




AQMeN event
10 October, 2011
Robin Rice
University of Edinburgh

**RESEARCH DATA MANTRA
(MANAGEMENT TRAINING)
ONLINE COURSE LAUNCH**



Overview

- Robin Rice - Project background
 - Jon Turner - View from the IAD
 - Stuart Macdonald - On creating an Open Educational Resource
 - Cuna Ekmekcioglu – Online demo
- 



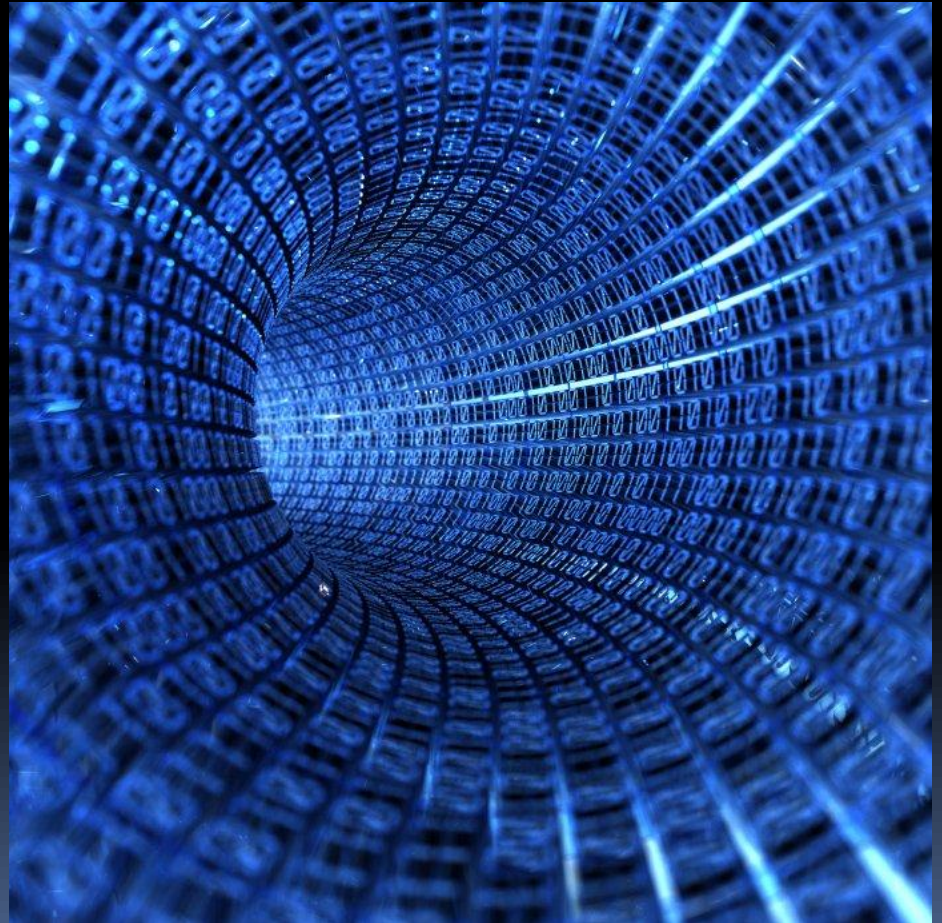
Context of the MANTRA Project

How did we (the data library) get here?



