



Project Document Cover Sheet

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Project Information			
Project Acronym	SKNDAI		
Project Title	St Kitts Nevis Digital Archaeological Initiative		
Start Date	April 2008	End Date	March 2009
Lead Institution	University of Southampton		
Project Director	Professor Roger Leech		
Project Manager & contact details	Professor Roger Leech R.Leech@soton.ac.uk		
Partner Institutions	National Museums Liverpool, DAACS		
Project Web URL	www.daacs.org;www.arch.soton.ac.uk/Research/Nevis; www.liverpoolmuseums.org.uk/ism		
Programme Name (and number)	Digitisation Programme		
Programme Manager	Ms Karen Miller		

Document Name			
Document Title	Project Plan		
Reporting Period			
Author(s) & project role	Professor Roger Leech, Dr Robert Philpot		
Date	15 th May 2008	Filename	SKNDAI Project Plan
URL			
Access	<input checked="" type="checkbox"/> Project and JISC internal		<input type="checkbox"/> General dissemination

Document History		
Version	Date	Comments
V1.0	15/5/08	



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JISC Project Plan

The St. Kitts-Nevis Digital Archaeology Initiative

Overview of Project

1. Background

The St. Kitts-Nevis Digital Archaeology Initiative is an innovative collaborative project designed to further scholarship on slavery. The Initiative will develop an integrated digital archive of diverse archaeological and historical data related to the experiences of the enslaved men and women who laboured on 17th-, 18th- and 19th-century sugar plantations in the Caribbean. An international team of scholars from The Digital Archaeological Archive of Comparative Slavery at the Thomas Jefferson Foundation in Charlottesville, Virginia (<http://www.daacs.org>), the University of Southampton's Nevis Heritage Project (<http://www.arch.soton.ac.uk/Research/Nevis/Nevis.html>), and the International Slavery Museum in Liverpool (<http://www.liverpoolmuseums.org.uk/ism/>) will digitise and deliver on the web information from two 18th-century plantations and their slave villages, one located on Nevis and the other on St. Kitts. The result will be a first-of-its-kind digital collection of fully searchable archaeological and historical data from multiple slave village sites in the Caribbean.

The UK principal investigators have years of experience in UK and Caribbean archives, while US team members are experts at organising and delivering data using XML-based schemas and detailed relational databases. Together, the teams will create a robust digital archive of archaeological and historical data through use of rigorous and well-defined cataloguing standards and metadata, ensuring interoperability and analytical comparability. DAACS archaeological analysts will catalogue all of the archaeological materials to DAACS standards. Ceramicists from the University of Southampton and University of Tennessee will analyse and digitise all slave-made coarse earthenwares ceramics. All recovered faunal remains will be digitised at Colonial Williamsburg's Zooarchaeological Laboratory. The rich documentary record of these plantations will be digitised in archives in the UK and on Nevis and St. Kitts. Both archaeological and documentary data will be delivered to the public through easy-to-use query interfaces that are linked to robust XML and SQL databases. Both UK and US principal investigators have long-term research commitments to the archaeological and historical study of the slave societies that evolved in the Caribbean and mainland US. Each team member's experience and institutional backing will ensure that the St. Kitts-Nevis Digital Archaeology Initiative is the foundation for a larger, long-term digitisation effort focused on the experience of enslaved people in the Caribbean.

The end result of this project acknowledges both scholarly and non-scholarly user-communities by providing free access to information through two web-based portals: the research-oriented DAACS website (www.daacs.org) and the publicly-oriented International Slavery Museum website (<http://www.liverpoolmuseums.org.uk/ism/>). Archaeologists, historians, and other scholars will have direct access to myriad data through DAACS. School children, teachers, and the interested public can explore the same materials through an online exhibition specifically designed for a non-expert audience. Finally, the proposed project facilitates collaboration among the humanities and social sciences while promoting both intellectual and digital experimentation through the use of new digital technologies such as 3D laser scanning.

2. Aims and Objectives

There are three broad aims:

1. To document archaeologically, through survey, excavation and collections analysis, the trajectories of changes in way of life for slaves on the islands of Nevis and St. Kitts during the 17th to 19th centuries.
2. To show how the kind of database and web technology that DAACS has developed over the past several years can accelerate the entire archaeological research cycle – from fieldwork to analysis to reporting -- and facilitate scholarly collaboration at new scales.
3. To improve our understanding of the causal forces that shaped the evolution of slave societies throughout the early-modern Atlantic world.

The key objectives are:

- To give scholars, through the project's innovative use of digital technologies, unprecedented access to archaeological and historical sources, evidence that is essential to advancing our historical understanding of the lives of enslaved people and the evolution of plantations and societies in the Caribbean islands of St. Kitts and Nevis. We intend to do this by giving scholars free access via the web to detailed archaeological and documentary data from two sugar plantations, one located on each island.
- To ensure that the long-term analytical promise of the project extends beyond the Lesser Antilles, to the study of slavery in Caribbean and the North American mainland. This is because the archaeological evidence digitised for the sites on St. Kitts and Nevis will follow the protocols that DAACS has used in the digitisation of data from over thirty plantation sites in the Chesapeake, the Carolinas, and Jamaica. The data will be delivered via the same query modules from the same website (www.daacs.org), making comparisons among the material lives of enslaved people in these different regions possible at a level of detail that has previously been unimaginable.

