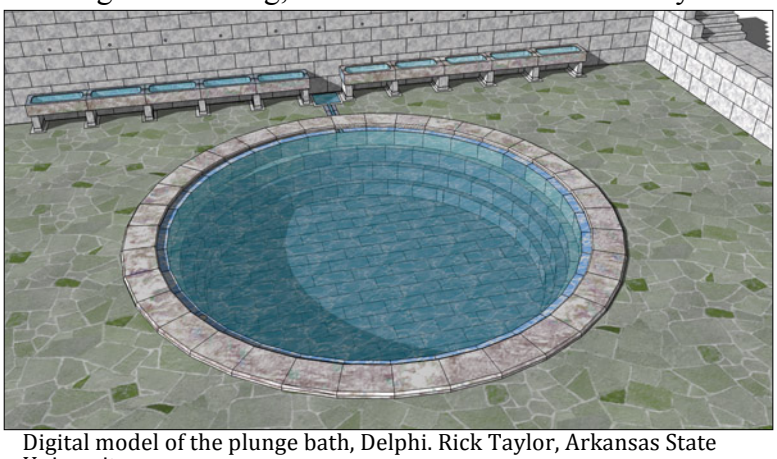

Webpages for Ashes2Art. Yaw Odame, Jeremy Alford and Michael Lally, Coastal Carolina University

The program/project/course is offered for upper-level credit in Art History at Coastal Carolina University and Arkansas State University each spring (at Coastal, it also is crosslisted with Art Studio, and will be crosslisted with Computer Science and History beginning in spring 2010). The current stage of the program focuses on 4th century BCE Delphi, Greece. Faculty and selected students travel on-site during the summer to collect Geographic Positioning System (GPS) data, study physical remains, and shoot immersive panoramic photographs. These materials then are used to build models and to supplement the re-sources on the website.

In Ashes2Art, the inherent value of 3d models and other technologies is more than a means of enhancing static images or engaging viewers. They are the active, catalytic platforms of the learning process, with the end product available online, free of charge, worldwide.

## Ashes2Art History

The project began in fall 2005 at Coastal Carolina University under the direction of Arne Flaten (Art History) and Paul Olsen (Graphic Design), but the conceptual framework was developed in the eighteen months preceding its launch. As a test case to gauge its potential in an undergraduate classroom, the charge was simple: incorporate various technologies into a collaborative lab that blurs the lines between teaching and learning, between lecture and laboratory formats, and between art history and art studio. Renaissance Florence was chosen as the site because a) it is Flaten's area of expertise, and b) Olsen and Flaten would be in Italy in summer 2005 to shoot digital panoramas. That fall, students stitched digital panoramas (using Panoweaver and Tourweaver), wrote topical essays, collected images, designed skins to house the panoramas, and developed a Flash-based website in Dreamweaver. Digital models were not part of the program. Midway through that first semester one student, Greg Schultz, began work on an interactive animated map of Florence in 3ds Max on his home computer. The flat map tilted as it rotated, and small "Monopoly"-type buildings grew from the map surface to highlight three *piazze* (Piazza del Duomo, Piazza Santissima Annunziata, Piazza della Signoria). With that map, the vision of the course and project changed dramatically. Olsen and Flaten took students to Greece the following summer (2006), shot panoramas in Athens and Crete, considered shifting the focus of the program to a Greek site, and re-negotiated the original mission of the project to include reconstructive models.

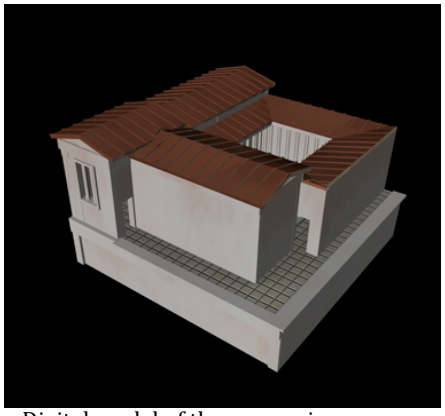


Digital model of the plunge bath, Delphi. Rick Taylor, Arkansas State University

During the same summer, an NEH Summer Institute at UCLA investigated "Models of Ancient Rome." Coordinated and run by professors Diane Favro and Sander Goldberg, the seminar examined the integration of complex digital models with other information paradigms. At the Institute, Flaten met Alyson Gill, an art historian at Arkansas State University whose specialty is ancient Greece. Flaten,