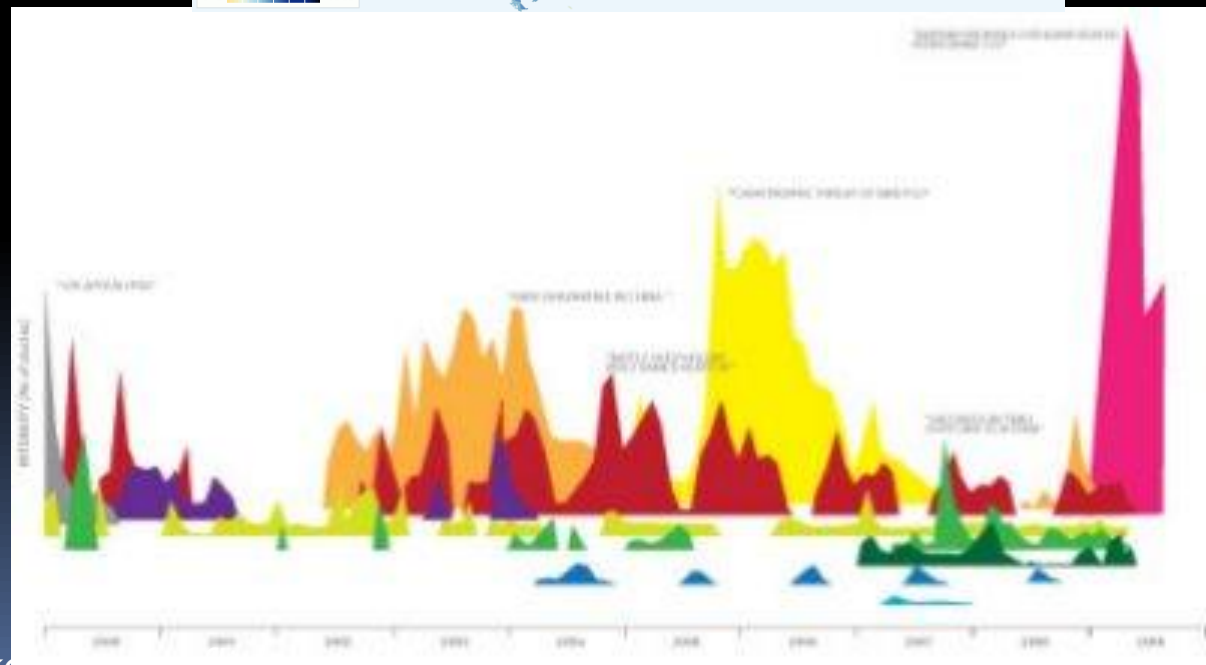
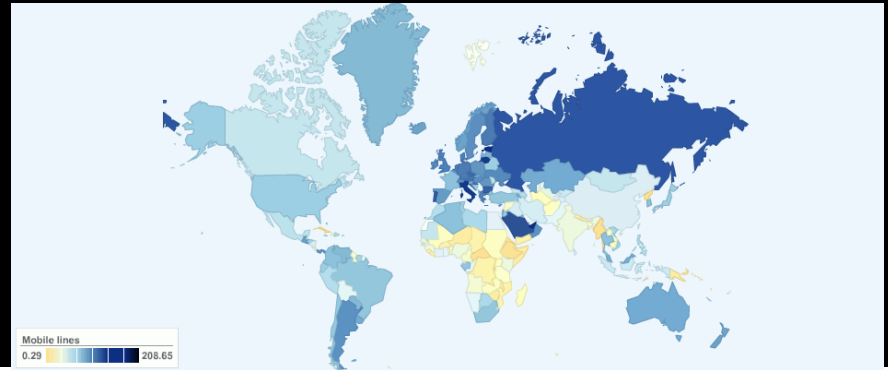
Data Library services and projects

- Data Library & consultancy
- Edinburgh DataShare
- JISC-funded projects
 - DISC-UK DataShare (2007-2009)
 - Data Audit Framework Implementation (2008)
 - Research Data MANTRA (2010-2011)



Data Library service at UoE: Research data support within IS

- finding...
- accessing ...
- using ...
- teaching ...
- **managing**



Data repository service



The University of Edinburgh

[University Homepage](#) [IS Homepage](#) [Research Services](#)

[Contact Us](#) [Login](#)

Information Services



[Edinburgh DataShare](#) > [Community List](#)



Search Edinburgh DataShare

[Advanced Search](#)

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Statistics

What is Edinburgh DataShare?

Edinburgh DataShare is an online digital repository of multi-disciplinary research datasets produced at the University of Edinburgh, hosted by the [Data Library](#) in Information Services.

Edinburgh University researchers who have produced research data associated with an existing or forthcoming publication, or which has potential use for other researchers, are invited to upload their dataset for sharing and safekeeping. A persistent identifier and suggested citation will be provided.

