**Digital Timelines**

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Remember those timelines you saw in
your history textbook back in middle school?
Today’s digital timelines do far more than
present a static, linear progression of dates and
names. Online, interactive timelines support
visually rich displays of information—text, images, multimedia, hyperlinks, even geospatial data—using spatial arrangements, categories, and color schemes to convey meaning, which make them ideal platforms for achieving a variety of course goals and objectives. Traditionally, timelines were considered useful for only certain types of time scales, but the interactivity of online timelines allows time-scales to vary substantially — from a single day to decades, a person’s life, or even non-traditional scales like page numbers in a novel. And, thanks to tools like Tiki-Toki and TimelineJS, you and your students can produce your own online, interactive timelines with relative ease, even collaborating on a single, shared timeline.

**Why Use a Timelines-Based Assignment?**

Timeline-based assignments can aid in a variety of learning goals, including:

* **Analyze non-linear relationships.** Students often view history as distinctly linear: Event A happened, then Event B, then Event C. A linear view can make it challenging for students to identify relationships among events. By using spatial arrangements, categories, and color schemes to convey meaning, timelines can help students identify these complex relationships.
* **Develop historical context.** Students sometimes have trouble seeing a particular text or invention or event in its historical context. By visually co-locating events that occurred concurrently in time, timelines can help students contextualize individual events, people, and inventions in relationship with others.
* **Analyze on a micro-, macro-, or mega- scale.** Students sometimes view historical events on only one scale. In using a timeline, students can identify and analyze how seemingly isolated events relate to larger scale history or other micro-macro dynamics, such as local or regional histories in the context of broader national or worldwide events.
* **Focus on details.** Large trends have little details that need to be examined. Use timelines to help your students discover how little details relate to the larger picture.
* **Develop arguments.** Have students select several items from their timeline to develop an argument about change and/or continuity over time.
* **Compare time periods.** Have students examine themes and concepts across two different time periods. An example used in a Religions of Japan course can be found below in the “Timeline as Analysis” section.
* **Document work through proper citations.** Timelines are not just a product in themselves; they can also be a tool to help students learn essential research skills like citations of source material for individual entries.
* **Understand the development of scholarly discourse or historiography.** Undergraduates can be unfamiliar with the idea of academic disciplines as culturally constructed and interpretive. By allowing students to use a timeline to plot the development of scholarly discourse, they can discover how scholars’ understandings of a key figure or subject changes over time.
* **Create a visual literature review.** Much like understanding the development of scholarly discourse, timelines can also allow students to create a visual literature review, with an emphasis on development over time.
* **Visualize change (and continuity) over time *and* space.** Timelines might consider spatial arrangements, as well as temporal ones. A number of tools support mapping both time and space on a common visualization, including [TimeMapper](http://timemapper.okfnlabs.org/), [myHistro](http://www.myhistro.com/%22%20%5Ct%20%22_blank), [Mapbox](https://www.mapbox.com/%22%20%5Ct%20%22_blank), [Neatline](http://neatline.org/%22%20%5Ct%20%22_blank), [StoryMap JS](https://storymap.knightlab.com/), and [American Panorama](http://dsl.richmond.edu/panorama/).

As of this writing (June 2016), there hasn’t been any significant scholarship on teaching with online, interactive timelines — yet. We encourage you to explore ways to not only use timelines in your classroom but write about it too!

**Types and Examples of Timeline Assignments**

Timelines can serve many different purposes in a class, and may even take on multiple purposes. Here are some examples of timeline assignments:

[**Timeline as Archive**](https://cft.vanderbilt.edu//cft/guides-sub-pages/digital-timelines/#item1)

[**Timeline for Analysis**](https://cft.vanderbilt.edu//cft/guides-sub-pages/digital-timelines/#item2)

[**Timeline as Argument**](https://cft.vanderbilt.edu//cft/guides-sub-pages/digital-timelines/#item3)

[**Timeline for Student-Created Content**](https://cft.vanderbilt.edu//cft/guides-sub-pages/digital-timelines/#item4)

**Grading**

There are a few strategies you can use to make grading timeline assignments easier:

* **Light grading vs. evaluative grading.** You might grade timeline entries submitted by students only lightly, checking that certain components (title, description, image, citation, and so on) are included. Or you might assess the quality of timeline entries more rigorously, perhaps using an [analytic rubric](https://cft.vanderbilt.edu/2010/09/tools-for-grading-sample-rubrics-and-spreadsheets/) to differentiate among poor, acceptable, good, and excellent quality work in each component.
* **Grading all entries vs. grading a selection.** You might not grade all entries a student submits to a timeline. You could ask the student to select a set of 3-5 representative entries, or you could select 3-5 entries to grade at random.
* **Grading the timeline vs. grading work based on the timeline.** If you ask students to create a final paper or project based on their timelines, you might grade that final project instead of grading the timeline directly. If you do, it can be helpful to ask students to include a note with their final project explaining how they used the timeline. These notes can help you understand decisions students made not evidence in their final projects.

