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Ha(r)ckeology

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we want to encourage a civic hacking approach to archaeology, an open data approach that we define as ha(r)ckeology.

Hacking is a tricky term which it's difficult to find a single widely accepted definition for. To most of the population, hacking is still associated solely with the acts of breaking into security systems. To those near the technology world, hacking means attempting to solve problems more quickly or creatively than before, and it's about using new ideas and approaches to improve the *status quo*. **Hacker is not someone who is able to subvert computer security; if doing so for malicious purposes, the person can also be called a cracker!**

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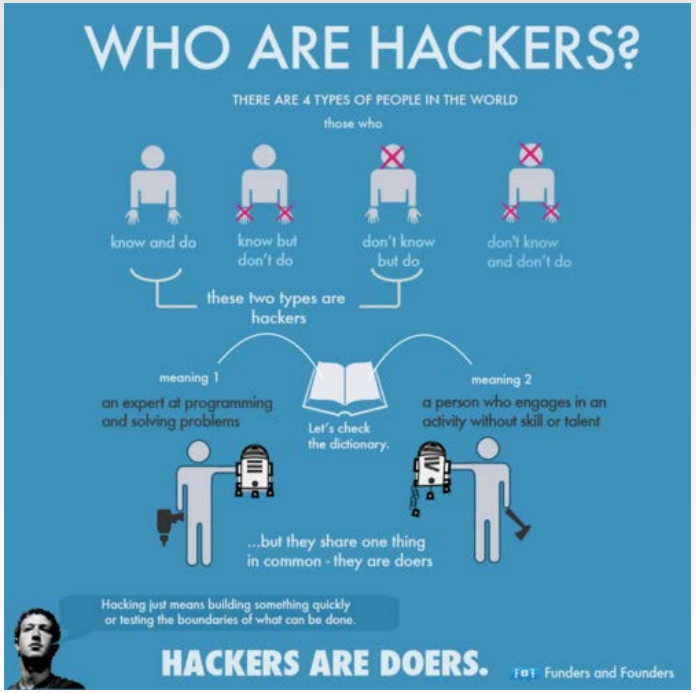
In the context of ha(r)ckeology, we're clearly more interested in the problem-solving definition of hacking. Using Mark Zuckerberg's definition: hacking just means building something quickly or testing the boundaries of what can be done. A definition with no explicit mention of technology: hacking is conceived more as a process than as a specific toolset.



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Therefore, ha(r)ckeology is the act, conducted by archaeologists, of quickly improving the processes and systems of archaeology with new tools or approaches, or more simply ha(r)ckeology means archaeologists working together quickly and creatively to improve archaeology. For reaching such a goal, the first step is to educate a new generation of archaeologists, a sharing generation able to work with a trowel, and to share and manipulate data, a generation that is aware that archaeological data must be open because they are public, they are expensive to produce, and they must be reused.

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Let’s start…

Tabular data

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- **Tabular data….** ***The Good, the Bad and the Ugly***

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pdf portable document format

example

Web

.xls

.csv comma separated value

example

.json JavaScript Obiect Notation

example

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OpenRefine

is a standalone open source desktop application for data cleanup and transformation to other formats, the activity known as data wrangling. It is similar to spreadsheet applications (and can work with spreadsheet file formats), however, it behaves more like a database

http://openrefine.org/

TSV, CSV, *SV, Excel (.xls and .xlsx), JSON, XML, RDF as XML

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data wrangling is the process of manually converting or mapping data from one "raw" form into another format that allows for more convenient consumption of the data with the help of semi-automated tools.

The main step of this process are:

- extracting the data in a raw form from the data source,
- "munging" the raw data using algorithms (e.g. sorting) or parsing the data into predefined data structures
- depositing the resulting content into a data sink for storage and future use

In the scientific research context, a **data wrangler** is the person responsible for gathering and organizing disparate data sets collected by many different investigators

http://en.wikipedia.org/wiki/Data_wrangling

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GitHub is a web-based Git repository hosting service.
Git working directory is a full-fledged repository with complete history and full version-tracking capabilities
Unlike Git, which is strictly a command-line tool, GitHub provides a web-based graphical interface and desktop as well as mobile integration. It also provides access control and several collaboration features such as wikis, task management, and bug tracking and feature requests for every project.

https://github.com/ggattiglia/Ha-r-ckerology/issues/1

How can we extract data, if tables are locked inside a pdf file?

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KEEP CALM AND LET'S TRY AGAIN

Tabula allows us to extract data locked inside a pdf file into a CSV using a simple, easy-to-use interface.

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Geocoding is the process of enriching a description of a location, most typically a postal address or place name, with geographic coordinates.

https://developers.google.com/maps/documentation/geocoding/index

http://www.geonames.org/export/web-services.html

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KEEP CALM and WEB SCRAPING

https://import.io/

Web scraping (web harvesting or web data extraction) is a computer software technique of extracting information from websites. Usually, such software programs simulate human exploration of the World Wide Web by either implementing low-level Hypertext Transfer Protocol (HTTP), or embedding a fully-fledged web browser, such as Internet Explorer or Mozilla Firefox.

