Summary Report on the Mahara e-portfolio Pilot Project

1. Key recommendation

1. The recommendation of this report is that Mahara would provide a suitable and viable institutionally supported e-portfolio tool. This is based on the opinion that Mahara offers a:

   i. Flexible and customisable e-portfolio platform.
   ii. Social constructivist ‘student-centred’ learning environment.

1.1 Further Recommendations

It is recommended that:

2. Where a course wishes to adopt Mahara:

   i. A clear case for using Mahara needs to be demonstrated
      a. That it can be effectively supported,
      b. Is aligned to the curriculum design,
      c. Has sufficient staff buy-in.

   ii. An evaluation is conducted based on their specific requirements and the current digital capabilities of students/staff to assess suitability on a case-by-case basis.

   iii. e-portfolio practice should be embedded at course level across the curriculum to obtain the benefits working in this way.

3. Mahara is only adopted where concepts of reflective or evidence based practice and experiential or self-directed learning are well established in the curriculum.

4. Links to Mahara should be given a prominent top-level point of access on University systems to facilitate easy and direct access.

5. A clear administrative structure needs to be decided before full implementation, based on the ability of the ‘Institutions’ feature to provide specific administrative permission to users. Where possible this process should be automated and devolved to Schools.

6. A clear set of guidelines should be produced that show students how they can record or migrate content following graduation.

7. The University should investigate how students can retain access to their e-portfolio after graduation by extending their University accounts.

8. A decision should be made that establishes the University’s long-term commitment to Mahara as the institutional platform to support e-portfolio activities. Such as decision will enable courses to implement the software with confidence.

9. A staff development programme is devised to explain the pedagogic use of e-portfolios and the contexts in which Mahara can best be applied.

10. Best practice should be highlighted through the identification of e-portfolio champions and examples of use.
2. Scope
The aim of this report is to summarise the initial findings from the evaluations carried out on pilots that used the Mahara software and determine the suitability of this software as an institutionally supported ePortfolio tool.
The report will draw conclusions and make recommendations based on the analysis of staff and student experiences of using Mahara. The findings of the report are presented under five key headings to assess the suitability of the software: Usability, Functionality, Impact, Support and Technical.

3. Background
There has been growing interest in and research on the benefits of e-portfolios in the Higher Education sector (JISC, 2008). A series of recent research projects backed by the Joint information Systems Committee (JISC) has re-invigorated interest by recognizing the growing diversity of provision and maturity of the technologies available. (JISC, 2012)

An e-portfolio can be seen as simply an electronic version of a paper-based portfolio to help students manage evidence of personal learning, development and skills. It can contain digital items in different formats including, text, files, images, diagrams and multi-media.

At present, the University of Brighton does not have an institutionally supported e-portfolio system. But there has been an increased interest within the institution in the potential of e-portfolio tools to provide an electronic process for recording professional development, achievement and learning to replace hard copy portfolios.

4. Introduction
Academic Computing Services (ACS) decided to trial an open source e-portfolio tool based on the increased interest it had perceived from the University’s academic community to support employability skills electronically in Personal Development Planning (PDP) and the gap it had identified in institutional provision for a supported e-portfolio solution.

ACS were keen to explore the demands and requirements of introducing a dedicated e-portfolio tool by conducting a managed evaluation process that could both inform the broader blended learning strategy of the University and lead to a better understanding of the pedagogy and sustainability of this technology in relation to the needs of the University.

Key institutional drivers behind the adoption of a supported e-portfolio tool emerged during the period of the pilots. These were:
- Personal Development Planning (PDP),
- Evidencing employability skills,
- Developing digital literacies in online environments,
- Recording graduate research competencies (for the Doctoral College).

ACS installed and hosted the Mahara e-portfolio software on University servers at https://studentfolio.brighton.ac.uk/mahara/ during the academic year 2011-12 and engaged interested academics to pilot the software with their students.

Mahara was branded and referred to as 'studentfolio' with the participants of the pilots. However, within this report the software brand name is used for clarity and consistency.
Mahara is a web based portfolio tool (e-portfolio) that includes aspects of social networking. It provides students with a mechanism to record and manage evidence of their learning digitally by storing content, building web pages and publishing these on the Internet. Mahara is structured to allow an individual user to have control over who has access to their content. This can include files, images and video. The social networking aspect of the Mahara software enables users to interact with each other online to view and share material as a community.

Mahara was chosen for the pilot as it offered a number of advantages:

- The software is free and available to install with limited cost and development requirements.
- Mahara is the only dedicated open source e-portfolio system available on the market.
- It has acquired a good reputation in the field, is well supported, actively developed and is used successfully by educational institutions worldwide.
- The tool set available within the software has the flexibility to accommodate a variety of learning and teaching approaches across curricula.
- The University can securely host the software.
- Mahara can be customised with the potential to integrate with other University systems.

