TimePlot Mock NEH Grant Proposal

Created for English 236: Introduction to Digital Humanities, December 2013

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Table of Contents

1. Abstract

We seek funding to create and host a customizable, user-friendly time plot tool, and to organize and moderate the products of this tool across a collection of public online venues. We will work in conjunction with web developers to create TimePlot 2.0, a customizable time plotting tool. As this technology is being developed, we will use the Chart function in Microsoft Excel to create rough time plots of the major works of canonical 20th century authors. Once the TimePlot tool is ready for beta use, detailed maps of these novels will be created and displayed online in terms of each novel's geographic location (via TimeMapper) and in terms of its author (via Tiki-Toki).

Once the corpus of plotted texts has been expanded, the data from each graph may be used to create a time plot of time in the 20th century novel at large. While the data charted during the grant period will be confined to the 20th century novel, we believe that the TimePlot 2.0 tool will ultimately be an invaluable resource to scholars studying the portrayal and experience of time in literary, filmic, and other genres of art from a wide variety of periods, locations, and languages.

Statement of Humanities Innovation:

The TimePlot Initiative's contribution to the humanities will be twofold. By developing a program that allows time to be mapped across two axes, TimePlot will create a distinctly humanities-oriented method of visualizing time. The mapping of history and temporality reflects a common goal among humanists, allowing scholars to visualize the way that we think about narratives and the past. It will aid scholars in observing and mapping the way that attention toward specific historical events, as well as the idea of history and of the present moment, all change over time.

The TimePlot tool and its platforms will also help to widen the number of scholars who are able and willing to make use of digital tools in their own research and teaching. Our approach to the creation and storage of these time plots emphasizes a collective creation of knowledge, rather than information that is constructed and disseminated solely by specialists in the digital field. Users may make their own time plots, and submit these visualizations for use on the public platforms, or comment on the accuracy of individual time plots as well as the tool as a whole.

2. Narrative

We seek a $58,826 grant to create TimePlot, a web-based tool used to map time and other values along two axes, and to organize and host a collection of web-based platforms to display TimePlot's products. Our goal is to both broaden the ways in which time can be visualized, as well as to expand the range of scholars who can create such visualizations.

The TimePlot Initiative was inspired by the use and observation of dynamic social network map programs such as Gephi, yEd, and R. These programs use data gathered by readers and stored in digital spreadsheets to map connections between characters in a story. These social mapping programs render new knowledge by illustrating large-scale data in a visual form, but they also leave a large amount of customizing power in the hands of the creator. Connections are defined not by a computer program, but by the

individual creating the network; and in some programs, after the initial map has been created, nodes can be removed or replaced at will, to illustrate the effect that one character or connection has on the overall structure of a text.

While there are many extremely user-friendly timeline creation tools, their adherence to the standard linear form limits the type of information they can illustrate, and thus often fails to provide multidimensional concepts and illustrations of time. Current timeline tools allow users to fill independent nodes with information and multimedia, but this emphasis on the point in time can limit the way time is conceived and graphed. When using these existing programs, it is difficult to produce a timeline that indicates the flow of events over degrees of time, much less one that indicates another dimension to the study of time. We seek to bridge the gap between social network mapping and time plotting, and make a time plot tool that is as customizable as it is visually clear.

The TimePlot Initiative seeks to intervene in the field of temporal visualization by partnering skilled web developers with research assistants within the humanities, in order to create a time-plot program that is as customizable and user-friendly as current timeline programs, and yet challenging in its presentation of time as a three-dimensional object to be mapped and studied. In addition to producing this web-based tool, we will also introduce the tool and its products to the scholastic public by mapping a (relatively small) corpus of canonical 20th century Anglophone novels, and host these products across a series of more robust timeline tools.

The Initiative will take the 20th century Anglophone novel as its initial object of study, though it is our hope that the tool will prove useful to scholarship at large. Modern and post-modern novels are commonly seen as rethinking and remapping how we experience time in response to large-scale changes like global warfare, imperialism and post-imperialism, changing travel methods, and psychoanalytic theories about individual and collective memory. It is our hope that the TimePlot tool will do justice to the dynamic and non-linear perception of time that authors and artists began to present in their works during the 20th century; and we hope that by mapping what moments of history these texts refer back to in their portrayal of time, we can see how attitudes toward specific moments in history and the idea of the past at large may change over time.

