



Project Document Cover Sheet

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## Final Report

**Project Name:** WebPA – Online Peer and Self Assessment Application

**Authors:** Fiona Lamb,  
Nicola Wilkinson,

**Contact Person:** Fiona Lamb (Project Director)

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## Acknowledgements

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Acknowledgement and thanks go to the academic communities at both institutions for their willingness to participate in the trialling of the project's open source version of the WebPA tool; for their ongoing commitment to the use of the peer assessment tool within their teaching and pedagogical research; and for their participation and ongoing contribution to representing the tool and project at numerous events.

We are particularly grateful to the Advisory Board for the input, advice and guidance given to the project team during the funding period. We hope that the project can count on the continued expertise of the Advisory Board as the project enters its next phase of life within the open source arena.

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The biggest thanks and appreciation however must go to the wider academic community, from HE, FE and schools, for embracing and piloting the WebPA tool and making the project so informative and successful.

## Executive Summary

### WebPA – A use case

Dr Smith is a lecturer in a science department. As part of the course students engage with group activities; which often involves having to produce various laboratory reports, student presentations and even posters. Dr Smith knows getting students to work together and peer assess each other's work helps support the learning process, based on sound research. However, in recent years student numbers have increased significantly which makes managing these activities more and more difficult and time consuming.

WebPA is an award winning peer assessment tool that would support this type of student activity. Students can quickly be enrolled on WebPA and groups created automatically to allow them to provide feedback to other students. Since the tool is web based it is easy for both Dr Smith to manage and for students to interact with. Students can undertake various group activities and use WebPA to record their feedback and the whole process still meets Dr Smith's original teaching and learning goals.

WebPA is an award winning peer assessment tool that supports the marking of group work activities.

The success and uptake of JISC funded project has far exceeded the expectations of the project team, the consortia and the funding body. At the beginning of the project, the team hoped for about 3 pilots beyond the partner institutions of Loughborough and Hull. By March 2009, the team are able to count:

- 28 additional known interested institutions drawn from across the world
- of which 15 are currently at piloting WebPA with their institutions
- and 4 have embedded WebPA fully into their institution
- and 2 are beginning to contribute their own code back to the open source software.
- and recent interest and implementations are now taking place in FE and schools

Not only has it proved possible to deliver an internationally renowned project that answers the needs of academic tutors working on the coal face, but to have also made great strides in forming a community for the future sustainability of the WebPA tool.

Developing an active community and exceeding the intended project deliverables has resulted in a wish-list of additional features and related applications to broaden usability and increase impact even further and in turn this has been to raised expectations about what could be delivered by retaining the existing project team. The one outstanding issue has been failure to navigate a route to obtain further resource from our funders to enable proper expansion and support of WebPA until it is fully mature and able to fulfil the much broader potential identified during the project. This is an issue that will apply not only to the WebPA project but other similarly successful projects – current funding initiatives focus strongly on speculative new developments and leave little room to ensure realistic embedding and continuity of the projects which prove to be a real success.

The project team and partners have over the duration of the project worked well together to develop, deliver and disseminate WebPA, all the time basing their work on sound pedagogical research which has facilitated understanding and acceptance of WebPA. From this it has been possible to begin to form a community of users.

This final project report details the work undertaken during the project life-time, the outcomes and outputs achieved, lessons learned and the future aspirations of the project team and community of users to see the work continued and supported.

## Background

Group work is widely used within the HE setting because it provides many benefits for students (Mello, 1994). However, it is clear that the way that group work is assessed is a concern to both students and academic staff. The fairness of allocating equal marks for group projects has been questioned, with concern expressed that "lazy students might benefit from the efforts of team mates or particularly diligent students may have their efforts diluted by weaker team members" (Willmot & Crawford, 2004). Both academic tutors and students want a fair method for assessing contributions to group work.

Peer assessment is seen as one way to differentiate between group members, allowing for a fairer allocation of marks based on the contribution that each individual makes. By involving students in assessment it allows academic tutors to gain an insight into the group dynamics and measure things that may not have been possible without student assistance. An additional benefit for academic tutors is that peer assessment, particularly when conducted online, can reduce the overall time burden of marking. Furthermore, online peer assessment can provide the student with greater anonymity and more opportunity to reflect upon their assessment. Thus, the development of flexible online peer assessment systems that are sensitive to student concerns and responsive to the criteria used for assessment is seen by many as a positive step forward.

At Loughborough, a small group of academic tutors have been using online peer assessment since 1998. The original idea for developing an online system for peer assessment came from a lecturer (Peter Willmot) in the Wolfson School of Mechanical and Manufacturing Engineering. Prior to this both Willmot and Keith Pond (a lecturer in the Business School) had independently been using paper-based peer moderation systems to good effect. Both systems were later found to be similar in methodology to that outlined by Goldfinch & Raeside (1990). Both paper-based systems utilised the same basic principles to achieve individual marks for group work set for students.

The original online tool (PASS) was derived from these paper-based systems. PASS was superseded by a more robust and flexible online tool (WebPA), which was developed through TQEF funding. The development of WebPA was led by academic users across many disciplines but particularly from within the Engineering Faculty. A series of iterations of the tool were based on suggestions arising from this community of academic users. At the same time as these developments occurred, parallel pedagogic research was undertaken by academic tutors and educational developers who later formed part of the WebPA Project Team or the project's Advisory Group. At the start of the project (September 2006) the WebPA tool had been in use since 2003 and had been used by 25 tutors in 5 departments, impacting on nearly 800 students.

Similar developments had been taking place at the University of Hull. In much the same way, Paul Chin used a paper-based system for managing his peer assessment activities in the Biosciences department. This was later replaced by a web-driven tool which was developed by colleagues from the eServices Integration, Academic Services unit at Hull. This system was Flash and xml based. After hearing about the work of PASS at Loughborough, members of the University of Hull approached the project team at Loughborough with a view to submitting a joint proposal for funding from the JISC e-Learning Capital Programme that would result in further development to the WebPA system, with a view to offering the enhanced tool as an open source resource to the academic community at large.

The ongoing piloting of the tool through its various development stages during the course of the project would ensure that the development of the tool had been based on sound pedagogical practice and user feedback through detailed evaluation procedures. These developments focussed on transportability, allowing the system to function independently of the originating University's corporate systems, and making it available for other institutions to use through an open source licence.

