Aggregating the Student Voice

Research and implementation project

2011-2014

An investigation of student, staff and institutional needs in digital profiling for students of Arts and Humanities.

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… distribution of portfolio material to networks beyond the point of study is not separate from the portfolio development and is not an independent marketing venture of the course. Rather, it is fundamental to the spirit of practice work - work within art, film and broadcast, design and creative writing practice – that an audience is assumed, characterised and provided for. This then helps shape the work that is created and the portfolio development is inherently part of this.

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Project overview

Summary

The Aggregating the Student Voice project was established in 2012 with funding from the Invest to Gain initiative at the University of Brighton.

It aimed to explore the underlying principles of student profiling with a view to the possibilities of implementing a successful system that would generate image-rich, professionally valuable profiles for students at the University of Brighton.

The scope of the project included the technologies that were used, the environment that is fostered and the educational framework that is provided.

The project aimed particularly to understand the needs of students in creative practice disciplines for whom a profile and portfolio of sample work is a standard expectation for application to study and, often, for progress into employment. The key interest groups, input users and end users under investigation was broad, including current students, graduating students, employers, applicants and the university itself.

As a methodology, Aggregating the Student Voice aimed to provide sample systems, working with pilot groups in each instance. The project trajectory was flexible, allowing for adaptation throughout the life of the investigation. Each pilot was considered against the opportunities it provided for an up-scaled version, always recognising that any system would need to work with large numbers.

The project was undertaken at a time of rapid change in the availability and usage of digital systems and these changes were reflected in the assessment of technologies and in the focus of the project, which moved away from single system tool principles and towards the educational and environmental aspects.

This was in response to a number of pilot results and the limitations of technical provision particularly in terms of storage and interface development. The most useful results of the investigation gave insight into the needs of the range of interest groups and helped understand the limitations in terms of an institutionally-delivered model.

Background to the project: environmental and historic framework

'Aggregating the Student Voice' project received Invest to Gain (ITG) funding from the University of Brighton in 2011 with the following aims:

- Deepen the information base for public audiences.
- Expand the visual archive of our alumni.
- Create an evidence base of the professionalism/ employability of graduates.
- Advance the understanding of professional/ social digital self-representation for student.
- Advance/ extend and encourage PDP.

The Faculty of Arts at the University of Brighton had in the years 2011-2014 a sub-brand identity and comprised a School of Art, Design and Media (ADM) and a School of Humanities. A significant number of its students, the majority of those in ADM, were involved in the production of material for display and were educated in the context of professional models of practice towards industry-specific employment or enterprise in a professional environment. The disciplines included Architecture, Design, Fashion, Fine Art, Visual Communication, Performance, Creative Writing, Media, Film and Broadcast. Courses were organised into Academic Programmes broadly along the disciplinary themes outlined above and with little commonality of structure.

Incoming students in 2011 had a range of practices and experiences in the digital and physical profiling of their work. There was no standard expectation during application and course leaders did not normally prescribe the platforms or standards required of students. Professional practice modules gave introductions to the principles of profiling and digital building. These were largely not assessed by any measurable efficacy and varied in expectation across courses. Individual tutors' knowledge of the landscape of digital profiling was also variable.

Digital profile building was in 2011 commonplace for the incoming students with the use of Tumblr (formed 2007) widespread and Facebook the global leader, replacing MySpace. Free website building software was becoming available and most students were already committed to the web 2.0 procedures of which the University of Brighton had few internal examples. Part of the project scope looked to understand where students might be educated as to the parameters for social and professional profiling spaces.

At the university, the college used a Content Management System, Squiz, and had control over design and functionality in order to build pilot schemes. The university teaching and learning provision included Blackboard software, which had a rigid interface design and was not used to present profiles externally. The university was considering trials of portfolio-building software for teaching and learning purposes.

Methodology

The lifecycle of an individual profile page, its purpose, authors and audiences were speculated in initial project planning and consistently retested.

The project was specifically designed to work within the environment at the University of Brighton's Faculty of Arts but consideration was always given to its value as a more general reference point.

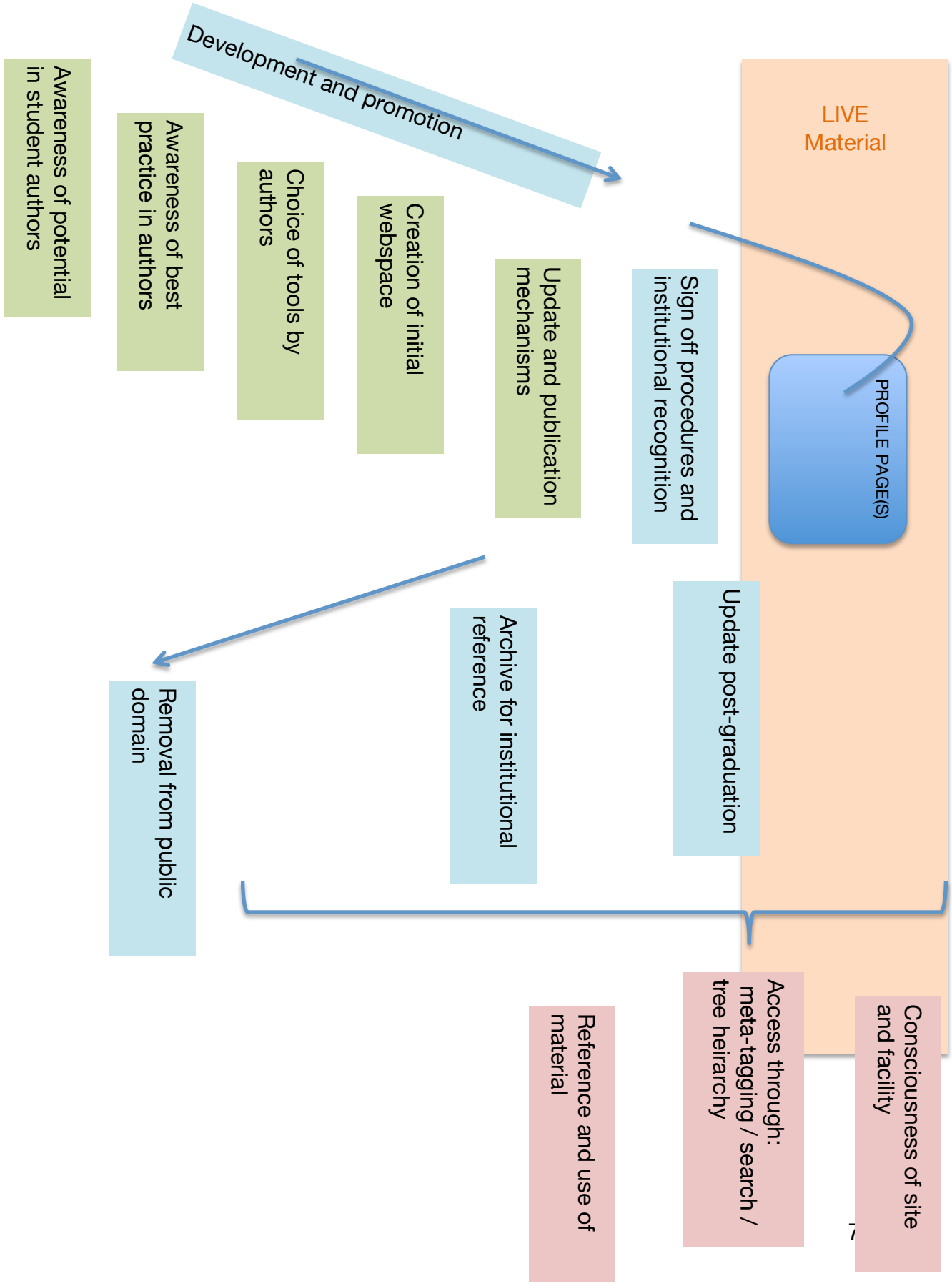
Pilot schemes were developed and tested on course groups, providing insight into the accuracy of the envisioned shape and lifecycle of the profiling system, with considerations as to digital and sociological issues around adoption and usage.

