Project Document Cover Sheet

Project Plan

Project Information			
Project Acronym	VERA		
Project Title	Virtual Research Environment for Archaeology		
Start Date	01/04/2007	End Date	31/03/2009
Lead Institution	The University of Reading		
Project Director	Prof. Mark Baker		
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Partner Institutions	York Archaeological Trust, University College London		
Project Web URL	http://vera.rdg.ac.uk		
Programme Name (and number)	JISC Capital Programme, VRE II		
Programme Manager	Frederique Van Till		

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JISC Project Plan

Overview of Project

1. Background

The archaeological excavation of the Iron Age and Roman town at Silchester[1], Hampshire (Calleva Atrebatum), which is one of the largest and best preserved sites of its kind in the UK, has been underway since 1997. The Silchester Town Life Project is concerned with a diachronic study of a large sample of the Roman town through excavation and subsequent analysis of all the associated finds. The principal aim is to characterise the changing nature of urban life from origins in the pre-Roman period in the first century BC to demise in the early medieval period in the fifth/sixth century AD. The research team responsible for publication of results is now more than 20 strong and includes a wide range of expertise – stratigraphic analyst through material and biological culture specialists to microbiologists and geochemists. The data and information, collected and identified during the excavation and subsequently analysed and researched, are stored within the York Archaeological Trust's Integrated Archaeological Database2 (IADB). Under the first VRE programme, a project called OGHAM (Online Group Historical and Archaeological Matrix) was funded. OGHAM's objectives were:

- To establishment full interoperability between different IADB datasets, wherever they physically reside.
- Improved real time on-site data gathering including an assessment of the usefulness of handheld PDA devices using wireless networking and/or mobile phone technologies.
- To develop a structured mechanism for classifying thematic *Research Domains* or *Views,* which will operate across servers and across projects.
- To develop a framework for the creation of real-time online conferences involving both on- and off-site project workers and remote specialists.

The Virtual Environments for Research in Archaeology (VERA) project will facilitate greater collaboration amongst the archaeological researchers, on-site teams and interested Internet community, providing them with the enhanced means of collaborating, collating, manipulating and managing data and information, as well as collective knowledge creation. VERA will take the prototype solution produced in VRE I, along with the knowledge and experience gained, and deploy it in a full Portal Framework with portlets. The work within VRE II will allow greater customisation of the user environment, role-based security, enhanced integration of user tools, reusable components, and greater standards compliance. This enhanced research environment will accelerate user take up and continue to stimulate change in archaeological research practices by creating a user-centric solution. VERA will actively involve the research team, the on-site team, and the wider community of archaeological researchers and the general public, in building a more flexible and interoperable VRE solution. VERA will further raise awareness of the benefits of the VRE solution to archaeological and other related communities.

[1] Silchester Web Site, http://www.silchester.rdg.ac.uk/
[2] IADB, http://www.iadb.co.uk/iadb.htm

2. Aims and Objectives

The main aim of the VERA project is the production of a fully-fledged research environment for the archaeological community. This will be achieved by wholly engaging the community in the user-centric design of the research environment, its interface and the tools that will be used to stream-line their research processes. The user engagement will involve the research team which is distributed around the UK, the on-site excavation team, the wider archaeological research community as well as the general public interested in the information provided by the research environment. The VERA project will address all user needs, from enhancing the means of more efficiently documenting finds on the excavation site; here we will investigate i-pen-based technologies and the latest generation of mobile devices (e.g. the Nokia 770), through to creating a more suitable portal that will provide an enhanced range of tools for the user community, including the means to provide 3D views of the archaeological site and the finds, as well as tools that help encapsulate the working practices of current researchers not so familiar with the research environment, for example ingesting data into and out of IADB from spread sheets.

