A Proposal for a Gentle Introduction Resource

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I: Introduction

Addressing the Need for Technical Pedagogy in the Digital Humanities

Purpose

The purpose of this paper is to address the need for digitally malleable forms of pedagogy, the technical and mechanical forms of scholarship practiced in the Digital Humanities as they might be addressed through "Gentle Introductions[1]." As Digital Humanities becomes a more recognized area of interest within higher education, approaches to its more challenging technical aspects need to be addressed. This paper will describe the concept of an ideal resource (referred to herein as the Gentle Introduction Resource or simply GIR), critique current resources that demonstrate the need for such a resource, and describe initial implementation of the GIR's infrastructure.

What is a Gentle Introduction?

Gentle Introductions vary by author, but they typically provide clear, introductory information on specific technical, scientific, or computational concepts that can be engaging even to an audience that has no prior knowledge of the subject under

[1] [exempli gratia] Birnbaum, David. 2012. "What Is XML and Why Should Humanists Care? An Even Gentler Introduction to XML." http://dh.obdurodon.org/what-is-xml.xhtml. || Canelake, Sarina. 2011. "A Gentle Introduction to Programming Using Python". MIT Open Courseware MOOC January, Online. http://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-189-a-gentle-introduction-to-programming-using-python-january-iap-2011/. || Kasten, Eric. 1995. "HTML: A Gentle Introduction." *Linux Journal* 1 (15). Online Version (July): 1–5.

discussion. This does not mean they do not provide a roadmap toward experimentation, but they can be key in reaching a place of initiation and understanding as to what specific strengths and weaknesses a complicated method or technique might involve.

Why do we need a Gentle Introduction Resource?

Presently most gentle introductions must be sought out specifically. For instance, to find a gentle introduction to XSLT transformations one must use specific search queries like “XSLT gentle introductions,” in a search engine. The foresight to engage this search suggests that one has already moved beyond gentle introductions to be aware of a niche acronym such as XSLT.

II: The Gentle Introduction Resource (GIR)

History of Gentle Introductions

The "Gentle Introduction" moniker for layman introduction to high-level technical concepts is not new, and there is something quietly vintage about it. This explicit descriptor can be found in academic articles at least as far back as the early-1960s. In running a Google scholar search the earliest articles I found apply "Gentle introductions" to a range of technical concepts from probability and statistics in the early 1960s[2] to programming PASCAL-like languages in the 1980s[3] .

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[2] Frederick Mosteller. "Continental Classroom's TV Course in Probability and Statistics." *The American Statistician* 16, no. 5 (1962): 20-25.

[3] Pattis, Richard E. *Karel the robot: a gentle introduction to the art of programming*. John Wiley & Sons, Inc., 1981.

A particularly deft, and more recent self-proclaimed "Gentle Introduction," came in University of Pittsburgh Professor David J. Birnbaum's approach to XML or eXtensible Markup Language[5]. Birnbaum takes the time to present a contextual, clear, and engaging discussion about how the markup is used in the context of Digital Humanities, not making the choice so many make and launching right into static, aggressive instruction. He is able to speak about XML as it relates to other, more conventional topics, such as university departments and foundational uses. When he does speak of XML in and of itself, he does so with terms that make its definition digestible, not more difficult.

> "XML is a formal model that is based on an ordered hierarchy, or, in technical informatic terms, a tree. It consists of a root (which contains everything else), the components under the root, which contain their own subcomponents, etc. These components and subcomponents are called nodes. (Birnbaum 2012)"

Compare Birnbaum's quote with the first entry that results when "XML" is queried in Google.

> "XML stands for e**X**tensible **M**arkup **L**anguage.
>
> XML is designed to transport and store data.
>
> XML is important to know, and very easy to learn.

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5 Birnbaum, David. 2012. "What Is XML and Why Should Humanists Care? An Even Gentler Introduction to XML." http://dh.obdurodon.org/what-is-xml.xhtml.

Start learning XML now![6]"

This quote from the w3schools.com website is followed immediately with code. It is true that XML is a form of markup that is very human readable, and in some cases self explanatory, contextually this fast-and-dirty introduction fails the student attempting to engage with foreign subject matter. This blurb treats XML like a product, something a strong Gentle Introduction like David Birnbaum's would never do

While I don't yet have hard data illustrating exactly how many present day graduate-level humanities academics are familiar with "Gentle Introductions," from my own experience, most are not familiar with it as an over-arching concept. Even those who have been assigned a "Gentle Introduction" often think this is a clever way to title a tutorial, not realizing that the offering fits into a genre bigger than the concept central to their reading.

In November 1991 the commercial publishing industry came up with a title that proved far more marketable than "Gentle Introduction": "For Dummies[7]." This moniker is already problematic not just in its tongue-in-cheek insult to its audience, but in its forced separation of the layman from the expert. Instead of introducing the layman to the infinite progression through a technical topic, it establishes a road block to the depth of understanding a layman should think of himself or herself of being capable.