The educational needs and potential were examined through user behaviour and matched against the potential for public exposure that was offered through the university systems and the ac.uk URL domain.

Regular contextualising in the form of online reviews took place to ascertain the value and viability of institutional schemes of profiling. The rapid development of commercial, global aspects of profile building was a pressing consideration.

The lifecycle of student profiles

Fig 1. Lifecycle of profiles
Key: Input user journey : Audience user journey : Administrative user journey



The study grew to recognise the possible journey of three inter-related user types of an operational system:

Student users	creators and authors of profiles, motivated by personal productivity and display to wider audiences and peers
Audience users	viewers of profiles and users of material included those who might shape or feedback on the results as well as those who might make use of the resulting pages: eg course teaching teams, prospective and current students, prospective employers, marketing teams. The institutional interests in the development were in the teaching of profile-building for professional practice with a shared interest from institutional memorial/archive practices. There was some potential interest from alumni engagement and marketing and a growing shared development interest with services for graduating students (Graduate toolkit).
Administrative users	The administration journey was complex, requiring work towards adoption of the platform as well as operational tasks .

The Aggregating the Student Voice project examined the stages in each of these journeys with a view to each stage working as part of a connected system.

Additional complexities around digital profiling were recognised as the study progressed:

- The sociological attitudes to live material and institutional representation of students through their work was noticeably changing during the period of the study
- The nature of digital material, particular that within the “social media” spectrum, showed that archive practices and principles were difficult to impose on a something that was fundamentally envisioned as highly ephemeral in nature
- The expectations of digital interfaces, their ease of use and customisation potential were based on sophisticated, global platforms and users were impatient of these expectations not being met

- The complex needs of individuals and their use of profiles were being reflected in a global trends in personal digital representation.

Pilot developments and related micro-projects

- CMS-based development of student work pages
    - Generic faculty profile system
    - Fashion and Textiles 2013
- CMS-based provision of classroom tool, “Broadcaster” for multimedia journalists
- Mahara-based development embedded within the curriculum and customised for profiling
- Holistic and platform-independent considerations
- Module development, “Marketing the self”.

In terms of the digital platforms used, the study was undertaken agnostically, working with those systems already in use within the institution.
The college CMS platform, provided by the company Squiz, was advantageous in terms of its flexibility, also the in-house skillset which allowed the development of prototypes of most elements.
The secondary pilot studies trialled use of the Mahara software, then under pilot itself as a teaching and learning tool
.
Through developments of profile platforms, processes and engagements were conceived as following a broadcast analogy [fig 2], making a distinction between constituent elements of a digital profile supply and dissemination.

- the system is dependent upon a supply of original course work (content)
- from individual students at a course level (producers).
- this content is then built into a system (architecture).
- and made publicly available (broadcast)

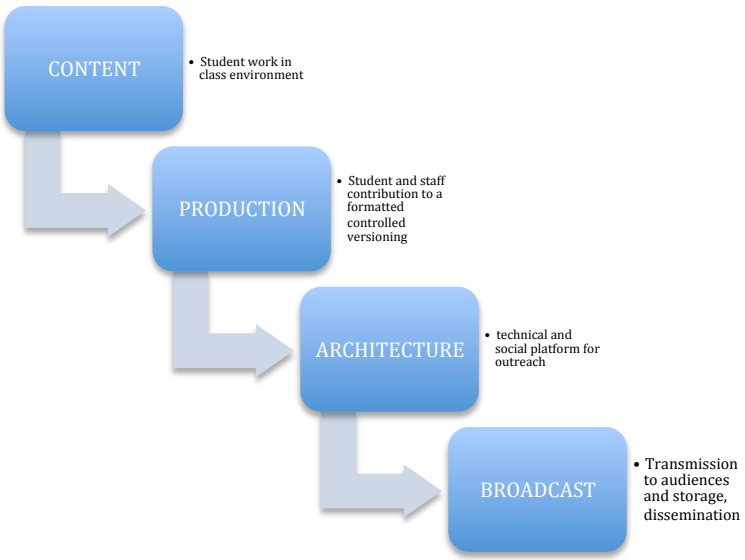


Figure 2

Evaluation methods

	Non-technical factors	Technical factors
Development stages: Production, adaptation, maintenance		
Appeal of product: Awareness of potential in student authors Awareness of best practice in authors Choice of tools by authors		
Ease of use Creation of initial webspace Update and publication mechanisms Workflow: Sign off procedures and institutional recognition		
Effective Profile Page		
Administration and update access post-graduation: Removal from public domain		
Archive for institutional reference		
Access through: meta-tagging / search / tree hierarchy Reference and use of material		

Each development was assessed at a number of stages, pegged to the user journeys ascertained and with an aim to hone an understanding of the range of elements on which success is dependent and to establish criteria for ease-of-use at each point.

The emerging factors for each project development raised factors that were:

- **Technical**: a direct result of technical limitations or possibilities in the choice of software and its accessibility for both programmers and users. Assessed in the context of resources.
- **Administrative**: the organisation of process, workflow, training, monitoring
- **Social**: the changing mindset, attitudes to public exposure, willingness to adopt systems, institutionalisation and the range of opportunities available for profiling outside the institution

The project was not solely focussed on ***technical*** or ***administrative*** or ***social*** factors, but allowed an understanding to develop as to how these elements were interrelated.

Pilot trialling and developments

Trials through three complete developments made use of the proprietary CMS Squiz. The success of each was monitored against criteria through the understanding of user journeys.

CMS 1: Faculty-wide online case study/ student work system

A facility was quickly developed for the provision of student work profiles directly to course marketing material under the proprietary CMS system.

