



***the Digital Picture* - a UK-wide initiative to explore digital image issues in the visual arts education community**

1. Introduction

This document introduces an initiative to establish a national overview of issues, and potential solutions, relating to the use and impact of digital image collections within higher education and research institutes, and associated organizations, with a focus on visual arts.

Statement on the raison d'être of ***the Digital Picture***:

“The Digital Picture initiative has been established to explore issues relating to the effects of the digital revolution on our use of images. It will identify problems and develop practical solutions; liaise with stakeholders and interested parties; and offer guidance to teaching, learning and research communities.”

The project is being coordinated by AHDS Visual Arts (part of the Arts and Humanities Data Service), based at Surrey Institute of Art & Design, University College.

1.1 Aims and objectives

The primary aim of ***the Digital Picture*** is to provide a structured method for identifying tangible problems relating to digital images, within the visual arts education community, and to then outline feasible solutions to those problems. To achieve this, the initiative will meet the following objectives:

1. National consultation of the affected community and all associated parties plus literature/peer project review;
2. Creation of a consortium to represent the community via seminars and online conferencing;
3. Establishment of working parties to discuss the specific issues relating to external art libraries (e.g. ARTstor and Bridgeman Art Library);
4. Documentation of subsequent analysis and resultant recommendations.

1.2 Contents

Section 2 outlines several key problem areas and highlights the need for more quantitative and qualitative data; Section 3 describes a number of possible solution domains and, again, highlights the need for more data; Section 4 suggests the methodical steps that need to be taken in order to achieve them, in a way that is appropriate for the visual arts education and research communities.

2. The problems

With the current, rapid growth of Information Communication Technologies in higher education, and a corresponding shift away from analogue technologies, there are a number of perceived problems and issues for those traditionally dependant on the use of analogue images. A primary cause for a recent increase in concerns has been prompted by well-known slide projector manufacturer, Kodak, announcing that production and sales of their machines would end in June 2004, with service and support ceasing in 2011. In September 2003, the company issued a press release explaining their decision in light of the fact that:

“..in recent years, slide projectors have declined in usage, replaced by alternative projection technologies. ”

Source: <http://www.kodak.com/US/en/corp/pressReleases/pr20030926-01.shtml>

However, no such announcement has yet been made by other slide projector manufacturers, such as Leica, Elmo or Vivitar, and it is unlikely that there will be a sudden demise of this technology. Nonetheless, the fact that Kodak is discontinuing its own slide projectors clearly indicates a perception that the marketplace is increasingly moving towards digital media, and this, inevitably, poses a threat to many regular users of images, particularly those who are concerned with long standing collections of analogue slides. This issue can be broken down into a list of potential problem areas that will need to be explored:

- **Cost.** Financial strains across the higher education sector are a major obstacle to the creation of digital images and/or the digitization of current analogue slide collections. Budgets are always tightening and, perhaps inevitably, money set aside for ICT projects is often ring-fenced for demonstrably essential work and equipment, or, alternatively, for novel or innovative projects that bring kudos to funder and/or funded. Sadly, the simple repetitive task of transforming existing resources into a different medium can often be regarded as neither essential nor innovative and, therefore, some way down the list of financial priorities.
- **Image quality.** There is justifiable nervousness within many art and photography communities, that the level of affordable digital media has not attained a high enough output quality for certain purposes. Although digital imaging technologies and projectors have improved immensely over recent years, there is still a perception that the image quality does not match that of traditional analogue transparencies in terms of colour, contrast, clarity and depth of detail (resolution). Furthermore, in many cases, scanning technologies and other capture mechanisms can simply add a layer of loss of quality, particularly when ‘enthusiastic amateurs’ are responsible for the capture process.
- **Metadata Standards.** Unless further resources are put into ensuring existing metadata standards are used, across the board, there is significant risk that the future will produce millions of images that will be unsearchable, unidentifiable and unusable.
- **Resources.** Many of those concerned with preserving or promoting slide collections do not have the time and/or appropriate training, or are not in a position to carry out digitization themselves nor to instigate such work by others. The lengthy time commitments, skills, knowledge, hardware and resources necessary for digitization on any significant scale are more often found in ICT departments where, as with costs, priorities are generally different.
- **Copyright and IPR.** Even where an institute or organization has overcome issues of quality, finance and resources, digitization can still pose enormous obstacles in respect of copyright and intellectual property rights (IPR). Many slide collections contain works where the rights of ownership and/or permissions for broadcast are blurred to say the least, particularly for dissemination via the Internet. Such issues, which are often ignored (or unknown about) by many people with access to a scanner or web development tools, are extremely complex, and the ramifications of misuse are wide-reaching and potentially disastrous in both terms of legality and image usage.
- **Functionality.** Whilst most visual arts lecturers and tutors will acknowledge the ubiquitous nature of digital tools such as Microsoft’s PowerPoint, there can be a mismatch between

the apparent functionality of such tools and their own needs. One example of this is the common practice of using dual projectors to illustrate differences/comparisons between two or more images, something that would be difficult to emulate in a linear-based tool such as PowerPoint. Whilst other tools do exist, for example, MDID or the presentation software available through ARTstor, these are yet to achieve significant levels of mainstream use.