Upload Your Data



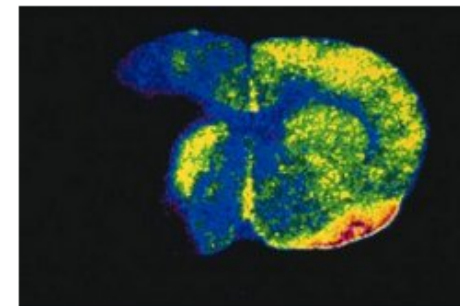
- [How to deposit](#)
- [Benefits of deposit](#)

Research Communities in Edinburgh DataShare

Select a community to browse its collections.

- [Information Services \(IS\)](#)
- [School of Engineering](#)
- [School of GeoSciences](#)
- [School of History, Classics and Archaeology](#)
- [School of Molecular and Clinical Medicine](#)
- [Scottish Alliance for Geoscience, Environment and Society \(SAGES\)](#)

Spotlight



(Wellcome Images)

The International Stroke Trial (IST) was one of the biggest randomised trials in acute stroke

Further Information

- [Overview](#)
- [Service Background](#)
- [Our Definitions](#)
- [Service Policies](#)

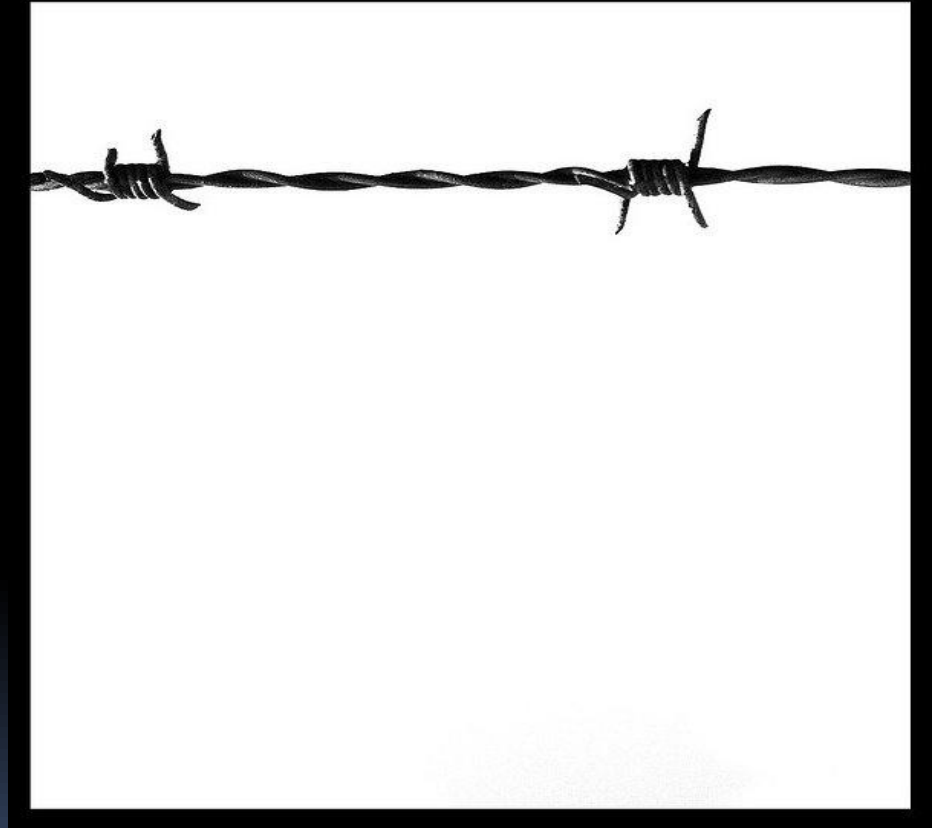
Latest Items



- [Research computing consultation](#) (27 Oct 2010)
- [International Stroke Trial database](#) (24 Sep 2010)
- [Survey of Scottish Witchcraft, 1563-1726](#) (18 Aug 2010)

DataShare project findings - e.g. barriers to deposit

- Lack of clarity about ethics, rights, ownership
- Fear of errors found by users
- Fear of 'scooping'
- Poor documentation
- Lack of incentives / reward



Donald McLeod on flickr

Findings from 5 Data Audit Framework case studies in UoE

- Storage provision often insufficient
- Long retention periods needed for high value data
- Ad-hoc practices; no formal data mgmt plans
- Lack of standardised procedures in creating and storing data
- Minimal metadata; much effort expended in finding extant data on servers



European Parliament on flickr

Responses to past project findings

- Develop online guidance
- **Develop training**
- Develop university policy along with services to support our researchers



Web guidance

- Online suite of web pages for University academic staff
- <http://www.ed.ac.uk/is/data-management>

Why manage research data?