Digital model of the tholos of Athena Pronaia, Delphi. Greg Schultz, Coastal Carolina University

Olsen and Gill agreed to collaborate on the Ashes2Art project between their respective universities and to focus on Delphi, Greece. That fall, the program directors applied for a Digital Start Up Grant from the National Endowment for the Humanities (NEH), requested permission to shoot panoramic photographs at various archaeological sites from the Hellenic Ministry of Culture through the American School for Classical Studies in Athens, and laid the framework for the inter-university collaboration.



Digital model of the gymnasium, Delphi. John Heard, Arkansas State University

Ashes2Art was offered at both universities in spring 2007. With support from the NEH and permission from the Hellenic Ministry of Culture, faculty and selected students traveled to Greece to shoot digital panoramas that summer at Delphi, Epidauros, Nemea, Olympia and Aegina (student travel paid by internal grants). The course was offered again the following spring semester at both schools, and again students and faculty flew to Greece in the summer to continue work with digital panoramas, shoot high-resolution photographs, and to collect GPS data. The course continues to be offered at both schools in the spring, and has been generously supported by institutional grants from Coastal Carolina University (Academic Enhancement grants, Research Enhancement grants, Student Travel grants, Scholarship of Teaching and Learning grants, ITS grants) and Arkansas State University (Faculty Research Committee award, a SURF/SILO award, Friedrich Stoll Endowment award, ITS grants).

## NEH Start Up grant

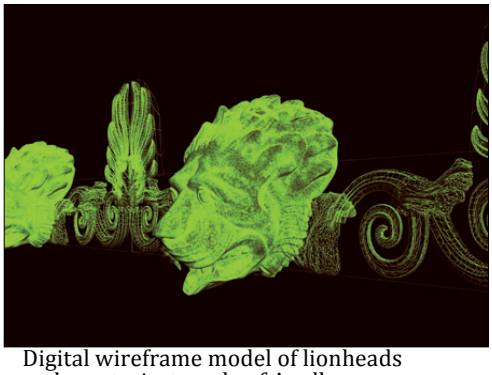
### a. Project Activities

Since summer 2007, when our Digital Start Up grant began, the Ashes2Art project has accomplished more than we had envisioned. Having already secured permission from the Hellenic Ministry of Culture through the American School for Classical Studies at Athens, project directors Arne Flaten, Alyson Gill and Paul Olsen traveled to Greece with students in summer 2007 (student travel paid by internal grants). While there we shot a total of 36 panoramic images (36 x 2@180° each) at Delphi, Olympia, Nemea, and Epidauros from inside the actual monuments. We also shot hundreds of detailed high-resolution

Digital model of the temple of Apollo, Delphi. Taylor Baldwin and Brandon Lockett, Coastal Carolina University

photographs to aid in our digital reconstructions. That fall, on their own time, students began organizing the photographs and stitching together the digital panoramas.

In spring 2008, Ashes2Art was offered for course credit at Coastal Carolina University and Arkansas State University. During that semester, two Ashes2Art webpages for Delphi were designed and populated. Coastal Carolina's is online and continues to be updated (www. coastal.edu/ashes2art); Arkansas State's original page was replaced in 2009 with a different version (www.digitaldelphi.org). At CCU: Digital models of the tholos of Athena Pronaia were completed and posted online; two video flythroughs of the tholos were rendered and posted online; a six minute educational video was posted online, as were two 360° panoramas of the digital tholos model; a draft model of the Athenian Treasury was posted online; 10 lesson plans in accordance with U.S. National Standards were posted as .pdf files; a glossary was built and uploaded; a bibliography built and posted; an interactive map of Delphi designed and posted; numerous photographs and essays posted online. At ASU: digital models of the gymnasium and plunge bath were posted online; a resource for primary sources started; a bibliography was compiled and posted online; numerous photographs (some with permission from the Museum of Fine Arts, Boston) and essays posted online.



