Data Management for arts research: the experience at University of the Arts London

Dr Stephanie Meece, Scholarly Communications Manager, University of the Arts London
Interview: Professor Louise Wilson OBE

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Data management at UAL started with the Kaptur project [2011-2012]; DCC institutional engagement [2012-2014] led by research support office. Post-Kaptur development is pragmatic and specific.
In common with RCUK, the University affirms its commitment to data management as a core academic activity, and a key element of good research practice.

The University also acknowledges its responsibility to ensure that researchers meet the stipulations of funders, and to support the needs of researchers. Furthermore, the University notes its institutional responsibility to manage Freedom of Information requests, including those relating to research data. Finally, the University believes that planning and communicating data management activities throughout the research lifecycle leads to better results.

The University was a partner on the JISC KAPTUR project (October 2011 - March 2013), which aimed to discover, create and pilot a model of best practice in the management of research data in the arts. This was documented on the KAPTUR project blog. The Digital Curation Centre, as part of its Institutional Engagement Programme, is also providing intensive, tailored support to increase research data management capability at UAL.

**UAL Policy Documents**

Website: [www.researchdata.arts.ac.uk](http://www.researchdata.arts.ac.uk)

- UAL Funder Requirements for Data Management (PDF 84KB)
- UAL Research Data Management Policy 2014 (PDF 110KB)
- UAL Research Data Management Policy 2014 - Annex A (PDF 183KB)
UAL’s Institutional Data Management Policy

UAL’s Institutional Data Management Policy

BACKGROUND
Research funders increasingly require grant-holders and applicants to meet certain standards with regard to the management of the data produced as a result of their research. In 2011, Research Councils UK (RCUK) released seven Common Principles on Data Policy¹, core principles for research data management by which all seven of their member councils are bound. In brief, these are:

1. Publicly funded research data are a public good which should be made openly available;
2. Data management policies and plans should adhere to relevant standards and community best practice;
3. Metadata should be created to enable research data to be discoverable, accessible and effectively re-used by others;
4. Policies and practices should recognise legal, ethical and commercial constraints on release of research data;
5. Those who undertake Research Council funded work may be entitled to a limited period of privileged use of the data they have collected to enable them to publish the results of their research;
6. Users of research data should acknowledge the sources of their data and abide by the terms and conditions under which they are accessed;
7. It is appropriate to use public funds to support the management and sharing of publicly funded research data;
UAL’s Institutional Data Management Policy

SCOPE
What does it cover?
Research data in the Arts is not so easily defined as in STEM subjects. The data types cited in this policy are not intended to be exhaustive, and definitions of what constitutes research data will vary from funder to funder. Generally, research data can be considered anything created, captured or collected as an output of funded research work *in its original state*.

As an example, the Arts and Humanities Research Council (AHRC) says “The outputs of the research may include, for example, […] electronic data, including sound or images; performances, films or broadcasts.”

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UAL’s Institutional Data Management Policy

In essence, this policy covers raw materials and finished outputs, but not necessarily the stages in between. It applies primarily to externally funded, digital research data, although non-digital data (such as sketchbooks) may also be covered, and requests from researchers to digitise existing analogue research data will be considered on a case-by-case basis. Where data exists in a non-digital form, appropriate effort to manage this to meet the expectations is also likely to be required. No reasonable external request to access analogue research data resulting from externally funded research will be refused, and access should be arranged between the principal investigator and the department of Research Management and Administration (RMA).

Who does it apply to?
This policy applies to all staff involved in externally funded research at the University of the Arts London, especially where the funding body requires a data management plan. Its primary application is to existing, live awards and future funded research, although consideration will also be given to legacy research outputs which have value to the University.
UAL’s Institutional Data Management Policy

ROLES AND RESPONSIBILITIES

1. The University has an overall institutional responsibility for the management of data created by its researchers. The University is committed to supporting research data management activities via the RMA department;

2. Practical responsibility for RDM rests with Principal Investigators. UK Research Councils “expect those who receive funding to: […] take responsibility for the curation, management and exploitation of data for future use.” It is acknowledged that in practice, day-to-day data management activities are likely to be delegated to research assistants or equivalent;

3. Enquiries regarding Freedom of Information requests should be submitted to the University’s department of Legal and Governance Affairs.