The system used allowed efficient display of material using standard web-application tools, image carousel or html embed, textual material, film embed, related files such as pdf where appropriate.
The system also allowed for a clear, course-related retrieval and viewing system with further percolation of material into areas where groups of courses (Academic Programmes) could be represented as well as larger departments such as the School or Faculty.

The placement of material by trained CMS users allowed for swift delivery of public domain material for those courses who chose to participate. Experiments with delivery of the CMS interface directly into a classroom environment at MA and BA level suggested limitations of enterprise level CMS software and the administration model. The CMS was unfamiliar and a set of training schemes proved impracticable.

Evaluation summary: The CMS software provided a refined and customisable webpage but was heavily dependent on resources from within a trained web team. Roll out into classroom environment had no hook to encourage participation, and the encouragement for use was entirely based around the course marketing potential. Students were reluctant to engage on this basis.

	Non-technical factors	Technical factors
Development stages: Production, adaptation, maintenance	The "tool kit" style of CMS provided by Squiz allowed for experiment and responsiveness to student and staff requests.	The flexible CMS allowed for the structuring of a suitable template, styled to the wider web presence. Indexing systems were easy to put in place by trained staff. Input from an untrained depositor of information was far harder to achieve.
Appeal of product: Awareness of potential in student authors Awareness of best practice in authors	Students did not see any special benefit in posting profiles alongside their course material and uptake	While the resulting look and feel was largely good, especially with trained input staff, the quality of

Choice of tools by authors	was slow. Profiles outside the institution were preferred. While staff were keen to have course work to display in a marketing context they did not on the whole pursue widespread uptake.	submissions varied enormously.
Ease of use Creation of initial webspace Update and publication mechanisms Workflow: Sign off procedures and institutional recognition	It was extremely difficult to engage users with the CMS system directly and so success depended on digital sending of information to administrative staff. At this point it was straightforward and profiles could be created in less that 15 minutes.	Untrained users were unable to input material confidently.
Effective Profile Page		Result was attractively presented
Administration and update access post-graduation: Removal from public domain	Long-term there were increasing examples of contact from those who had graduated and felt their profile was out of date. The question was raised regularly around the appropriateness of what in many cases amounted to a university archive of maturing artists' and designers' early work.	Access long-term was digitally possible but impracticable given potential abuse without close monitoring and without a dedicated system of account build and logging platform.
Archive for institutional reference		Storage of large numbers of profiles on Faculty server presented a potential long-term problem.
Access through: meta-tagging / search / tree hierarchy Reference and use of material		Easy access through index and alongside course material; easily generated, relevant URL for users to share.

Overall observations:

- the CMS platform allowed for attractive pages to be built. Indexing and thematic tagging were equally straightforward for the system managers
- Access to the CMS was provided to students and a number of automatic elements allowed them to be placed under courses and enter material for profiling.
- Posting to the CMS was not intuitive and there were no systems in place to encourage participation

- The profile was in itself the only objective of student and staff engagement with this process, with resulting difficulties gaining adoption.
- The use of a local database was a long-term limitation and opportunities for cloud hosting were expensive.

CMS 2: Fashion and Textiles 2012 Graduate Show website

Background: Students from the Fashion and Textiles courses had had the longest history with department-based website building. Originally an extension of the fashion show brochure that provided documentation for the staple graduate display, the Fashion and Textiles student website was built privately each year, often at high cost to the students themselves. The students and staff had recognised the need for improved profiling of their work and the resulting websites were not organised to be upkept far beyond graduation.

The intervention in this process was attempted with a view to encouraging participation through a facility that replicated the look and feel of the 2012 privately built site. The experiment provided useful insight into the problems associated with institutional profile provision, with students able to access an easy upload suite for text paste and the entry of a set of images that were then available on thumbnail click.

The editor interface was pared back to its most simplified form [known as Simple Edit in the Squiz software, it is more customisable and is distinct from their more complex Easy Edit package]. This enabled users to upload images easily using an in-page form and add text to a predefined box. The simplified upload interface took a large amount of development time. It could be grasped with a few short instructions and a brief to course representatives. The interface, nevertheless, lacked any familiarity or ongoing relevance for the student users. The audience users, again, had a finely designed template that could be honed through CSS, the standard coding for web layouts.

Two groups were planned to use the system, Fashion being separate from Textiles. Despite messages from the programme leader, the uptake was poor. Fashion students did not commit any material to the institutionally built website and instead created a private Tumblr website. Textiles students were keener to please and 75% of the cohort added content. They had however also created their own private site and the institutional build was essentially a copy of material being used elsewhere.

The institutional website failed in some areas despite an easy interface and a high-level display. Students were advised throughout that their presence on a .ac.uk website would bring them a better result on search engines but this – strangely for a creative industry aspirant – proved insufficient motivation. It seemed a sign of the globalised trends in social media that Tumblr was the platform of choice for a cohort of students wanting a graduating exhibition site. Students graduating from Fashion in 2013 chose the third party portfolio website, 4ormat.com

	Non-technical factors	Technical factors
Development stages: Production, adaptation, maintenance		Initial set up was complex requiring template build with front-end look and feel to be scoped along with moving banner implementation and an easy display of images, thumbnails and text. Set up of the input area was slightly constrained by the CMS facility but was the cleanest possible result given the parameters.
Appeal of product: Awareness of potential in student authors Awareness of best practice in authors Choice of tools by authors	Best adoption rates were through pressure from the teaching staff. The use of a look and feel that students had designed the year before helped with adoption of the system. Students still wished to have a system that they had devised externally and saw the CMS system as an institutional requirement rather than a benefit to themselves.	
Ease of use Creation of initial webspace Update and publication mechanisms Workflow: Sign off procedures and institutional recognition		Students required no training. Initial demonstration to course reps was enough to secure participation from Textiles students
Effective Profile Page		Engaging end result
Administration and update access post-graduation: Removal from public domain		Students could be allowed edit rights with workflow through the arts team. As the system is separate from LDAP this could be retained based on the initial sign up.
Archive for institutional reference		
Access through: meta-tagging / search / tree heirarchy		Highly effective system in that meta-tagging can be cascaded through CMS nodes. Highly searchable.

Overall observations:

- CMS built system brought the benefit of web look and feel
- Adoption remained a problem with students relating to the tool only as an institutional demand
- Upload and interface problems were minimal

CMS 3: Into the classroom

The third pilot provided opportunities to test the mechanics of a CMS-delivered system directly to a classroom environment. Under testing were the delivery mechanisms and potential of one-off workshops.

Servicing a journalism course, the pilot worked in tandem with a brief to produce a news showcase. The project expanded as the classroom requirements included student journalists making daily classroom use of the tool, posting news stories for scrutiny as a course assessment.

