



“People are over-optimistic about future commercial value (of their data) and not excited enough about present public value.”

Tony Hall, Royal Opera House

01 What is data?

Put simply, **data** is a set of raw facts about something.

Let’s look at a few concrete examples of data:

- Historical sales records
- Event programming, past and future
- Museum inventory
- Footfall
- Birth weight and eye colour of babies born 1950-2000

The last example is a bit out there, but hopefully it serves to illustrate that any collection of facts is data!

So what’s the catch? For data to be of any real value to us it needs to be manipulated into a form that can be readily understood; that’s where developers, designers and geeks can help.

02 What can be done with my data?

You’re limited only by your imagination!

There has been a large growth in the number of businesses making data available at **Hack days**, from the BBC to the National Maritime Museum. These events allow people from technology, cultural and creative sectors to collaborate in a creative, friendly environment.

Often we’re too close to the data that we hold, constrained by necessity, in order to simply get things done. A Hack day can offer you a fresh perspective on the data or resources that you hold! Often, we don’t know the value of the data we are surrounded by. Let’s talk specifics:

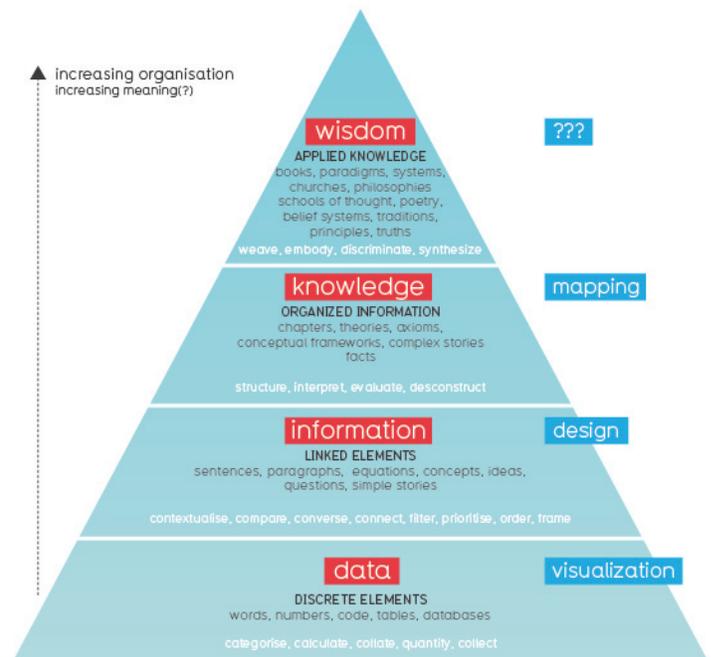
A Culture Hack Day took place in Edinburgh last year, bringing 50 developers and designers together with 50 arts professionals. **The result?** 30 new projects that

hadn’t existed a mere 24 hours earlier!

Projects ranged from audio/video visualisation of footfall throughout Edinburgh, to mobile apps, to social-media mashups with arts data, to games, to information portals.

Some of the projects that came out of this hack have gone on to become a major part of this year’s Edinburgh International Festival. The book festival’s world class mobile site was based on a Culture Hack Scotland prototype <http://bit.ly/xQ11y1>. The festival dating site, festafriend started as a Culture Hack Scotland prototype and that summer was the talk of the town <http://bit.ly/pX68AJ> and the beautiful data visualisation, festivalclock.com started as a Culture Hack Scotland project <http://bit.ly/nLKGfG>

Hack days generate a lot of buzz, positivity and interest in your sector. Those involved are often still proudly showcasing their creations months after the event.



Hierarchy of Visual Understanding
Daid McCandless / InformationIsBeautiful.net



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03 Who else will be bringing their data?

At previous hack days, organisations that have open sourced their data are:

- The National Museum of Scotland – Collections data
- Edinburgh Festivals – Complete listings data
- The Guardian – Full article content
- Royal Opera House – Performance collections data
- City of Edinburgh Council – City Wide footfall data
- National Galleries of Scotland – Collections data
- BBC – Archive data
- Skinny & the List – listings data.