## Aims and Objectives

The aim of the project was to offer the academic community access to a peer-assessment system (WebPA) that had been developed through thorough and rigorous testing. In the process, the project would enable more institutions to enhance the student learning experience by providing their students and academic tutors with an opportunity to engage in online peer assessment.

The original aims (listed in the project bid) were as follows:

- A. To make significant enhancements to the online peer assessment system 'WebPA' (WebPA v0.8), designed at Loughborough University, to incorporate changes based on evidence from pedagogic research undertaken at Loughborough and the University of Hull; and to conduct a technical evaluation to address the need for more learner centred provision.
- B. To provide a mature open source peer assessment application (WebPA OS v2.0) with the support of an active development community provided through the Higher Education Academy Engineering and Physical Sciences Subject Centres.
- C. To create and disseminate models of pedagogic use based on a current literature review, findings from student and tutor evaluations regarding the best practice in terms of formative and summative assessment methodologies and with the engagement of employers.
- D. To advance the service oriented approach for application development within the JISC e-Learning Framework.

The project bid stated that these would be achieved through completion of the following activities:

1. A literature review and exploration of potential pedagogical models to evaluate ongoing updates to existing application based on research and feedback. (A, B, & C above)
2. Work closely with Hull University in developments, both pedagogic and technical implementation and further developments. (A above)
3. Re-coding and re-purposing of application to make it open source and service oriented. (B & D above)
4. Student and tutor qualitative and quantitative evaluation. (C above)
5. Documentation of technical approach and ongoing evaluation (A & B above)
6. Guides and Case Studies for wider community (C above)
7. Support for adoption in at least 3 further institutions (B & C above)

As the project progressed it became evident that the complexity of the information arising from the algorithms used within WebPA could not conform with the norms and standards of the service oriented approach for application development (D). Reluctantly the project team decided that this aim was not feasible within the time and resources available to the project.

On a more positive note, the level of interest generated by the project led to far more institutions (twenty eight) becoming involved than had originally been anticipated (three). This involved further additional support (workshops, presentations, meetings etc) being provided, helping to create much more of a "community" than had initially been envisaged. As a result, the feedback data available to the project team ensured that the remaining three aims were more fully realised. Overall, the project has managed to far exceed its original aims.

## Methodology

Initially the approach adopted, focused on ensuring that all technical developments were based on sound pedagogic theory and practice. This was done through; a literature review, an exploration of potential pedagogical models, an analysis of user-feedback and experiences from the project partner undertaking the initial piloting outside of Loughborough (the University of Hull). On the basis of these activities, the WebPA system was enhanced, re-coded and re-purposed to enable an open source version to be developed.

From the outset the project has ensured that the users of the WebPA tool have been included in defining how the project has unfolded. In the first instance the research led activity took the form of polling the current users at Loughborough University to identify what developments they recommended. The results of this 'survey' were then tested against the literature review looking at the wider assessment area and tools available for use within Higher Education to verify the findings. Similar evaluation activity was conducted at the University of Hull, and smaller scale surveys and questionnaires (including gathering informal feedback) were conducted at those Institutions that had begun to implement WebPA.

In the latter part of the project the focus shifted to centre on engaging new users of WebPA. Allowing support for their adoption of WebPA, as well as, developing Guides and Case Studies to help encourage further take-up by the wider academic community.

Methods used to engage potential users included:

- conducting workshops directly related to online peer assessment and/or WebPA,
- presentations made at academic conferences and other related events not organised by the project,
- face to face interaction,
- engagement through JISCmail,
- by responding in an appropriate manner to requests arising either in person or through e-mail.

Support of those individuals/institutions adopting WebPA has included:

- face to face meetings conducted at the institutions in question,
- workshop events gathering together WebPA users to help share experiences and identify ongoing and future needs,
- provision of appropriate advice, guidance, and support documentation,
- responding to individual requests for help on demand.

Guides and Case Studies have been developed through capturing and documenting the experiences of those who have adopted WebPA. Through the analysis of the various methods of adoption by those engaging with the project it has been possible to identify common threads, drivers, engagement strategies, and barriers; and distil key lessons.

The project has always sought the experience and pedagogical knowledge of the main advocates of the WebPA system at Loughborough and Hull. Their advice helped the project team to decide upon the best course of action when seeking to incorporate new features into the interface. Understanding how an academic tutor might use the system helped ensure that ongoing developments offered new first time users an interface that was clear, easy to use and intuitive to navigate through. By incorporating the knowledge of experienced users, and the experience of new users throughout, the project has sought to ensure that all technical developments have fully reflected sound pedagogical practice.

## Implementation

### ***Project Structure and Management***

The project's strategy was planned by a Management Group comprising: representatives from the two partner institutions (Loughborough University and the University of Hull); the Centre Managers of the Engineering and Physical Sciences Subject Centres (based at Loughborough and Hull respectively); and members of the project staff. The members of the Management Group also undertook work to support the delivery of events and further dissemination for the project within their respective areas and communities.

An Advisory Group was set up to help inform and steer the user perspective of the tool, as well as, the pedagogical research being carried out by the project. A full list of the Advisory Group members can be found in Appendix B. Advisory Group Members at March 2009. It was originally intended to invite representatives from the piloting institutions in the second year of the project but this was initially delayed as the high level of interest would have resulted in too large a group. Towards the end of the project the Advisory Group was extended to include actual users from other institutions who could help develop the wider community.

The day to day work of the project was carried out by a Research Assistant and a Technical Developer under the guidance of the Project Manager and Project Director.