The CMS build was complex in terms of its input and indexing mechanisms. Students were to add material, (writing, sound files and video) through a web content management system and the results were listed under individual student names, while a publishing workflow allowed content to move to the front of the site. Running for two years, at its height there were up to fifty students using the system regularly. When all instructions were followed effectively, this allowed an attractive web-interface for audiences.

The proprietary CMS (Squiz Matrix-built with students trained to use its Easy Edit Interface) proved too complex and idiosyncratic to enable a smooth, simple and consistent student experience. It became clear that the content management web display tool was being stretched beyond its appropriate uses. Further iterations of the course team's online journal project moved to a proprietary journalism tool.

While there remained issues of the inappropriateness of a CMS for the specifics of this project it did provide the necessary evidence in terms of testing classroom rollout, workflow, resources and user expectation.

Problems in delivery to a classroom included;

- a user base that had only a single session of tuition
- no local specialist technical help with the software
- unnecessarily complex layout and posting options within the edit interface

There were concerns as to the level of training required for even relatively simple tasks. A student cohort, who in focus groups noted their favourite interfaces to include the Domino's pizza app, itunes or Facebook, made regular comments as to their dissatisfaction with a tool that required training and had a large number of critical choices and actions built into the user upload and workflow process.

The nature of classroom practice also came under observation with this pilot. Class environments with specific teaching objectives require a tool that is unobtrusive to the academic aims. Any technology that takes a rerouting of classroom objectives in order for a class first to become proficient at using the tool risks failure; learning the technology itself can only be built into the course if the technology is industry standard or professional domain or if it is inherently part of the course submission and

assessment. Initially this affects classroom timing and staffing in terms of the time for introduction to the technologies. It has further implications in the teacher adoption of the technology, with many teaching staff seeing the platform specifics as outside their remit. Adoption is then dependent directly on the willingness of the teacher to make the technology part of the course, as well as the students' acceptance of the system as compulsory.

An enterprise level CMS was, following these pilots, not considered a suitable tool to deliver into a user-intensive teaching environment. It required dedicated, often technically demanding administration and in order to give content formatting options to editors it meant an interface that was complex beyond the requirements of a Twitter/Facebook-native userbase. The ease of use factors cannot be under-estimated, corroborating Robert W. Gehl's point, in assessing Facebook's success over MySpace, that "Facebook was simply easier for users to implement" [1].

	Non-technical factors	Technical factors
Development stages: Production, adaptation, maintenance		The system was extremely complex, built with large scale "listing" and "build" assets and a number of customised extras built on request as the in-classroom demands fell upon the project. The front end look and feel was smart when in expert hands but problems with input and adoption were frequent.
Appeal of product: Awareness of potential in student authors Awareness of best practice in authors Choice of tools by authors	There was considerable appeal in an embedded, bespoke classroom tool. However, the theoretical appeal hinged on high ambitions and expectations beyond the software capability. Enthusiasm from the commissioning staff ensured a steady push of the pilot project despite problems with the system. The disjoint between the effort needed to learn the technology and the need to make use of a tool for other purposes was however marked.	Students found the input through the CMS awkward. The set-up aimed to aggregate the many news stories into accessible streams and surface these in a number of places. This gave students more work and choices in the system than they thought appropriate. There were frequent difficulties balancing the desire for increased functionality against the desire for simplicity.
Ease of use Creation of initial webspace Update and publication mechanisms Workflow: Sign off procedures and institutional recognition	Teaching staff were not responsible or effective users of the technology, which left gaps in the provision of the effective service.	The input requirements for regular news features from two cohorts on the course presented a huge challenge to an in-house built CMS-structured tool. Students and staff expressed dissatisfaction. Although a

		proportion of students were able to generate suitable results, the percentage was low, with some creating regular problems.
Effective Profile Page		Although the front page of the site was appealing, individual profiles of work suffered from poor detail, abandoned pages and over-stocking of system assets against personal profile areas.
Administration and update access post-graduation: Removal from public domain	Workflow system was tested through regular requests for unobtrusive technologies, eventually leading to development of an email command based workflow processing.	
Archive for institutional reference		Pages were easy to archive and retrieve through search. However there was little to engage third party viewers of the system
Access through: meta-tagging / search / tree heirarchy		Although this system was in place, the choices around tagging were too cumbersome to guarantee adoption.

Overall observations:

- The CMS-built system gave flexibility as to indexing, metadata and the css development of attractive page layouts.
- Regular development in response to classroom needs brought experiment on automatic features and led to an understanding of what prevented technologies from being adopted into a teaching routine.
- The project highlighted the limitations of CMS developments outside direct web delivery
- The project highlighted the need for technical support and the need for a robust system when extended to larger numbers and regular input use

Mahara: Studentfolio as an adapted profiling tool.

The University of Brighton Information Services [IS] department had in 2012 begun to pilot an e-portfolio building tool designed for classroom use. This used a software called Mahara and became known internally as Studentfolio, delivered on a URL reflecting that name.

The advantages of this for the next pilot stage were:

- An institutionally-supported software would alleviate problems of training and delivery to the student group
- Adoption and adaptation of a primarily classroom-focussed tool would bring opportunities to improve adoption by the student user cohorts

IS provision of the technology eventually moved to third-party support with no in-house control over the deeper system technologies. Also IS protocol is generally to provide instruction only to teaching staff and for them to train student users directly a trouble spot already identified in the Broadcaster pilots.

The first of these factors made the tool difficult to adapt to the new uses as a display. The second meant the adoption by the teaching staff themselves was a first hurdle before the subsequent buy-in from students.

The platform was already being recommended through the Learning Technologies Advisor for the campus. It was agreed that the adoption could be bolstered at the time of greatest interest in external profiles, namely the Faculty of Arts Graduate Show. The pilot scheme made use of specialist marketing personnel and the message was spread to students through internal communication channels and advertising materials.

A faculty branded theme was built for use within Studentfolio and student users followed a set of instructions to place them within discipline groups and allow them to upload profile content and generate a public-facing page.

An system was devised which allowed student users to place thumbnails onto a landing page. This was the means by which pages were indexed. The system was opened up to robots in order to be visible on search engines.

The adoption of this system was heavily dependent on individual course tutors. Despite broader advertising, interest in committing material to an institutional platform remained low. Cohorts that were using the tool for learning purposes throughout their course returned a high percentage of profiles and were content rich. Of those cohorts whose introduction to Mahara was only for the Graduate Show profile, the most significant successes were in courses where course tutors were able to add pressure either through regular awareness raising or, even, by making it an essential requirement. In these circumstances, take-up was close to 100%.

The use of this software had the benefit of being designed for classroom delivery and the technology itself was not a barrier to adoption. The difficulties were with the archiving, access to and display of the material. The inherently personal nature of a portfolio building tool for classroom purposes conflicts with the aims of a system for high volume public traffic. The dual nature of Aggregating the Student Voice, to both instruct students as to their profile building and to then use the results for display, causes its own problems.