5. Methodology

An action research methodology, utilised by the Open University (2005), was adopted for this evaluation to facilitate a variety of data collection methods across the various pilots and participants (staff and students) involved. This approach also allowed the ACS staff supporting the project to be active participants in the evaluation process and recognised the lifespan of the evaluation to be a continuous cycle of development, feedback and reflection that would lead to recommendations being made on the software.

The following research methods and activities were deployed to evaluate Mahara and form the basis for this summary report:

- 7 pilots conducted across the academic year 2011-12.
- Summary case study reports for each of the pilots compiled at the end of the pilot period. (May/June 2012)
- A quantitative and qualitative attitudinal and informational student survey conducted with 3 pilots held in semester 1. (March 2012)
- Qualitative comments drawn from student module evaluation feedback.
- Interviews with 3 tutors using Mahara on the pilots. (June 2012)
- Pilot feedback meeting for the Learning Technologies Advisers (June 2012)

It should be noted that at the time of writing this report collation and analysis of pilots held in semester 2 was partially incomplete due to difficulties encountered obtaining the data.
## 6. Pilot Summaries

The following are details of the courses and modules that formed the pilots.

<table>
<thead>
<tr>
<th>Module</th>
<th>Subject</th>
<th>School</th>
<th>Time period</th>
<th>No. of students</th>
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<tr>
<td>AD129 &amp; AD135 Professional Practice</td>
<td>Fashion &amp; textiles, Design &amp; Craft</td>
<td>Architecture and Design</td>
<td>Semester 1</td>
<td>120</td>
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<tr>
<td>AD128 Research &amp; Communication</td>
<td>Design &amp; Craft</td>
<td>Architecture and Design</td>
<td>Semester 2</td>
<td>60</td>
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<td>Product Design</td>
<td>Computing, Engineering &amp; Mathematics</td>
<td>Semester 2</td>
<td>47</td>
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<tr>
<td>Interior Architecture across all level 4 modules</td>
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<td>Architecture and Design</td>
<td>Semester 1 &amp; 2</td>
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<td>Education</td>
<td>Semester 1</td>
<td>20</td>
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<td>PGCert</td>
<td>Centre for Learning and Teaching</td>
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<td>40</td>
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<td>Engineering</td>
<td>Computing, Engineering &amp; Mathematics</td>
<td>Semester 2</td>
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</table>
7. Findings

7.1 Usability

Most students found Mahara easy to use but a significant proportion reported difficulties using the software. While some of these difficulties can be put down to the use of ‘new’ software students still found aspects of the software ‘complicated’ or ‘confusing’.

Student perceptions of how easy Mahara was to use were affected by their understanding of the tasks they were asked to undertake, the appropriateness of this to their learning and the usefulness of the support they received. Where students felt that the use of Mahara was ‘inappropriate’ they were more likely to find the software difficult to use. In these cases, Mahara was utilised as a tool for a single purpose in isolation on a module.

How easy students found Mahara to use also affected their overall experience of using the software and their likelihood of continuing to use it. Familiarity with the interface through frequency of use did not improve this perception.

Findings from one pilot survey clearly demonstrated that well motivated students were most likely to engage with Mahara more positively and find it beneficial for their studies.

While the design of the interface and functionality had an impact on usability, the design of the curriculum, students’ digital literacy skills and their willingness to work electronically were overriding factors in student engagement with Mahara.

The findings from the pilots indicated that Mahara was best employed where students needed to record, document or evidence the ‘process’ of learning. This could be, for example, reflective practice, a group activity or planning a project.

Vocational and practice based courses that took part the pilots were more easily able to integrate the use of Mahara in to the existing curriculum and its introduction was better received by students as a result.
7.2 Functionality

It is important to state that this evaluation was not intended to make a comparative analysis of Mahara to other e-portfolio software. However, where a recent international evaluation of e-portfolio providers for use in HE was carried out (Himpsl-Gutermann 2010) it concluded that Mahara and PebblePad represented the most balanced products for portfolio work. Both systems required “some acclimatization effort but - once their logic was clear - they were easy to handle.”

The functionality offered in Mahara fulfilled its purpose as an e-portfolio tool. The pilots tested all the features that make up Mahara to some extent. And all of the students were able to successfully complete the tasks asked of them in the pilots, even if this was to varying degrees of satisfaction.

Importantly, Mahara offered a dynamic and flexible means of organising work that allowed the easy inclusion of multi-media and embedding of external web sources.

Critical comparisons were made between the functionality of Mahara and the commercial social networking tool, Facebook. The use of social networking conventions to provide the interactive and sharing elements of Mahara’s functionality has perhaps added to this unfavourable association.

Where Mahara was used for PDP it was necessary to modify the existing paper based practices to accommodate digital ways of working. This required a change in thinking for the staff and students involved.

Staff involved in setting up Mahara found the administrative interface easy to use and logically set out. It was easy to adjust settings and make system wide changes. A custom University of Brighton theme was developed without difficulty.

Mahara functionality is under-developed in some respects. This was especially noted in the communication and assessment functions of Mahara.

