

# Intro to Digital Storytelling with Knight Lab Timeline

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Digital Integration Teaching Initiative  
ENGL 2490: Native American Literature

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# Workshop Agenda

- Slides and handouts available at:  
**<https://bit.ly/sp26-engl2490-timeline>**
- Learn about timelines as a mode of conveying data and content
- Questions to consider before building
- Steps for using KnightLab TimelineJS
- Best practices and accessibility concerns
- Considerations for community engagement
- Start building!

For more information: **[Handout: Timeline \(docs.google.com\)](#)**

# Timelines as a Tool

# What is a “timeline”?

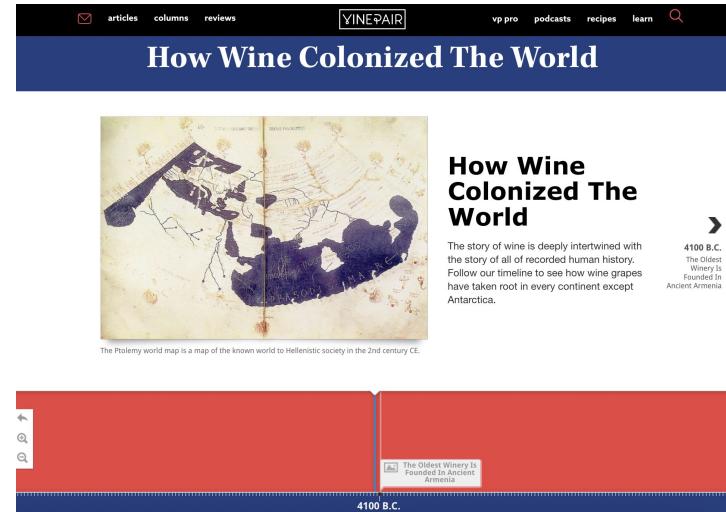
Timelines are useful when you want to situate various points of a process, narrative, or history chronologically. Timelines can help you visualize or represent the progression of time in an ordered and easily understandable way.

- Where have you seen a timeline used before? (In person or digitally)
- How did you interact with it?
- How might it have influenced your experience?

# Data storytelling with timelines

Timelines can be used to tell a variety of stories, supported with chronological data to create a narrative:

- Life stories
- Chronology of related events
- Tracking developments in a topic or singular event
- Examining trends



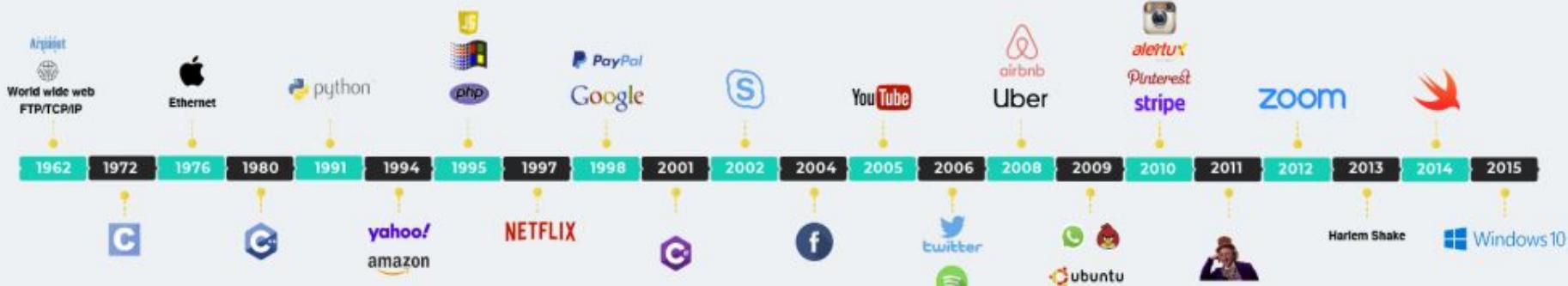
"How Wine Colonized the World"  
timeline from Vinepair

# Timeline Example

Below is a timeline created by a tech company in Dallas, TX., charting significant moments in the history of the internet.