A JISC funded Portfolio Commons project being run by University of the Arts London was examined as having covered some of the territory under observation. The project used existing SWORD (Simple Web-service Offering Repository Deposit) protocol to develop a modification to export data from Mahara to an external repository. This was initially considered as an archiving solution but the modifications were problematic, especially in terms of upgrade alongside an open source access tool.

	Non-technical factors	Technical factors
Development stages: Production, adaptation, maintenance		CSS changes to the Mahara system allowed for attractive displays. Standard functionality
Appeal of product: Awareness of potential in student authors Awareness of best practice in authors Choice of tools by authors	Staff were able to recognise the value of a digital system through which submissions could be made and through which a public profile was readily generated.	
Ease of use Creation of initial webspace Update and publication mechanisms Workflow: Sign off procedures and institutional recognition		students could produce excellent results, the best of these from courses where the software had been fully embedded in the coures
Effective Profile Page		Individual pages were smart and highly functional
Administration and update access post-graduation: Removal from public domain	Evidence of students growing increasingly attached to the profile through three years' use and returning to the software to maintain a profile.	System settings allowed for students to continue adding.
Archive for institutional reference		Under consideration are ways of scraping sites and preserving a pdf version of the material together with suitable metadata. Also under consideration are ways of drawing upon other student record databases.
Access through: meta-tagging / search / tree heirarchy		Google search was made available but a refined index and tagging requires specialist building.

Overall observations:

- The combination of a portfolio tool with a profiling system allowed for a more deeply embedded, student-focused experience

- However with the input user now the principle focus of both the software and the roll out plan, the audience user journey proved difficult to develop. A gap was evident between systems for the purposes of classroom practice and those for audience access. Something in the very nature of this portfolio tool made it primarily a personal development mechanism and unsuited to complex grouped information and metadata driven indexing.
- As the classroom trial began to gain users, the administrative mechanisms were re-examined, including sign off for use of intellectual property and the logistics of keeping student representation for public domain access after their graduation.

Holistic and platform-independent considerations

Adoption was problematically low in all pilot cases despite marketing campaigns, personal advisory sessions and tuition.

Evidence from interviews with students for whom StudentFolio had not been a mandatory requirement of the course revealed a number of pre-perceptions around institutionally provided profiling tools:

- StudentFolio would be complex system to use
- Institutional offers are a side step from the private artistic profiles already set up externally
- That the pleasure of creativity would be best invested in external rather than institutional profiles if creating afresh
- Institutional profiles would be limiting or prescriptive

These reasons were among those that contributed to low numbers of engaged users when profiling was an optional element. All of these could be overcome by direct support from the students' regular staff contact. The highest adoption rates and best results came through encouragement directly from engaged teaching staff. In such cases students demonstrated swift mastery of even quite complicated instructions for indexing their work on Studentfolio and subsequently delivered attractive profile pages.

Adoption

The student artist/designer audience were largely cautious adopters of the institutional system. Despite some pre-perception that the administration interface would be troublesome or time consuming, much of the unwillingness to commit a profile came through a range of sociological factors unconnected with any one software.

Regularly observed factors included issues of independence, creative control, intellectual property and a failure to believe in the institutional connectivity with their lives and careers.[*]

Coupled with this were general time and effort factors associated with the engagement with tasks outside the regular student routines. As observed in pilot CMS 3, above, the teaching of technologies that are not industry standard or perceived as of essential use in the wider course aims are unlikely to be adopted with any longer-term effectiveness by either tutors or learners.

There were also factors inherent in digital service adoption that were at the time receiving wider study. These had resulted in exacerbated patterns of market reaction and had generated single examples of dominant platforms

[*] In their article 'The Personal Curation of Digital Objects,' Williams *et al*. (2009) found that "individuals exhibit great diversity in terms of personal information management and digital archiving practice at just about every point in the digital information cycle".

rather than balanced market shares, as for example globally with companies like Google and Amazon but with similar patterns emerging in many areas of technology adoption where a single, hyper-popular digital product, service or internet delivery outstrips all competitors.

Published studies tally with these findings. Ease-of-use and a simple interface are important components in achieving 'critical mass' in terms of user base ['Dissecting the Critical Mass of Online Communities towards a Unified Theoretical Model,' Booij, E,], but software adoption is rarely done through customers weighing known qualities and choosing systems with distinct advantages. Brand pressure, availability and peer adoption/recommendation play a more significant role.

'Epidemiological modeling of online social network dynamics' (Cannarella, J & Spechler, A, 2014) attempts to use epidemiological models to map the adoption and eventual abandonment of past and current online social networks (OSN), revealing that social web services have not been immune to changing technologies, fashions and user habits. Cannarella and Spechler's direct Facebook /MySpace comparison stops before the date of Facebook's strategic step to become the authentication tool for third party websites, a move which suggests futureproofing itself against shifting trends in profile building platforms by making its login ubiquitious across every type of web service.

Unless a web service can embed itself so unequivocally into web user actions (Facebook) or become the go-to resource in its field (Google; Wikipedia etc.) longevity of a single platform tool is impossible to predict and this makes it difficult to entice students with claims of the tools' relevance outside the institution or for future use.

Layout and architecture

Although initial scoping for Aggregating the Student Voice predicted that art and design students would demand a high level of customisation from a product, this was not borne out evidence from the pilots. Student customisation requirements were, on the whole, satisfied through the selection of text and image, with the website structure being acceptable with even very strict limitations.

This has implications for choices of tool and the project choice of where to balance ease of use against customisability. Often, although an high level of customisation was demanded at the outset, establishing independence from the perceived project or institutional constraints, the options offered were rarely used.

The comparison between Facebook/MySpace adds further context. Robert Gehl (2012) makes the following assessment: "At the interface level, MySpace's architects violate the professional practices of software engineers: control your architecture, allow the implementers to realise it, but

never allow [them] to add features [ad-hoc]… Facebook, on the other hand, has done a remarkable job of disciplining its users. Its rigid layout and its clean architecture are artifacts of its intent to [abstract] value from the aggregated labour of its users."

While creative licence is cited by many as an important feature, the rigid template is not a barrier to adoption.

Access

In terms of accessing the profiles as part of an audience user journey, there are ongoing debates as to the methods used to access material, whether the administrators of large systems can rely on third party search tools or not. Earlier web studies still appear relevant:

> "In reality ... it turns out that search is less frequent than we might expect. Instead of foraging for new information, users tend to re-access previously visited data using a variety of simple browser techniques including following links, retyping the URL, or exploiting the back button (Aula *et al.*, 2005; Bruce *et al.*, 2004; Obendorf *et al.*, 2007).

There was no evidence of a preferential tool from the point of view of those accessing and using the information. While those close to the group production of material request more complex indices in order to sub-divide years, classes or departments, the individual delivery through systems such as google or through mailable links satisfied a large section of the potential audience.