4. Any enquiries regarding this policy should be submitted to the Director of Research Management and Administration (RMA), in the first instance.
Case Study: Rococo

http://www.researchdata.arts.ac.uk/
Welcome to University of the Arts London Data Repository

This Repository holds research data for all research projects where there is a need to store and share the supporting research.

According to current Research Data Policy these records will include all data from projects funded by RCUK funders and in particular the AHRC.
Why submit research data?

As a researcher you might want to share research data via the data repository for the following reasons:

- **Funder requirement to preserve and share research data.**
- **Specific requirements for your externally funded project will be outlined in your Technical Plan (AHRC) or in your Data Management Plan (other funders).**
- **Legal or other requirement to retain research data after a project ends.**
- **Data underlying a publication, where reviewers or readers may request access to the data.**
- **Potential use in future research Teaching purposes or Support decision-making and policy formation.**

There is also scope to submit high quality data outputs towards academic assessment exercises such as the Research Excellence Framework, so looking after your research data now could be of significant benefit in the future.

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**Contact Information**

Any correspondence concerning this specific repository should be sent to researchdata@arts.ac.uk.

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**Policies**

- Research Data Policy
- Notice and takedown Policy
- Metadata Policy

This site is powered by EPrints 3, free software developed by the University of Southampton.
Weather data

Butley, James and Jones, Daniel Weather data [Data Collection] (Unpublished)

Capture of second by second weather data from an installation of Variable 4 at Elizabeth Castle, Jersey 23rd - 26th September 2011 as a csv file and notes on time of day, temperature, humidity, windspeed, wind direction, rainfall and sunlight. Variable 4 is an 8-speaker outdoor sound installation which translates weather conditions into musical patterns in real-time. Using meteorological sensors connected to a custom software environment, the weather itself acts as conductor, navigating through a map of 24 specifically-written movements. Every aspect of the piece, from broad harmonic progressions down to individual notes and timbres, is influenced by changes in the environment: wind speed, rainfall, solar radiation, humidity, tropospheric variance, temperature, sound, installation, meteorological.

Keywords: environment, wind speed, rainfall, solar radiation, humidity, tropospheric variance, temperature, sound, installation, meteorological

Available Files

Data

- weather-data.csv, 23.483848184818484
Case Study: Rococo
Case Study: Rococo
Case Study: Rococo
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Case Study: Rococo

3.2. The data and their acquisition

For the purposes of our experimental study it was necessary to provide a suitable technological infrastructure. This consisted of two workstations, situated in separate laboratories, but linked via a computer network. Each workstation was equipped with two large screens, a stylus and a tablet for drawing, a microphone-and-headphone set, and a video camera directed at the user. One of the screens at each workstation was dedicated to supporting the design task, while the other was available for the display of the video image of the person sitting at the other workstation. The presence of the microphone-and-headphone set made it possible for the designers to talk to each other while carrying out their cooperative work.

As an important software component of the technological infrastructure developed for this project was the "ROCOCO Metapop" — see Scrivener et al. (1992b). This was manifested in the form of a large window, displayed simultaneously on the design-task screens of both workstations. Either designer was able to select and (if necessary) write in this window, using different colours if desired. In addition, both designers had available a "telepointer", manifested by a small arrow on the screen and controlled by means of a mouse, enabling them to direct attention towards any part of the shared drawing surface contained within the window.

Each pair of designers was given a specific "brief" (i.e. a description of the task that they were expected to attempt to complete in the hour allotted to them for this purpose). For example, they might be asked to design a machine for sweeping up fallen leaves from gardens. All their words and relevant actions were recorded, partly in the aid of additional video images obtained above and behind each designer. The spoken and written dialogue was subsequently transcribed, and thus became available for use as the corpus on which this paper is based. Various forms of analysis were applied to the transcript (see below), sometimes using the full transcriptions, but more usually based on a random 10-minute sample of each of the tra
Case Study: Rococo

DesignNet: Transnational Design project work at a distance

Stephen AR Scrivener
The Design Research Centre,
University of Derby
Boothman Mill, Derby
UK
E-mail: S.A.R.Scrivener@derby.ac.uk

Introduction

In Design, computers are often seen as offering new forms of media, image making, and information resource, for example virtual reality, three dimensional modelling, painting systems and databases. Working with computer-based media is different to working with pen and paper, paint, models or the like, and design practice is bound to change as practitioners learn to deal with both its limitations and possibilities. This is understood to the extent that most design courses now include modules dealing with information technology, computer aided design, computer-based image making and design databases. Important are these uses of the computer are, there are equally important applications of computer-based technology that should be considered by both design and educators.