Benefits of managing research data.

[Why manage research data?](#)

Defining research data

A definition for research data.

[Defining research data](#)

Funders' policies and guidelines

Information about funding bodies' policies and guidelines for research grants.

[Funders' policies and guidelines](#)

Data management planning

Data planning checklist and data management plan are the first two crucial steps of data management planning process.

[Data management planning](#)

Data documentation & metadata

Providing sufficient documentation and a clear description for research data to ensure that data can be understood in the long term.

[Data documentation & metadata](#)

Data storage, backup and security

Guidance for storing, backing up and keeping research data safe.

[Data storage, backup & security](#)



Training: MANTRA for Change

Raising the standards of data management practice by contributing to long-term culture change.

Creating a new PhD training course to promote data management skills, supported and delivered by the Institute for Academic Development, University of Edinburgh



Research Data MANTRA (MANagement TRaining)



- Creation of open online learning materials in RDM for postgrads and early career researchers
- Grounded in three disciplines, working with graduate schools
- Video stories from researchers in variety of settings
- Data handling exercises in four data analysis environments: R, SPSS, NVIVO and ArcGIS



.ash on flickr (CC-BY-ND)

Online learning materials

- Eight units with activities, scenarios and videos:
 - Research data explained
 - Data management plans
 - Organising data
 - File formats & transformation
 - Documentation & metadata
 - Storage & security
 - Data protection, rights and access
 - Preservation, sharing and licensing
- Used Xerte Online Toolkits to create – University of Nottingham

Data handling software practicals

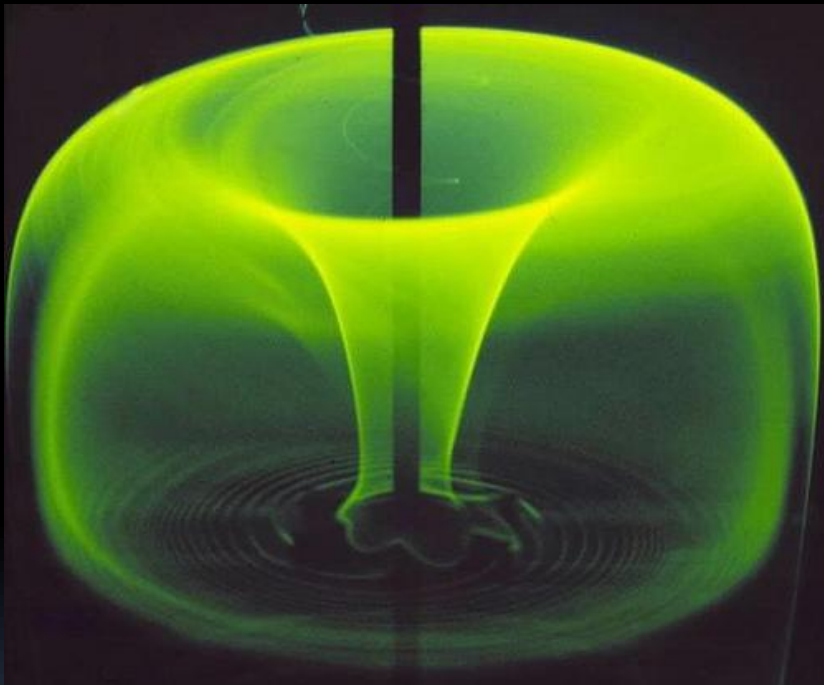
- SPSS – by Joan Corbett, SCOTCEN, National Centre for Social Research Methods
- R – by Dr. Duncan Smallman
- NVivo – Dr. Aikaterini Chatsiou (UK Data Archive)
- ArcGIS – by James Crone, EDINA

Download PDF exercises, work at your own pace

Selling Research Data Mgmt as a Transferrable Skill

The FRUIT principles:

- Fun
- Relevant
- Useful
- Interactive
- Timely



Green Apple by Image Editor, flickr
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Stepping back

Project evaluation

How will we know if we succeeded?