The index was most in demand institutionally, where course leaders, marketeers and departmental archivists expressed a set of requirements. Potential use was also evident for digital curations and representations of group exhibition work. At all stages third party indexing and display was required, often with independent styling to best suit the purpose.

Options and alternatives

One major difficulty for digital projects is that, between the points of inception and delivery, the digital landscape is undergoing rapid change. Projects in profiling by individual institutions in HE have encountered this, including the investigation run by University of the Arts, London, to extend the export capability of Mahara, which resulted in an online work repository offered to students but suffered adoption problems, with students preferring common proprietary solutions.

Other factors such as new mobile platforms and cloud-based storage and access were becoming widespread during the life of the project.[*] The

[*] As Don Adams (http://www.mportfolios.org) points out, "Mobile electronic portfolios, or mPortfolios, represent the latest development ... With the advent of mobile devices, mobile portfolio applications, wireless networks, and cloud computing, it is easier than ever to produce, select, organize, and share these artifacts".

validity of prescriptive technologies for this use within education was a permanent question and the recommendation shifted away from a platform and technology focus and towards the educational systems that embedded successful profiling practices into student behaviours.

A website which might have reasonably expected to become the byword for arts graduate portfolio provision is Artsthread.com, a London-based international service with a dedicated technical team and marketing budget. Speaking to Alex Brownless, co-founder of Artsthread.com, in June 2014 he commented on the challenges of raising awareness to students and the low level of engagement with university tutors. At that date just 126 active University of Brighton graduates were listed on Artsthread.com.

Taking a broader look at web developments since 2011, a paradigm shift has been away from content aggregation (news feeds; multiple web authoring) and towards content curation (sites such as Scoop.it). For HE organisations this alters the mechanisms of online content provision, increasing the emphasis on system independent delivery (distribution) and less on bespoke software solutions (architecture) [see figure 2 above].

As the problems encountered through bespoke pilot deliveries continued, the recommendations around Aggregating the Student voice moved away from technical systems and template-focussed content management and towards an educational platform which encouraged best practice.

Module development, "Marketing the self".

In a move to build the recommendation of the pilot tests into a practical delivery environment, a twenty credit course module was developed and validated, the aim being to deliver this as one of a range of options available for selection by a number of Faculty of Arts students.

Extracts from module approval documents:

Rationale:

Students across the Faculty of Arts are engaged as naturalised digital citizens in a range of activities which expose them to the public domain and to the opinions of unknown others. In blogs, websites, social media, link tools and forum posts they are committing themselves to public scrutiny and developing, often not fully consciously, a digital footprint and digital identity.

For many students this has professional impact as they will be seeking to engage a wider public in the dissemination of their ideas, either as academics or as art, media and design professionals. A module that complements professional practice in their specialist areas will offer an insight into marketing and communications practices that will help shape and refine how they use digital profiling.

The module has been developed from the research work into digital profiling for students conducted by the Academic Communications Team at the Faculty of Arts and will encourage and help students to follow methods that increase their own opportunities and embed them in faculty connectivity.

Learning outcomes:

Upon successfully completing this unit of study a student will be able to:

- Critically assess the efficacy of their own digital presence in terms of professional markets and future opportunities
- Apply basic branding and marketing techniques to themselves and their work
- Demonstrate awareness of the range of digital and traditional platforms, their uses, and critically evaluate their relative merits
- Analyse and critique media presences across a range of platforms
- Apply a range of tools and techniques for professional communication purposes
- Demonstrate understanding of production and curation of written and visual material across appropriate platforms.

Content:

Workshops and student-focussed seminars:

- Critical awareness of the nature of a professional brand and a consistent identity
- Writing practice: organisation and delivery of written material
- Approaching the media: press releases and contact building
- Social media: types, forms, data handling, appropriateness, digital identity.
- Best practice with digital networking tools
- Using, referencing, creating, tagging, labelling and making accessible image, graphical, audio and video resources

Personal project production:

- Curation of professional portfolio of material using Studentfolio software
- Creation of a written/visual blog with the aim of engaging a chosen industry
- Generation of social media connectivity with a range of tools
- Website generation and/or improvement

Assessment:

- Demonstrate understanding of production and curation of written and visual material across appropriate platforms. PRACTICAL COURSEWORK: Students will be required to plan and develop a connected digital presence across a range of media including an online portfolio, a fortnightly blog and regular activity across social media platforms such as twitter and/or linkedin. They will be expected to evidence their aesthetic and intellectual choices in creating this.
- WRITTEN COURSEWORK: Students will be required to submit evidence of the strategy upon which their social media campaign has been developed equivalent [2 sides A4 equivalent, could include storyboards, lists etc.].
- WRITTEN COURSEWORK: Students will be required to write a critical, reflective essay on the techniques used, including an assessment of the outcome of their work, evidence of research and engagement with written source material and a critical comparison with observed examples. (2000 words)

Conclusions

The nature of portfolio building for art and design students

In the journal *Educause Quarterly* [2004. 2: pp.24-37], Love, McKean and Gathercoal propose five levels of ePortfolio maturity:

- Level 1 & 2: Scrapbook & Curriculum Vitae. ”Students collect some of their assignments or awards (artifacts) that are stored on paper, digitally or online, preferably in chronological order.”
- Level 3: Curriculum Collaboration. ”Only web-based portfolios meet the requirements of this level and the ones above it.”
- Level 4: Mentoring. ”At this level the educators are intensely engaged in providing guidance and feedback to students … Educators can ‘lock out’ students from making further iterations.”
- Level 5: Authentic Evidence for Assessment, Evaluation and Reporting. “This is the highest stage of students’ portfolios so they are very structured and organised in accordance with institutional standards … The institution can use the portfolios as assistance in programme assessment and revision … However, higher levels of ePortfolio maturity can not rely only on the technical features of the ePortfolio system, but must also be supported by organisational efforts, as well as by the needed pedagogical and technological competencies of educators.

Aggregating the Student Voice aimed throughout for authenticity in its profile delivery and recognised the same need for support in terms of organisation and pedagogic competency. In the context of an art and design institution there is however a level beyond this and one that Aggregating the Student Voice ascertained as the project progressed. The level of professional distribution of portfolio material to networks beyond the point of study is not separate from the portfolio development and is not an independent marketing venture of the course. Rather, it is fundamental to the spirit of practice work - work within art, film and broadcast, design and creative writing practice – that an audience is assumed, characterised and provided for. This then helps shape the work that is created and the portfolio development is inherently part of this.