Regardless of the strategy you choose, you’ll also want to:

* Discuss timeline entries with your students and establish criteria for what makes for a “good” entry. Consider developing a few “model” entries for your students and/or highlighting particularly good entries during class.
* Provide feedback to students about their timelines or entries early in the course. This feedback can take the form of actual grades or could be comments. Some timelines (like Tiki-Toki) allow you and other students to leave positive/negative comments on entries that indicate questions or concerns you may have.

**Other Questions to Consider**

**How do I incorporate the timeline into class time?**

Some suggestions include:

* Display the timeline on the projector during class, and refer to entries as you lecture. Particularly if you noted common themes arising in your students’ entries.
* Encourage students to be creative and include pictures, video, music or other media that relates to the topic in their entries. You can then display or play clips in class.
* Share a few example entries with the entire class and discuss what makes them “good” entries.  There’s also value in having students revise entries during class, perhaps working in groups, or contributing their first entries to a shared timeline during class, when you can troubleshoot.
* Ask students to present elements of their timelines to the class. They can describe the trends they see in their entries, provide some ideas of the analysis they may do in their final paper, or perform some other presentation reflective of the goals you have for the course.

**Should students work collaboratively on a single class timeline or on individual timelines?**

Working collaboratively or independently on a timeline depends on your goals for the assignment. For instance, you may want your students to learn from their peers and construct a timeline that everyone can use (like the example of [Dr. Elizabeth Meadows’ Love and Marriage timeline, above](https://cft.vanderbilt.edu//cft/guides-sub-pages/digital-timelines/#examples)). Alternatively, you may want student to construct individual timelines for use in collecting sources and entries for their self-designed research projects (like the example of [Dr. Ole Molvig in his Scientific Revolutions course, above](https://cft.vanderbilt.edu//cft/guides-sub-pages/digital-timelines/#examples)).

**How private or public should my timeline be?**

Issues around privacy, intellectual property, and audience will need to be considered when having students create or contribute to timelines. You’ll need to decide if the timelines should be limited to only the students in your class or be made public. Sometimes making a timeline public helps to raise the stakes for the students, knowing that anyone could read their work. On the other hand, students may be uncomfortable leaving their name attached to an online work for posterity. You’ll have to weigh these benefits and drawbacks when deciding to make student-generated timelines public or private. For instance, timelines on controversial topics created by first-year undergraduates might need to be private, whereas timelines created by seniors intended to be used by a specific audience (say, high school teachers) should be public.

You will also want to verify your university’s policy regarding online work, and in the United States, their guidelines for adhering to the [Family Educational Rights and Privacy Act](http://www2.ed.gov/policy/gen/guid/fpco/ferpa/index.html) (FERPA). [See here for Vanderbilt’s FERPA resources](http://registrar.vanderbilt.edu/ferpa/). The following guidelines, provided by the [Vanderbilt Institute for Digital Learning](http://vanderbilt.edu/vidl/), may be helpful:

1. Make participation requirements in online assignments very clear in the syllabus at the start of term. Not only will this set participation policies, it allows students to choose to enroll or unenroll in course with full knowledge of course requirements. You may take their continued enrollment as consent regarding your policies.
2. Encourage students to manage their own privacy settings. Giving students the choice of when to use an “alias” and when to publish under their given name not only gives them control of their personal information, it provides an exercise in digital citizenship and literacy.
3. If full participation under a given name is a necessary component of the assignment, have students sign [this consent form](https://cft.vanderbilt.edu/wp-content/uploads/sites/59/Consent-for-Online-Participation.pdf). Using this consent form isn’t required (see point 1 above), but it’s a good practice.

**How are media handled by the timeline tool? Can students upload their own media or must they link to media already on the Web?**

Each of the timelines tools handles media (images, video, audio, etc.) a little differently. Some tools require you to link to media that is already on the Web, while others allow you to upload them from your computer or smartphone. There are some workarounds to situations when a student wants to link to something that doesn’t already exist on the web (such as uploading an image to a image hosting site like Flickr), but you will need to consider if the media is infringing on copyright laws. See the CFT blog post on [Finding Non-Copyrighted Images for Presentations](https://cft.vanderbilt.edu/2013/01/finding-non-copyrighted-images-for-presentations/).