- To complement the potential for large-scale comparative analysis using archaeological evidence with the coordinated digitisation of 18th and 19th-century documentary records in the UK and on Nevis and St. Kitts. Documents humanise the archaeological record by giving names to individual enslaved people, and by providing invaluable clues to the ages and ethnicities of men and women labouring on these plantations. They also lift the veil on larger plantation activities and the British slave-owning families that benefited from them. The data will be provided alongside the archaeological data on both the DAACS website and through an online exhibition sponsored by the International Slavery Museum.
- To demonstrate how digital technology can allow a large international group of scholars to collaborate more effectively and efficiently. The protocols that we have developed to guide the digitisation of both the archaeological and documentary data will ensure that the information produced by all members of our team is instantly comparable. This same digital technology -- web-accessible Structured Query Language (SQL) databases and XML archives -- facilitates sharing and vetting of data by team members. It also serves an integrative function that is especially critical, given the complexities of archaeological data structures, the diversity of digital information collected on archaeological sites and in labs during the archaeological digitisation process, and the fact that the documentary archives in which we will work are found on both sides of the Atlantic.
- To bring together specialists to analyse and digitise the collections in a manner that addresses historical problems, something that has only been implemented by DAACS. Through the use of 3D laser scanning, Instrumental Neutron Activation Analysis (INAA), and petrography, coarse earthenware specialists from the US and UK will build a unique digital resource of data on locally-made coarse earthenwares in the Leeward Islands. The data will be of great use to archaeologists trying to understand regional ceramic production and market activities among enslaved people. (Ahlman; Hauser and Kelley 2006; Heath; Kelly and Hauser 2006). The digitisation of the faunal remains by Colonial Williamsburg's Zooarchaeological Laboratory will enable us to track changes in slave diet both temporally and among islands and regions. The UK principal investigators have years of experience in UK and Caribbean archives, while US team members have experience organising and delivering data using XML-based schemas and detailed relational databases. In addition, the UK and US principal investigators bring with them many years of experience on village sites throughout the Caribbean, allowing us to conduct research at a scale that could not be accomplished as individual institutions from either the UK or US.
- To demonstrate how, when archaeological and documentary data are "born digital", they can be made available via the web to wider scholarly communities and general audiences, within months of their initial acquisition. By doing so, the project will demonstrate how digital technology makes

possible rapid advances in historical knowledge through effective coordination and timely data availability. Significantly, these benefits will be shared with an international public, including local governments, civic organisations, educators, and members of descendant communities, particularly the citizens of the island nations whose past we are investigating. In addition to delivering the resulting data through the existing DAACS website, the project will develop a public-oriented website on slavery in the Leeward Islands that will be hosted by the International Slavery Museum in Liverpool. The UK and US teams will work collaboratively to develop the public online exhibit that combines the documents, archaeological data and multi-media presentations. The online exhibition will encourage interested visitors to explore the more detailed data on the DAACS website and to show them how those data can be used to increase our understanding of Atlantic slavery.

3. Overall Approach

3.1 Methodology and structure of work

The St. Kitts-Nevis Digital Archaeology Initiative will advance our understanding of historical issues critical to the study of Atlantic slavery. It will demonstrate that a combination of rapid and wide availability of historical and archaeological data, comparability, large regional scale, and multiple field sites can allow collaborative research groups to advance historical understanding more rapidly than has been possible for the same number of individual researchers working alone, which is the traditional archaeological approach. At the same time, the project will engage non-scholarly audiences, offering insights to variation in the experience of enslaved people, the archaeological process that produced those insights, and the rich digital data that underpin them.

This project employs accepted methods and standards for the preparation, organisation, and dissemination of the digital materials. In doing so, it guarantees the accessibility and longevity of the digital data produced during this project and will serve as a model for long-term international collaborative projects.

3.1.2 Preparation and Processing of Material

3.1.2.1 Survey Methods

This pilot project begins with shovel-test-pit (STP) and landscape surveys at the two 18th-century villages, New River on Nevis and The Spring on St. Kitts. As a historian might enter an archive to scan documents or a linguist travels to a dwindling speech community to digitally record a dying language, our international team will digitally record the physical remains of the proposed village sites. The New River Estate and The Spring Estate were once home to hundreds of enslaved Africans whose forced labour ensured the productivity of these 18th-century sugar plantations. Together, archaeologists from DAACS, the

University of Southampton, and the National Museums Liverpool will work together to digitally record the landscape of slavery on Nevis and St. Kitts, quickly disappearing in the face of redevelopment for tourism, especially following the cessation of sugar production on St Kitts.

The recovered data will be “born digital” through the implementation of a number of digitisation techniques, including the use of total stations, GPS units, SQL Server databases, and NextEngine 3D laser scanning. The first goal is to gain widespread spatial coverage of both the New River and Spring villages through extensive STP surveys. Each village will be sampled using 50 centimetre pits on 6 metre centres placed on a grid across the entire village area. Based on a map of The Spring created by NHP in 2004, we estimate that village is approximately 10,000 square metres, requiring 290 shovel-test-pits on 6 metre centres. An 1834 map of the New River village indicates that 300 STPs will provide ample coverage using the same methods. Each pit will be recorded using standards established by DAACS in previous surveys and standardised data collection protocols will ensure that artifactual, contextual, and spatial data from each village are comparable to the sites already in DAACS. The data will be entered into the DAACS SQL Server database every day throughout the survey.

Two Nikon 300 series total stations, in conjunction with a Trimble handheld GPS unit, will be used to establish UTM site grids at each village in the UTM system. The total stations will be used in the field with Panasonic Toughbooks and THEOLT software to map in real time the location of every shovel-test-pit, as well as standing architecture, field boundaries, house terraces, and other visible landscape features.

3.1.2.2 Artifact Digitisation Methods

Once the surveys are completed, all artifacts will be flown to the DAACS laboratory at Monticello, where DAACS archaeological analysts will analyse and digitise every artifact using protocols established by DAACS in 2001. These protocols were developed with the input of the 35-member DAACS Steering Committee, which is comprised of archaeologists, historians, and digital technology scholars. These protocols are instantiated in a highly normalised Microsoft SQL Server database, which contains over 200 related tables that hold fine grained data on projects, artifacts, and the contexts from which they were excavated. These protocols are documented on the DAACS website (<http://www.daacs.org/aboutDatabase/catalogingManual.html>). The DAACS database has been in operation since 2001 and the database schema and authority terms are documented on the DAACS website (<http://www.daacs.org/aboutDatabase/structure.html>).