Although design is often taught as an individualistic activity, in practice it usually involves collaborative work of some kind. Computer-based technology can assist communication about work, and can be used to organise group work: in other words computers can provide an infrastructure for mediating collaborative design. When computers are used in this way the final artefacts, even their visualisation and representation during the design process, may be largely non-digital and produced using conventional media and tools.

Computer systems that support team communication and collaboration are usually called Computer-Supported Cooperative Work, CSCW, or Groupware systems (see Scrivener and Clark, 1994a, for a review of CSCW systems). This application of computer-based technology is likely to have as great an impact on design practice as digital media, modelling, and database tools and yet at present there are few instances where this technology is used in practice or in the curriculum.

As noted above, in practice design is often a collaborative or collective activity in which individuals with different skills and expertise work towards a shared goal. Furthermore, design is increasingly an activity with a global dimension, products are being designed for international markets. A future for can be envisaged in which designers work as part of international teams supported by computer- and electronically-mediated communication and CSCW tools. It will be important to prepare designers and students to work in this way. Indeed, we hope to demonstrate how technology is not only something that students should understand and know how to use, it is also actually a way of making it possible for students to work together as part of multi-national and multi-disciplinary teams. Educators can use the technology to bring such students teams together. Very importantly, the students do not have to be brought together in a given country - it is the technology that brings them together.

This case study report describes the DesignNet project where computer- and electronically-mediated communication was used to enable multi-disciplinary, transnational students groups separated by distance to work together on a shared design project in order to produce an agreed outcome.

Experiences of computer-mediated design at a distance
Case Study: Rococo
Rococo Project

Scrivener, Stephen Rococo Project. [Data Collection]

Collection description

The long term aim of the ROCOCO (Remote Cooperation and Communication) project is the identification of the communication requirements of remotely situated designers working on a shared problem. The result will be a set of system design requirements which will facilitate the design of useful CSCW systems of the future. A basic premise of the research is that an increased understanding of the communication channel usage of designers working proximally is a prerequisite to the introduction of technologically based communication systems. Hence, the first phase of the ROCOCO project involved a study of face-to-face working. This study investigated pairs of designers engaged in predefined tasks regarded as being characteristic of the early stages of design. In these proximal studies, the designers sat opposite each other across a table. On the table between them was a pad of A1 plain white paper on which they could both draw using their own pens. Six one-hour design sessions were performed in this environment. Each session was video- and audio-recorded for later analysis. Observations and analysis is now led to the formulation of hypotheses about the communication requirements of the setting studied. In the ROCOCO project the communication requirements of group design are being investigated in conditions where, typically, communication is impoverished. These experimental conditions are achieved by manipulating an electronic workspace and communication environment called the ROCOCO Station. The environment provides pairs of geographically separated designers with an eye-to-eye video-link, a high-quality audio-link and a shared drawing surface known as the ROCOCO Sketchpad. The ROCOCO Station when using the ROCOCO Station in a remote design session, each designer sits at their own terminal. The shared drawing surface is displayed on a large computer workstation screen in front of each of them. All interaction is with it via a digitizer and stylus. To one side of each computer workstation is a “VideoTunnel” video-link containing a video monitor and camera. A head-and-shoulders image of the remote partner is displayed on the monitor. The VideoTunnel arrangement, developed by Smith et al., uses half-silvered glass and mirrors to allow eye contact to be made over the video-link. The designers wear lightweight headsets in order to communicate verbally. Our initial results have shown that working with the ROCOCO Station is very similar to working face-to-face. In the second phase of the ROCOCO project, four different configurations of the ROCOCO Station were investigated. Three of these remove certain communication channels from use in a design session. One in separate rooms of the same building, the other during a long design session design session between Loughborough and Adelaide. The data set currently available is of the four different configurations around a single design brief. Your client, a well-known toy manufacturer, has come to an arrangement with a major Building Society in an attempt to get children to save more money. They have jointly decided that they will provide any investing family with a free money box. They have come to your design team for ideas for the design of this money box and are particularly interested in exploiting the movement or noise associated with coins. They do not want mere animal shapes, cartoon characters etc. They have not ruled out simple electronics if you think this is advantageous. You are asked to consider this area together with the implicit problems and to develop a response to it. You only have 55 minutes of time available for this exercise and the “client” would like to see a fairly detailed proposal from your team by the deadline. You may find it necessary to consider the influence of materials, production, marketing or technological details in your development. Subjects were filmed separately and results were combined into split screen video tapes in order for the viewer to see the actions of the subjects simultaneously.