As you view the timeline, here are some questions to consider: **Who is the audience? How is the timeline presented? What is included and what is missing? What would you change?**

Credits: Roberto Palomo / Leonel Valse / Doris Salvador, CC BY-SA 4.0 via Wikimedia Commons



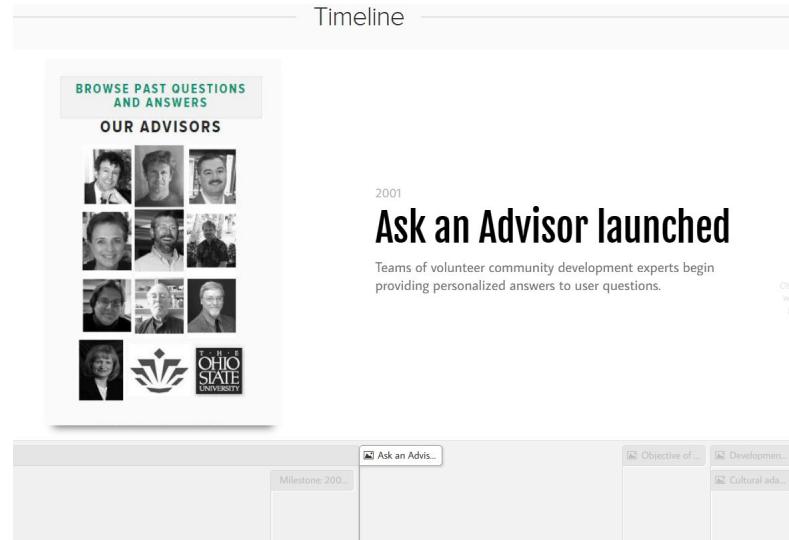
# Components of an Effective Timeline

- Engaging content (not just a list)
- A clear series of events and periods (pick stories with a strong chronological narrative)
- A general theme relating the events to each other
- Media elements

*What might a timeline not be effective for? What should we consider about presenting information in clear chronological order?*

# Components of Community Engaged Timelines

- Timelines are also useful tools for community collaboration and sharing current events/issues.
- For example, check out the University of Kansas's [“Community Tool Box”](#) project. In addition to sharing resources on creating partnerships for community needs, [the organization uses TimelineJS to visualize their history.](#)



# Components of Community Engaged Timelines, Cont.

- Based on the previous example, some components of community engaged timelines may include:
  - Dates of significant events and issues: founding, awards, challenges
  - Images of community partners, leaders, and projects
  - Collaborative work, embedded interviews & videos
  - Credits and links
- Remember the basic principles of community-centered work: [Respect, Reciprocity, Honesty \(library.northeastern.edu\)](#)

# Questions to Consider Before Building

- What story am I trying to tell? What is the message I want to convey?
  - If I am building a collaborative or community-based timeline, does the timeline benefit the community? Are all stakeholders being recognized?
- What are the key events and processes?
- Which items will require additional detail or context?
- What kinds of media will I need? (photographs, text, maps, videos, etc.)