Digital wireframe model of lionheads and acroteria, temple of Apollo, Delphi. Taylor Baldwin, Coastal Carolina University

In summer 2008, we again traveled to Greece (student travel paid with internal grants), returned to Delphi to take photographs and collect GPS data. We also traveled to Delos to shoot digital panoramas (with permission from the Hellenic Ministry of Culture), collect GPS data, and evaluate whether Delos would be our next focus.

In spring 2009 (after our original grant deadline, but the grant was extended until 3/31/09), we continued work on Delphi. At CCU: a model of the temple of Apollo was completed, a model of the stoa of the Athenians was almost completed; a digital flythrough of the marmaria was completed; a new Ashes2Art webpage designed and posted online; new essays and photographs posted online. The models, flythroughs and additional essays are to be posted online in summer 2009. At ASU: a new Digital Delphi webpage (right) was designed and posted, new photographs posted; new models of the xystos, gymnasium, and temple of Apollo built, new essays added. Materials are to be posted online in summer 2009.

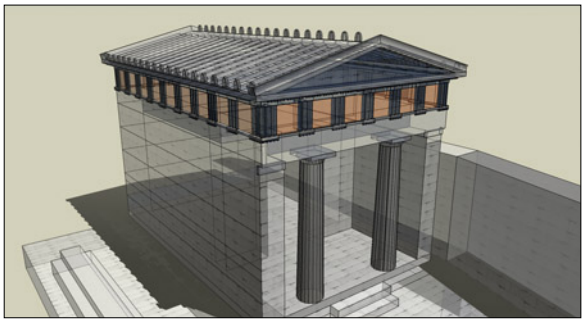
New webpage for ASU's Digital Delphi site. Mandy Maxwell, et al, Arkansas State University

To facilitate our work, the administrations at both universities funded 3d modeling labs in fall 2007, outfitted with 10 desktop systems (CCU) and 12 desktop systems (ASU), totaling over $150K. For modeling software, we added to SketchUp Pro with 3ds Max and Mudbox. To stitch panoramas together, we shifted from our older platform (Panoweaver and Tourweaver) to RealViz 4.0.

The only thing that we had hoped to work on during the period of our NEH Start Up grant that did not see any fruit was the establishment of an online resource for vetting digital models and the websites that post them worldwide. The reason for this is simple: Bernie Frischer at the Institute for Advanced Technologies in the Humanities (IATH) at the University of Virginia had already laid the groundwork for a similar concept. He invited Drs. Flaten and Gill to be on the Advisory Board for SAVE (Serving and Archiving Virtual Environments) and we spoke on a SAVE panel at the Computer Applications and Quantitative Methods conference in Budapest, 2008.

**b. Audiences**

Our audiences have included those in attendance at various lectures (40-300 attendees per venue), newspaper and magazine readers in two states, subscribers to *Campus Technology*, *Coastal Carolina University's Alumni magazine*, *Tempo*, radio listeners to KASU, television viewers for *Coastal Today* and *Southern Style* (Time/Warner), readers of our articles in journals, conference proceedings, books, and online, and visitors to our site. Coastal Carolina's Ashes2Art website averages 28,000 visits per year based on the past 30 months of data (ASU data unavailable). Our site has been posted (without our consent or fore-knowledge) on numerous blogs, computing websites, university resource pages, and on the Wikipedia site for Delphi. In addition to local and regional presentations, we have presented or chaired sessions at the following conferences:



Digital model of the Athenian Treasury, Delphi.
Brandon Lockett, Coastal Carolina University

- Session chairs (Flaten and Gill): Digital Humanities and Pedagogy; Envisioning the Past: Virtual Reconstructions of Archaeological Sites (6 sessions, 18 papers), Computer Applications/Quantitative Methods in Archaeology annual meeting, Williamsburg, March 2009
- Flaten, "Ashes2Art as Pedagogical Model"
  Gill, "Chattering in the Bath, The Urban Greek Bathing Establishment and Social Discourse in Classical Antiquity"
  Session chairs (Flaten and Gill): Virtual Environments and Pedagogy; Visualizing Ancient Spaces (6 sessions, 18 papers)
  Workshop presenters: The SAVE Project (Serving and Archiving Virtual Environments), Computer Applications/Quantitative Methods in Archaeology annual meeting, Budapest, April 2008