**Deciding on a Timelines Tool or Platform**

There are many different tools to choose from, some commercial others are open-source, including basic time-only tools like [TimelineJS](https://timeline.knightlab.com/), [Tiki-Toki](http://www.tiki-toki.com/), and [Prezi](https://prezi.com/), and tools that combine timelines with geospatial data like [TimeMapper](http://timemapper.okfnlabs.org/), [myHistro](http://www.myhistro.com/%22%20%5Ct%20%22_blank), [Mapbox](https://www.mapbox.com/%22%20%5Ct%20%22_blank), [Neatline](http://neatline.org/%22%20%5Ct%20%22_blank), and [American Panorama](http://dsl.richmond.edu/panorama/).

Regardless of the tool you use, you will want to consider:

* **Learning Goals:** What are your goals for using a digital timeline? Some tools are better at presenting entries linearly (useful for making an argument or telling a story with a timeline), others make categories and tags easy to see (useful for identifying themes and comparing across contexts), and others offer robust search tools (useful when a timeline needs to function as an annotated bibliography).
* **Ease of Use:** How much time will it take you to learn how to use the technology? How much time will it take your students to learn it? Do you need to have programming experience (like for Neatline) or is it designed for the novice user (like Tiki-Toki)?
* **Student Access:** Will your students be able to access the technology while in class? From home? From the library? [Is it accessible for all students in your class, including those with low or no vision or have auditory or other cognitive disabilities](https://cft.vanderbilt.edu/guides-sub-pages/disabilities/)?
* **Maintenance:** How easy is the timeline to maintain and upgrade?
* **Sustainability:**How long will this tool be around? For example, although Tiki-Toki is easy to use, you’re at the mercy of a third party for keeping your timeline up and running during and after the semester. An open-source option like TimelineJS gives you more control, but it also requires more set-up. Also, is it important that the tool allow you to export content for archiving purposes?
* **Costs:** What is the cost of the technology? Some are free, while others use a subscription-based model. Additionally, some need to be installed on a personal or university server, which could be an out-of-pocket expense for the instructor.
* **Interactivity and Collaboration**: What kinds of interactivity (“liking” entries, comments and discussions associated with entries, and so on) does this technology enable? Between student and content? Between student and instructor? Between students? Between student and outside audience?
* **Privacy:** Does your plan for the technology allow students to protect their educational records or maintain certain levels of privacy? Would you be willing to let students use approved pseudonyms?

**Outside the Box: Innovative Use of Timelines**

* **Use non-time elements:** Who says that timelines need to be measured by time? What if you used page numbers in a novel to map a narrative? For example, [Georgetown professor Sarah Stiles’ class created a timeline exploring a non-fiction book](https://blogs.commons.georgetown.edu/blog/archives/723) using Prezi.
* **Create a big timeline.** Assembling a timeline one entry at a time is fine, but what if we could use a bit of programming to import a large number of timeline entries from an existing database of some kind?
* **Span the timeline over multiple semesters.** If you teach a class more than once, you may choose to have students contribute to the same timeline over multiple semesters. This can help your students see many models of what to include and give them more data for final projects. You can also have students edit existing entries to include missing data, citations, and media elements — all lessons in editing they can use for formal assignments. For an example of a multi-semester approach to timelines, see “[A Pedagogy That Spans Semesters](http://chronicle.com/article/A-Pedagogy-That-Spans/236001)” by Benjamin Wiggins, director of digital-learning initiatives and lecturer in history at the University of Pennsylvania.
* **Use the timeline as a presentation.**Use timelines to organize a lecture or have students use it as part of an in-class presentation.
* **Create a timeline outlining a course’s content, readings, and assignments.**Use a timeline to experiment with alternative ways to view the progression of a course’s structure. Plot descriptions of lectures, readings, and other course material on the dates they will be discussed or due in class.

**Additional Resources**

Bruff, D. (2016) “Timelines, EdTech, and Thin Slices of Student Learning.” *Agile Learning* blog. Retrieved from <http://derekbruff.org/?p=3171>.

Groeger, L. (2012). “Some Thoughts on Timelines.” *The ProPublica Nerd Blog: Secrets for Data Journalists and Newsroom Developers.* Retrieved from <https://www.propublica.org/nerds/item/some-thoughts-on-timelines>.


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