

Promoting Interactive Visualisation at University of Oxford: The Live Data Network

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University of Oxford's Interactive Data Network

Visualising Research

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Academic IT Research Support

IT Research Support Services

A single point of contact for general advice, support and guidance:
researchsupport@it.ox.ac.uk

Specialist advice in a number of domains aligned to the IT Services strategic plan for research

Practical expertise for research projects i.e. delivering IT-related work packages

Web resources designed to support best practice, research, teaching and learning

Contact us for specialist advice on the following...

- Agent-based modelling
- Data Modelling and Migration
- Digital Humanities
- Intellectual Property
- Research Data Management
- Software Selection
- Software Sustainability
- Text encoding, analysis and digitization
- Interactive Data Visualisation [COMING SOON]

<http://blogs.it.ox.ac.uk/acit-rs-team/>

Compliance
with RDM

Enabling and
Supporting RDM

Compliance with RDM



Enabling and Supporting RDM

ORDS
(Online Research Database Service)



Wilson, J. a. J., & Jeffreys, P. (2013). Towards a Unified University Infrastructure: The Data Management Roll-Out at the University of Oxford. *International Journal of Digital Curation*, 8(8), 235–246. <http://doi.org/10.2218/ijdc.v8i2.287>

Summary of interviews about a potential visualisation service at Oxford

Visualisations allow cross-discipline knowledge exchange

“data visualisations are the new colour chart”

Need for case studies and training materials

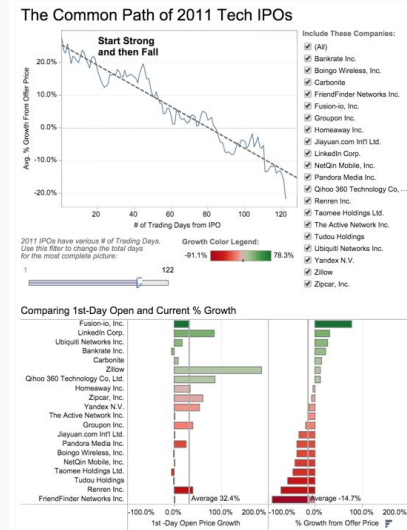
Visualization of data might just mean prettier versions of bar charts

In Defense of Visualisations...

“Garbage in and pretty pictures” can be very true where visualisations are used as purely narrative tools

Uncertainty is multi-faceted and difficult to incorporate into static visualisations

By providing interactivity to visualisations it's possible to build exploratory tools rather than narrative furniture



Live Data Deliverables



```
{
  tableName: [ "latters_maxqda_format" ],
  primaryKeys: [ "latters_maxqda_format_index" ],
  columns: [
    {
      columnName: "ID",
      columnType: "VARCHAR",
      orderIndex: 1,
      comment: ""
    },
  ],
}
```

<http://ords.host.org/api/1.0/databasequeries/{dbname}/tabledata/{tablename}/{startIndex}/{rowsPerPage}/{filter}/{sort}/{direction}>

Live Data Deliverables



Website Tour

Case Studies

Case Studies Summary

Recruited from a variety of communication channels and through training courses

Visualisations must be made public but the underlying datasets do not need to be Open Access

Visualisations are embedded into the Interactive Data Network Showcase

All scripts available under the MIT license, hosted on GitHub

Which Technologies?

The IDN is Software Agnostic

Promote a variety of options

Don't force researchers outside of their comfort zone

Build nothing from scratch



(Currently) Supported Technologies



Description and pricing model

Point and click-based tool for creating rich interactive charts.

Free for creating visualisations that are public

Data Ownership

Public data can be reused without attribution and owned by plotly



Allows interactive content to be developed using the R language - requires scripting

Subscription based on number of “active hours” - free tier has 25 active hours

Data on server cannot be downloaded, data can be streamed securely into visualisations via APIs



Point and click desktop application for creating interactive visualisations and dashboards.

All visualisations and data are saved publicly to the Tableau Public cloud

Public data can be reused without attribution and owned by Tableau

shinyapps.io

Create fully customisable interactive visualisations using R

Deposit data directly to the shinyapps.io server or use APIs to stream data securely

Scale subscription as usage of the service grows - seeking departmental contributions when project ends

Free	Starter	Basic	Standard	Professional
\$ 0 <small>month (\$0/Yr)</small>	\$ 9 <small>month (\$100/Yr)</small>	\$ 39 <small>month (\$440/Yr)</small>	\$ 99 <small>(\$1,100/Yr)</small>	\$ 299 <small>(\$3,300/Yr)</small>
5 Applications to get you started	25 Applications with more hours!	Unlimited Applications	Unlimited Applications	Unlimited Applications
25 Active Hours*	100 Active Hours*	500 Active Hours*	2,000 Active Hours*	10,000 Active Hours*

Why I'm here...

Learn about services other institutions are offering to enable and support researchers in good RDM practices

Gain advice from others on how they're using visualisations for communicating research data

Demonstrate some amazing visualisation tools and hopefully discover some new ones

Defend visualisation by changing the definition of visualisations

Key Message:

Oxford is working to **enabling** and **supporting** good RDM practices to **empower** researchers from **planning** to **publication**, and to provide **powerful** and **engaging tools** for **communicating** their research to others with ORDS and the **Interactive** Data Network. **Visualisation encourages data reuse**

The IDN wants to **learn from your experience** and find **partnerships** to build a **visualisation-focused service** for **enabling** and **supporting** good RDM

How:

Recruiting **case studies** from **all disciplines**, showing how **existing technologies** can be used **easily** - and **freely**.

Software agnostic training courses to accompany **template scripts** developed for case studies and **data to visualisation workflows**

ORDS provides an opportunity to **work with researchers early in their research projects** and the newly developed **API** it will be possible for researchers to **visualise their growing data sets**.