We have a number of organisations that have already committed to sharing their data during the CultureCode Hack, including **Tyneside Cinema**, **Tyne & Wear Archives & Museums** and the **Baltic**, but don't be misled - this is an event for all organisations, large and small and we are on hand to help every step of the way.

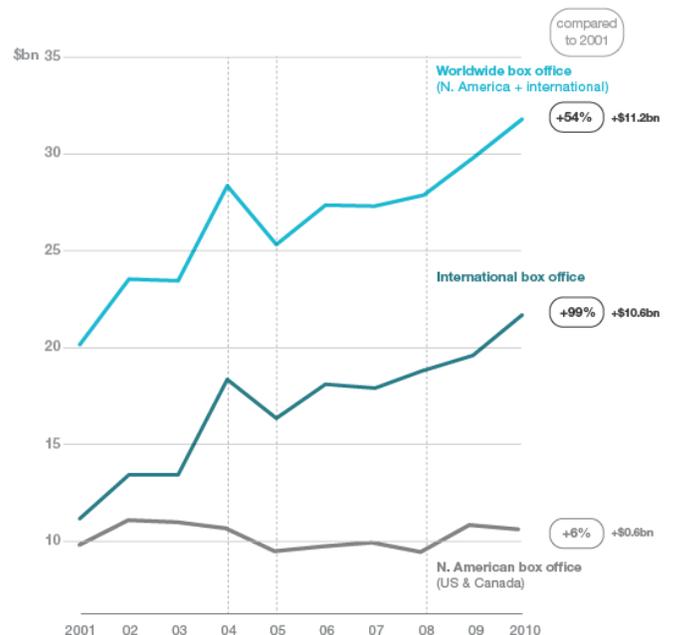
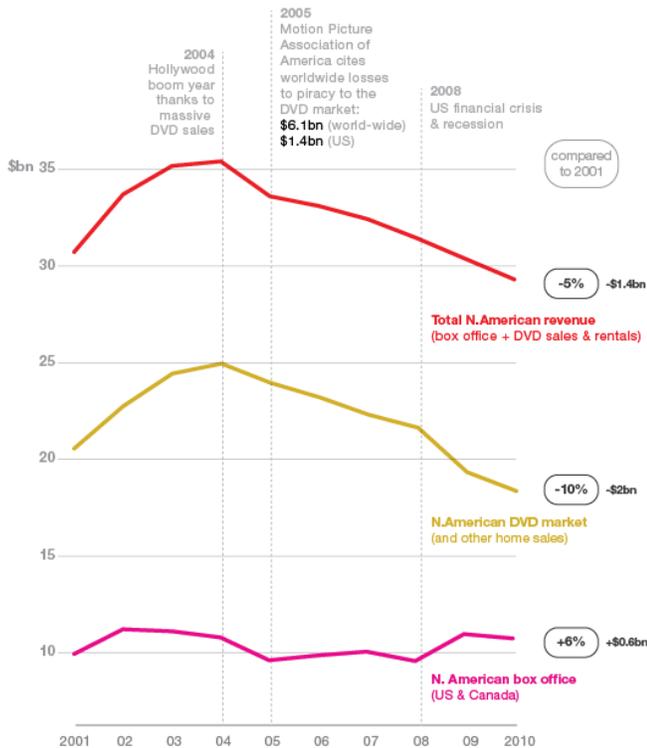
In addition to cultural data we will have data from the local councils, NGI, local transport organisations and other local event data available at the **CultureCode Hack**.

04 Is my data useful?

While it would be easy to assume that all data is useful, a set of facts can only be as useful as the insights that it can help to provide, or questions that it can help to answer.

Thankfully even if you can't think of any interesting or exciting uses for your data, or questions that you'd like to ask about it - you'll likely be pleasantly surprised with the 'out-there' ideas that those from outside your industry will come up with.

Interestingly, even if your data may not seem immediately useful on its own, it can become far more useful to you when aggregated with data from other sources. We will be providing other types of data for the hack that will help you understand your own data even better.



How Much Does Hollywood Earn?
Daid McCandless / InformationIsBeautiful.net



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05 What makes a good data set?