Objectives

a) The development and production of a fully functioning standards-based Web Portal that has been created especially for the Archaeological Community that will enhance and streamline the various on and off excavation site and research processes.
b) A fully user driven design process based on frequent and in-depth analyses of user needs and access strategies of the VRE.
c) Portal-based tools that assist in the various archaeological processes, including cross database searching, 2/3 dimensional visualisation, and standalone clients.
d) An investigation of emerging mobile and digital technologies, including PDAs, i-pens, Web cams, for gathering and submitting on-site information.
e) User dissemination and engagement via workshops, a comprehensive Web site, which has related blogs, Wikis, RSS feeds, user documentation and FAQs.
f) Education and training material as well as events for the various sections of the archaeological community.

3. Overall Approach

The VERA project has two major phases each year, one that involves the entire on site activities during July and August, and the other is the post excavation data submission, analysis, and research of the finds and artefacts recorded in the IADB. The on-site activities are a key part of the Silchester activity, and so it is very important that these are fully planned and prepared each year. These two phases dictate the order in which many of the activities happen within the project.

From an overall project point of view the initial phase of the project will involve recruiting staff, setting up the Web site (http://vera.rdg.ac.uk) and associated tools (Wiki/Blog/RSS), preparing for the on-site activities during July and August, which includes preparing on-site surveys and questionnaires, as well as investigating the appropriate mobile devices for on-site use.

The project is organised as six work packages with deliverables as described in the appendix. The team carrying out these work packages are experienced in the management of distributed projects and fully understand the inherent risks. It is important to note that the RA undertaking the work in the **Archaeological Technological Coordination** work package (WP2) will be an archeologist with technical skills who will play a very central role of coordinating, linking and mapping the needs of the archeological community (on and off site) via the efforts of the **User Case Studies and Analysis and Feedback** work package (WP3) into the correct technical specifications that drives the development in **Tools and Environment Integration** work package (WP1) and **On-site Archaeological Tools and Development of IADB** work packages (WP4). The RA undertaking this task will have the experience and knowledge of both areas and so will help formulate the correct questions to the

community and be able to extract the relevant answer aid the user-driven VRE development. The other work packages are **Integration and Dissemination** (WP5), which will involve all the partners and undertake a variety of integration and dissemination activities that will ensure the smooth operation and management of the project as well as guaranteeing the activities are widely diseeminated to the appropriate communities; and Project Management (WP6), which will undertake the tasks described in section 12. Project Management).

4. Project Outputs

Category	Output
Web site	• An extensive Web site with an embedded Wiki, Blogs, and RSS feeds.
VRE portal	• A Portal framework based on standardised and reusable components.
Portal Tools	• Grammar checker, Excel capabilities. • 2D/3D Visualisation of IADB records. • Cross DB search capabilities, • Further tools and utilities demanded by the user community.
Off-line Client	• A prototype client that can be used on laptops and other mobiles devices in a disconnected mode, which can later synchronise collected data when on-line again.
Events	• Annual VERA workshops, • International VERA conference, • Participation in national and international events.
Reports and documentation	• Reviews and assessments of the use of i-pens, mobile devices and other on-site activities. • Investigation of user surveys, interviews, questionnaires, and log analysis. • VERA-based education and training materials. • User manuals and specifications for the software systems used in the project. • Management report.
Knowledge and experience.	• Recommendations as to the suitability and usefulness of innovative on-site data capturing mechanisms using commodity technologies. • A clearer understanding of the collaborative data management, access and analysis requirements of all those involved in major archaeological research projects.

5. Project Outcomes

The project will continue the exploration of direct on-site digital data collection in field archaeology. In theory there are many benefits to recording find information directly from the excavation site, however, experience has shown that problems still exist. For example, in the input interfaces, accuracy, and amount, of the information recorded. This is an area that will be further explored during the excavation of 2007 and 2008, as it is important that this area is resolved.

Coupled with the former outcome will be the further exploration, development and assessment of the devices and software developed for on-site data collection. The people working on-site range from experts to complete novices in archaeology terms, and also in-terms of using mobile devices. It is important to provision training needs for all types of users to ensure that the use of the various technologies can be used and then assessed fairly. We believe that this project will shed further light on the current situation with regards to on-site digital data collection, and further stimulate their use and development.