- **Loss of resources.** It is extremely unlikely that all slides that exist today will be digitized for the future. Any process of transformation (in this case, from analogue to digital) threatens a potential loss of resources, mainly for the reasons given above but also because of the misguided belief that digital media is inherently more stable than analogue formats. In fact, slides have a proven record as a medium for archival purposes, whereas, while an individual digital file will not degrade over time, the hardware and software necessary for its future protection is unlikely to survive far into the future; will CDs, DVDs or ZIP discs still be usable in thirty years?
- **Physical environments.** Many institutes have yet to reach the point where the entire physical environment is geared up for the digital age. This means that teachers struggle to use digital media in classrooms and lecture theatres that are simply not built for the task
- **Cultural change.** If a National initiative is to produce real and tangible results, it must be acknowledged that there will be elements of doubt and concern in some areas, particularly in relation to threatened changes in working practices and associated cultural shifts. Fear of change is often justified to some extent and, therefore, any plans that emerge must embrace a deeper understanding of the needs of all affected members of the visual arts education and research communities.

Many of the potential problem areas listed may seem obvious but, in order to produce any sort of practical solutions, it is necessary to identify real and tangible problems and sift out of those that are simply anecdotal, unproven or misperceived. To this end, *the Digital Picture* will need to establish ways for eliciting genuine problem areas, possibly through the gathering of qualitative data (to find out what people think) as well as quantitative data (to establish patterns and trends of problem areas). This subject is discussed in more detail in Section 4.

3. The solutions

This paper does not, in itself, aim to describe specific solutions to the potential problem areas described in the previous section. Instead, it takes a view that a structured approach to the identification of tangible problems and to any potential resolutions is needed. However, in order for such a process to take place it is necessary to identify some of the theoretical solutions that are currently under discussion amongst stakeholders and interested parties.

The following list identifies six models that may, or may not, offer solutions or partial solutions for some of the current analogue/digital slide issues.

- **National model - external.** This model would be based on identification of the basic set of images that would be required to meet the needs of those in visual arts higher education and research. An external body, or consortium of individuals/bodies, would compile a digital collection of such images and make them available, possibly through a licensing agreement, to those who require access. Examples of bodies already offering such a service, but for a much broader educational audience, are EDINA and SCRAN. This model could include the provision of shared tools for the manipulation and use of images.
- **National model – internal.** A digital collection founded on the cooperative pooling of resources from within the visual arts higher education and research communities. Such a model would develop interoperability across collections, employing protocols such as Z39.50 for harvesting different online services. Institutes or individuals could sign up to a web-based system that permits the uploading/harvesting of their own images plus an interface for the searching and downloading of all other images within the 'pool'. This model could also include the provision of shared tools for the manipulation and use of images.

- **Local model.** Many institutes will doubtlessly find the resources necessary for the digitization of their own slides, either at single collection or institute level. If such resources could be made available via the Internet (for example, the Design Council slide collection) there are possibilities for building an extensive resource. However, it is more likely that, in most cases, such collections will be restricted to local intranet systems because of political, financial or IPR reasons.
- **Commercial image libraries.** Many large image libraries (for example, ARTstor, Bridgeman Art Library or Getty's Education Image Gallery) offer, or could offer, collections to the higher education and research sectors, on a commercial licensing basis. Discussions with such bodies may establish models for the provision of the necessary images.
- **National Fund.** If money could be found at a National level to create a dedicated fund, perhaps similar to the NOF-digitise project, it may be possible to enable slides to be digitized and made available in a variety of ways, for example; large projects of National importance, or small local projects.
- **Serendipity.** Ignoring current slide collections and using freely available resources, with all the attendant IPR, standards and misinformation risks, such as Google's Image Search.