Generally speaking, data becomes more interesting and more useful when:

- There are lots of items
- It has a variety of associated Metadata (eg dates etc)
- Is in a consistent electronic format
- Is rich and interesting

06 Why would I just give my data away?

Many businesses have found that the advantages of opening up their data far outweigh any perceived disadvantage. The applications built around a dataset often help promote the underlying brand or service, or cultivate engagement with a new audience.

But please note, we are not asking you to relinquish ownership of your data. The developer or designer has the rights over the code/app/website that they might make while the data owner retains all ownership to any data it might use. Like many of the prototypes that came out of Culture Hack Scotland, the data owner can discuss with the developer how they might now take this project forward. Each dataset will carry a licence with terms of fair usage. We provide a generic licence and custom licences can be agreed as appropriate, but you should be aware that datasets with more restrictive terms of use are less likely to be used by developers at the hack.

07 What about data protection Laws:

It is true that some customer data is protected by data protection laws. You should therefore not bring sensitive data to the **CultureCode Hack**. We will have data ambassadors available who will be checking any data you send to us to make sure it does not break the law. We will also be available to advise about data protection laws if required.

08 What if I'm not very computer savvy?

You don't need to be! If you have data that you're willing to share and an interest in making things with others then you'll fit right in. There will be plenty for you to do if you decide you aren't ready to actively partake in the hack process.

09 Types of data

Data can be generally broken down into two categories:

- Static data that doesn't change
e.g. 'Sales Jan-Dec 2010'
- Real-time data
e.g. 'Number of people currently viewing my website'

Static data tends to be sourced from spreadsheets, exports from databases, etc. Real-time data tends to be accessed via an API.

10 What's an API?

An API (Application Programming Interface) is a fancy acronym for an interface that a developer can manipulate to find things out, or make things happen.

Consider an imaginary API for a car. The interface might include facilities to:

- Tell me how many miles before I run out of fuel
- Start the engine
- Change gear

APIs come in all shapes and sizes, the majority of which are accessible over the Internet.

Facebook and **Twitter** owe a large amount of their success to the APIs that they created allowing others to build applications such as games, mobile apps, and third-party services around their platform.



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Essentially, an API will constitute live data which means that if a product is built using an API then it will constantly update as the data changes.

11 Where is my data?

This will vary from business to business, but your data might be found in any of the following places:

- Spreadsheets
- Company software packages; these often have an option to export data:
- Online
- Google analytics, social media
- Network drives

We can help you work out where that data might be, just get in touch!

12 Data formats

Typically, so-called plain-text formats such as CSV (Comma Separated Values) , JSON or XML (eXtensible Markup Language) are the most convenient to work with, if an API is not available.

The majority of software packages, including Excel, can export to a minimum of CSV.

Other formats include SQL database backups, RSS feeds, etc.

13 What happens to my data after the hack day?

If you provide static data for the event, such as excel spreadsheets or csv files, then on the day this will be issued to the developers to work with. After the event they will have their copies that they will in all likelihood take away so that they can continue to tweak and modify their projects. The license you will have issued with the

data will allow this, and will allow them to share the project as long as they attribute you as the source of the data. If you like the prototype and you are interested in taking it further then feel free to continue those conversations with the developer/designer after the Hack.

If you provide data in the form of an API you would be expected to keep this active for some time after the hack day in order to make further tweaks and modifications to the projects possible. Ideally, you would make the API permanently available (or at least as long as the data is relevant) although you are under no obligation to do this. If any developer wishes to turn a hack day project into a commercial product then the same applies as in the paragraph above.

You should realise that once data has been provided to the hack day it is effectively released “in the wild”, but governed by the license terms (and ultimately by copyright law). Please remember that the developers will be effectively working for free on the hack day, and we ask you to respect their commitment and to recognise that the event will lead to prototypes that show us what could be possible. The UK government has opened up its data for sharing and reuse, requiring attribution but placing no limits on commercial or other uses (see <http://creativecommons.org/weblog/entry/20228>). We would encourage cultural institutions to follow their lead, we think you will be pleasantly surprised by the outcomes

14 Contact

If you have any questions or would like to talk anything through with one of our specialists then please Email **CultureCode@Codeworks.net** with your name, email address, phone number and a summary of your query and someone will get back in touch.

Alternatively please contact us on **0191 4909159** and we will be happy to answer any of your queries.