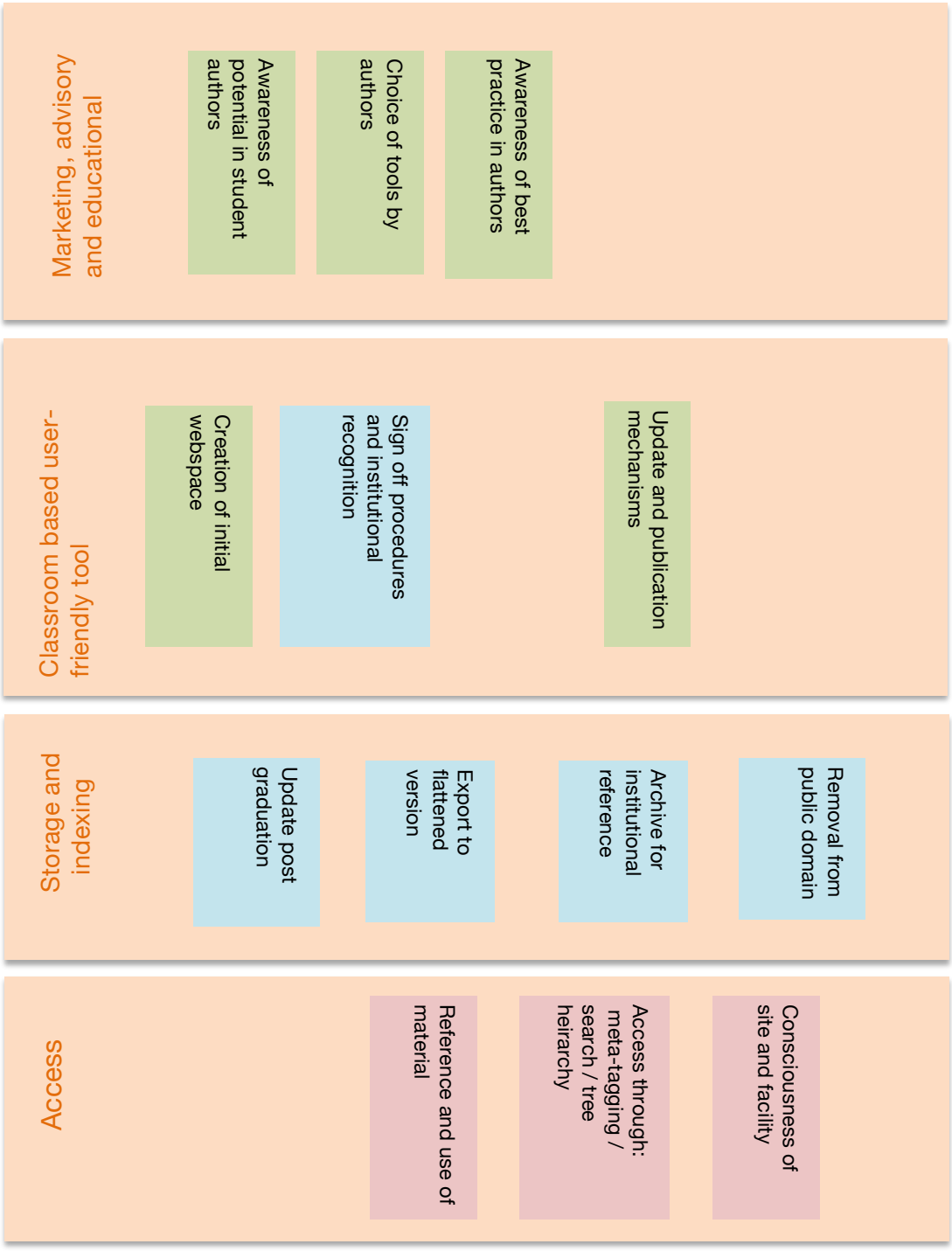
The creation of a portfolio for public display must be integrated with the educational experience and the technological workshop delivery must be appropriately structured and delivered. Problems associated with adoption were usually within the context of a “top down” approach through which institutional demands were brought to a large group of students across a number of courses. Given the success of one or two examples, the opportunity still exists for achieving the necessary high level of profile through organic growth from interested groups for whom an institutional

profile is a good fit with their course material and the teaching and learning aims.

Definition and distinction between development areas

As well as the multi-staged user journeys ascertained through the project, the divisions between areas for discrete development mechanisms became increasingly clear.

Fig 4. Discrete areas for approach and development



Marketing, Advisory and Educational

The factors around student motivation to create and develop profiles that met high delivery standards were regularly appraised.

Actions to increase adoption and fuel interest in the project included the opening to search engines. It was believed that the power of a .ac.uk domain name would drive enthusiasm for an institutionally-based profile.

Drawing on successful examples and potential public domain use of the profiles, including their suitability for movement into employment for creative professionals, 16% of graduating students submitted profiles with this encouragement. Despite marketing campaigns offering the chance to "Share your work with the world" and a large-scale activity around two years of graduate show preparation, the model that offered the profile outside the course structure achieved a low success rate. By comparison, those courses with embedded Mahara teaching practices returned over 90% of their students to the live digital profile database.

Portfolio creation on a personal basis, outside the institution was however commonplace. The selection of digital tools was arbitrary, with those who had built profiles being unable to give special justification for their choices. Learning objectives developed for the Marketing the Self module or embedded into training workshops aimed to build student awareness of the choices they might make for digital profiling including the tools, the content and a range of aggregating and network distribution opportunities. While the majority of students were able to post judiciously-selected imagery and develop a short text explaining the ethos and approach of their creative work, understanding of the full potential of a digital profile was not generally high.

Classroom based user-friendly tool

The pilot studies highlighted the importance of a thoroughly embedded model with students collecting material throughout course sessions and then performing a selection and curating from extant digital material. In the most successful cases this was the stage at which additional learning outcomes as to public display and connectivity could be built on other achievements in the production and appraisal of creative project work.

Aggregating the Student Voice aimed to create sufficient interest in digital work-in-progress posting for this to be a useful representation of the course studios, allowing a sense of vitality and directly communicating the teaching environment as well as fostering digital sharing. These aims were separate in nature from the curated graduate show or 'year-book' profiles, and relied particularly heavily on embedding practices into the classroom.

Workflow models on work-in-progress proved problematic with students requiring a high degree of self-awareness and self-management in terms of submission to public visibility of work that represented their process.

Teacher commitment to the process was a major factor throughout all pilots. The model of visiting technical demonstration brought poor results. Optimal use came with teaching staff who were prepared to master administrative level skills over the software and could embed occasional refreshers or give advice throughout the course. Best practice came when the software was built in to submissions either for formal or informal assessment or critique.

Students active in the project period were of a generation that showed a digital-native willingness for public domain visibility. While this brought increased cooperation with a public profiling project it was also a problem area with some students contributing personal information that was deemed inappropriate by the institution, mobile phone numbers appearing alongside portrait photographs in some instances and email contact details given as standard.

The sign off of material was unproblematic when placed in the hands of individual tutors who, with strong guidelines around certain kinds of content, were best placed to recognise the value of the work to the portrayal of the course, the university and the student themselves.