All faunal remains from these surveys will be digitised at Colonial Williamsburg’s Zooarchaeological Laboratory, in Williamsburg Virginia. This digitisation follows established DAACS standards and the resulting data will reside in the DAACS database. The artifacts and faunal remains will be packed to

Monticello's curation standards and returned to the Nevis and St. Kitts Historical Societies for long-term curation.

During the surveys, archaeologists from the University of Southampton and University of Tennessee who specialise in Afro-Caribbean ceramics will work together to analyse and digitise all recovered Afro-Caribbean ceramic sherds. Dr. Morris and Dr. Heath will sample the Afro-Caribbean ceramic collection for petrographic analysis and Instrumental Neutron Activation Analysis (INAA). Upon their return to the US and UK, Morris will conduct the petrographic analysis in her lab at USH and Heath will send the INAA samples to the University of Missouri for analysis. The resulting petrographic and INAA entered into the DAACS database.

Finally, all diagnostic Afro-Caribbean ceramics, including rim, base, and decorated sherds, as well as other exceptional artifacts, will be recorded using a NextEngine 3D-laser scanning. With the support of the Institute for Advanced Technology in the Humanities (IATH, <http://www.iath.virginia.edu/>), we will provide 3D images of artifacts on both the DAACS and ISM websites. In addition, the exceptional data recovered from these scans will be used to develop programs that will aid in vessel reconstruction.

3.1.2.3 Document Digitisation Methods

Dr. Leech and the University of Southampton will take the lead in digitising nearly 200 primary documents (inventories, plats, family letters) related to these plantations. Leech and his team will scan all project-related manuscripts and plats located in archives in Southampton, Bristol, and Suffolk, as well as on Nevis and St. Kitts. These will be scanned as 600 dpi .jpps that will be transformed into .pdfs for online presentation. The majority of documents will be scanned in grayscale, with the exception of coloured plats and lithographs.

The textual documents will be transcribed using a three-step textual verification process. This includes initial transcription followed by a two-person verification in which one person reads the document aloud while the second person reviews the first transcription. The verified transcription is then reviewed by a third party, who once again compares it with the original manuscript. These transcriptions will be entered, tagged, and managed using XML within PubMan, a Content Management System. Leech will work with the project directors of The Papers of Thomas Jefferson: Retirement Series (<http://www.monticello.org/papers/>), a project based at Monticello that is creating the definitive edition of Thomas Jefferson's letters and papers for the period from 1809 to 1826. The Papers Project has worked with PubMan for over 5 years to establish robust document file structures and textual verification protocols.

PubMan is the Content Management System (CMS) that will be used to store, organise, and provide access to the texts. PubMan is a web-based system that serves as the platform for document accession, document transcription, work flow, and on-line publication. Produced by Dataformat (<http://www.dataformat.com/>), the program provides a combination of software,

server access, and technical support for the project. It stores content in a XML database that is accessible to the project participants over the internet, thereby allowing them access to database and its content from anywhere there is an internet connection. As a result, data entry, tagging, and editing can occur simultaneously in archives in the Caribbean or UK, or at our home institutions in England and Virginia. It is ideal Middleware for this transatlantic digital collaboration, allowing us to work on transcription, markup, or initial data entry concurrently from different locations.

3.2 Important issues to be addressed

a) Interoperability

The project will create, search, view, extract, edit, and manage the textual content of the primary sources using XML. Together, the team will establish tagging protocols for both textual documents and non-textual documents, such as plats. The XML schema will ensure that these documents are fully searchable. Dataformat's familiarity with TEI, Dublin Core and other encoding standards in the humanities will also ensure that the data produced comply with established digitisation standards. **Their experience with several international documentary editing projects, such as the Papers of Thomas Jefferson, the Oxford and Cambridge Press Dictionaries, and the Woodrow Wilson Papers will bring invaluable experience to the project.**

b) Evaluation

Evaluation of the project will focus on quality, performance, functionality, accessibility, usability and the achievement of objectives (see Section 16 for more details)

c) Usability

This will be addressed through the data forming part of the DAACS and NML web sites, subject to their own internal review processes.

d) Accessibility

The web sites make use of open standards and are available to a wide range of browsers. Viewing versions of images will be presented in JPG format allowing low bandwidth users to access the site. The web sites support all web browsers.

3.3 Scope and boundaries of the work

Organisation of and access to material

Archaeological Materials

The DAACS Database

As discussed above, all artifactual data will be entered into the DAACS database, which consists of a VBA front-end linked via ODBC to the Microsoft SQL Server backend. All contextual and spatial data related to the surveys that were collected digitally in the field will also be housed in the DAACS SQL database and will conform to long-established DAACS standards. As noted above, the cataloguing and digitisation protocols are documented and available through the DAACS website (<http://www.daacs.org/aboutDatabase/>). These protocols include controlled vocabularies and metadata on each database field. In addition, documentation of the programme's code is on file at Monticello (Galle 2001a, 2001b).

3.3.1 The DAACS Website

All of the archaeological data will be made freely accessible to the public, through the DAACS website, by December 2008. DAACS staff developed the website in collaboration with Category 4, Inc., (<http://www.category4.com>), and with the Institute for Advanced Technology in the Humanities at the University of Virginia (<http://www.iath.virginia.edu>). Launched in February 2004, the DAACS website (www.daaacs.org) is organised in five major sections, which offer users a range of data from detailed historical backgrounds, downloadable .dxf and .dgn site maps, site images, and intra-site archaeological chronologies to customisable queries that provide direct access to the archaeological data at varying levels of detail.

3.3.2 DAACS Website Architecture

The DAACS website is built using open-source software. It features a MySQL database, running under BSD Unix, with PHP scripts to query and display the database content. SQLPorter, a third party software product (<http://www.realsoftstudio.com>), is used to transfer the database definitions and data from the SQL-Server backend used for DAACS data entry to MySQL. Custom Perl scripts provide extensive optimisation to the website's database design. This optimisation entails creating new tables from the union of several related tables in order to minimise the use of multiple joins and improve real-time performance of queries.