The way in which the work of the project was planned and implemented throughout the term of the project is best illustrated in the following Gantt Chart which records the key milestones and processes undertaken during the project:

Activity	2006 Q4	2007 Q1	2007 Q2	2007 Q3	2007 Q4	2008 Q1	2008 Q2	2008 Q3	2008 Q4	2009 Q1
Staff Recruitment										
Develop Hull version of WebPA										
Pilot 1 @ the University of Hull										
Evaluate Hull Pilot 1										
Develop OS version of WebPA										
Release OS version of WebPA					•					
Pilot 2 @ the University of Hull										
Evaluate Hull Pilot 2										
Conduct Literature Review										
Literature Review Report published								•		
Engage Other Pilot Institutions										
Develop Case Studies										
Develop Guides										
Develop Resource Pack										

**Figure 1: Project Gantt Chart**

## ***Research led development***

The initial aim of the project was to follow the research led development as defined in the project plan, through further development of the WebPA application in line with findings from the pedagogical research. The technical development was originally planned to run in tandem with a literature review and the initial pilot within two departments at the University of Hull. However, problems experienced in recruiting a suitable Research Associate familiar with this area of work (issue picked up under "Recommendations") resulted in a less co-ordinated approach than had been intended and a delay to conducting the literature review. The project therefore had to rely heavily upon the feedback received from existing users and the pilot being conducted at the University of Hull. Fortunately the experience and knowledge of those recruited onto the project's Advisory Group and feedback from academic users at the coal-face helped to ensure a sound pedagogical basis for the development work undertaken.

The process of technical development involved iterative revisions and additions to the WebPA Tool as regular feedback was received. Each revision/enhancement was enacted immediately so that feedback could be gathered as the WebPA tool developed. In November 2007 the open-source version of WebPA was released.

Additional measures to ensure that the ongoing research was still able to inform the development can be found in the case studies developed by the project. The project team actively identified a wide range of academic tutors and gathered evidence (both formally and informally) of how they used the tool. This resulted in updating the tool in order to ensure that the final application was usable by a wide range of disciplines in addition to still being appropriate for the two key stakeholder groups of engineering and physical sciences.

At the same time as the de-coupling of the system and piloting at the University of Hull was occurring the project developer took active steps in gathering advice from the JISC OSS-Watch advisory service as to how the project should manage the open source aspects of the project. Through a number of meetings between the advisory service and the project, a change was made as to how the project would proceed to try and develop a more sustainable open source project.

## ***Open Source Pilots to Community Development***

The project team had initially envisaged piloting the WebPA tool open source version with 2-3 HEIs. Initial engagement with the University of Derby fell through due to internal organizational changes but the high level of interest from a whole range of Institutions since November 2007 has led to many actively engaging with the project's piloting process, though at the time of writing some have yet to test the software with students. This level of engagement has resulted from a range of dissemination activities conducted by the project team. These include: conference presentations; workshop presentations; face-to-face discussions; and responding to enquiries from those who had unprompted downloaded the OS version of WebPA. The project team were obviously delighted by the interest shown but were not expecting so much during development. However, they coped with the early demand by holding additional events, offering staff presentations within interested Institutions, and providing bespoke advice, support and guidance as required. A key date was the first release of the application through the Source Forge repository. By providing a location for interested institutions to find and download the application, those HE institutions who had shown interest now had the ability to go forward and create pilots.

Development and maintenance of the JISCmail list ([webPA@jiscmail.ac.uk](mailto:webPA@jiscmail.ac.uk)) has proved to be key. This has allowed institutions to easily make contact and inform the project of pilots taking place. Personal communications have developed relationships and provided support where necessary (e.g. installation or finding bugs etc). The project team have worked hard to foster and develop these relationships on a personal level. At the same time feedback on managing this interaction has been provided by the OSS-Watch team, encouraging the project to try to conduct as much communication as possible through the JISCmail list, but the project team felt that they needed to maintain a personal level of communication where appropriate. This method has worked very well and has allowed the project to assist in the successful piloting of the tool at the University of Wales, the University of Coventry and the University of East Anglia.

One of the most successful engagements is with Manchester Metropolitan University where one academic tutor has incorporated the use of WebPA as a peer-assessment tool within module specifications with minimal assistance from the project team. He only made contact with the team when encountering a problem but has since been very active in helping form a wider community – for example, speaking at events on the project's behalf (both internally and externally). He has the active support of Senior Managers to promote further use of the Tool within that institution.

*"WebPA is now embedded in our first year and will be for the next five years. Typically 180-200 students will be subjected to [WebPA] every year."*

*Dr Bob Cherry, Manchester Metropolitan University*

An issue which arises from using Source Forge is that the project team only knows how many times the tool has been downloaded and not whether WebPA has been installed or even used, unless the institution decides to make contact. This is certainly true of successful ongoing use at Manchester Metropolitan University and also the University of Wales at Newport. Even at the end of the project further adopting institutions are still being identified (a Scottish university having been identified very recently) and from the significant number of downloads it is highly likely that there are tutors in other unknown institutions who have adopted and implemented WebPA. This has obvious disadvantages for WebPA, not least in trying to build a sustainable community.

Feedback, including the case studies, from those institutions engaged in this secondary piloting process has been incorporated into the Guides and Resource Pack that the project team is developing to assist potential/future users of WebPA.

This high level of interest has exceeded expectations, and has allowed the project team to begin building a community of practice. This impacted upon the project's planned activity with a number of additional workshops and events having been run to cater for the increased level of interest and support needs.

In December 2008, with additional funding made available through JISC, the project team held a very successful User Group event. Adopting institutions were invited to take part and two members of the piloting team encouraged to attend, this allowed for an academic tutor and their support staff (learning technologist or IT administrator). Through this the project were able to identify where continuing engagement with the project was required and explore with the attendees what is needed after the project's end date. The event also gave the attendees a chance to meet each other and discuss common academic practice and share ideas. It also allowed the project to gauge the level of commitment institutions were willing to provide in terms of support, institutional adoption and feature development time.

The post project WebPA web presence will strongly focus on supporting this developing community and will have a changed purpose, focusing on providing support for the tool as a product rather than a project of the past. Both the tool and the community will obviously exist beyond the funding, however the project team believe that the community remains very 'new' and still requires a high level of support and input with many institutions just starting pilots this year. Therefore there is a perceived risk as to whether long term momentum can be sustained without additional funding for both support, development and encouragement to work towards self sustainability.

## Outputs and Results

The project produced a number of key outputs/results. These include:

- A Literature Review
- The open source WebPA Tool
- A Resource Pack
- Set up a Community of Web-PA users
- Events, Presentations and Publications

### ***Literature Review***

A Literature Review was conducted in order to: establish the groundwork for developments to the WebPA tool; highlight generic principles associated with the pedagogy of group work and peer-assessment; explore and discuss relevant issues; identify methods and systems used to facilitate peer assessment; and offer recommendations on the development of online peer assessment systems.