Critical success factors

1. The commitment of academic staff to the project
2. Positive feedback from user testing
3. Increased advocacy and awareness of research data management best practice across the University.
4. Evidence that the course is useful and used in other contexts outwith the University of Edinburgh.





Curlew, Mikebaird on flickr



University Research Data Management Policy

The policy for management of research data was approved by the University Court on 16 May, 2011.

Vice-Principal Jeff Haywood was a champion for the University of Edinburgh to develop the first RDM policy in the UK



Events influencing the policy

- Recent adoption of the Code of Practice for Research (UK Research Integrity Office, 2009) by the university's research office, obligating the institution to provide support for retention and access to data underlying published research.
- 'Climategate' email review at East Anglia University highlighting the reputational risk and legal accountability associated with staff not being forthcoming in response to Freedom of Information (FOI) requests for data from the public.



The 10 Policy Principles

1. Research data will be managed to the highest standards throughout the research data lifecycle as part of the University's commitment to research excellence
2. Responsibility for research data management through a sound research data management plan during any research project or programme lies primarily with Principal Investigators (PIs).
3. All new research proposals [from date of adoption] must include research data management plans or protocols that explicitly address data capture, management, integrity, confidentiality, retention, sharing and publication.
4. The University will provide training, support, advice and where appropriate guidelines and templates for the research data management and research data management plans.
5. The University will provide mechanisms and services for storage, backup, registration, deposit and retention of research data assets in support of current and future access, during and after completion of research projects.



The 10 Policy Principles

6. Any data which is retained elsewhere, for example in an international data service or domain repository should be registered with the University.
7. Research data management plans must ensure that research data are available for access and re-use where appropriate and under appropriate safeguards.
8. The legitimate interests of the subjects of research data must be protected.
9. Research data of future historical interest, and all research data that represent records of the University, including data that substantiate research findings, will be offered and assessed for deposit and retention in an appropriate national or international data service or domain repository, or a University repository.
10. Exclusive rights to reuse or publish research data should not be handed over to commercial publishers or agents without retaining the rights to make the data openly available for re-use, unless this is a condition of funding.

Links

- MANTRA course
<http://datalib.edina.ac.uk/mantra>
- Xerte Online Toolkits
<http://www.nottingham.ac.uk/xerte/toolkits.htm>
- Research data management guidance pages
<http://www.ed.ac.uk/is/research-data-management>
- University data policy
<http://www.ed.ac.uk/is/research-data-policy>