Extensible Markup Language (XML) is the primary data format for text and graphic components of the *Archaeological Sites* section of the website

and the bibliography. Extensible Stylesheet Language (XSL) is used to generate presentation content and to provide a uniform framework for the look, feel, and structure of each site. Sablotron, driven by PHP, is responsible for the XSL transformation (XSLT) process that produces HTML content on the fly from each site's XML and XSL source files. Sablotron is a fast, compact and portable XML toolkit implementing XSLT 1.0, DOM Level2, and XPath 1.0.

The DAACS website uses a combination of Perl and PHP to generate queries. Perl is used behind the scenes to optimise the database design for Internet use, and PHP is used to query and present layers of the website. Before each optimisation process by the custom Perl scripts, the entire website and database is tarred and gzipped in an area not accessible to the public. This process allows previous versions of the website to be retained for historical and accounting purposes.

3.3.3 *Documentary Materials*

Archival materials will be organised and accessed through the PubMan web interface. Digital photographs of documents and plats, and their transcriptions, will be uploaded to PubMan. Transcriptions will be marked-up using the XML schema established by the team, with the help of The Jefferson Papers Project and PubMan consultants. PubMan's middleware features give each team member access to the scans and transcriptions through the Internet. Work flow features enable team members to work together on transcriptions and markup, while based in different countries. User guides that address the data standards will be created and accessed through PubMan.

PubMan provides access to the document scans and textual content through an easy-to-use query-interface. This interface will be accessible through both the online exhibit hosted by the International Slavery Museum and through the DAACS website. The interface facilitates simple and complex queries of the textual data. User guides also be provided through these websites.

3.3.4 *International Slavery Museum Online Exhibit*

The principal investigators will work with the International Slavery Museum, National Museums Liverpool, to create an online museum-type exhibition on slavery in the Leeward Islands, with a particular focus on slave life on St Kitts and Nevis. This exhibition will be aimed at the general visitor and will complement the newly opened displays of the ISM. This exhibit will address a number of themes through the use of digitised archival and archaeological materials related to the villages of the enslaved Africans on the two islands. It will explore the material and social aspects of slavery, as understood from contemporary illustrations and descriptions of the villages from estate maps and lithographs, the material culture of slave villages as derived from the archaeological survey, and will discuss the use of the villages post-emancipation. An additional educational component will focus on the technology behind the exhibit, with examples and explanations of 3D artifact scans and a short film of the "born digital" field work in process. Finally,

the website will provide access to the scanned and transcribed documents, through the PubMan web interface. The website will conform to the JISC Information Environment Technical Standards.

3.3.5 Storage, maintenance, and protection of data

Financial stability means there is an answer to the question of what happens to the resource when initial grant funding expires. DAACS is able to provide a concrete answer, thanks to a Challenge Grant awarded by the National Endowment for the Humanities in 2001. The Challenge Grant provided DAACS 500,000 dollars toward an endowment, conditional on raising 1.5 million dollars from private sources over four years. Monticello successfully completed the match in 2005, and DAACS currently draws \$118,000 a year from the NEH Challenge Grant draw. The result is guaranteed maintenance of the DAACS website and archive staffing, as well as the continued addition of data from excavated sites throughout the Atlantic region. The guaranteed continuation of the maintenance of the site ensures that data are migrated, programs upgraded, and servers replaced on a regular basis. Nightly backups of the DAACS SQL Server and website are housed off-site at Monticello and with Category 4, Inc.

The digital photographs of documents and transcriptions will be stored in three locations: at the Department of Archaeology server at the University on Southampton, on the DAACS server at Monticello, and with DataFormat, with access to all of the materials provided by PubMan. The DAACS and DataFormat will conduct nightly updates, with off-sight storage of the digital archives. DAACS will assume responsibility for DataFormat's quarterly hosting and storage fee, thereby insuring that the storage and maintenance of the documentary data. The quarterly fee maintains the web server, server maintenance, security service (firewall), monitoring service, all software licenses required for PubMan, redundant backups (on and off site), broadband connectivity, and on call support. Finally, the International Slavery Museum is committed to a long-term online exhibit, with the expectation of hosting, upgrading, and expanding the exhibit for at least five years.

3.3.6 Critical Success Factors

Permissions for site access to be obtained in advance of fieldwork

Permissions for removal of archaeological material for analysis in DAACS lab to be obtained

Timely delivery of digital archaeological and archival material to web site managers
Outputs

Successful integration of all digital content and metadata

Usability / Accessibility

4. Project Outputs

4.1 Deliverables

1. All archaeological and archival materials generated by the grant during project will be made accessible to scholars and the public through the DAACS (www.daacs.org) and the ISM (www.liverpoolmuseums.org.uk/ism) web sites
2. Online publicly oriented exhibit focusing on the archaeological process and outcomes through ISM
3. Final paper report submitted to JISC
4. Collaborative research papers and publications following the completion of the grant
5. Potential for future collaborative archaeological field research employing skills and experience gained by collaborators during the grant period

4.2 Knowledge and other outputs

4.2.1 Archaeological and historical

1. Artifact and faunal collections from tightly controlled contexts contributing to the known cultural history of Nevis and St Kitts.
2. Global access to hitherto un-transcribed documents of both primary and secondary sources through the project websites. This will allow the documents to be browsed, searched, viewed and downloaded making them accessible to a wide audience.
3. Monitoring of the Project websites will enable statistics to be compiled showing the audience base both intellectually and geographically.
4. These will constitute some of the first formal investigations of slave villages on the two islands of St Kitts and Nevis.
5. The project will give the availability of comparisons through common standards of digital data for both archaeological and historical data on St Kitts and Nevis.
6. The result will be a first-of-its-kind digital collection of fully searchable archaeological and historical data from multiple slave village sites which will contribute to an understanding of the development of early-modern Atlantic societies.
7. The archaeological and historical results and methods of the Project will be presented to a wider non-specialist audience through the ISM on-line exhibit.