A report (Peer Assessment of Group Work: a Review of the Literature) was published in May 2008. The recommendations contained within the report helped formulate both the thinking of the project management team and the subsequent development of the project.

*"The literature review is very useful - particularly the table of references"*  
*Dr Anthea Connolly, Faculty Assessment and Feedback Project Officer, University of Leeds*

### ***The WebPA Tool***

The WebPA Tool has been made available as an open source application and is available from the projects area on Source Forge (<http://www.sourceforge.net>). Below is a table of releases made over the course of the project. From all of the releases made by the project there have been well over 500 downloads of the tool accounted for, this number does not include those potential users who have taken a copy of the software from the project SVN code repository.

**Table 1 WebPA Release Time Table**

Version	Release Date
Pre-alpha	21 September 2007
Pre-alpha 01	5 October 2007
1.0.0.0	28 February 2008
1.0.0.1	19 June 2008
1.0.0.2	3 October 2008
1.0.0.3	10 November 2008

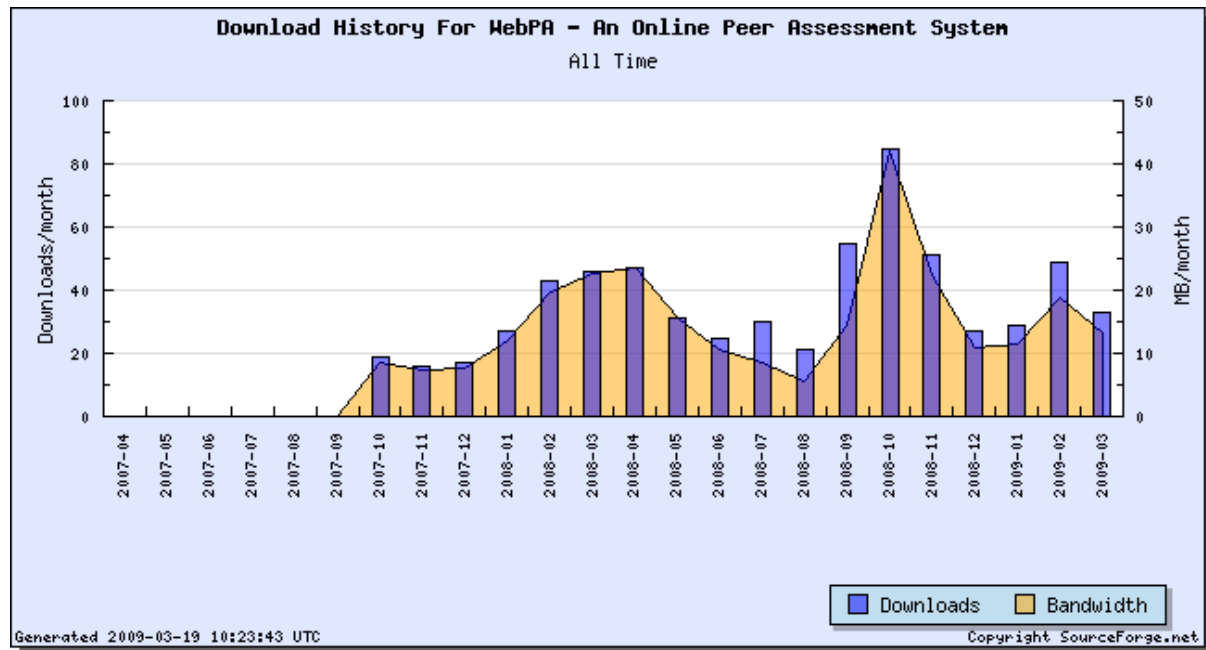


Figure 2: Download History per Month

## The Resource Pack

The Resource Pack is an additional output designed to offer advice and guidance to those key stakeholder groups who would be involved in adopting and implementing WebPA within a single institution.

The Resource Pack has been structured in three main parts:

- The first part offers a brief background to the development of the WebPA Tool
- The second part offers bespoke advice and guidance to four key stakeholder groups (Academic Tutors; Senior Managers; IT Policy Makers and System Administrators; and Learning Technologists and Educational Developers)
- The third part is designed to provide access to handout material that could be copied and circulated to relevant stakeholders

The Resource Pack will be produced in limited numbers of hard copy and distributed to all those people and HEIs involved or having expressed interest in the project, Subject Centres, and relevant CETLs. It will also be incorporated as a major part of the post project WebPA website and downloadable as a standalone PDF document and as individual pdf handouts.

The resource pack incorporates many of the outputs and deliverables of the project, making them readily accessible. Some also exist in standalone format, meeting the requirements of individual workpackages. These include:

- A Guide on 'Implementing and Embedding WebPA'
- A Summary Paper detailing 'Models of Adoption'
- 24 Case Studies across 14 disciplines and 3 institutions

## The Community of WebPA users

The project team throughout the course of the project have engaged with a number of institutions who are at varying stages of implementation, piloting and embedding WebPA. As previously highlighted, new adopting institutions are continually identified. Table 2 shows a snap shot (March 2009) of the known adopters and apparent level of adoption. A pictorial representation of this data is also given in

Appendix D. Snapshot of those interested in WebPA at March 2009. It should be noted that new institutions are showing interest regularly and this may therefore be quickly out of date – for example, in March 2009 alone, the project became aware of three new users at Liverpool John Moores University, St Andrews University and the University of New South Wales in Australia. The project strives to continue identifying these new adopters and bring them into the developing and expanding community.