- Gill, "Digital Delphi: The 3D Virtual Reconstruction of the Hellenistic Plunge Bath at Delphi," Conference on Virtual Systems and Multimedia (VSMM), Limassol, Cyprus, October 2008
- Flaten, "Ashes2Art," National Endowment for the Humanities special session: Technology in the Humanities, Institute for Museum and Library Sciences (IMLS) WebWise conference, Miami, March 2008
- Session chairs (Flaten and Gill): Continuous Crossroads: Research & Pedagogy, Problems & Opportunities with Digital Models, Archaeology and Art History, College Art Association annual meeting, Dallas, Feb. 2008
- Flaten, "Digital Collaboration in the Humanities," Using New Technologies to Explore Cultural Heritage Conference, National Endowment for the Humanities, Washington, Oct. 2007
- Gill, "Virtual Delphi," XXI International Committee for Architectural Photogrammetry Symposium (CIPA), Athens, Greece, Oct. 2007
- Session chairs (Flaten and Gill): Visualizing Ancient Spaces: The Impact of Three Dimensional Virtual Reconstructions on Research and Pedagogy (12 papers), Computer Applications and Quantitative Methods in Archaeology annual meeting, Berlin, April 2007

*We have published the following*:

- Flaten and Gill, eds. and contributors, *Visual Resources, An International Journal of Documentation, Special Edition: Using Digital Representations in the Humanities* (London: Taylor & Francis/Routledge, forthcoming December 2009); Essays: "State of the Discipline (Gill)," and "Ashes2Art: Digital Models of 4th Century BCE Delphi, Greece (Flaten)." under contract
- Arne R. Flaten, "Ashes2Art as Pedagogical Experiment," in Peer-reviewed Proceedings of *Computer Applications & Quantitative Methods in Archaeology* 36th annual meeting, Budapest; accepted
- Alyson A. Gill, "'Chattering' in the Baths: The Urban Greek Bathing Establishment and Social Discourse in Classical Antiquity," in Peer-reviewed Proceedings of *Computer Applications & Quantitative Methods in Archaeology* 36th annual meeting, Budapest; accepted
- Arne R. Flaten, "Ashes2Art: Digital Collaboration in the Humanities," in book: *New Technologies to Explore Cultural Heritage* (Washington and Rome: National Endowment for the Humanities and the Consiglio Nazionale delle Ricerche, 2009)
- Gill and Flaten, "Digital Delphi: The 3D Virtual Reconstruction of the Hellenistic Plunge Bath at Delphi," in *The Digital Heritage: Proceedings of the 14th International Conference on Virtual Systems and Multimedia*, ed. M. Ioannides, A. Addison, A. Georgopoulos, L. Kalisperis, Hungary: Archeolingua, 2008
- Flaten and Gill, "Ashes2Art: Collaboration and Community in the Humanities," in *First Monday: Peer-reviewed Journal on the Internet* 13, 8 (4 August 2008) http://www.uic.edu/htbin/cgiwrap/bin/ojs/index.php/fm/index
- Flaten and Gill, "Virtual Delphi: Two Case Studies," in *The ISPRS International Archives of the Photogrammetry, Remote Sensing and Spatial*

*Information Sciences*, XXXVI-5/C53, 2007; also published in *CIPA International Archives for Documentation of Cultural Heritage*, XXI-2007

**c. Continuation of the Project**

Ashes2Art will continue indefinitely. We have support from our university administrations, student interest is high, scholarly reviews of our work have been positive, and we still have much to do. We will not stay at Delphi forever, and our next phase of the project is uncertain. Various institutions nationally and internationally (Egypt, Israel, and U.S. universities) have expressed interest in our work and the idea of expanded collaborations has been broached. As the program grows, we anticipate Ashes2Art to be an umbrella for a wide range of digital humanities projects, from local archaeology to sites in the Near East.

The Ashes2Art crew at Delos, summer 2008