4.2.2 Computing

1. Systems will be transferable and robust using data standards acceptable in the TEI interface (see sections 3.2.1.1 -.3 of the Project proposal describing the DAACS computer applications and standards)
2. The project will comply with JISC guidelines

5. Project Outcomes

1. Creation of a web-based resource providing easy access to digitised images of historical documents relating to plantation life and contemporary slavery
2. Web interface to integrate other resources for the enhancement of teaching and learning in the world of archaeology and document study
3. Facilitate access for students, teachers and other researchers to valuable primary resource material
4. Preservation of the source material of documents and artifacts in digital format.

6. Stakeholder Analysis

Stakeholder	Interest / stake	Importance
JISC	Funding body	High
University of Southampton, Dept. Archaeology	Grant holder	High
ISM, National Museums Liverpool	Project Partner	Medium/High
DAACS	Project Partner	High
St. Christopher Historical Society	Project archive recipient	High
NHCS	Project archive recipient	High
UK Key Stage 2 & 3 educational institutions	User group	Medium
FE & HE educational establishments	User group	Medium
Schools, FE & HE establishments of the Caribbean	User group	High
NEH USA	Funding body	High
DAACS USA Partner	NEH Grant holder	High

7. Risk Analysis

Risk	Probability (1-5)	Severity (1-5)	Score (P x S)	Action to Prevent/Manage Risk
Staffing				
1. Loss of staff	2	5	10	Comprehensive documentation, adequate management oversight
Organisational				
1. Cost overrun	2	3	6	Review objectives and review budget
2. Schedule overrun	3	3	9	Ensure contingency time in schedule. Sound project management
Technical				
1. Damage to	2	3	6	Ensure back-up equipment

equipment				available
2. Faulty equipment	2	3	6	Adequate testing before fieldwork. Identify potential hire sources
3. Faulty software & data loss	2	3	6	Ensure hard drive back-up. Security copy made as daily back-up.
External suppliers/ consultants				
1. Dataformat.com	1	5	5	Ensure SLA in place
2. Project consultants	1	3	3	Ensure workflow strategy and QA in place
Legal				
1. Copyright issues	1	5	5	Undertake copyright audit
2. IP issues	1	3	3	Undertake IP audit
Management				
1. Management failure	1	4	4	Review reporting lines, responsibility, control and review.
2. Underestimation of work involved	2	3	6	Monitor progress, seek help of other staff and partner institutions. Review tasks in relation to importance on overall project.
3. Failure to deliver grant proposals	1	5	5	Review workload and schedule, revise and monitor.

8. Standards

1. The project will adhere to JISC standards
2. See Appendix 6 of Project Proposal.
3. See section 3.1 – 3.3 of Project proposal

9. Technical Development

9.1 Digitisation Processes, Workflow and equipment: Field survey

The data recovered from field survey will be “born digital” through the implementation of a number of digitisation techniques, including the use of total stations, GPS units, SQL Server databases, and NextEngine 3D laser scanning. The first goal is to gain wide-spread spatial coverage of both the New River and Spring villages through extensive STP surveys. Each village will be sampled using 50 centimetre pits on 6 metre centres placed on a grid across the entire village area. Based on a map of The Spring created by NHP in 2004, we

estimate that village is approximately 10,000 square metres, requiring 290 shovel-test-pits on 6 meter centres. An 1834 map of the New River village indicates that 300 STPs will provide ample coverage using the same methods. Each pit will be recorded using standards established by DAACS in previous surveys and standardised data collection protocols will ensure that artifactual, contextual, and spatial data from each village are comparable to the sites already in DAACS. These data will be entered into the DAACS SQL Server database every day throughout the survey.

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9.2 Digitisation Processes, Workflow and equipment:Artifacts

Once the surveys are completed, all artifacts will be flown to the DAACS laboratory at Monticello, where DAACS archaeological analysts will analyse and digitise every artifact using protocols established by DAACS in 2001. These protocols were developed with the input of the 35-member DAACS Steering Committee, which is comprised of archaeologists, historians, and digital technology scholars. These protocols are instantiated in a highly normalised Microsoft SQL Server database, which contains over 200 related tables that hold fine grained data on projects, artifacts, and the contexts from which they were excavated. These protocols are documented on the DAACS website (<http://www.daacs.org/aboutDatabase/catalogingManual.html>). The DAACS database has been in operation since 2001 and the database schema and authority terms are documented on the DAACS website (<http://www.daacs.org/aboutDatabase/structure.html>).

All faunal remains from these surveys will be digitised at Colonial Williamsburg's Zooarchaeological Laboratory, in Williamsburg Virginia. This digitisation follows established DAACS standards and the resulting data will reside in the DAACS database. The artifacts and faunal remains will be packed to Monticello's curation standards and returned to the Nevis and St. Kitts Historical Societies for long-term curation.

9.3 Digisation Processes, Workflow and equipment:Documents

These will be scanned as 600 dpi .jpgs that will be transformed into .pdfs for online presentation. The majority of documents will be scanned in grayscale, with the exception of coloured plats and lithographs.

The textual documents will be transcribed using a three-step textual verification process. This includes initial transcription followed by a two-person verification in which one person reads the document aloud while the second person reviews the first transcription. The verified transcription is then reviewed by a third party, who once again compares it with the original manuscript. These

transcriptions will be entered, tagged, and managed using XML within PubMan, a Content Management System. Leech will work with the project directors of The Papers of Thomas Jefferson: Retirement Series (<http://www.monticello.org/papers/>), a project based at Monticello that is creating the definitive edition of Thomas Jefferson's letters and papers for the period from 1809 to 1826. The Papers Project has worked with PubMan for over 5 years to establish robust document file structures and textual verification protocols.