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[6] [sic.] Unknown author. Unknown date. "XML Tutorial". Instructional. *W3schools.com*. http://www.w3schools.com/xml/.

[7] Rachel Donadio. "Dumbing Up." *The New York Times Online.* September 24, 2006. http://www.nytimes.com/2006/09/24/books/review/Donadio.t.html

Even while the first “For Dummies” offering, titled *DOS for Dummies* was indeed a technical concept exploration, the title proved lucrative enough to effortlessly flow into almost all facets of understanding from quilting to line dancing. These books, and the channels through which they are distributed, were (and are) often written by academic experts, yet it would be startling to see them assigned in academic syllabi. The books are typically colloquial to a fault, and in my own experience their quality is low, and they go on at length examining concepts that could be expressed with far greater brevity.

The bulk of technical instruction utilized by both the layman and the expert are now found on the Internet. While official "Dummies" books are still being written and distributed, these are titles that are still primarily print-based, and the concept, a book "for Dummies," is now a proprietary concept. In the world of free and open Creative Commons scholarship distribution this moniker is not available, but I would suggest that this is, in fact, a good thing.

It seems that, at least within the niched community of academia, the “Gentle Introduction” is coming back into vogue. As the scholar's library becomes increasingly web-based, opportunities for scholars, students, and learners to engage in free and open scholarship have flourished. Without having to engage in the traditionally slow model of academic publishing, academics themselves can use their computers and personal devices to relay scholarship with immediacy. Peter Suber writes about the advantages of Open Source and Open Access scholarship in *Open Access*[8], giving numerous reasons that such models of scholarship are more practical and ethical than

[8] Suber, Peter. 2012. *Open Access*. Vol. 1. Essential Knowledge Series. Cambridge, Massachusetts: The MIT Press.

outmoded forms still often clung to in the present day academy. Suber lays out an argument with 15 tenants describing why traditional peer-reviewed publishing model is no longer sustainable (Suber 2012, 29-43), and then at great length describes a system, already in play, that disseminates knowledge far more quickly with legal frameworks protecting content producers intellectual property, but allowing them to share their knowledge quickly and without cost (Suber 2012, 77-147). Scholars hoping to engage students and the general public with programming competencies, are posting new "Gentle Introductions" at regular intervals. Schools like MIT are using Open Access models through their OpenCourseware programs, publishing an entire semester's worth of Gentle Introduction pedagogy[9]. If ever there was a prescient time to aggregate as many quality Gentle Introductions into one location, it would seem that time is now.

Doing The Digital Humanities

From beneath the rising umbrella discipline of "Digital Humanities," in which humanities scholars search for ways to inject digital/computational methodologies into humanities scholarship, the distribution of pedagogically sound introductions has become essential. Ways of wrangling the vast number of introductions (gentle or otherwise) that could prove useful has been a major handicap to the discipline, leading to more arguments about how essential or necessary specific technical methods are than to paths of artisanal exploration. This is perhaps best illustrated by the provocative debate that grew from Stephen Ramsay's insistence during the 2011 MLA Conference

[9] Sarina Canelake. *A Gentle Introduction to Programming Using Python.* MIT OpenCourseware. January, 2011. http://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-189-a-gentle-introduction-to-programming-using-python-january-iap-2011/index.htm

that one could not be a digital humanist without sufficient programming knowledge[10]. As a Master's candidate for a degree in this discipline I hope to offer a theoretical solution to gently addressing this problem in ways that I believe others have failed to do.

Critiquing Bamboo DiRT Wiki

In the introductory course to Digital Humanities at CUNY Graduate Center taught by Professor Matt Gold, a DH expert, my fellow graduate students and I were introduced to "Bamboo DiRT Wiki." This resource was constructed by a team of more than 16 credentialed university members, overseen by five highly respected institutions, and funded by the Andrew W. Mellon Foundation. The "About" section of the Bamboo DiRT site reads:

> Bamboo DiRT is a tool, service, and collection registry of digital research tools for scholarly use. Developed by Project Bamboo, Bamboo DiRT is an evolution of Lisa Spiro's DiRT wiki and makes it easy for digital humanists and others conducting digital research to find and compare resources ranging from content management systems to music OCR, statistical analysis packages to mindmapping software[11].

The mission of Bamboo DiRT seems to be an admirable one, yet I feel that it illustrates a misstep by the humanities community at large in its attempt to work digitally. Many humanists currently feel secure beneath a blanket of software packages and suites that seem to remove the necessity of core computational skillsets and many

[10] Stephen Ramsay. "Who's In and Who's Out". Stephen Ramsay Homepage. January 8, 2013. http://stephenramsay.us/text/2011/01/08/whos-in-and-whos-out/

[11] Project Bamboo. *Bamboo Dirt Wiki.* About. Accessed May 20, 2013. http://dirt.projectbamboo.org/about

DHers move forward with complete ignorance as to what makes these pieces of software work under the hood. I am not so bold as to suggest that a digital humanist should have technical expertise that mirrors that of the computer scientist, but without deeper understanding of how utilized software works, there is a damning amount of ignorance that makes its way into the traditional humanities scholarship synthesized with digital components. The scholarship reveals its flaws in the published online works of insufficiently educated practitioners. If software contains bugs, or is constructed erroneously, the digital humanist without deep understanding of the core software processes is taking the dangerous risk of communicating flawed results. This creaties risk not only in the scholar's own research, but also for the DH community at large.