▪ *R.Rice at ed.ac.uk*

MANTRA & Open Educational Resources

Stuart Macdonald

EDINA & Data Library,
University of Edinburgh

AQMeN Workshop,
Edinburgh Univ. Business School,
10 October 2011



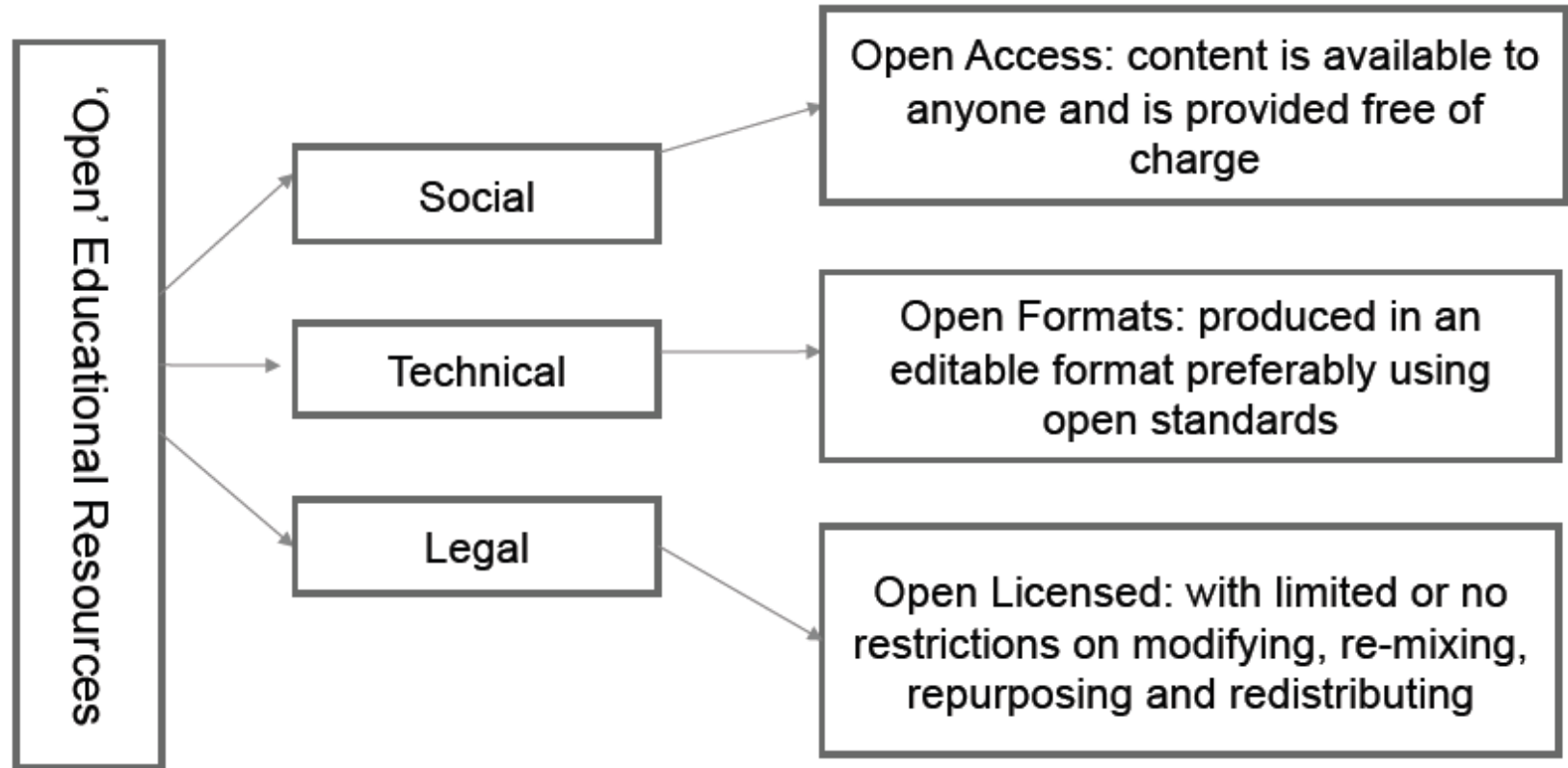
Definition of Open Educational Resources:

“...teaching, learning, and research resources that reside in the public domain or have been released under an intellectual property licence that permits their free use or re-purposing by others” *



* Atkins, D.E., Brown, J.S., & Hammond, A.L. (2007). A Review of the Open Educational Resources (OER) Movement: Achievements, Challenges, and new Opportunities. Menlo Park, CA: The William & Flora Hewlett Foundation

Dimensions of Openness



OER include different kinds of digital assets:



Software that supports the creation & delivery of OER (Learning Object Creator (LOC), Xerte, eXe)

Repositories (Institutional, JORUM, OER Commons, Xpert),

On-line learning communities - Support Centre for Open Resources in Education (SCORE) – Open University; OER Blogs (<http://oerblogs.org/>)

Learning content including:

Entire course content, course materials, content modules

Learning objects (quizzes, crossword puzzles, flashcards, animations),

Audio lectures / Audiovideo lectures

Images, number, sounds, music,

Collections of journal articles

Textbooks



Most educational content is protected under conventional copyright terms & conditions

Open educational resources are no different & are inextricably bound up with IPR issues.



Creative Commons (CC) provides ready-made licensing agreements that are less restrictive.

A CC license enables the creator of a work to retain copyright, while giving others permission to use it, but with certain conditions attached.