**Table 2 - Adopting Institutions**

Institution	Interest demonstrated	Piloting	Embedding	Contributing to the project
Aston University	✓			
University of Bath	✓			
University of Bradford	✓	✓		
University of Birmingham	✓	✓		
University of Brighton	✓			
Bristol University	✓	✓		
University of Cardiff	✓	✓		
Coventry University	✓	✓	✓	✓
Derby University	✓			
University of East Anglia	✓	✓		
University of Hull	✓	✓	✓	✓
University of Leeds	✓	✓		
Liverpool University	✓	✓		
Liverpool John Moores University	✓			
Loughborough University	✓	✓	✓	✓
Manchester Metropolitan University	✓	✓	✓	✓
Northumbria University	✓	✓	✓	
Nottingham University	✓			
Sheffield University	✓			
Southampton University	✓	✓		
St Andrew's University		✓		
University of Strathclyde	✓			
University of Surrey	✓			
University of Wales, Newport	✓	✓	✓	
York St. John University	✓			
University of Queensland, Australia	✓	✓		
University of New South Wales, Sydney, Australia	✓	✓		
University of Dayton, Ohio, USA	✓			
Technische Fachhochschule, Berlin, Germany	✓			
University of British Columbia, Canada	✓			

As previously described, the project team held its first user group meeting at Aston University, Birmingham in December 2008 to help establish and formalise a “community” of WebPA users. This event proved to be a great success with all those present indicating a willingness to share experiences, and suggesting a number of ways in which the “community” could be strengthened.

After this user group meeting, the project team have changed the format and membership of the project’s Advisory Group to include a broader range of users and to use that group to help inform and maintain the community.

In addition, the post project WebPA web presence will strongly focus on supporting this developing community of WebPA users. This expanding community could potentially form a key knowledge community for online peer assessment.

## Events, Presentations & Publications

The level of success that the project has had in engaging so many institutions is testament to the very proactive dissemination programme undertaken by the project team including the Engineering and Physical Sciences Subject Centres. This programme has included: running 22 project workshops and events including contributing to events held by other organisations; the publication of three academic journal papers; and presentation of 12 conference papers. A full list is found at Appendix C. Dissemination Activities.

In addition to the dissemination activities of the project team, the Engineering and Physical Sciences Subject Centres also made significant contributions to the dissemination of project activity.

### The Engineering Subject Centre:

- Funded the official launch of WebPA for the engineering academic community. (This took place at the EE2008 conference in July 2008 with an exhibition stand including one delegate fee and a drinks reception prior to the conference dinner. The conference was attended by over 100 engineering academic tutors and there was considerable interest expressed in the project)
- Arranged, organised and ran a workshop on peer assessment in November 2007 (attended by 28 delegates) which the project team presented at
- Included an article in its glossy annual report sent to all of its key stakeholders: professional bodies; all engineering departments - heads and contacts; and other subject centres. (A copy of this was also published in its quarterly newsletter, Translate)
- Periodically included regular news items on its website and through its weekly e-bulletin



Figure 1 WebPA stand at EE2008 (permission for use granted from the Engineering Subject Centre)

### The Physical Sciences Subject Centre:

- Ran a University-wide seminar on WebPA, at Hull and received support from their PVC for Teaching and Learning, who opened the seminar
- Ran a national workshop in June 2008 titled: New Technology, University of Hull [http://www.heacademy.ac.uk/physsci/events/detail/new\\_technology\\_june\\_2008](http://www.heacademy.ac.uk/physsci/events/detail/new_technology_june_2008)
- Delivered a session about peer assessment and the use of WebPA for Hull's Postgraduate Certificate in Higher Education for new staff in November 2008
- Making the most of Peer Assessment event Physical Sciences Centre, Engineering Subject Centre, WebPA Project, Manchester Conference Centre [http://www.heacademy.ac.uk/physsci/events/detail/2009/peer\\_assessment](http://www.heacademy.ac.uk/physsci/events/detail/2009/peer_assessment)
- Were invited to give a seminar on peer assessment and WebPA to the Physics and Astronomy department at the University of Southampton in March 2009
- Have been invited to give a peer assessment seminar at Northumbria University in April 2009

The project team know that many of these activities had measurable impact – for example, an academic tutor who first heard of WebPA at a national workshop in June 2008 is now an active user of WebPA.

In addition to the Resource Pack mentioned above, the project team have produced a number of publications. These include: reports; case studies; guides; 12 conference papers; three journal papers; and over seven articles for monthly/quarterly magazines, news publications etc. Many of these offer a significant contribution to the catalogue of pedagogic research and practice on peer-assessment. A key journal paper is thought to be:

- Loddington, S., Pond, K. Wilkinson, N. and Willmot, P., 2009, The development and evolution of an online peer-moderated-marking tool: WebPA, British Journal of Learning Technology

## Outcomes

The main aim of the project was to offer the academic community access to an open source version of the peer-assessment system (WebPA) that had been developed through thorough and rigorous testing, and a comprehensive review of the pedagogic research literature. In the process, the project would enable more institutions to enhance the student learning experience by providing their students and academic tutors with an opportunity to engage in online peer assessment.

On reflection it is clear that considerable benefits have been derived, and impact made upon, each of the key stakeholder groups identified in this aim.

For **academic tutors**, the impact is clear. Many academic tutors in many Institutions have recognised the value of the work of the project, and the potential of the WebPA Tool to enhance the learning experiences of their students. This is reflected in the strong level of engagement with the project and the WebPA Tool from academic tutors across many Institutions.

Comments from academic tutors have been very positive. They have commented that, where the WebPA tool has been used to facilitate group work, students appear more aware of the educational benefits of engaging in group work in general, and in using peer assessment to provide differentiated marks. Many tutors have commented that the benefits include: students becoming more confident, developing greater social skills, and developing more transferable skills.

*"Students are much more satisfied – complaints have almost disappeared."  
Dr Carol Robinson, Mathematics Education Centre, Loughborough University.*

The project team have reason to believe that students are more aware of the enhancement to their learning experience offered by the WebPA tool. A number of student observations arising from the surveys conducted by the project appear to confirm this.

*"Working in groups provides a valuable alternative to individual assessment. As well as allowing participants to share knowledge and skills, providing individuals with opportunities to enhance their abilities, another group member can gain a more in depth analysis of someone's abilities, allowing more accurate grading than if everything is analysed by an external examiner."  
Chemistry Student, University of Hull*

For the pedagogic research community, the project has been able to advance the area of peer moderated marking by providing a comprehensive literature review, which covers not only the current thinking on peer moderated marking, but also takes into consideration other tools that are comparable in this area of pedagogical research. This in turn allowed the project to advance the functionality of the WebPA Tool, making it a leading application in this area. In addition, the wide range of case studies developed by the project allow academic tutors in all disciplines to compare and contrast both practice and student attitudes to peer moderated assessment.