PubMan is the Content Management System (CMS) that will be used to store, organise, and provide access to the texts. PubMan is a web-based system that serves as the platform for document accession, document transcription, work flow, and on-line publication. Produced by Dataformat (<http://www.dataformat.com/>), the program provides a combination of software, server access, and technical support for the project. It stores content in a XML database that is accessible to the project participants over the internet, thereby allowing them access to database and its content from anywhere there is an internet connection. As a result, data entry, tagging, and editing can occur simultaneously in archives in the Caribbean or UK, or at our home institutions in England and Virginia. It is ideal Middleware for this transatlantic digital collaboration, allowing us to work on transcription, markup, or initial data entry concurrently from different locations.

The project will create, search, view, extract, edit, and manage the textual content of the primary sources using XML. Together, the team will establish tagging protocols for both textual documents and non-textual documents, such as plats. The XML schema will ensure that these documents are fully searchable. Dataformat's familiarity with TEI, Dublin Core and other encoding standards in the humanities will also ensure that the data produced comply with established digitisation standards. Their experience with several international documentary editing projects, such as the Papers of Thomas Jefferson, the Oxford and Cambridge Press Dictionaries, and the Woodrow Wilson Papers will bring invaluable experience to the project.

9.4 Storage, Maintenance and Protection of Data

Financial stability means there is an answer to the question of what happens to the resource when initial grant funding expires. DAACS is able to provide a concrete answer, thanks to a Challenge Grant awarded by the National Endowment for the Humanities in 2001. The Challenge Grant provided DAACS 500,000 dollars toward an endowment, conditional on raising 1.5 million dollars from private sources over four years. Monticello successfully completed the match in 2005, and DAACS currently draws \$118,000 a year from the NEH Challenge Grant draw. The result is guaranteed maintenance of the DAACS website and archive staffing, as well as the continued addition of data from excavated sites throughout the Atlantic region. The guaranteed continuation of the maintenance of the site ensures that data are migrated, programs upgraded, and servers replaced on a regular basis. Nightly backups of the DAACS SQL Server and website are housed off-site at Monticello and with Category 4, Inc.

The digital photographs of documents and transcriptions will be stored in three locations: at the Department of Archaeology server at the University on Southampton, on the DAACS server at Monticello, and with DataFormat, with access to all of the materials provided by PubMan. The DAACS and DataFormat will conduct nightly updates, with off-sight storage of the digital archives. DAACS will assume responsibility for DataFormat's quarterly hosting and storage fee, thereby insuring that the storage and maintenance of the documentary data. The quarterly fee maintains the web server, server maintenance, security service (firewall), monitoring service, all software licenses required for PubMan, redundant backups (on and off site), broadband connectivity, and on call support. Finally, the International Slavery Museum has committed to a long-term online exhibit, with the expectation of hosting, upgrading, and expanding the exhibit for at least five years.

10. Intellectual Property Rights

Copyright in the survey and artifact data will be held by the University of Southampton, National Museums Liverpool and DAACS, with a license agreement transferable to HEFCE and NEH in the longer term. Copyright in the photographs of documents in archives may be assigned to those archives as and when requested as a condition of access.

Project Resources

11. Project Partners

11.1 Subcontractors

Afro-Caribbean Ceramic Digitisation and Analysis

Dr. Elaine Morris (Senior Research Fellow and Director of the Centre for Applied Archaeological Analyses, University of Southampton) specialises in the production, distribution and use of prehistoric and historic-period coarse earthenware ceramics manufactured on Nevis. She will be responsible for analysing and digitising, to DAACS standards, all recovered Afro-Caribbean ceramics.

Dr. Barbara Heath (Assistant Professor of Anthropology, University of Tennessee) is an historical archaeologist who specialises in slavery and the production of locally-made coarse earthenware ceramics in the southern United States and Eastern Caribbean. Her dissertation and subsequent publications focused on Afro-Caribbean ceramic production on St. Eustatious and Nevis. She will spearhead the INAA study.

Faunal Digitisation and Analysis

Dr. Joanne Bowen (Curator of Zooarchaeology, Colonial Williamsburg Foundation) is the foremost zooarchaeologist active in the Chesapeake Region.

Her research laboratory completed the faunal analysis for all of the sites currently in DAACS (DAACS 1999). Her research laboratory will handle all of the faunal analysis for this project.

Steven Atkins (Zooarchaeological Analyst, Colonial Williamsburg Foundation) has over a decade of experience in the Colonial Williamsburg zooarchaeology lab. He analysed the faunal assemblages currently in DAACS and will serve as the primary faunal analyst for this project.

Information Technology Consultants

Category 4, Inc., Charlottesville VA (www.category4.com). Category 4, Inc. designed the current DAACS website (<http://www.daacs.org>) and designed the My SQL database that drives the online Archive. Category 4 will continue to serve as the database management and website design team for DAACS.

Dr. Dean Abernathy (Associate Director, The Institute for Advanced Technology in the Humanities, University of Virginia) manages the IATH Viz Lab and is developing visualisation projects in conjunction with the Virginia Visualization Group and the Department of Architecture. Dr. Abernathy, along with Dr. Koller, will serve as advisors on the use of NextEngine 3D laser scanning to enhance archaeological recording and research methods.

Mr. Stephen Perkins, Data Format (www.dataformat.com) meets the information needs of reference, corporate and independent publishers by providing content management and delivery solutions. The cornerstone of their content management solutions is the PubMan™ software, a web-based Content Management System that stores, organises and provides access to document collections and related resources. Dataformat's clients include CUP, OUP, The Papers of Abraham Lincoln, The Woodrow Wilson Presidential Library and the Thomas Jefferson Foundation.

Ms. Karen Miller (National Museums Liverpool) is the web strategy coordinator and developer for all websites related to the National Museums Liverpool, which includes the International Slavery Museum website. She will be responsible for coordinating the production of the ISM online exhibition feature, agreeing and collating content with Philpott and Galle and liaising with the developers.