The project will migrate the tools and services developed in the OGHAM project into a full-complaint portal framework that utilities standard JSR-168 portlets. The portal will allow greater customisation of the user environment, role-based security, enhanced integration of user tools, reusable components, and greater standards compliance. We believe that this enhanced research environment will

accelerate user take up and continue to stimulate change in archaeological research practices by creating a user-centric solution.

Based on user feedback, guidance and engagement the VERA VRE will be developed and adapted to suit the archaeological communities needs for on-site information input, and later the research and analysis of finds. In addition, feedback and experience from the OGHAM project will be used to enhance the portal with further tools and utilities. These include ones that allow 2/3D visualisation of information in the IADB, standardised cross-database searches of a variety of archaeological repositories, and development of a client that can be used on small devices and laptops for disconnected data input.

User engagement is a key aspect of the VERA project. VERA will actively involve the research team, the on-site team, the wider community of archaeological researchers and the general public, in building a more flexible and interoperable VRE solution. VERA will further raise awareness of the benefits of the VRE solution to archaeological and other related communities. User engagement will include undertaking user needs, contextual, and change analysis of the archaeological community, which consists of individual researchers and research teams on and off the excavation site, and the public at large. A range of techniques will be used ranging from interviews and surveys, through to the studies of working practices via log analysis.

Another key aspect of VERA will be the production of educational and training material, which will help the user community develop new key skills that will enhance the research process as well as pushing new knowledge and expertise into the archaeological arena.

6. Stakeholder Analysis

VERA - Stakeholder	Interest / stake	Importance
Silchester Excavation Staff	Looking for improved efficiency without time penalty	High
Silchester Post Excavation Staff	Looking for greater integration of specialists into the project 'team'.	High
Silchester Specialists	Enhanced and more immediate input into the project.	High
York Trust Staff involved in the Silchester project	Interest in the long-term preservation and accessibility of archaeological data from Silchester.	High
Other UK HEIs wanting to develop VREs	Strong interest in experience, knowledge and tools used and developed.	Medium
Other IADB Users	Direct applicability of VRE to their own projects.	Medium
ITS at Reading	Hosting Silchester Web site and local IADB	Medium
Archaeology Data Service	Long term preservation and accessibility of archaeological data	Medium
Archaeology Dept. at Reading	Long-term involvement with Silchester and vested interest in improvement tools and techniques.	Medium
Archaeology students involved in Silchester	Direct used of VRE, tools, devices and services.	Medium
Other UK professional archaeological organisations also wanting to develop VREs	Strong interest in experience, knowledge and tools used and developed.	Medium
English Heritage	General interest in archiving and preserving UK archaeological information.	Low
Wider Archaeological Community	Suitability of IADB/VRE model for future projects	Low
Archaeology students at Reading	Via dissemination of knowledge and experience	Low
National non-government bodies representing local historic groups - e.g. CBA.	Interested in the project, it findings and its finds.	Low
General Web Users	Interested in the project, it findings and its finds.	Low

7. Risk Analysis

Risk	Probability (1-5)	Severity (1-5)	Score (P x S)	Action to Prevent/Manage Risk
Staffing				
Unable to recruit appropriate staff.	1	5	5	Using colleague-based network to solicit appropriate staff
Delayed staff recruitment	2	4	8	Use alternative temporary staff and colleagues to bridge gaps.
Long term sickness of staff	1	5	5	Aspects of the project would be delayed, mitigated by assigning alternative staff to support project.
Organisational				
Missing deliverables or millstones.	2	2	4	Steering Group will provide oversight and expertise to prevent this.
Technical				
Software difficulties	1	5	5	Appoint effective technical staffing.
Teething problems during excavation period.				Seek further technical support from Steering Group members.
Delays sourcing hardware	1	2	2	Source hardware from alternative non-university approved supplier.
Legal				
IPR	1	3	3	Added as part of the consortium agreement.
Other				
Long term data preservation not guaranteed	1	4	4	Gain understanding/agreement with Reading University and Archaeology Service at York.
Curtailment/cancellation of the Silchester excavation	1	3	3	Use existing Silchester datasets.