# Questions to Consider Before Building, Cont.

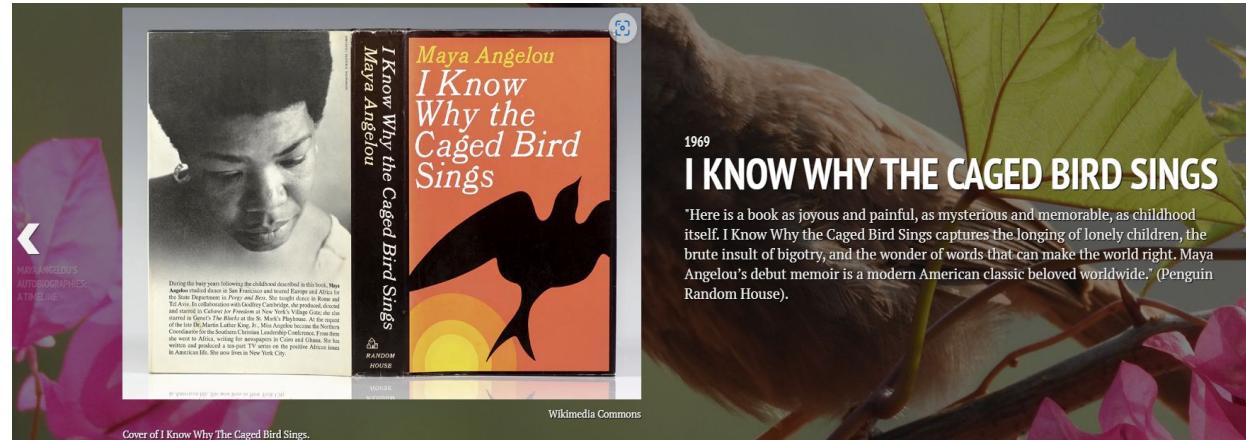
- How can I make my timeline accessible? What considerations need to be made regarding font, color, etc?
- Who is my audience?
  - How can I write for this audience? What are their interests? What knowledge do they have that I can rely on? What will need more definition or explanation?
- Am I omitting context or events intentionally? If so, why?

# Knight Lab TimelineJS Examples

- [Maya Angelou's Autobiographies \(knightlab.com\)](https://knightlab.com/timeline/maya-angelou-autobiographies): Explore the titles, summaries, and dates of publication in chronological order for Maya Angelou's autobiographies.
- [Whitney Houston 1963-2012 \(knightlab.com\)](https://knightlab.com/timeline/whitney-houston-1963-2012): Narrates the life of Whitney Houston through key dates and events.
- [Revolutionary User Interfaces \(knightlab.com\)](https://knightlab.com/timeline/revolutionary-user-interfaces): Traces the development of computers and their increased accessibility, showing the influence of various people and agencies.
- [How Wine Colonized the World \(vinepair.com\)](https://vinepair.com/timeline/wine-colonized-world): Shows how wine grapes have taken root in every continent except Antarctica.

# DITI's TimelineJS Example

[Maya Angelou's Autobiographies \(knightlab.com\)](#): A chronological sequence of Maya Angelou's famous works, such as *I Know Why The Caged Bird Sings* and *Gather Together In My Name*.

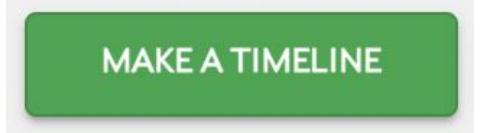


# TimelineJS Demo

*Feel free to ask questions at any point  
during the presentation!*

# Create a Timeline

- Go to <https://timeline.knightlab.com/>
- Click “Make a Timeline”
- You don’t need an account to create a timeline
- Click "Get the spreadsheet template" and follow the instructions to copy it to your Google Drive
- The main place where you build your timeline is Google Sheets, so when you make a copy, the file will be saved in your Google Drive



MAKE A TIMELINE

# Create your spreadsheet

- The first step to making a Timeline will always be building a new Google Spreadsheet by making a copy of the template provided by TimelineJS
- Copy the template to your own Google Drive by clicking “Make a Copy”
- Add in your dates, text, media links
- Note: Don’t make any changes to the column headers, remove any columns, or leave any blank rows

# The end result we're aiming for



Bob Burchette/The Washington Post

Former IRS Commissioner Randolph Thrower



1971

## Commissioner Thrower leads defiance

Nixon fires one of the commissioners, Randolph Thrower. As the story goes, he returns a few years later for a visit to the agency. Employees hear that he's in the building and they stream into the hallways to greet him with applause.