This is a “critical infrastructure service for the OER movement” *

* Atkins, D.E., Brown, J.S., & Hammond, A.L. (2007). A Review of the Open Educational Resources (OER) Movement: Achievements, Challenges, and new Opportunities. Menlo Park, CA: The William & Flora Hewlett Foundation

MANTRA Online learning modules

- **Delivered online – self-paced, available ‘anytime, anyplace’**
- **Emphasis on practical experience and active engagement via online activities**
- **One hour per unit**
- **Read and work through scenarios & activities (incl. videos etc)**
- **CC licence to allow manipulation of content for re-use with attribution**
- **Portable content in open standard formats (e.g. SCORM)**





MANTRA dissemination

- Deposit learning materials with an open licence in JorumOpen and Xpert
- Learning materials to be embedded in three participating postgraduate programmes and made available through IAD programme for use by all postgraduate students and early career researchers: This academic year
- Public Website launch: <http://datalib.edina.ac.uk/MANTRA>
- Download/re-brand/re-purpose materials from JorumOpen in standards compliant formats (forthcoming)
- Software modules – data handling practicals (MS Word)

Lessons learned

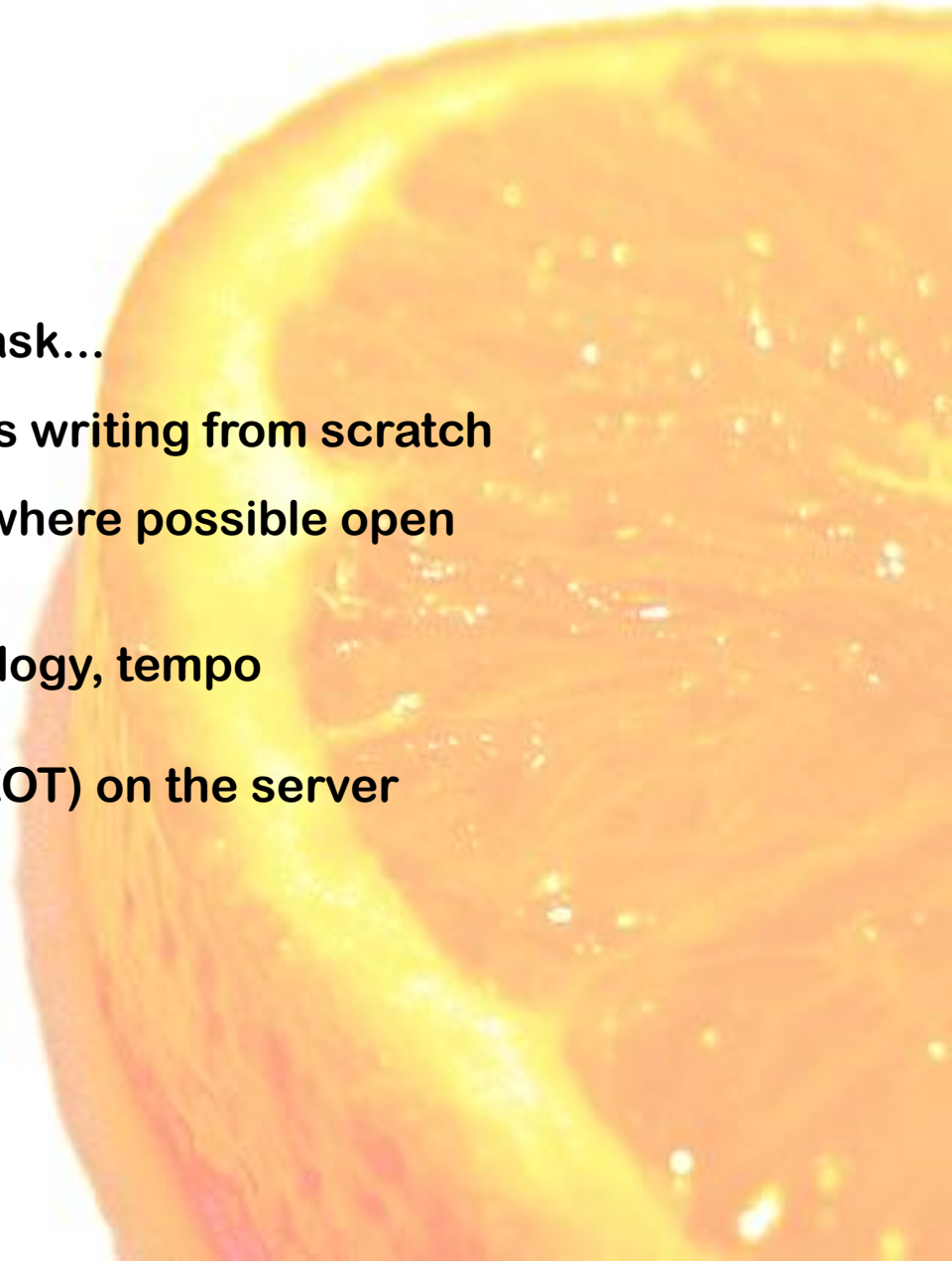
Time – underestimated!