3.1 Common ground

As with the problem areas in Section 2, the above models are purely speculative and it cannot be assumed that any of them offer real and tangible solutions, nor can it be guaranteed that any of them will be taken forward or, if they are, that they will necessarily solve all (or any) identified problems. Nonetheless, the options do start to describe the various factors that solutions may offer and indicate that there are some areas of commonality: the models are all based on a shared understanding of the need for digital image collections within the visual arts education community. In turn, this should act as a reminder that there is already a wealth of professional understanding relating to image collections, and it is imperative that this expertise is fully engaged within any solution that is explored or developed. This is discussed later in the document but, at this point, it is important to note that *any* solution that may emerge will need to address many of the already recognised issues of digital images. In particular, **the Digital Picture** will stress the need for: common, widely-accepted standards in both metadata and image quality; the use of well established protocols for cataloguing and retrieval and coordinated use of development and/or implementation technologies; and considerable effort into the extremely serious and pervasive concerns relating to copyright, IPR, ownership and permissions to use digital images. Furthermore, the ideal solution will offer high levels of user-centred development, integration with existing infrastructures (such as the JISC eLearning framework), and will address issues relating to wider user-participation and all other forms of accessibility.

Ultimately, it would seem likely that 'the solution' will not be a single entity, instead being a mixture of different elements, from disparate perspectives, created by unconnected bodies. What **the Digital Picture** wants to ensure is that all, or as many as possible, of these developments will work in coordination with each other, avoiding duplication of effort and creating a quality-controlled, cohesive collection of resources that fits the needs of the community.

The following section, as well as suggesting ways of identifying tangible problems, offers a set of steps designed to discover, and subsequently implement, practical solutions that are in accord with these requirements.

4. A method for success

The previous two sections have outlined, in an unscientific, speculative way: a number of possible problems relating to the saving of current analogue slide collections or, rather, of the intrinsic value in those collection; and a short list of possible models for solving those problems. It is clear that, in both cases, more concrete, specific data is required to enable sensible ideas, decisions and plans to be put into place.

To acquire this data and to subsequently make use of it, this paper suggests that a bespoke, structured method is developed that will address each strand in an ordered and transparent format.

Such a tool, founded on the basic principles underlying Project Management methods or scientific Formal Methods, will ensure the clearest picture of the current situation and, consequently help to discover a model that will best serve the visual arts higher education and research communities.

Using a bespoke method will:

- establish a transparent definition of the problem;
- provide structure and clarity;
- ensure the best result with the least amount of effort.

It is not the intention of this paper to present the full details of a structured method, instead, the following sections gives a brief overview of the core principles of such a tool and, subsequently, identifies three important aims that will need to be achieved to ensure its successful implementation and outcome.

4.2 Clarification

The first step in any problem solving exercise is that of clarifying 'why' something needs to be done; in a sense, the business need. For the purposes of **the Digital Picture**, this paper begins to address that need (particularly in Section 2) by outlining the generally perceived problems and by starting the process of identifying action that needs to be taken.

Nonetheless, it is still fundamentally important to *fully* understand exactly what the problem is. As mentioned earlier, this can not be left to guesswork or chance or there is the obvious danger that any consequent solutions do not address the true problem. In methods terms, this is the clarification, or requirements capture phase.

For the purposes of clarifying the current situation, four strands will be explored:

- **A National consultation exercise.** A questionnaire will be sent out to all potentially interested parties that will elicit both qualitative and quantitative data, i.e. it will allow participants to discuss their thoughts in an open way but will also present structured questions that can be used to develop patterns, trends and statistical analysis of specific issues. The questionnaire will also be made available on the Internet and via email groups.
- **Group/individual interviews.** Rather than simply rely on the often random nature of survey results, considerable effort will be put into finding out what stakeholders believe, and feel, about the issues and the possible solutions. Much qualitative data will be acquired through an extensive programme of identifying and then interviewing stakeholders and interested parties. Initially, a list of potential participants will be compiled with a view, importantly, that the list will evolve and be extended in response to the discussions.
- **Stakeholder consortium.** To ensure that all aspects of **the Digital Picture** concord with the needs of the visual arts higher education, information specialists and research communities, a high level consortium needs to be established to act as the voice of those communities. Such a consortium, which could be 'virtual' (i.e. constituted via email, the Internet and postal mail) would need to have representatives from as many visual arts institutions as possible, as well as from all associated bodies and external organizations, for example; commercial image libraries, funding bodies and organisations concerned with copyright issues, such as CLA and DACS.
- **Research.** Because of the ubiquitous nature of the digital image revolution, there is already much research on its impact, associations and future development. Also, work abroad is, in some cases, more advanced than in the UK; for example, the Union Catalog for Art Images (UCAI) in America, which has similarities to **the Digital Picture**, is currently developing a prototype model funded by the Andrew W. Mellon Foundation (\$850,000) at the University of California, San Diego. The initiative will pull together such research and, wherever possible, adopt or adapt proven ideas and processes.

The results of such action will enable **the Digital Picture** to define specific problems, not only in terms of the present situation, but also in terms of a desirable future situation i.e. it is anticipated

that this series of actions will elicit views and ideas relating to possible solutions, both those mentioned in this paper and, almost certainly, new models.