1978

IRS tests for racial discrimination met with protest

*Feel free to ask questions at any point during the presentation!*

# The end result components

**Slide**



**Date**

**Headline**

**Text**

**Image and details**

**Timeline**

**Era**

**1971**

Commissioner Thrower leads defiance

Nixon fires one of the commissioners, Randolph Thrower. As the story goes, he returns a few years later for a visit to the agency. Employees hear that he's in the building and they stream into the hallways to greet him with applause.

1978 IRS tests for racial discrimination met with protest

Commissioner Thrower leads defiance

Tax Reform Act of 1969

IRS verifies pressure from Nixon

Uncomfortable indecision

Technology troubles

IRS tests for racial discrimination met with protest

"Radioactive" tax exempts

Congress nixes testing

IRS rulings slow

Tax returns for church-affiliate

1969 1970 1971 1973 1975 1977 1979 1981 1983 1985 1987 1

*Feel free to ask questions at any point during the presentation!*

# Using the TimelineJS Google Sheet

[Link to copy Official TimelineJS template](#)

Enter data and information into the appropriate cells

TIP: Hovering over the header of a column tells you if the data is optional and what types of information can be entered

Do not change any of the column headers (Timeline needs these to function)

Timeline functions				Display info				Media data & descriptions				Customizations			
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Year	Month	Day	Time	End Year	End Month	End Day	End Time	Display Date	Headline	Text	Media	Media Credit	Media Caption	Media Thumbnail	Type
1															
2															
3															
4															
5															
6															
7															
8															



# Slides

Each row in the spreadsheet is one slide in the Timeline. Every slide represents a different point or period in time. Each slide contains:

- **Headline** and **text**. The text box reads basic HTML.
- A **background image/color**
- **Media**: images, videos, and sound files.
  - Only **one** media file can be uploaded per slide
  - Special columns in the spreadsheet are dedicated to incorporating the media onto the slide

# Dates

- Slides in the final timeline follow the **order of the dates, not the rows**
- You can choose how specific you want to make your dates, but you must enter at least the **year**
- Entering the end date is optional
- The “display date” is useful when the exact date is unknown/unknowable

I	A	B	C	D	E	F	G	H	I
Year	Month	Day	Time	End Year	End Month	End Day	End Time	Display Date	
2011	11	1		2011	12	15			
2011	11	16	05:58:44	2011	11	16	07:30:00		

Feel free to ask questions at any point during the presentation!

# Headlines and text

Headline	Text
Google Spreadsheet Example	This is a test of using google spreadsheets as a source for the timeline tool. This is a 'title' slide, so it doesn't need a date. It automatically occurs first, and doesn't appear in the timeline below.
Another Flickr Example	<a href="#">It's Easy to Make Your Own Timeline</a>
Vimeo Example	<a href="#">Illustrate your Timeline with photos, videos, tweets and more.</a>

Date

Headline



*Feel free to ask questions at any point during the presentation!*

# Adding media (1/2)

- Timeline supports various online media platforms (but you **can't** upload from your computer directly)
- Go to the “[Supported Media Types](#)” list on the KnightLab TimelineJS site to find more information on file types and embedding

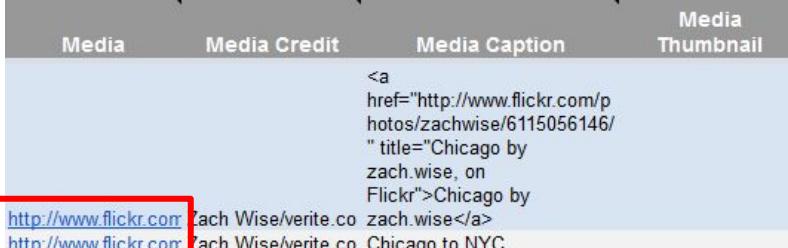
Media	Media Credit	Media Caption	Media Thumbnail
<a href="http://www.flickr.com/photos/zachwise/6115056146/">http://www.flickr.com/</a> <a href="http://www.flickr.com/">http://www.flickr.com/</a>	Zach Wise/verite.co Zach Wise/verite.co	zach.wise</a> Chicago by zach.wise, on Flickr">Chicago by zach.wise</a> Chicago to NYC	
<a href="https://vimeo.com/1234567890">https://vimeo.com/1234567890</a>	Knight Lab	A video about how to make timelines!	
<code>&lt;iframe id="inlineFrameExample" src="https://upload.wikimedia.org/wikipedia/commons/f/f8/Mosaic_of_Theodora_-_Basilica_San_Vitale_%28Ravenna%2C_Italy%29.jpg" style="border: 1px solid black; width: 100%; height: 100%;"&gt;</code>	commons	looking at iframe example	