8. Standards

Name of standard or specification	Version	Notes
Portlets	JSR 168	API used for Portal components
Servlets	JSR 154 – v2.5	Back-end Tomcat services
Java Server Pages	JSP 2.1	Web UI
XHTML	1.1	Mark up for Web content
CSS	2	Style sheers
SQL	92	Queries to backend Databases
JDBC	V4 (JSR-000221)	Database connectivity
JavaScript	1.5	Web scripting language
SVG	1.1	Web-based graphics
CLF		Logging format

9. Technical Development

From a Software Engineering perspective the design and development of the VERA software will be influenced by Agile programming model[3]. This is because requirements often emerge and change during a project's lifetime, and Agile methods cope with change by initially making high-level abstract designs, prioritising particular issues, and then prototyping components to address those issues. Experience gained from creating component prototypes feeds back into the prototype design, thereafter, iterating through these steps allows required functionality to be identified earlier and with

[3] Agile Modelling Principles, http://www.agilemodeling.com/principles.htm

potentially greater success than in more traditional waterfall and process re-engineering models. Requirements can be re-prioritised before each software iteration. This approach allows development to refocus as necessary on the more important issues that iterations uncover. Each iteration, whether major or minor, will result in a software release. This is an advantage because it allows the validation and verification of an emerging technical solution.

The Agile Modelling methodology is synergetic with the objective of the VRE 2 programme, which has the requirement of full user engagement in the design process of the VERA software. At each stage during the lifetime of VERA the archaeological user community will be fully involved process of feeding back ideas and changes to the software that is developed.

10. Intellectual Property Rights

Details of Intellectual Property Rights are outlined in the project's consortium agreement, which all partners have agreed to sign.

Project Resources

11. Project Partners

University of Reading

- Professor Mark Baker, School of Systems Engineering, will be the Project Manager and Director of the VERA project. He will direct the Computer Science RA and the technical development of the Portal and tools development in consultation with the other technical partners.
- Dr Matthew Grove, School of Systems Engineering, will be the Research Assistant involved in technical development of the portal and all its components. He will as also maintain the VERA web site, and be involved in the configuration, installation and management of the project's servers, wireless network and other hardware and software services.
- Professor Michael Fulford, School of Human & Environmental Sciences (Department of Archaeology) directs the Silchester Roman Town Life Project and will lead the archaeological aspects of the VERA project. He, with Amanda Clark, will help direct the Archaeology RA.
- Amanda Clarke, School of Human & Environmental Sciences (Department of Archaeology) is the Director of the Silchester Field School. Her principal role in VERA will be to co-ordinate the Archaeology RA within the Silchester Field School and work with WPs 2 and 4.
- Emma Jane O'Riordan, School of Human & Environmental Sciences (Department of Archaeology) will be the Research Assistant involved in coordinating the various technical archaeological activities with the various partners.

School of Library, Archive, and Information Studies, University College London

- Drs Melissa Terras and Claire Warwick will manage the RA, provide guidance on procedures and techniques used to carry out user evaluation and testing, interact with other team members to discuss methodologies and results, set up and run usability workshops, report back on findings of the user analysis exercises, and manage and interact with the consultant undertaking log analysis techniques for the project.

York Archaeological Trust

- Michael Rains is IT Manager of the York Archaeological Trust. His major interest has been the development of the Integrated Archaeological Database (IADB), which represents a fully integrated excavation recording, post-excavation analysis, research, archiving, and publication solution and has been developed at Silchester since 1997. He will provide advise and technical help on-site and also wit the development the Portal.