The WebPA project has met the aims set at the outset (with the exception of developing in line with the service oriented approach for e-learning tools). The project has excelled, not only by successfully developing a popular open source tool, but by developing a community of users, who with some further support will ensure that WebPA becomes a mainstream feature within the HE academic community.

The WebPA community are beginning to take on some of the tasks that have been provided via the project in the past. These include the provision of workshops within an institution to introduce other potential users. Support for the WebPA tool is not limited to the academic community, with **Learning Technologists and Application Developers** willing to invest time and effort in promoting the benefits of WebPA to their academic colleagues. One example of this form of interaction has resulted in the development of a Blackboard Vista plug-in from Coventry University.

For the **project partners**, there have been notable outcomes.

**At the University of Hull**, WebPA was initially used across two departments (Biosciences and Chemistry) and the aim was to engage another three academic tutors across other departments (five in total). This was achieved by attracting interest through various internal events that resulted in academic tutors from Engineering, Computer Science and Careers to use it for a number of modules. The academic tutor from Computer Science went on to give a talk at the Institution's internal teaching and learning conference which attracted the interest from an academic tutor in Biomedical Sciences who also now uses WebPA in their teaching. Colleagues from two other departments are also currently considering its use for teaching later in the year. In addition to this work, Hull is also hosting a pilot for an academic tutor in Leeds who is using it with their students and have now decided to install WebPA locally with the support of the Faculty Assessment Officer.

For the **project team at Loughborough** an unexpected and unintended outcome has been the level of external recognition (both within the UK and beyond) for the efforts of the project team. The WebPA project drew international attention before receiving an IMS Global Consortium Learning Impact Award. WebPA is now in use at both the University of New South Wales and the University of Queensland (UQ), Australia, in their assessment practice. With the assistance of the JISC OSS-Watch the project team are working with both the academic tutors and technical staff at UQ to resolve some of the open source issues that arose in this early interaction. Usage of WebPA at Loughborough has continued to increase throughout the project life-time.

For the **Engineering and Physical Sciences Subject Centres**, adoption by their subjects has been significant. Of the known interested parties and users beyond the consortium partners, six are engineering departments, and four are physical science related departments.

More recently the project has received enquiries from institutions in both the USA and Canada. This demonstrates the international appeal of a tool for the peer moderation of group work and the success of the project to cross international borders.

In addition, the success of the project (as recognised by a global award: the IMS Global Consortium Learning Impact Award) has raised the profile of peer moderated marking systems in general. The project team, with the assistance of long standing contributors to the pedagogical research area have been able to ensure that the wider academic community are better able to distinguish 'peer moderated marking' from that of 'peer review'.



Nicola Wilkinson, the Project's eLearning Developer was also nominated from a Developer Award at the JISC sponsored Dev8D event, recognising her personal achievements for the project.

<http://code.google.com/p/developerhappinessdays/wiki/AwardsDinner>).

## Conclusions

Thus, in conclusion, it is abundantly clear that the WebPA project has met its objectives. Its impact has been far greater than anticipated with many more institutions becoming involved in the project than had originally been planned. This may well be the result of WebPA becoming available as an open source application.

The potential for WebPA to become a mainstream peer assessment tool is evident from the community of users that is developing with the support of the project team. The enthusiasm of those staff who have adopted WebPA suggests that the momentum established can be built upon further with appropriate support and resource.

## Recommendations

With regards to recommendations, the project team would like to offer some observations based on their experiences:

- The first concerns the difficulty in recruiting suitable research staff for pedagogically based, research-led development. The lead time required to engage suitable staff suggests that this should be built into the planning stages of the project itself, and contingency plans established if no suitable candidate is found.
- The second concerns the need to co-ordinate development with the academic year. Academic tutors are very unlikely to take on board and implement a new tool or resource during the course of an academic year. Tools, like WebPA, need to be introduced to academic tutors at a receptive time, allowing sufficient opportunity for them to familiarise themselves with the tool prior to its implementation for the following academic year. This, of course, has implications regarding the length of the funding period, with a full three year cycle being optimal to allow for development, promotion/dissemination, implementation, and feedback to occur.
- JISC should continue to monitor projects closely and have a policy of adequately resourcing over-achieving projects that have potential for wider applicability and real impact i.e. develop a policy of positive intervention.
- The ongoing project reporting process was inefficient and laborious as it was so intrinsically linked to work packages with little opportunity to emphasise over-achievement. The team feel that a lot could be learnt from other projects/activities which apply a less mechanistic approach (Academy Subject Centres, FDTL etc.)

## Implications

The WebPA Project has created a considerable level of interest. Engagement with the project has surpassed expectations, and a thriving community of WebPA users is rapidly developing. This huge momentum creates its own challenges and opportunities.

With further support and assistance, it would be possible to realise the potential to make significant progress over and beyond that already achieved. In addition to providing greater support to those institutions already engaged in the project, additional assistance could enable further development of the WebPA open source software itself.

The present community of users include many who are about to implement WebPA. Extra support could help to guarantee successful implementation, as well as the further uptake and embedding of a JISC funded open source product. Such success could help turn the present momentum and enthusiasm into real community commitment. Moreover, most of the promotional work of the project has centred upon the Engineering and Physical Sciences academic communities. Experience within Loughborough has already demonstrated the appeal of WebPA within other unrelated disciplines and this has been echoed at Hull. The opportunity of engaging with other discipline sectors should not be missed. Furthermore, the potential to go beyond the higher education sector to further education and schools could be explored.

Future directions for development could include different forms of peer assessment, and the addition of more marking algorithms. The opportunity of developing WebPA to assist distance learning is also a avenue for exploration. The provision of a restricted hosted version of WebPA for potential institutions to trial was identified by the advisory board as a means of producing another step change in the number of users.

Group work is fast becoming a more essential part of many courses. In some cases this is being highlighted in institutional policy. A greater focus on how WebPA can help realise the benefits of group work would indeed meet a growing need.

This potential is as yet unrealised. However, with a small level of additional support considerable benefits to the higher education community are possible.