Using urls

Using <iframe>

# Adding media (2/2)

- **Markup language** (used for writing the content of web pages) can be used to import the media not supported by TimelineJS
- This is done by adding **<iframe>** instead of the URL in the column L: you can find the [model for entry](#)
- You can also use **<blockquote>** markup in the same column to add text next to your media: you can use this [model for entry](#).

Media	Media Credit	Media Caption	Media Thumbnail
<pre> <a href="http://www.flickr.com/photos/zachwise/6115056146/">http://www.flickr.com/</a> <a href="http://www.flickr.com/">http://www.flickr.com/</a>   <a href="https://vimeo.com/14214214">https://vimeo.com/14214214</a> <iframe id="inlineFrameExample" src="https://upload.wikimedia.org/wikipedia/commons/f/f8/Mosaic_of_Theodora_-_Basilica_San_Vitale_%28Ravenna%2C_Italy%29.jpg"></iframe> </pre>	<p>Zach Wise/verite.co Zach Wise/verite.co</p> <p>Knight Lab</p>	<p>&lt;a href="http://www.flickr.com/photos/zachwise/6115056146/" title="Chicago by zach.wise, on Flickr"&gt;Chicago by zach.wise&lt;/a&gt; Chicago to NYC A video about how to make timelines!</p>	

Using urls

Using <iframe>

Ex: markup language used to turn the media caption into hyperlink

# Timeline Types: *Title* vs. *Era*

The **Type** column (P) can be used to activate a few more specialized features.

- If you use the word **title** in this column, then Timeline will use the row as a "title slide," which is shown before all others and does not require a date.
- If you use the word **era** in this column, then Timeline will use the row to label a span of time in the "axis" area of the timeline navigation component. Eras should have start and end dates (at least the year for each) and a headline.

M	N	O	P	Q
Media Credit	Media Caption	Media Thumbnail	Type	Group
Zach Wise/verite.co	<a href="http://www.flickr.com/photos/zachwise/6115056146" title="Chicago by zach.wise, on Flickr">Chicago by zach.wise</a>		title	
Zach Wise/verite.co	Chicago to NYC A video about how to make timelines!			
Knight Lab			era	

Feel free to ask questions at any point during the presentation!

# Groups

- **Group:** text entered in this column acts as a subheading for moments that you want grouped together
- Moments in the same group will appear in their corresponding row at the bottom of the timeline

The screenshot shows the Timeline JS interface. At the top, there's a table with columns: Type, Group, and Background. Two rows are visible:

Type	Group	Background
title	contemporary contemporary	#333333 <a href="https://upload.wikimedia.org/wikipedia/commons/thumb/0/0d/Contemporary_Music_Boxset_1980s.jpg/1280px-Contemporary_Music_Boxset_1980s.jpg">https://upload.wikimedia.org/wikipedia/commons/thumb/0/0d/Contemporary_Music_Boxset_1980s.jpg/1280px-Contemporary_Music_Boxset_1980s.jpg</a>
title	historical	

A red box highlights the "historical" entry in the Group column. A red arrow points from this box down to a "Timeline" video player on the right. The video player has a title "historical Timeline" and a subtitle "Easy-to-make, beautiful timelines." It includes a "Make a Timeline" button and a "vimeo" logo.