12. Project Management

The VERA project has a core team based on researchers at the University of Reading, University College London, and York Archaeological Trust. To advise the project, VERA has a Steering Group made up of experts in the field of Archaeology, Virtual Research Environments, and the user community.

Prof Mark Baker is the project manager and will spend approximately 20% of his time working on the VERA project. He will:

a) Prepare the project plan,
b) Manage project resources, including the budget,
c) Monitor project progress and performance,
d) Ensure prompt delivery of all Project Deliverables identified in the JISC Contract and the Project Plan or requested by the JISC for reviews and audits,
e) Validate the intermediate project outputs,
f) Prepare the reports and project documents as required by the JISC,
g) Liaise and collaborate with other VRE 2 projects,
h) Explore and make recommendations regarding project,
i) Ensure that the project abides by the letter of grant, the JISC Terms and Conditions, and the JISC Project Management Guidelines.

Project Manager and Director
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Core Team (Associate Directors)

- Professor Mike Fulford <m.g.fulford@reading.ac.uk> (Archaeology, University of Reading),
- Ms Amanda Clarke <a.s.clarke@reading.ac.uk> (Archaeology, University of Reading),
- Dr Claire Warwick <c.warwick@ucl.ac.uk> (SLAIS, University College London),
- Dr Melissa Terras <m.terras@ucl.ac.uk> (SLAIS, University College London),
- Mr Mike Rains <admin@yorkarchaeology.co.uk> (York Archaeological Trust).

Research Assistants:

- Dr Matthew Grove <m.grove@reading.ac.uk> (SSE, University of Reading).
- Emma Jane O'Riordan <>(Archaeology, University of Reading)

Steering Group

- Dr Stuart Dunn (e-Science Institute, King's College London),
- Mr Steve Gough (University of Reading),
- Professor Gary Lock (Archaeology, University of Oxford),
- Dr Jeremy Huggett (Archaeology, University of Glasgow),
- Professor Vince Gaffney (Archaeology, University of Birmingham),
- Professor Julian Richards (Archaeology, University of York),

- Dr Robert Allan (Daresbury Laboratory),
- Plus core members of the VERA team.

13. Programme Support

Dissemination of the project, its aims and objective, as well as the project Web site to the wider UK academic community.

14. Budget

Directly Incurred Staff	**March 07**	**April 07– March 08**	**April 08– March 09**	**TOTAL £**
Total Directly Incurred Staff (A)	**£**	**£71,352**	**£81,418**	**£152,770**
Non-Staff	**March 07**	**April 07– March 08**	**April 08– March 09**	**TOTAL £**
Travel and expenses	£	£9,880	£9,880	£19,760
Hardware/software	£	£6750	£5000	£11,750
Dissemination	£	£3,000	£11,000	£14,000
Evaluation	£	£	£	£
Other	£	£30,450	£30,450	£60,900
Total Directly Incurred Non-Staff (B)	**£**	**£50,080**	**£34330**	**£62,410**
Directly Incurred Total (A+B=C) (C)	**£**	£121432	£137,748	**£259,180**
Directly Allocated	**March 07**	**April 07– March 08**	**April 08– March 09**	**TOTAL £**
Staff	£	£26,200	£21,792	**£47,992**
Estates	£	£24,986	£25,404	**£50,390**
Other	£	£	£	£
Directly Allocated Total (D)	**£**	***£51,186***	***£47,196***	***£98,382***
Indirect Costs (E)	**£**	*£103,483*	*£110,266*	***£213,750***
Total Project Cost (C+D+E)	**£**	£276,101	£295,210	**£571,311**
Amount Requested from JISC	**£**	£207,275	£222,562	**£429,836**
Institutional Contributions	**£**	£68,827	£72,648	**£141,475**
Percentage Contributions over the life of the project		**JISC 75%**	**Partners 25%**	**Total 100%**