While staff and students reported aspects of Mahara functionality as “fiddly” and “confusing” the difficulties encountered seem to be associated to the conceptual complexity of working with e-portfolios.
7.3 Impact

Considering the limited number of 7 pilots, Mahara has seen considerable and sustained use. There are now a total of 1523 individual registered users, who have created 58 groups and 6745 Pages (as of 14th June 2012).

The most significant use of Mahara was made in pilots where students were given or could identify a clear purpose and rationale for using an e-portfolio; it was embedded in the curriculum and required sustained and continued use.

From the surveys, students found Mahara most effective for accessing work online, organizing and storing work and submitting work for assessment. In each case, those aspects seen as most effective were closely aligned to the assignment tasks students were asked to undertake.

Students struggled to see the value of Mahara as a reflective tool for thinking about their work and as a mechanism for receiving feedback. In this respect, Mahara did not inherently support structured reflection. Reflective activity was driven by the nature of the curriculum and the activities undertaken by tutors with their students.

However, tutors have found Mahara to be an efficient way of drawing together and sharing content for complex assessment tasks and to evidence student reflection. In one pilot Mahara allowed for secure submission of a complete digital assignment for summative assessment.

Several tutors commented on the improved possibilities Mahara afforded for formative assessment, feedback and learning designed around the learning process. One pilot recognised it had raised the standard of work received for a formative assessment.

Mahara has exposed a gap in students’ knowledge around digital literacy, both basic digital skills and how to use technology to work digitally. In several pilots Mahara has acted as a catalyst for the teaching of digital literacies and contributed to helping students learn how to manage their online identities.

The introduction of Mahara also highlighted the broader disruptive nature of the introduction of new technology. For some students it represented an unfamiliar way of working that was disconcerting and challenging. Some tutors commented on the inability to track progress due to the privacy of ‘student owned’ spaces.
7.4 Support

All of the pilots indicated that both staff and students required some level of training to use Mahara. And a level of expertise was required to work with Mahara successfully.

Staff identified that the introduction of Mahara needed to be managed and explained to students. It was important that students were given clear instructions on which tools to use for their studies from the range available.

Mahara is not necessarily intuitive to use and require that students be taught how to use it. Contextualised help in the form of face-to-face introductory workshops, examples of work and printable handouts' were consistently shown to be of most use to students in the pilots.

The most practical method of staff development used during the pilots for was tutors to undertake the activities they were asking the students to do. Where staff had developed their ‘profile’ and produced content in Mahara they were actively able to support their students.

7.5 Technical

Mahara has proved to be a robust and reliable service. During the course of the pilot there has been no reported downtime or operational difficulties.

For the purposes of the pilots Mahara authentication was integrated with LDAP to allow anyone with a University log in account to access the software. A link to Mahara was provided in the associated course or module study areas in studentcentral. Although no difficulties were encountered with logging in, students in some pilots did report difficulty locating and navigating to the link for Mahara in studentcentral.

At present there is no facility to integrate Mahara in to existing University systems, particularly Blackboard (studentcentral).

While Mahara is open source software and there are no purchase costs, work during the pilot has shown that Mahara will require some levels of customization to amend some of the default terminology (e.g. changing resume to CV) and in providing customized templates.

Mahara currently conforms to e-portfolio interoperability standards and is LEAP2A compliant. This allows work to be migrated between different e-portfolio tools and for students to retain their content after graduation.
8. Conclusions

Findings from the pilot indicate that Mahara can broadly fulfill the requirements of an e-portfolio tool but the adoption of electronic methods of working will in some instances require significant changes of practice towards more ‘student-centred’ approaches to learning in order to be successful.

The pilots have demonstrated that Mahara is essentially a personalised learning environment (PLE) with components for socialisation. This places it firmly within the social constructivist arena. The primary difficulties experienced in the use of Mahara arose from the pedagogic shift required for its use and were not inherent weaknesses in the product itself.

Some of the deficiencies of the software, identified in the findings, represent the relative immaturity of the product and it is anticipated that usability and functionality will continue to be improved as new versions are released.

Due to the exploratory nature of the evaluation, Mahara has not been tested against a set of predefined criteria. The variety of purposes and contexts for which an e-portfolio tool can be applied across subject disciplines, as represented by the pilots, may preclude this ‘one size fits all’ approach. To this extent it may be appropriate for anyone wishing to adopt Mahara to systematically assess the software against his or her own criteria.

The fact that Mahara is an open source product means that, if this software is adopted, the University can feed directly into the development community to influence its future shape. Opportunities also exist for the University to build its own customized functionality for specific requirements.

The pilots have highlighted important support, administrative and pedagogical issues associated with the use of e-portfolios that would need to be carefully considered by courses that chose to use it. These have some dependency on the choice of software but are essentially wider issues of academic practice.

Staff Development is required to show the broader potential of Mahara and differences of working with an e-portfolio to that of a VLE.

Mahara offers a secure and protected environment in which students can safely explore ways of working online, develop their online profile and acquire digital skills.

The initial uptake of Mahara may be limited. There will be subjects and contexts where Mahara can be readily integrated into the curriculum and uptake might only be expected to take place where this match occurs.
9. References