At the bottom of the timeline, there are two rows of moments: "CONTEMPORARY" and "HISTORICAL". A red box highlights the "HISTORICAL" row, and a red arrow points from it to a white box containing the word "Groups".

# Background

You can customize your background with a color or an image.

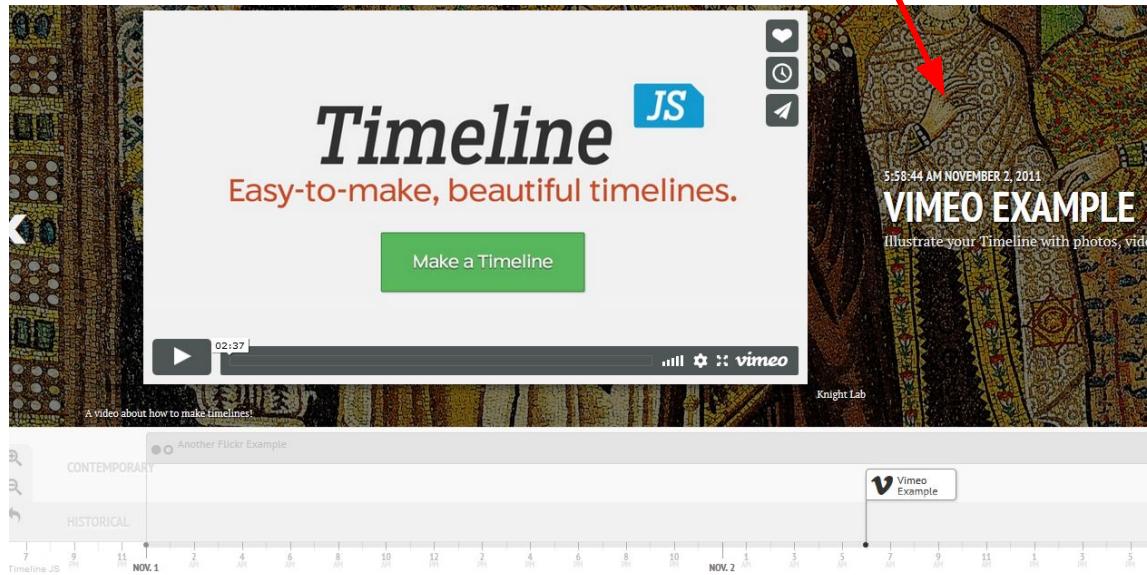
You enter a color by its **hex code** (#333333 in the example on the right).

You can Google a color name, or browse [HTML color codes](#).

Type	Group	Background
title	contemporary	#333333
title	contemporary	<a href="https://upload.wikimedia.org/wikipedia/commons/5/5d/Alhambra_Mosaic_01.jpg">https://upload.wikimedia.org/wikipedia/commons/5/5d/Alhambra_Mosaic_01.jpg</a>
era	historical	
	historical	