Storage and indexing

Aggregating the Student Voice explored the potential of extending student use of a university-based profile beyond their time at the university. The pilot groups did not however recognise the value of such a tie to the institution and while some students did seek to edit and engage with the profiles immediately following their graduate show, there was very little interest in an ongoing profile page with low numbers of alumni contributing retrospectively following a call through the alumni services. This reinforced conclusions that the lifespan of the profile was, on the whole, closely in line with the lifespan of the course. The possibility of a greater connectivity with the alumni database was considered together with self editing for alumni. Implementation of this was outside the project scope.

Institutional expectation around this project included the visibility of student work for the purposes of marketing and alumni connectivity. In practice, neither of these groups needed the volume of material that the project sought to make available. It did provide material from which to select highlights, while course leaders were, on the whole, pleased to see the work of a cohort displayed in a suitable thumbnail index. The working profiles give an opportunity to remain in contact with the ongoing careers

of alumni, who can thus be encouraged to reference the roots of their professional development.

Sign off of material for institutional use was unproblematic there being clear guidelines for the repurposing of imagery associated with the works of art and design students produced in a course context. More interesting was the steady growth of requests to remove older profiles from the public domain. This was ascribed to the proliferation of opportunities for digital profiling and the increasing awareness of online presence and “footprint”. Students were increasingly likely to monitor their digital presence and would discover a university profile from their early years had a prominent position in searches. Requests to change information or to remove became increasingly common and recommendations are that any longer term archive of material would be updateable, would include links to an ongoing life-long URL, and would fix the institutional offer in a more appropriate “year book” context.

The problem was not solved satisfactorily during the Aggregating the Student Voice pilots. It remained a case by case consideration as to whether profiles would be kept in the public domain and for how long.

Access

The pilot projects hoped to gauge the potential audience for institutional profiling. Searches to the Faculty of Arts website were frequently through names of artists, designers or other practitioners who had some celebrity status and it was believed that a database of interesting material would include recent students alongside established alumni and associates. While the institutional leads maintained enthusiasm for detailed and extensive profiling of students and their work, there was little audience interaction from outside the university.

The putative use of the profiles included: employers looking for skill sets among employees; employers examining authoritative digital portfolios of student activity while at the university; arts-interested public examining the landscape of upcoming talent; potential applicants examining the output of creative studios; general institutional observation of history, ethos and impact.

On an individual basis, students were satisfied that discovery and access to their profile could be made through search engines or though links. However, the ability to make profiles visible through curatorial selection or through appropriate allegiances to disciplines, courses or year groups was critical to any strategic use of this material.

The most effective storage options for the material included the export of all material [leap2a or pdf were supported through the software] and the

use of separate mechanisms for the display, index and access following a student's departure from the university.

The student creator of content will move through several changes in their attitude and appreciation of the digital public representation of their work.

- As a set of plans and work in progress
- At the point of first sense of a completed work
- At the phase that this becomes recently completed work and a set of early project evolutions
- A phase where the work has been superseded by new material either as a continuation, a quality shift or a change of aesthetic character
- A phase of distant reflection on earlier work

It is a complex journey and one that cannot find full accountability in a single digital profile of works especially those made during formative career stages.

Recommendations

Marketing, Advisory and Editorial:

- Students will have many alternatives for digital public domain connectivity. The most welcome institutional provision is in the shape of accessible marketing and publicity advisors, working with artists and designers to capitalise on a range of public engagement and communications tools, at the same time honing profiles to make them ready for professional service.
- Institutionally supplied technologies are, in this light, seen to be limiting and of value only for curriculum duties.
- Institutions who do provide a technology for use in these ways must make it competitive in terms of ease-of-use and potential outreach. This is largely impractical given the large development resources in the global marketplace.
- Any institutional system must offer clear profitability then in terms of capitalisation on the institutional profile: specificity of audiences; academic networking; industry connectivity. Benefits should include a contextual collective scholarly identity within the system, a mechanism of skill-set or theme indexing.
- Students will only engage if there is convincing evidence as to the value of this profile. Samples and success stories play a major role in the development curve.

Classroom based user-friendly tool

- The software needs to be incorporated directly into classroom practice with a belief in the complementary nature of developing digital profiling expertise and engagement with the other learning outcomes.
- Awareness and acceptance by teaching staff is essential, with results best generated when the teacher has command of the software and can embed best practice throughout a course.

Index and Archive

- No system was found or developed during the project that could offer both classroom portfolio ease-of-use and content management capacity around the display of a large database. Without the development of a dedicated system and background server capacity a migration model provides the best means to move from classroom tool through a procedure of sign off and agreed use to a database of examples. These can be exported in flattened versions with attendant metadata to drive searches.
- Profiles will require an index that shows their networked place with their discipline and within key skill set groups as well as standard alumni groupings around their cohort subject and year.

Access

- The value of a comprehensive window onto course practices was consistently raised as complementary to more formal brochure style representations of the course. This value was less a business-case marketing issue than one of academic visibility and

peer-to-peer communications but would be cross-purposed in a well-developed, widely embedded system.

- Students sign off the content for public display at the point of publication. This is signed off as a fitting representation of the course by the tutor. The opportunity for a student to make the profile private is necessary, the right to retain the material albeit unpublished should be carefully brokered and remain with the institution.

Afterword: summary of findings

Aggregating the Student Voice allowed for the development and testing of a range of audience- and user-focused systems and considered a number of technological approaches, recognising as it did new uses and purposes for a profile system.

The project was undertaken as an open enquiry as to the potential of profiling and an exploration of the full lifecycle. The undertaking of the project brought new senses of what the primary purpose of profiling were and what opportunities and barriers existed.

There was a growing belief that an institutional profile was most important because of its direct connectivity with learning rather. This was in contrast to more selective processes associated with business or reputational objectives. Aggregating the Student Voice explored the processes through which students choose to make themselves visible and what the visibility of the institution should be in terms of its constituent individuals. It joined a number of current debates in aspects of HE practice including the Professional Development within courses and the institutional memory that it chooses to build, the selectivity and curation of work produced through study, and the education and process that informs such a selection.

As a digital project there were interesting comparisons and contrasts with the practices of hard-copy archive work in educational environments. The ambition to be comprehensive and inclusive grew from a perception that digital assets facilitate aggregation, direct access contribution and multi-purposed connectivity. The digital seems a solution to storage problems associated with physical artefacts.

However it became evident during the project that its driving force as an archive of work or as a large scale group-identity statement was at odds with practices inherent in social media connectivity and the digital-native behaviours, which favoured transience, quick understanding and quick consumption. The project began to question the viability of preserving digital information that was not conceived for preservation at its root. This emphasised some of the known considerations around art process and production, challenging the primacy of the online curation, selectivity and the “finished” work.

The recommendations and information base established from this project are now to inform the development of profiling across student portfolio platforms, graduating tools and representations of teaching.

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