The use of WebPA and the successful, ongoing dissemination activities is providing the HE community with additional tools that not only allow assessment *of* learning but also assessment *for* learning – which is based on sound pedagogic research. Research and feedback from students by project team members also clearly shows that students appreciate the benefits of peer assessment and that they actually *enjoy* this approach to learning.

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## Appendixes

### **Appendix A. Glossary of terms**

CETLs	Centres for Excellence in Learning and Teaching
HE	Higher Education
HEI	Higher Education Institution
OS	Open Source
PDF	Portable Document Format

### **Appendix B. Advisory Group Members at March 2009**

<b>Name</b>	<b>Job Title</b>	<b>Institution</b>
Fiona Lamb	Project Director	Loughborough University
Nicola Wilkinson	eLearning Systems Developer	Loughborough University
Carol Arlett	Centre Manager	Engineering Subject Centre
Robert Sherratt	Head of Systems Integration	University of Hull
Paul Chin	Centre Manager	Physical Sciences Subject Centre
Adam Crawford	Centre Manger	EngCETL
John Dickens	Associate Dean (Teaching) / Professor of Engineering Education	Loughborough University
Peter Willmot	University Teacher	Loughborough University
Keith Pond	Senior Lecturer	
Roger Penlington	CETL Fellow for the Assessment CETL	Northumbria University
Paul Newman	Web Developer	Loughborough University
Steve Jeyes		
Carol Newbold	Learning and Teaching Development Officer	Loughborough University
Rene Meijer	Manager of the Educational Development Unit	University of Derby
Bob Cherry	Senior Lecturer	Manchester Metropolitan University
Norman Seward	Senior Lecturer	University of Wales, Newport
John Tutchings	e-Learning Technical Specialist	University of Coventry
Gabriel Hanganu	Research Officer	OSS – Watch
Ross Gardler	Service Manager	OSS – Watch
Neil Gordon	Lecturer	University of Hull
Rory Manning	Student	Loughborough University
Tunde Sobola	Student	Loughborough University

## **Appendix C. Dissemination Activities**

### **Workshops / events / Seminars**

Chin, P.A., 2007, Seminar on WebPA, University of Hull

Chin, P.A, Loddington, S. and Wilkinson, N., 2007, WebPA training session, University of Hull

Chin, P.A., 2008, WebPA for PGCHE (Postgraduate Certificate in Higher Education) Staff, University of Hull

Loddington, S, P., Wilkinson, N., Bates, M, R, N., Crawford, A R. and Willmot, P., "Discover WebPA: An online Self and Peer Assessment System", a paper in support of a 90 minute workshop presented at EE2008: International Conference on Innovation, Good Practice and Research in Engineering Education, HEA Engineering Subject Centre, Loughborough, July 2008, ISBN 978-1-904804-65-9, 7pp. Available [online] at <http://www.ee2008.info/index.php/papers/>

Loddington, S., Wilkinson, N. and Moron-Garcia, S., 2007, Web Peer Assessment: An online tool for assessing group work , University of Coventry

Willmot, P., 2007, Peer Assessment in Team Projects, Engineering Learning and Practice Research, University of Western Australia, Faculty of Engineering, Computing and Mathematics, Available [online] at: <http://www.mech.uwa.edu.au/~jamest/eng-work/seminars.html>

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Loddington, S. and Wilkinson, N., 2008, Online Peer Assessment for HE, Assessment for Learning: How does that work?, Available [online] at: <http://www.northumbria.ac.uk/sd/central/ar/lts/enhance/assessenhance/afffeb08/?view=Standard>

Wilkinson, N. and Loddington, S., 2008, WebPA: an introduction to online peer moderated assessment Workshop, University of Derby

Wilkinson, N., 2008, Using Technology to Support the Student Learning Experience, JISC Netskills, University of Oxford, Available [online] at: <http://www.netskills.ac.uk/content/products/workshops/range/jasls.html>

Wilkinson, N., 2008, Using Technology to Support the Student Learning Experience, JISC Netskills, Newcastle University, Available [online] at: <http://www.netskills.ac.uk/content/products/workshops/range/jasls.html>

Wilkinson, N., 2008, WebPA, JISC CETIS Assessment-Enterprise-Portfolio meeting 2008, University of Strathclyde, Available [online] at: [http://wiki.cetis.ac.uk/Assessment-Enterprise-Portfolio\\_meeting\\_2008](http://wiki.cetis.ac.uk/Assessment-Enterprise-Portfolio_meeting_2008)

Wilkinson, N. and Moron-Garcia, S., 2008, WebPA user-group workshop, University of Coventry

Wilkinson, N., 2008, Introducing WebPA workshop, University of Coventry

Willmot, P. and Wilkinson, N., "The WebPA Project; shortlisted nomination for IMS Learning Impact Award" *presented at the Summit on Global Learning Industry Challenges, Austin, Texas 12-15 May 2008*, details at <http://www.imsglobal.org/pressreleases/pr080515.html>

Wilkinson, N. April 2009, WebPA, Assessment Matters: New and creative forms of assessment and feedback, Higher Education Academy and JISC Collaboration internal workshop, Leeds

Wilkinson, N. 2009, WebPA, E-Assessment Live, Loughborough University

*WebPA Project team have in addition run the following three events, where members of the project team and users have all presented.*

Workshop on Peer Assessment in Engineering and Physical Sciences, 2007, Loughborough University, Available [online] at: <http://www.engsc.ac.uk/nef/events/peer-assessment.asp>

User Group Meeting, 2008, Conference Aston, Aston University

Peer Assessment, Physical Sciences Centre, Engineering Subject Centre, WebPA Project, Manchester Conference

## Conferences

Chin, P., Willmot, P. and Crawford, A.R., "Electronic Peer Assessment Tools for Multidisciplinary use", Proceedings of the Conference of the International Society for Scholarship of Teaching and Learning, Washington D.C, November 2006

Harker, M. and Bates, M., 2007 The Evolution of WebPA (online peer moderated marking system) at Loughborough, JISC Online Conference 2007

Wilkinson. N and Bates. M, 2007, WebPA: an online peer assessment tool, Connections: sharing the learning space - Learning and Teaching Conference 2007, Brighton University