12. Project Management

Principal Investigator UK	Professor Roger Leech of University of Southampton	Overall responsibility for the UK component of Project, overseeing recruitment, equipment purchase and project planning
Co-Principal Investigator UK	Dr Robert Philpot of National Museums Liverpool	Involvement in fieldwork elements of STP, topographical survey and digitisation of site data. Researching and creation of the content for the online web exhibit
Archival Assistant UK	Mrs Pamela Leech B.A. responsible to the PI	Assisting in the transcription of document and data entry to the PubMan software using XML protocols, working in the St. Kitts, Nevis, Bristol, Southampton and Suffolk archives
Principal Investigator USA	Dr Fraser Naiman	Overall responsibility for the USA component of Project, overseeing recruitment, equipment purchase and project planning
Co-Principal Investigator USA	Dr Jillian Galle	Involvement in fieldwork elements of STP, topographical survey and digitisation of site data. Co-researching and creation of the content for the online web exhibit

12.2 Training Needs

Training in the use of XML and PubMan to be carried out at DAACS, Monticello, May 2008.

12.3 Project Reporting

This will include the following reports:

- a) Financial reports from the University of Southampton Agresso system
- b) Annual report to JISC following annual report format

13. Programme Support

13.1 Training

See above section 12.2. Further training needs will be identified as the Project progresses.

14. Budget

See Project Proposal JISC budget p. 24.

Detailed Project Planning

15. Workpackages

See appendix A.

16. Evaluation Plan

Timing	Factor to Evaluate	Questions to Address	Method(s)	Measure of Success
02/09	Creation of web-based tracking system	Does the site meet user needs?	Use and review by project team	Search areas tracked and verified as functional
11/08	Capturing transcription and images of primary documents	Quality of metadata and image quality	Spot check during verification process	100% of documents and images meet required quality
09/08	Analysis of STP data	What has this method of fieldwork research uncovered about slave village sites?	Analyse artifactual material	Patterns of habitations uncovered through the STPs
09/08	Plotting of field survey techniques	What has been discovered through survey?	Plot data onto plans	Layout and plans of slave villages accessible

17. Quality Plan

<Explain the quality assurance procedures you will put in place to ensure that project deliverables meet quality expectations and acceptance criteria. Complete the table below for each of the major deliverables providing as much detail as possible. Repeat the table as many times as necessary to accommodate all deliverables.>

Output	Quality criteria	QA method(s)	Evidence of compliance	Quality responsibilities	Quality tools (if applicable)
Ongoing	XML Markup	TEI	TEI standards	PubMan verification	XMetal/PubMan
Ongoing	Metadata standards	Comparison checklist	Strategy consistent with guidelines		
Ongoing	Technical standards	Comparison checklist	Strategy consistent with guidelines		
Ongoing	Preservation	Comparison	Strategy		

	standards	checklist	consistent with guidelines		
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18. Dissemination Plan

All of the archival and archaeological data generated by this project will be freely accessible to scholars and the general public through the DAACS website and the International Slavery Museum's website. Web usage statistics for the DAACS website attests to its sustained use by scholars and professors since its launch in 2004. The ISM website has also been popular with hits and unique users since its launch being monitored. In addition to providing scholarly and general content, user guides and metadata standards will be made available to scholars and the general public through these sites. These resources will be announced through a wide-range of history and archaeology list-servs. Each website will be tagged for search engines such as Google. When search terms such as "archaeology and slavery" and "comparative and slavery" are entered into Google, DAACS is consistently the first to third entry. Finally, the website will be registered with archive resources such as A2A/Access to Archives and Cornucopia.

This one-year project is dedicated to digitising and providing access to these historical and archaeological resources. We do not anticipate being able to conduct extensive research on the materials until after the grant period. Once completed, we anticipate collaborating on multiple publications and conference presentations that will focus on both the collaborative digital process as well as the resulting ability to use the data for groundbreaking new research.

We will also produce the required white paper that documents the project. In addition to being filed with the NEH, the white paper will be available for download through the DAACS and ISM websites.

Timing	Dissemination Activity	Audience	Purpose	Key Message
12/08	Websites populated	Worldwide enquirers	To answer search enquiries about slavery	Rich sources of material exist for Nevis and St Kitts regarding the history of slavery
12/08	ISM On-line exhibition design	Worldwide enquirers	To answer search enquiries about slavery	Rich sources of material exist for Nevis and St Kitts regarding the history of slavery
03/09	Research papers on collaboration project	academics	To publicise the value of collaboration	Cross-Atlantic collaboration enhances the intellectual processes in planning, participation and

				evaluation of a project
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19. Exit and Sustainability Plans

Project Outputs	Action for Take-up & Embedding	Action for Exit
Guaranteed maintenance of Southampton University website through their commitment to the project	The Dept of Archaeology hosts the web pages that will carry the dissemination of this project	The information will be maintained and preserved through this commitment
National Museums Liverpool through their commitment to ISM	ISM will maintain the online exhibition for as long as funding allows.	Copies of this site will be lodged as security copies both with DAACS and University of Southampton
Dataformat SLA with the project	Storage and maintenance of all digital data will be covered by SLA	Backup copies to be held by DAACs and University of Southampton

Project Outputs	Why Sustainable	Scenarios for Taking Forward	Issues to Address
Web based tracker	Independent tool that could be used by other digitising projects	Codes made available	Promote awareness
Web based interface	Project is planned to ensure minimal maintenance for site after uploading	Research tool could be used for other bodies and expanded should further monies be available	Assess demand

Appendixes

Appendix A. Project Budget

(Not included in public version of project plan)