http://en.wikipedia.org/wiki/Category:Archaeological_sites_in_Iraq

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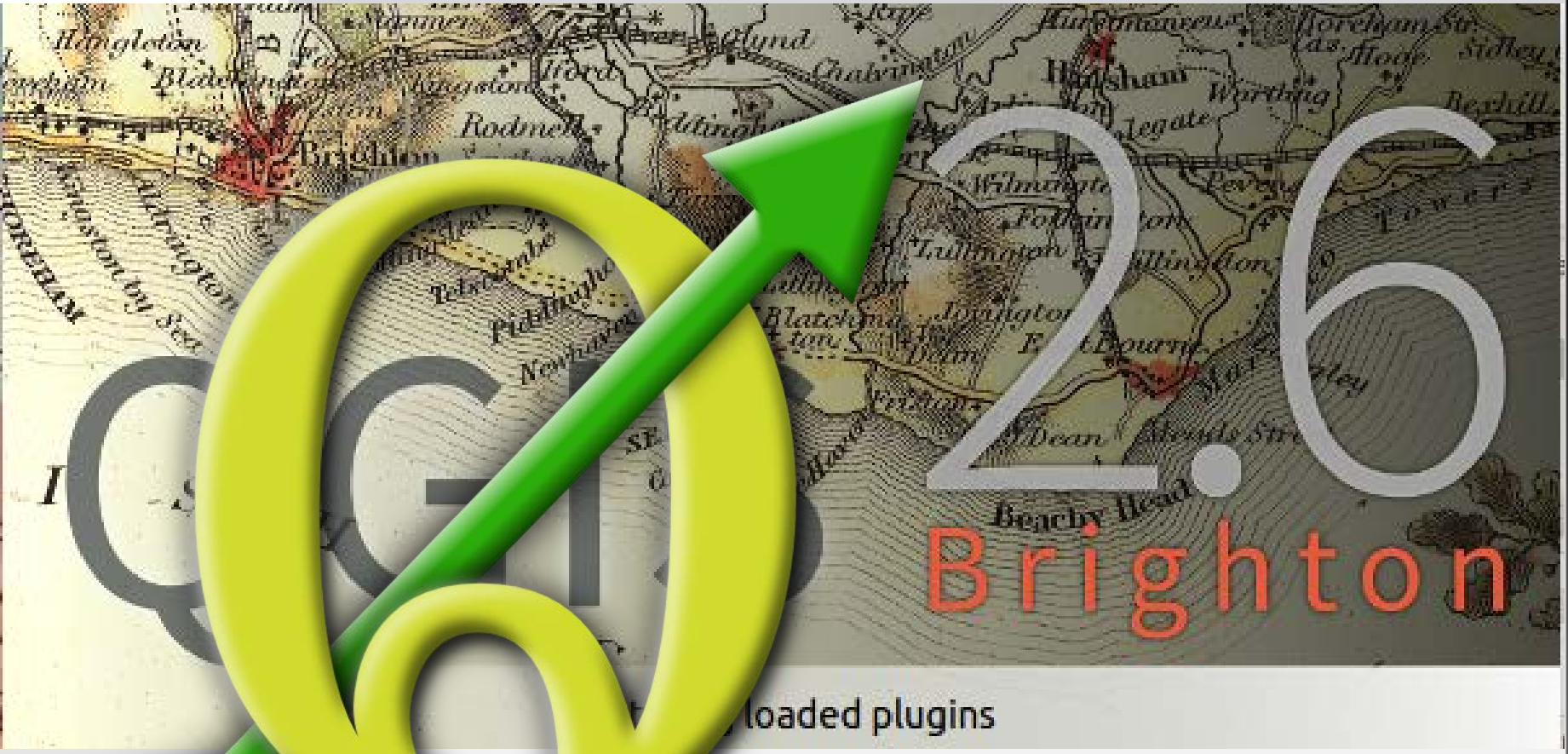

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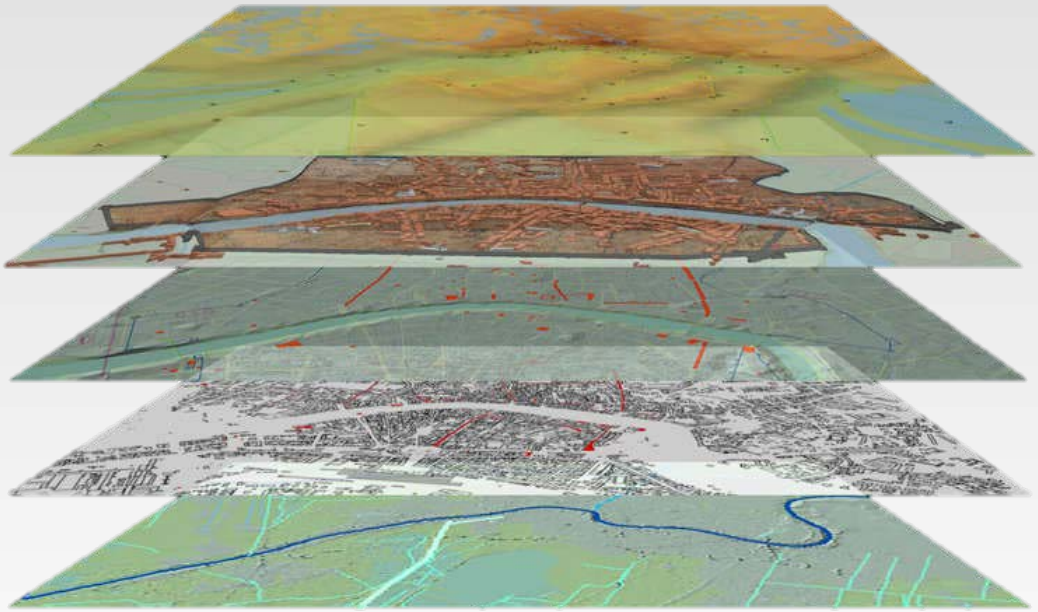
2002, Wheatley and Gillings: «Contrary to popular mythology, contemporary professional *archaeologists* may spend *more* time *using GIS than a trowel*»

2014, CAA Session: Is GIS the new trowel?



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