Detailed Project Planning

15. Work packages - see the attached document.

16. Evaluation Plan

Timing	Factor to Evaluate	Questions to Address	Method(s)	Measure of Success
Ongoing	Project Management	Is development work on schedule? Are the various stakeholders engaged? Are the VERA team meeting their targets?	Review by project manager, interaction with project team and user community.	Milestones achieved, tools and utilities created being used, core team working well together, and user community content.
Ongoing	VERA services, tools and utilities developed.	Are they useful, fully functional and helpful? Do they raise new issues?	Questionnaires, surveys, and feedback from users.	Successful use (increased efficiency). And user acceptance.
Summer 07/08	On-site data collection.	Are the latest generation of mobile devices capable of being used for on-site data gathering purposes?	On-site trails, Assessed by user surveys and questionnaires.	Successful use (increased efficiency). And user acceptance.
Summer 07/08	On-site data collection.	Are i-pens and i-forms appropriate technologies for gather on-site date?	On-site trails, Assessed by user surveys and questionnaires.	Successful use (increased efficiency). And user acceptance.
Summer 07/08	On-site Web-cams for video conferencing, and for remotely following excavations.	Can the Web cams be used for video conferencing on site and will they help improve interaction with off-site researchers. Is there an interest by remote Web users of watching the progress of the excavation?	On-site trails, Assessed by user surveys and questionnaires. Analyses of server log file data.	Successful use, user acceptance and perceived user need.
October 07/08	VRE Progress and enhancements	Are the tools and utilities, developed as part of the VRE useful and what the users actually want? Can the users of the VRE customised their environment to meet the needs of their research work	Interviews, questions and discussions at the annual fall workshop.	Successful use, user acceptance and perceived user need.
March 09	General VRE acceptance.	Are the tools and technologies that have been developed as part of VERA seen as being useful by the wider international community for the purpose recording information and later analysing it.	Interviews, questions and discussions at final International Workshop.	Perceived by the wider community as the way ahead for recording and analysing archaeological information.
Ongoing	Dissemination to the wider community.	What level of impact has the project made?	Follow up contacts made at conferences, events and via the web site.	Contacts made, uptake of added tools and utilities by wider community.
Project End	Whether the projects meets its aims and objectives.	Does the project demonstrate that a VRE satisfies the needs of the research community and improves collaboration, efficiency and effectiveness of their research?	Interviews, questions and discussions with stakeholders.	Demand and use of the VRE by research projects, and Increased collaboration.
Project End	Deployment of VRE in research community.	Does the VRE meet the expectations of the user communities?	User interviews, peer reviews.	Whether VRE users are using these services and want to keep on using them. Take up of tools developed and do users

				appreciate them.

17. Quality Plan

Output	VERA Portal				
Timing	**Quality criteria**	**QA method(s)**	**Evidence of compliance**	**Quality responsibilities**	**Quality tools**
According to work plan.	Fitness for purpose	Feedback from users.	User survey and questionnaires.	Matthew Grove	
	Best practice for processes	Feedback from users.	Review of best practices.	Matthew Grove & Melissa Terras	
	Adherence to specifications	Reference to specifications.	Compliance with specifications.	Matthew Grove	Validators
	Adherence to standards	Reference to standards.	Compliance with standards.	Matthew Grove	Validators
	Accessibility legislation	Feedback from users, and experts.	Portal Review	Matthew Grove & Melissa Terras	

Output	User Engagement – being prepared.				
Timing	**Quality criteria**	**QA method(s)**	**Evidence of compliance**	**Quality responsibilities**	**Quality tools**

Output	JISC Documentation: Project Plan, progress reports, and final report)				
Timing	**Quality Criteria***	**QA Method(s)**	**Evidence of Compliance**	**Quality Responsibilities****	**Quality Tools**
According to work plan.	Project Plans: Complete, realistic, consistent and executable.	Document reviews, assessment of resources and required knowledge.	Approval of document plan noted in meeting minutes.	Project Manager and core team.	
	Internal Reports: Consistent, factual, reflecting of achievements, issues and lessons learned.	Review of document and state of the art.	Approval of document noted in minutes or e-mails.	Project Manager and core team.	
	(All) Adherence with JISC Project Management, Guidelines, Standards and templates.	Review of documents.	Approval noted in the meeting minutes.	Project Director	
	Documents are provided to the satisfaction of the VRE Programme Manager.	External review of documents.	Accepted by JISC.	JISC VRE programme manager	