Keywords: cooperative design; computer-aided design; design at a distance; computer supported co-operative design (CSCD)
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Data is complex, regardless of discipline.

Data is dirty and needs curation.

Hands-on management is needed for every data set received into a repository.
March 2012: “There appears to be little consensus in the visual arts on what research data is and what it consists of. Variously described by the interviewees as tangible, intangible, digital, and physical; this confirms the view of the project team that visual arts research data is heterogeneous and infinite, complex and complicated.”
April 2012: “Research data can be described as data which arises out of, and evidences, research. This can be classified as observational e.g. sensor data; experimental; simulation; derived or compiled data e.g. databases, 3D models; or reference or canonical e.g. a collection of smaller datasets gathered together (University of Edinburgh 2011a). Examples of visual arts research data may include sketchbooks, log books, sets of images, video recordings, trials, prototypes, ceramic glaze recipes, found objects, and correspondence.”
September 2012: “Anything which is used or created to generate new knowledge and interpretations. Anything maybe objective or subjective; physical or emotional; persistent or ephemeral; personal or public; explicit or tacit; and is consciously or unconsciously referenced by the researcher at some point during the course of their research. Research data may or may not led to a research output, which regardless of method of presentation, is a planned public statement of new knowledge or interpretation.”
January 2013: “Evidence which is used or created to generate new knowledge and interpretations. ‘Evidence’ may be intersubjective or subjective; physical or emotional; persistent or ephemeral; personal or public; explicit or tacit; and is consciously or unconsciously referenced by the researcher at some point during the course of their research. As part of the research process, research data maybe collated in a structured way to create a dataset to substantiate a particular interpretation, analysis or argument. A dataset may or may not lead to a research output, which regardless of method of presentation, is a planned public statement of new knowledge or interpretation.”
What is research in arts? “The onus is on the funders of visual arts research and the doctoral awarding institutions to define visual arts research. Our aim is therefore not to define it but rather to investigate its nature through examples arising out of the literature review and interviews with visual arts researchers. For the purposes of the Kaptur project our focus is necessarily on externally funded research projects undertaken by visual arts researchers” [Kaptur, 2012]
“research data can be considered anything created, captured or collected as an output of funded research work in its original state ... this policy covers raw materials and finished outputs, but not necessarily the stages in between. It applies primarily to externally funded, digital research data, although non-digital data (such as sketchbooks) may also be covered” [UAL research data policy 2014]
Robin Burgess¹... Leigh Garrett²... Amy

1. The Glasgow School of Art, 167 Renfrew Street, Glasgow, G3 6RQ, United Kingdom
   Campus, Falkner Road, Farnham, GU9 7DS, United Kingdom (legarrett@ucreative)

What is research data?

Journals, sketchbooks, found objects, documents, diaries, data sets, notes, recordings, videos, texts, sounds...
“Stuff!”

What are the issues?

Handling, storage, accessibility

How to manage data?

Preservation and...
“Can a definition consist solely of examples?”  (Marieke Guy, DCC; 2013)
“The expressions: 'documenting the research process' and ‘visualisation and documentation’ were suggested as meaningful in the visual arts context. From our interviews, for example, a cultural history researcher at UAL used the term: “archiving the process” rather than research data…. The vocabulary surrounding RDM must have a tangible and related application to a researcher’s work.” [UAL project report, Kaptur]