While the program building and canon analysis may appear to be separate ventures, we aim to close the gap between computer scientists and humanists by beginning to gather and map data from novels as the program is being made. An initial group of research assistants will record the temporal data (plot time vs. perspective) found in three novels by three canonical authors, to provide a base corpus to ease the transition from beta testing of the TimePlot tool. These research assistants and their data-gathering work will also influence the creation of the TimePlot tool, as their experience with the project and the results of their data being plotted on existing Excel spreadsheets will be used to inform the development of the TimePlot tool. In this way, the creation of the tool will coincide with its products, so that both are able to inform each other.

After the initial development period of the project has passed, we will expand the corpus

of novels analyzed, and begin to publicly host the results on public platforms. By the end of the grant period, our goal is to map over fifty texts in terms of temporal dimensionality, and to encourage scholars at various stages of their careers to participate by giving feedback about the accuracy and interpretation of individual charts, as well as creating their own.

As a capstone to the project, a "master timeline" will be created to chart shifts in temporal setting and focus in the 20th century novel. Information such as total range of time, minimum/maximum/average deviation from setting time, and average length of plot time will be graphed along with year of publication to visually determine what trends exist in the treatment of time by 20th century novelists. This "master time plot" will act as a culminating product of the database, but it will be reconfigured in response to submissions or editing by scholars, to create a dynamic repository that encourages both conversation and quantification.

While the primary corpus of plotted novels will draw from the 20th century Anglophone canon, TimePlot and its hosting platforms will be easily utilized and expanded by scholars focused on other geographic and temporal areas. While critics and authors may have become more openly concerned with the representation of time during the 20th century, they are by no means the only authors who have deviated from the concept of a straightforward timeline. It is hoped that after the project's completion, literary scholars who study other time periods, other locations, and even other languages will find the TimePlot tool useful to their own study, and will continue to expand the public database.

3. Environmental Scan

Scholarship:
There have been numerous scholarly books, journals, courses, and publications on the subject of time within the modern novel. Of these publications, many have turned to descriptions of concepts borrowed from the visual arts (e.g. impressionism, cubism) to explain the way that these literary works portray and treat time[1]. As of yet (perhaps because of the limited number of programs created to suit this need), few attempts have been made to graph anything beyond plot points within such novels; and those attempts that have been made do not seem to have been publicly displayed or led to the creation of a specific time mapping tool.[2]

One group project, executed by undergraduates with digital scholarship in mind, makes significant steps toward a nuanced timeline in their "Digital Mapping of *Mrs*.

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[1] See Banfield, Ann, "Time Passes: Virginia Woolf, Post-Impressionism, and Cambridge Time," among many others.
[2]See Professor William Nelles' brief course project description, http://www.umassd.edu/media/umassdartmouth/officeoffacultydevelopment/ofd/awards/ofd_report-nelles.pdf

Dalloway."[3] This project uses the linear timeline program Tiki-Toki to illustrate the shifting nature of the novel's focus between past and present moments, denoting these shifts by color coding moments where the narrative is focused on the present as green, and moments where the narrative is focused on the past as blue. This shift in color mark a move toward another dimension of time that must be mapped, and the desire for a tool that can adequately track time in two senses at once. TimePlot will be used to allow projects like this to visualize a wider range of data, so that it is immediately clear what moments of the past novelists working at certain times and in certain places are focused upon.

Technology:
The SIMILE Widget's time plot program allows users familiar with HTML to enter data to plot events along two axes, create multiple lines within each plot, and enter singular events along the x-axis. While this program significantly expands the concept of time that can be digitally mapped, the relatively high level of HTML experience required does not allow a wider audience to create time plots. While multiple lines can be displayed on the same time plot, it is not possible to denote changes within a single line (as in shifts in perspective/character focus), or to embed detailed information (such as quotes or images) along the line as seen in simpler but more detailed timeline tools.

Microsoft Excel's gallery of automatic chart options includes multiple graphing options to illustrate selected data on spreadsheet as a time plot. The creator can adjust the range of axes displayed, and display coordinate information by hovering the mouse over any point on the line. However, time plots produced on this program hold a limited amount of information and customization options, particularly in comparison to other "two-dimensional" timeline programs. They are also limited in size and visual detail, though they can still be useful visual products, particularly to the person who has input the necessary data. (See appendix for a rough sketch of some of TimePlot's goals using a modified image of the Excel graphing function).