Wilkinson, N and Bates, M., 2007, WebPA an introduction to online peer moderated assessment, ULTAC2007, University of Derby

Wilkinson, N., 2007, A Reusable Model for Usability Testing of Online Teaching and Learning Applications, ALT-C, Nottingham

Loddington, S. 2008, Student attitudes and experiences of online peer assessment, 3rd International Blended Learning Conference, University of Hertfordshire

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Pond, K., Willmot, P. and Palermo, O., "Effective Deployment of Web-Based Peer Review Marking of Group Projects", Higher Education Academy Subject Centre for Business, Management, Accounting & Finance 3rd Annual Conference, Edinburgh, April 2008, pp 185-187. Available [online] at: [http://www.heacademy.ac.uk/business/events/detail/2008\\_BMAF\\_Annual\\_Conference](http://www.heacademy.ac.uk/business/events/detail/2008_BMAF_Annual_Conference)

Willmot.P., Pond, K., Loddington S,P., and Palermo,O,A. "Perceptions of Peer Assessment in University Teamwork", Proceedings of the International Conf on Eng Education, Pecs/Budapest, Hungary, July 2008, 9pp, Published on CD-ROM ISBN 978-963-7298-20-2. also available at <http://icee2008hungary.net/download/fullp/index.html>

Wilkinson, N. and Loddington, S., 2008, WEBPA: The Evolution of a Peer Assessment system with an in-depth case study of usage, CAA Conference 2008, Loughborough University

Wilkinson, N., 2008, WebPA, Association of Civil Engineering Departments, Bradford University

Wilkinson, N., 2009, WebPA, Supporting the iGeneration Conference, University of Ulster, Belfast

## Articles

Bates, M., 2007, WebPA: Online Peer Moderated Marking System for UK Higher Education, D-Lib Magazine, Available [online] at: <http://www.dlib.org/dlib/january07/01inbrief.html>

2007, WebPA: An Online Peer Assessment System for HE, Translate, Available [online] at: <http://www.engsc.ac.uk/downloads/pdfs/newsletters/translate20.pdf>

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2008, National recognition for WebPA, News@Lboro, Available [online] at: <http://www.lboro.ac.uk/service/publicity/publications/newsatlboro/newsletter53.pdf>

2008, WebPA finalist in international awards, News@lboro, Available [online] at: <http://www.lboro.ac.uk/service/publicity/publications/newsatlboro/newsletter54.pdf>

Chin, P., 2008, WebPA project – update, Wavelength, Vol 4, Issue 2

Wilkinson, N. 2009 'CETL update: WebPA - an online open source tool for peer assessment', The Academy Subject Centre for Medicine, Dentistry and Veterinary Medicine Newsletter 01, no. 18, Summer 2006 pp. 32-33. ISSN 1740-8768, Available [online] at: <http://www.medev.ac.uk/newsletter/01.18.html>

## Journal Publications

Loddington, S., Pond, K. Wilkinson, N. and Willmot, P., 2009, The development and evolution of an online peer-moderated-marking tool: WebPA, British Journal of Learning Technology

Pond, K., Coates, D.S. and Palermo, O., "Student Experiences of Peer Review Marking of Team Projects", International Journal of Management Education, 6(2), 2007, pp 30-43, ISSN 1472-8117.

Willmot, P. and Crawford, A.R., "Peer Review of team marks using a web-based tool: an evaluation", Engineering Education, Journal of the Higher Education Academy Engineering Subject Centre, 2(1), 2007, pp 59-66, ISSN 1750-0044, Available [online] at: <http://www.engsc.ac.uk/journal/index.php/ee/issue/view/21>

## Press Releases

IMS Global Learning Consortium Announces 2008 Learning Impact Awards Recipients, Austin, Texas, USA, 15 May 2008, Available [online] at: <http://www.imsglobal.org/pressreleases/pr080515.html>

JISC project shortlisted for international award, JISC, 20 February 2008, Available [online] at: <http://www.jisc.ac.uk/news/stories/2008/02/webpa.aspx>

## Adopter Dissemination Activities

The WebPA project has also benefited through the dissemination activities of academic tutors at the partner and adopting institutions. Below are the details of some of the activities known to the project.

**Neil Gordon, Tony Bateson, Paul Chin, Steve Hanson and Tony Wilkinson, University of Hull**  
Annual Learning and Teaching Conference for Hull University, gave a paper titled 'Encouraging team skills through enhancing engagement: the use of peer and self assessment in group work.' Through this work by the academic tutors using the WebPA tool and disseminating their practice, further academic tutors have come forwards at the University of Hull to also use the WebPA tool. More information can be found at:

<http://www.hull.ac.uk/UALTC/Registration/Encouraging%20team%20skills%20-%20Gordon%20Bateson%20Wilkinson%20Chin%20and%20Hanson.pdf>

### **Neil Gordon, University of Hull**

Neil gave a talk at the 9th Annual conference (2008) of the ICS HE Academy conference: Neil Gordon, University of Hull, Group Work and Peer Assessment in Higher Education Computing Courses - Which included some mention of his work with WebPA at Hull.

### **Norman Seward, University of Wales, Newport**

"I'm setting up a programme of short talks to support the use of technology in learning. Starting in April and going through into June, these 30 mins 'Techy Talks' will involve ... innovative practice. It would be great if you would do a session on your use of WebPA as part of these?"

More information on the sessions is available at

[https://my.newport.ac.uk/exchweb/bin/redirect.asp?URL=http://wiki.newport.ac.uk/index.php?title=Techy\\_talks](https://my.newport.ac.uk/exchweb/bin/redirect.asp?URL=http://wiki.newport.ac.uk/index.php?title=Techy_talks)." – Email received from an ADT at the University of Wales to the Norman, February 2009.

### **Bob Cherry, Manchester Metropolitan University**

"I'm actually giving a talk on peer review (including WebPA) next week to a number of staff (I've got to train them up for next academic year). Senior Learning and Teaching Fellows will be there." June 2008

"We're doing a one day event on "VLEs" on 30th June (Tuesday) here at Manchester Metropolitan University. The notion of a VLE is being debated and key to this is software like WebPA which adds tremendous value but doesn't always fit in with rigid VLE structures." March 2008