Authoring content – not an easy task...

- **Re-using existing materials vs writing from scratch**
- **Copyright – images, videos (where possible open or CC-licensed materials)**
- **Consistency in style, terminology, tempo**

Setting up Xerte Online Toolkits (XOT) on the server

- **Security issues**
- **Issues with the software**



Lessons learned

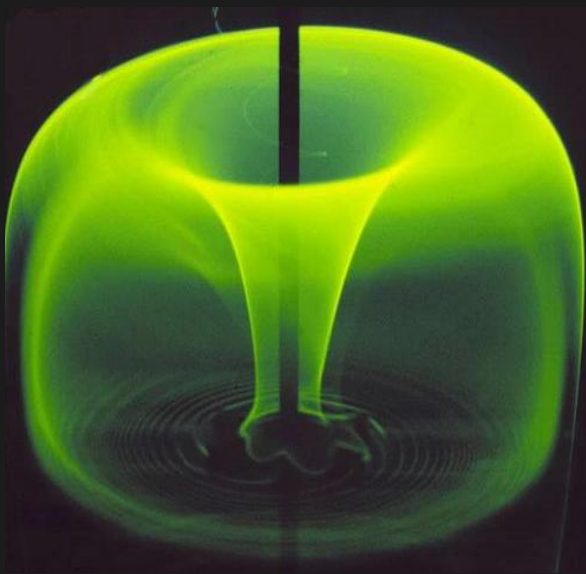
Working with a default XOT template

- Limitations of the template

Use 'reward' to engage volunteers for user testing

Issues with data handling practicals:

- Tension between data handling and data analysis in terms of actual content
- Ensuring clear explanation of software specific jargon/technical terminology/process-specific language
- Retaining consistency across four data handling practicals in terms of look and feel, flow, content, audience



Project website:

<http://www.ed.ac.uk/is/data-library-projects/mantra>

Public website: <http://datalib.edina.ac.uk/MANTRA>

Credits:

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**THANK
YOU!!**



RESEARCH DATA MANTRA DEMO

Dr Cuna Ekmekcioglu
Senior eLearning Adviser
Information Services

*AQMen Event, Business School, University of Edinburgh,
10 October 2011*

MANTRA online course

- ▣ Aims to:
 - Raise awareness of the key issues related to data management
 - Provide guidelines for good practice in research data management
- ▣ Designed for PhD students and early career researchers
- ▣ Open educational resource that may be freely used by anyone
- ▣ Available through an open license

Course structure

- ▣ Eight learning units:
 - Research data explained
 - Data management plans
 - Organising data
 - File formats and transformation
 - Documentation and metadata
 - Storage and security
 - Data protection, rights and access (in development)
 - Preservation, sharing and licensing (in development)
- ▣ Four software practicals for data handling: SPSS, R, ArcGIS, NVivo
- ▣ Recommended resources

Authoring tool

- ▣ Xerte Online Toolkits by University of Nottingham
 - Open source eLearning development environment
 - Server-based suite of tools for content authors
 - No programming required
 - Uses simple wizards
 - Content authors can easily collaborate on projects
 - Produces SCORM 1.2 compliant output
 - <http://www.nottingham.ac.uk/xerte/toolkits.htm>

Course website

<http://datalib.edina.ac.uk/mantra/>