4. Work Plan

The work of the one-year grant period will be divided into two major components, with a period of evaluation before transitioning to the second phase.

1) Web developers will work in conjunction with project leaders to create a web-based tool that uses data imported from common tools such as Microsoft Excel, and allows for post-construction customization (adding photographs, links, and other information to specific plot points).

As the TimePlot tool is being developed, a small set of graduate student research assistants will begin to compile data and create beta versions of time plots using Microsoft Excel and its chart creation tools. These research assistants will collect temporal data (progression of novel vs. time being discussed or remembered; or

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[3] See project, its creators and their analysis of the project's results at http://dallowaytimeline.weebly.com/resource.html

progression of novel vs. temporal setting, in novels with multiple settings) on three novels by canonical authors whose work they have studied closely. Once the TimePlot tool has been sufficiently developed, it will be tested using this Excel-hosted data, and compared with these rough timelines to determine overall accuracy and ease of use. These timelines will be organized and hosted online via two popular and easily accessed display tools: TimeMapper (which focuses on geographic and temporal position), and Tiki-Toki (which focuses on story lines and temporal position).

2) After these initial steps have been completed, the corpus of novels studied will be expanded, including multiple works by at least twelve more 20th century novelists. Research assistants will continue to use the TimePlot tool, adding their contributions after they have been evaluated by at least one other project member. New RAs will be recruited to expand the range of authors studied, and to widen the scope of the project, possibly including graduate students contributing remotely from other campuses. After all of the data has been culled for the grant period, the TimePlot tool will be used to create a "master time plot" to illustrate the trajectory of temporal experience: whether there are more past-focused narratives immediately after wars, etc.

Technologies:
Data gathered by research assistants will be stored and manipulated in Excel spreadsheets via Microsoft Office, so that current available plotting programs can be compared to trial versions of TimePlot. The final version of TimePlot will be hosted online via A2 Hosting. As time plots are created using the TimePlot tool, they will be displayed on the TimeMapper program, and on Tiki-Toki.

Required Personnel:
Rebecca Chenoweth is a third year PhD candidate in the English Literature department at University of California, Santa Barbara, and will serve as the Initiative Director during the program's first year. She has significant experience studying the portrayal of time, both in literary and digital environments, via UCSB's Literature and the Mind program and Alan Liu's Introduction to Digital Humanities graduate student seminar.