Output	Web site				
Timing	**Quality Criteria***	**QA Method(s)**	**Evidence of Compliance**	**Quality Responsibilities****	**Quality Tools**
April 2007	Project Web site available within the first month of the project	Availability.	We page is available on JISC web site.	Project Manager and core team.	Browser
Ongoing	Web content is up to date and relevant	Reviewed at progress meeting.	Entry in meeting minutes.	Project Manager and core team.	
Ongoing	Web pages conform to agreed standards and all links are valid	Regular use of online automatic testing tools, or manual, reported at meeting.	Entry in meeting minutes.	Project Manager and core team.	Browser and W3C validator.

18. Dissemination Plan

Timing	Dissemination Activity	Audience	Purpose	Key Message
Ongoing	Project Web site	All stakeholders	General project dissemination	Informational, ensuring wider international knowledge of project activities.
Ongoing	Announce availability of outputs to various Web sites, blogs, wiki, mailing lists and newsletters	All stakeholders	Awareness-raising and promotion, community acceptance and uptake, feedback	VERA may be of interest, use and feedback is encouraged.
Oct 07/08	VERA Workshop	All Stakeholders	Dissemination and gathering of information.	Here is the work that VERA has been undertaking, we are interested in collaboration and feedback.
Ongoing	Journal articles and presentations, as opportunities arise	All stakeholders	Awareness-raising and promotion, community acceptance and uptake, feedback	VERA may be of interest, use and feedback is encouraged.
March 09	VERA Conference	All stakeholders	Dissemination and gathering of information.	Here is the work that VERA has been undertaking, we are interested in collaboration and feedback.
Ongoing	Talks and attendance at national/international events	All stakeholders	Awareness-raising and promotion, community acceptance and uptake, feedback	Here is the work that VERA has been undertaking, we are interested in collaboration and feedback.

19. Exit and Sustainability Plans

Project Outputs	Why Sustainable	Scenarios for Taking Forward	Issues to Address
VERA Software	Archaeological work will continue long after the project ends, and users of the VRE will continue to want use the it for recording and	The VRE demonstrator servers and services will be transferred into IT Services at the University of	The transfer of knowledge and skills to ITS will be necessary to run

	analysing information on past and new finds.	Reading. ITS will manage and maintain the service thereafter, just as it does the Silchester Web site.	and maintain the various VERA services.
IADB Database server	Maximum of three years.	The managed service will remain in place for a maximum of three years or until the last of the projects using the service has been completed.	
Project documentation and training material	The project documentation and training material will be available via the Web or as a help text in the VRE, as far as this is required for the users This documentation will remain available via the web site for a further three year.	Documentation and training material developed during the project will be stored and remain available via the VERA web site. This material will be stored for at least three years.	
Repository of development software.	The latest, tested versions of the tools and utilities services will be made available from via a software repository.	The software will be available via SVN or a repository within Reading for three years. If, a national, repository becomes available the software will be transferred to this.	
Further knowledge.	Further knowledge will be secured and remain available in publications and reports.	Institutions and staff involved will continue to benefit from the experience and knowledge created during the project's lifetime.	

Project Outputs	Why Sustainable	Scenarios for Taking Forward	Issues to Address
Project reports and documentation	Useful for stakeholders	Hosted on project Web site	
Educational and training material	Useful for stakeholders	Hosted on project Web site	
Software tools and utilities developed.	Tool and utilities may be useful in future projects.	Hosted on project Web site or national repository.	

Appendixes

Appendix A. Workpackages