Appendix B. Workpackages



WORKPACKAGES	Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1. Project Initiation	April 08	x	x	x	X																				
2. PubMan/CMSTraining	May 08		x																						
3. Nevis STP + surveys	May 08		x	x	x																				
4. St Kitts STP + surveys	July 08				x																				
5. Document Transcription	July 08				x		x	x																	
6. Digitisation of images and archaeological data	July 08				x	x	x	x	x	x	x	x	x												
7. Database population	September 08						x	x	x	x	x	x													
8. Metadata creation	May 08		x	x	x	x	x	x	x	x	x	x	x												
9. Website	August 08				x	x	x	x	x	x	x	x	x												
10. Project Admin	April 08	X																							x
11. ISM Online Exhibit	August 08																								

Project start date: 06-04-08

Project completion date: 31/03/09

Duration: 12 months

Workpackage and activity	Earliest start date	Latest completion date	Outputs (clearly indicate deliverables & reports in bold)	Milestone	Responsibility
YEAR 1					
WORKPACKAGE 1: Project Initiation					
<u>Objective:</u> Recruitment, equipment purchase, establish project					
1. Recruitment	6/04/08	5/05/08	Staff recruited		RL
2. Equipment Purchase	1/05/08	20/05/08	Equipment in place		RL,RP
3. Software Purchase	1/05/08	11/05/08	Software purchased		RL
4. Project protocols	16/05/08	20/05/08	Protocols established		RL,RP
5. Write Project Plan	1/05/08	16/05/08	Project Plan written		RL
WORKPACKAGE 2: PubMan/Content Management Services Training					
<u>Objective:</u> To understand the software requirements and usage					
1. Meeting in Monticello to receive training	12/05/08	16/05/08	Training from Dataformat undertaken		RL,RP,PL
2. Collaboration with NEH partners re systematic recording	12/05/08	16/05/08	Meeting held		
WORKPACKAGE 3: Nevis STP and survey					
<u>Objective:</u> To carry out shovel test pits and survey of the site of New River slave village					
1. Carry out STP survey of New River	28/06/08	28/07/08	STPs achieved, including planning and artefact retrieval		RP,RL
2. Carry out landscape survey of New River	28/06/08	28/07/08	Survey work carried out and recorded digitally. Data stored for plans		RP,RL
WORKPACKAGE 4: – St Kitts STP and survey					

Workpackage and activity	Earliest start date	Latest completion date	Outputs (clearly indicate deliverables & reports in bold)	Milestone	Responsibility
Objective: To carry out shovel test pits and survey of the site of The Spring slave village					
1. Carry out STP survey of The Spring	28/06/08	28/07/08	STPs achieved, including planning and artefact retrieval		RP,RL
2. Carry out landscape survey of The Spring	28/06/08	28/07/08	Survey work carried out and recorded digitally. Data stored for plans		RP,RL
WORKPACKAGE 5: Document Transcription					
Objective: To transcribe the documents from the St Kitts and Nevis Courthouses, Bristol, Southampton and Suffolk Record Offices as relate to the sites in the Project					
1. Use 3-step textual verification process for textual transcription	28/06/08	30/10/08	Documents transcribed and abstracted.		RL,PL
WORKPACKAGE 6: Digitisation of Images and archaeological data					
Objective: To digitise documentation both historical and archaeological					
1. Digitisation of St Kitts documents	29/06/08	30/10/08	All pages captured as TIFF images		RL, PL
2. Digitisation of Nevis documents	14/07/08	30/10/08	All pages captured as TIFF images		RL,PL
3. Digitisation of archaeological data for Nevis	20/05/08	31/03/09	All pages captured as TIFF images		RL, RP
4. Digitisation of archaeological data for St Kitts	26/07/08	31/03/09	Digitisation of archaeological data for		RL, RP
5. Uploading of all information to PubMan	20/05/08	31/03/09	Metadata available		RL, RP, PL
WORKPACKAGE 7: Database Population					
Objective: Integrate all content into database					
1.Documentary material	30/07/08	28/02/09	Documentary material integrated		RL, PL
2. Archaeological material	20/05/08	28/002/09	Archaeological material integrated		RL, RP
3.Survey material	20/05/08	28/02/09	Survey data integrated		RL,RP

Workpackage and activity	Earliest start date	Latest completion date	Outputs (clearly indicate deliverables & reports in bold)	Milestone	Responsibility
WORKPACKAGE 8: Metadata Creation					
Objective: Ensure all metadata is embedded in XML and accessible through CMS					
1. Ensure all metadata is embedded within XML documents for the transcriptions	1/08/08	31/03/09	All documents verified through PubMan and uploaded		RL, PL
2. Ensure all metadata is embedded within XML documents for the archaeological data from STPs	1/08/08	31/03/09	All files verified through PubMan and uploaded		RP,RL
3. Ensure all metadata is embedded within XML documents for the archaeological data from survey	1/08/08	31/03/08	All files verified through PubMan and uploaded		RP,RL
WORKPACKAGE 9: Website					
Objective: Create web-based user interface					
1. Develop demonstrator	30/08/08	16/10/08	Demonstrator available		RP, KM
2. Develop Release 2	17/10/08	31/12/08	Release 2 available		RP, KM
3. Develop final site	1/01/09	31/03/09	Final site available		RP, KM
WORKPACKAGE 10: Project Administration					
Objective: Reporting and Evaluation					
1. Interim Report	30/10/08	31/12/08	Interim report produced		RL, RP
2. Project Review	1/03/09	31/03/09	Evaluation reports		RL,RP
WORKPACKAGE 11: ISM On-line Exhibit					
Objective: Create the ISM On-line Exhibit using materials from the project					
1. Liaise with ISM for provision of materials for online exhibition of slavery in the Leeward Islands	1/09/08	31/03/09	ISM online exhibition live		RP,KM,RL
2. Develop educational component on technology behind the exhibit	1/11/08	31/03/09	Explanations of 3D artefact scans and 'born digital' field work		RP,KM,RL

Members of Project Team: Professor Roger Leech, Dr Robert Philpot, Ms Karen Miller, Mrs Pamela Leech