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Programming Historian: Novice-friendly tutorials on digital methods

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Introduction

Following the computational turn in the humanities, the supply of educational material for fast-changing digital methods is countless, dispersed and shifting. Delving into a specific data management tool or visualization procedure can at first be both overwhelming and intimidating. Luckily, there are initiatives providing easy-to-grasp information for the researcher, teacher or student with the ambition to learn digital methods. *Programming Historian* (https://program

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minghistorian.org) is a hub for "novice-friendly peer-reviewed tutorials that help humanists learn a wide range of digital tools, techniques, and workflows to facilitate research and teaching" (Afanador-Llach et al., 2019). As such, the resource seeks to reduce the gap between various strands of humanities theories and the know-how of computational methods. Founded in 2008 as a digital infrastructure project with a specific focus on the Python programming language, it has since expanded into a peer-reviewed journal with additional publications in Spanish and French. While described as a journal of methodology for digital historians, many of the tutorials are valid as learning resources in other humanities or social science research fields, such as Library and Information Science. Therefore, *Programming Historian* has a dual role as a scholarly journal and a platform for tutorials on digital methods. In this report, we will identify some of the strengths of this resource, and suggest some areas which could be improved.

A closer look

The tutorials of *Programming Historian* cover a range of digital methods for working with digitized or born-digital data. For example, published tutorial topics include analyzing audiovisual material (Rodriguez, 2018), distant reading document sets with TF-IDF (Lavin, 2019), using the minimal markup language Markdown (Simpkin, 2015), parsing web data in Open Refine (Williamson, 2017) and building static websites with Jekyll (Visconti, 2016). *Programming Historian* is hence a comprehensive platform with a multitude of resources for various needs relating to digital methods.

Several beneficial aspects are connected to the journal's novice-friendly approach, including the inclusion of lessons in several languages and the use of pedagogic reasoning. As for the readability of articles, syntax highlighting assists the reader in comprehending code-workflow and visualizations relate to the understanding of the programs, markup languages and tools accounted for. The tutorials are assigned difficulty level labels, ranging from low to high. These levels, as well as particular topics, are filterable which eases the task of accessing articles according to skill level and interest. The tutorials with a low difficulty level are straightforward and comprehensible, making them truly accessible for novices.

These tutorials cover tasks such as introductions to simpler tools or instructions on how to install programs. Higher difficulty tutorials cover a range of tools for data collection, analysis and visualizations. Another positive aspect is that the content is not overly platform specific. An immense focus on the contexts of large social media platforms such as Facebook, Twitter and Instagram may lead to a narrow take on methods only applicable to said platforms. Although there are several *Programming Historian* tutorials that focus on working with Twitter data, many of these resources take a wide approach which is helpful since these methods can be applied to a wide range of projects and research questions. Furthermore, the tutorials are peer-reviewed, meaning the content is inspected in a different way compared to for example Youtube tutorials on tools and methods.

A few drawbacks are however noted. Although many tutorials have visual aids such as screenshots and illustrations, complementing them with audio-visual media as for example video tutorials could be useful. Furthermore, an issue with the tool-centered approach adopted in many articles is a lack of a critical lens, which, for example, overlooks the discussion about ethics in using data. Arguably, these discussions should also have a place in providing introductory insights into how to use different tools to collect and analyze data. Some articles could also use revision, for instance those depending on the deprecated programming language Python 2. Moreover, while the R data science software package *Tidyverse* (Wickham, 2017) is touched upon in a couple of articles (e.g. Arnold and Tilton, 2017; Siddiqui, 2017), there are several other packages within *Tidyverse* which could be further examined. These include *ggplot* for graphical visualization, *stringr* for working with strings and *tidyr* for data tidying.

Accessible digital methods resources

Programming Historian is an interesting and continuously updated scholarly journal providing introductions and continued learning resources for digital methods. The broad range of topics provides educational material for the digital method process as a whole. Topics cover data collection, wrangling and analysis as well as tools for writing and publishing. While some content could be edited or added, *Programming Historian* provides a good foundation on digital

methods. As mentioned earlier, there are a number of other resources for those in the humanities and social sciences interested in learning digital methods. Apart from books such as Rogers' *Doing Digital Methods* (2019) and *Digital Methods* (2013), courses on digital methods are given at for instance the Digital Humanities at Oxford summer school, UK, and the Digital Methods Initiative in Amsterdam, the Netherlands. However, many of these resources are reliant on the aspiring learner gaining a place at a particular course and paying a fee to participate, or by purchasing or borrowing a book. One of the strongest merits with *Programming Historian* is the accessibility it offers as a fully open-access digital resource. As long as the journal is maintained, it will be a beneficial resource for researchers and students as well as teachers in university courses on digital methods.

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