The issues with Bamboo DiRT as I see them can be narrowed to three specific complaints:

1. *Filter failure*: the pure bulk of software this site attempts to connect its users to becomes more of a hindrance to organization than a help. Even with use of tagging and metadata, the 30 DH-themed sections prove to be far too broad to encapsulate the sheer number of offerings. In many cases, hardly comparable software packages are pushed together without enough explanation for the uninitiated to grasp their differences. This is a problem throughout the internet, often appearing to the less informed as "Information Overload." Such problems

have been more appropriately termed by NYU Professor Clay Shirky issues of "filter failure"[12].

2. *Interface:* The Bamboo DiRT interface suggests that software does specific things that the software linked to within the resource may or may not do. There is little to no room for users to give feedback and keep the most useful items visible.

3. *Pedagogy:* Pedagogical write-ups of the specifically academic/DH software usage are completely ignored.

This critique focuses on Bamboo Dirt Wiki not because it is the only DH Resource suffering from issues in thorough digital pedagogy as utility, but because of the initial attention it has garnered and the fact that it has been generously funded[13].

The Gentle Introduction Resource does not look to replace a site like Bamboo DiRT, but rather to serve as a supplement to such digital spaces that offer access to useful tools. The GIR will give scholars a network in which to share their initial explorations and forays into both digital and humanistic study.

The Gentle Introduction Resource Design (Initial)

The GIR's design will begin it's alpha testing as a twitter clone built in Ruby on Rails. When initially prototyping the early versions I attempted to make a useful site in pure HTML and CSS, but found this approach lacking, especially in terms of

[12] Clay Shirky. *Here comes everybody: The power of organizing without organizations*. Penguin books, 2008.

[13] I will also note that Bamboo DiRT is still being worked on, and I notice many issues I have criticized are at least slightly improved.

expandability and longevity. In the span of six months I moved through the following frameworks as a higher level solution to basic html:

1. *Flask, PythonAnywhere, and Django* - These frameworks are all based on the Python computer language. In experimenting with these frameworks I made some major strides in my own understanding of how computer language is communicated from the user to the machine and back to the user. I hit several roadblocks in deploying these frameworks in the public sphere, primarily because of the difficulty in uploading the local SQL database. The SQL database is the component necessary to allow registered users individualized participation on the site.
2. *Ruby on Rails* - I was hesitant to put away the Python and begin working with Ruby, but I was surprised with the relative simplicity of the Ruby on Rails framework. I don't believe I would have found it accessible if I had not first labored over several projects using Python. The Ruby language is an Object Oriented language just like Python, and many of the rules that I learned when implementing Python allowed for a seamless transition into Ruby. While the differences between Ruby and Python are plentiful, the Ruby language has a supportive online community that has helped me push past the challenges I was unable to overcome with the available Python web frameworks.

As I have indicated, I chose Ruby on Rails as the framework to move forward with and have initiated the design of the GIR to parallel that of the twitter network. By creating a

database more focused on the community invited to use the service, there is a stronger understanding of what the developing needs of the DH community engaged with the GIR actually might be. By crowd sourcing a list of pedagogical writings on topical tools and methods that explain both the foundations of DH software offerings and higher level academic software packages a digital space can be created showing and telling DH scholars about what is initially foreign and anxiety inducing.

Using the mediaCommons project, InMediaRes, as inspiration, I plan to create a membership system based on academic credentials.[14] Members would be able to add Gentle Introductions to their personalized data stream, and moderators would be able to add these introductions to a regularly updated blog featuring the most useful Gentle Intros shared in the universal site's data stream feed.

Finally it should be said, all linked Gentle Introductions would be in either the public domain or distributed under a Creative Commons License.

Resource Conclusion

This GIR proposal is not set in stone, and any time proposals meet the realities of implementation there are usually concessions that have to be made. That said, it is of key importance that in the implementation phase, critiques of projects that have come before are reflected upon. The most essential aspect of this proposal is the belief that pedagogy should be a stronger focus than tool resources; That a smaller number of tools engaged with through expert pedagogy is an optimal goal. This project aims to

[14] mediaCommons. *About.* inMediaRes. Accessed May 22, 2013. http://mediacommons.futureofthebook.org/imr/about

focus on molding the layman into an engaged explorer and eventual expert. This act is far more valuable than access to an aggregation of resources with which the intended audience does not understand how to comfortably engage.

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