4.3 Evaluation

The second major phase of this suggested method is an evaluation of all the possible solutions. To define exactly what these are and, most importantly, to determine their strengths and weaknesses, the following actions will need to be carried out:

- **Champions.** For each potential solution, at least one champion should be found to represent the case for that particular idea or proposal. Names of individuals or institutions who wish to champion specific causes, or pointers in helpful directions, will hopefully emerge during the previous, clarification phase.
- **Working parties.** For some issues, it is imperative that specific working parties are set up to ensure sufficient airing of the relevant topics and to encompass all appropriate points-of-view. For example, it is clear that potential partnerships between the education sector and outside commercial interests (i.e. ARTstor and the Bridgeman Art Library) require dedicated debate within the visual arts education sector, particularly in order to present clear and useful information to the JISC that will assist them in their negotiations with such parties.
- **Expert seminars.** As a natural follow-on from the consultation, **the Digital Picture** will instigate seminars, both virtual and in person, to enable discussion and debate to take place between champions, stakeholders, working party representatives and, where applicable, funding bodies.
- **Publication.** The views of the champions and the tangible conclusions of the working parties and expert seminars will be assimilated into document form, published and presented back to the stakeholder communities for feedback/responses.

4.4 Implementation

Finally, **the Digital Picture** intends to ensure that the solution that offers the greatest advantages for the stakeholder communities is implemented in the most appropriate and efficient way possible.

Inevitably, this paper will not pre-empt the results of carrying out a methodical approach to identifying and offering solutions and, therefore, it is not possible to yet describe the specific steps necessary for implementation. However, one of the most tangible benefits of utilising a structured method on a complicated set of issues such as those discussed in this paper, is the fact that a well planned, step-by-step approach is much more likely to produce a solution that fits the problem than the alternative: acceptance of multiple, disjointed ad-hoc solutions. There is considerably more risk involved when things have not been properly thought through and coordinated. Consequently, it is anticipated that as a result of the clarification and evaluation phases, planning for the implementation of possible solutions should be relatively straightforward.

4.5 Deliverables

The deliverables of **the Digital Picture** will be delivered in three main phases:

Phase I, Clarification

1. bespoke method developed to run project, including terms of reference;
2. questionnaire, in printed booklet and internet-based formats;
3. coordination and quantitative presentation of questionnaire results;
4. presentation of qualitative data and interpretative analysis;
5. executive summary of questionnaire results;
6. list of stakeholders contributing to consortium;
7. paper describing literature/peer project research review.

Phase II, Evaluation

8. named individuals/institutions championing specified proposals;
9. presentations of ARTstor and Bridgeman Art Library to working parties;
10. report on ARTstor and Bridgeman Art Library proposals and user community responses and recommendations;
11. series of expert seminars and online conferences to debate consultation results;
12. conclusions of project published;
13. paper outlining recommendations and implications.

Phase III, Implementation

14. timetable and plan for implementation.

4.6 Timetable

The first two phases of **the Digital Picture** have received funding from the Joint Information Systems Committee (JISC) and will take place over a six month period from the end of January 2005 until end of July 2005. The third phase will be dependant on the visual arts education community's response and, of course, financial and political issues.

5. In conclusion

The fact that this document has managed to outline a number of important issues relating to image collections, in terms of both problems and possible solutions, confirms that there are indeed issues that must be addressed and that, so far, there is not a single, agreed approach to resolving them.

As things stand, many individuals, institutes and other interested bodies are aware of the potential problems and are, in many instances, working very hard towards solving some of the issues and, in a few cases, beginning to think about a more National solution. However, until there is a structured, coordinated consultation with the affected communities, at all levels and in all possible problem domains, there will be no single, workable model for future, total, success. Worse still, there will be many instances of duplication of effort, lost time and resources and, of course, the inevitable percentage of painful, failed attempts.

It is safe to assume that some of the problem areas mentioned in Section 2 will be more complicated to resolve than others and, also, that further problems will emerge throughout the consultation period. Nonetheless, with the adoption of a structured method to explore both problem and solution domains, it is hoped that **the Digital Picture** will be able to help the visual arts education community (and, possibly, other educational sectors where the use of images is an important factor) to move towards a model, similar to that proposed by Jenny Godfrey in her keynote speech at the ARLIS Slide Study Day in March 2004, that:

- contains the images that community members actually want;
- meets legal, IPR and copyright requirements;
- offers a usable, helpful structure for finding and obtaining images;
- facilitates and manages loans;
- provides images in formats that are appropriate for use;
- makes provision for sharing/pooling of resources;
- establishes and uses common standards;
- provides appropriate safeguards and permissions;
- is adequately resourced and supported.

If you have any comments or ideas, or you feel that you or your organization/institute should be involved in **the Digital Picture**, please contact:

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