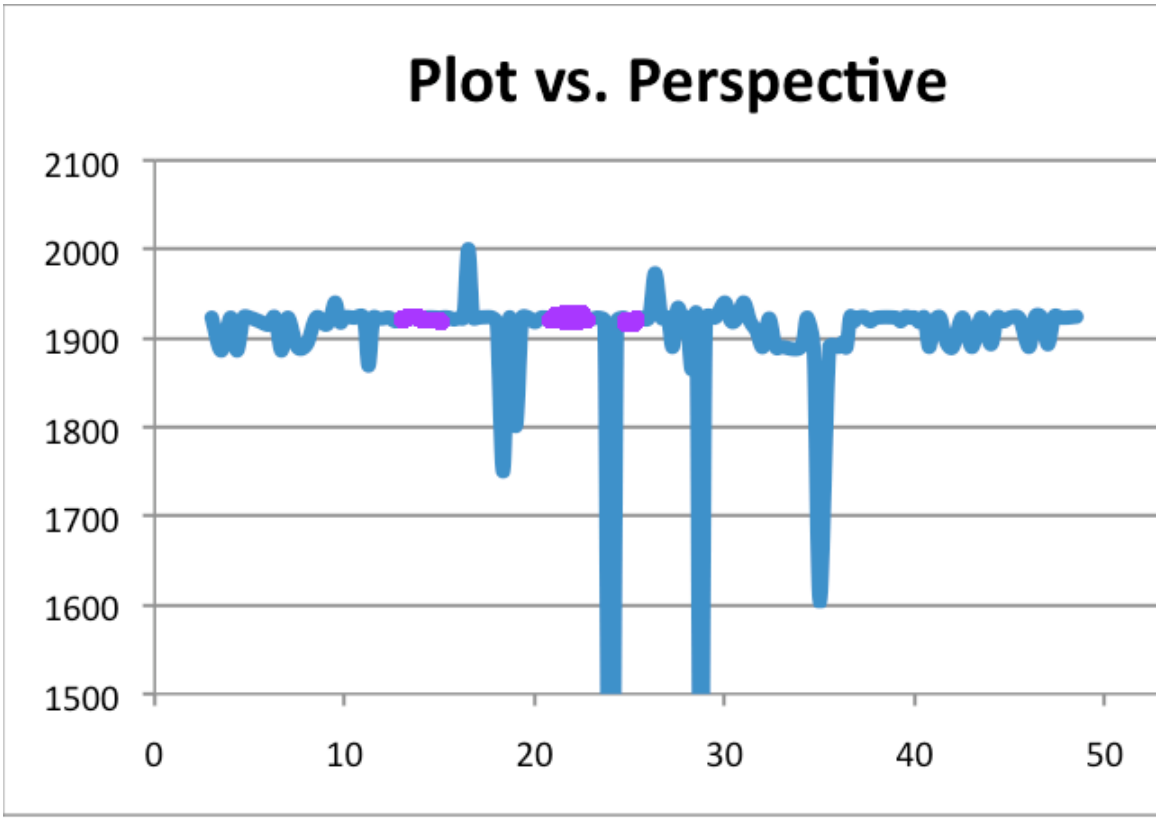
In order to meet the goals of the TimePlot tool, a highly trained web designer will need to be employed, with allowances made for an assistant web designer (preferably someone affiliated with UCSB with extensive knowledge of web design and the humanities). A series of graduate student research assistants will also be recruited to log and map data; these RAs will be chosen based on their level of knowledge about at least two canonical modernist authors, so that they can both work with data with whose features and concerns they alre already familiar with, and so that they can peer review each others final products before they are hosted online.

Budget:
Our budget totals $58,826. We have allocated $32,160 for general staffing (initiative director and research assistants), $11,400 for web development staff, and $411 for digital supplies. For detailed budget, including hourly and monetary information, please see appendix below.

5. Method of Project Evaluation

Once the four-month point and its goals have been reached, a small panel of students and faculty from surrounding universities who primarily study 20th century literature will evaluate the products of this initial trial period. The panel will be asked to review the material hosted on beta versions of the repository, and judge the TimePlot tool on usefulness, clarity, innovation, and reflection of original work. If a majority of panelists respond to a survey of these aspects by indicating that they find the tool and its archival sites satisfactory on the whole, then the project will be expanded to include more authors and literary works from the 20th century. The survey will be conducted once again at the end of the grant year, to track efficacy of responses to any concerns posed during the initial period.

Appendix A: TimePlot Visual Prototype



Manipulated version of Excel graph product, with alternate color added to indicate significant shift in perspective (new narrator). Here, the X axis represents that progression within the novel in terms of page number (with 50 pages roughly totaling two hours), and the Y axis represents the year that the narrative is currently thinking of speaking about.

Appendix B: Budget Details

NATIONAL ENDOWMENT FOR THE Humanities

Sample Budget Form

Applicant Institution: *Univ. of Calif., Santa Barbara*

Project Director: *Rebecca Chenoweth*

Project Grant Period: *01/01/2015 through 12/31/20*

click for Budget Instructions

	Computational Details/Notes	Hourly Wage	Project Total
1. Salaries & Wages			
Initiative Director	60 days (8 hrs/day)	$20	$9,600
Research Assistants, Phase 1	20 days (8 hrs/day) x 3 research assistants	$15 x 3 RAs	$7,200
Research Assistants, Phase 2	20 days (8 hrs/day) x 8 research assistants	$12 x 8 RAs	$15,360
2. Consultant Fees			
Web Designer	12 days (8 hrs/day)	$100	$9,600
Asst. Web Designer	15 days (8 hrs/day)	$15	$1,800
3. Supplies & Materials			
Microsoft Office		$219	$219
Program Web Hosting		$8/mo.	$96
Tiki-Toki Bronze Account		$8/mo.	$96
4. Total Direct Costs			**$53,479**
5. Total Indirect Costs			
a. rate: 10% of modified total direct costs			**$5,347**
10. Total Project Costs	**$58,826**		