Using CSS color names for background

Using image URL for background

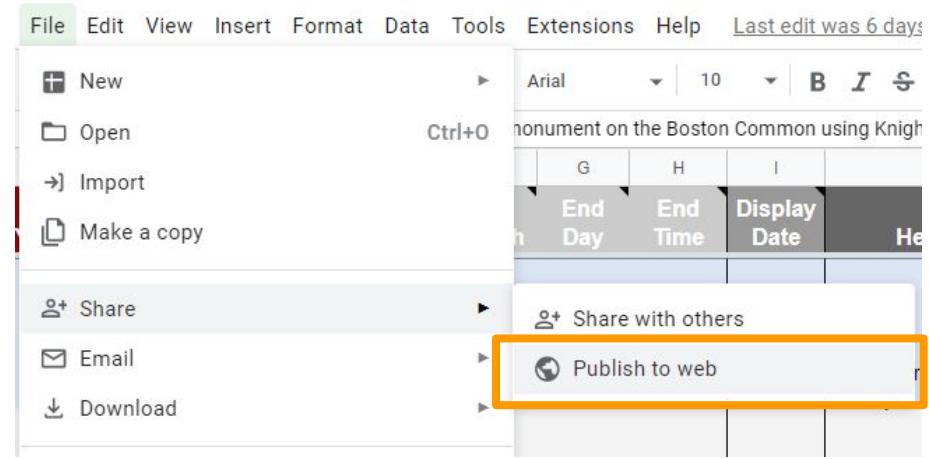


# 2.1: Publish to the Web

In your spreadsheet go to:

**File > Share > Publish to web**

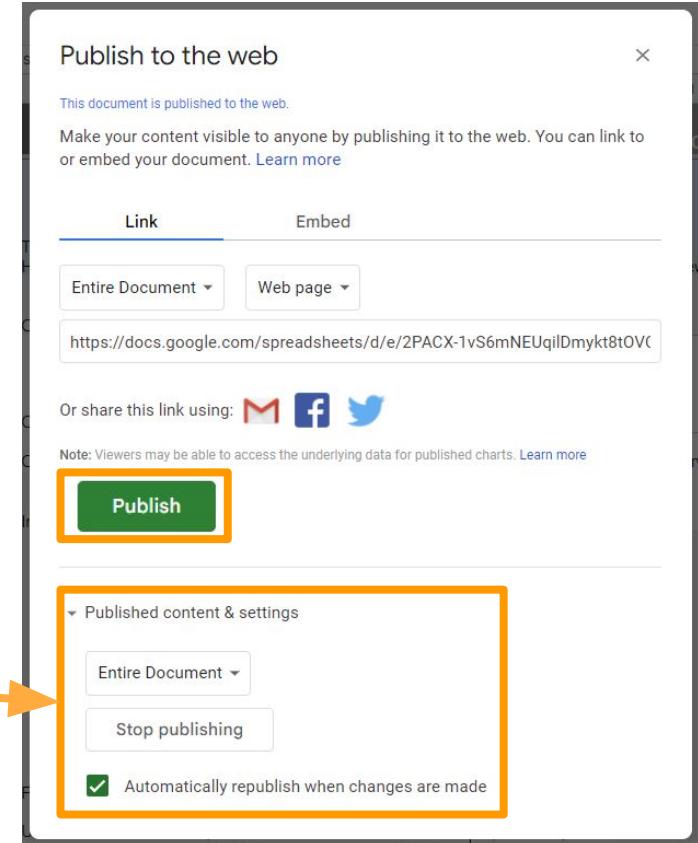
Tip: Only adjust the sharing settings if working in a group.



## 2.2: Publish to the Web

In the new window click Publish

In the dropdown menu, make  
sure **Automatically republish**  
**when changes are made** is  
checked



## 2.3: Publish to the Web

Copy this Publish link.



The screenshot shows the "Publish to the web" dialog box. At the top, it says "This document is published to the web." Below that, it says "Make your content visible to anyone by publishing it to the web. You can link to or embed your document. [Learn more](#)". There are two tabs: "Link" (which is selected) and "Embed". Under the "Link" tab, there are two dropdown menus: "Entire Document" and "Web page". Below them is a text input field containing the published link: <https://docs.google.com/spreadsheets/d/e/2PACX-1vS6mNEUqilDmykt8tOVc>. This entire section is highlighted with an orange border. Below this, it says "Or share this link using:" followed by icons for Gmail, Facebook, and Twitter. A note below says "Note: Viewers may be able to access the underlying data for published charts. [Learn more](#)". A large green "Publish" button is centered. At the bottom, there's a section titled "Published content & settings" with a "Entire Document" dropdown, a "Stop publishing" button, and a checked checkbox for "Automatically republish when changes are made".

# 3.1: Generate your Timeline

Return to [timeline.knightlab.com](https://timeline.knightlab.com)

Paste the URL you copied into the box

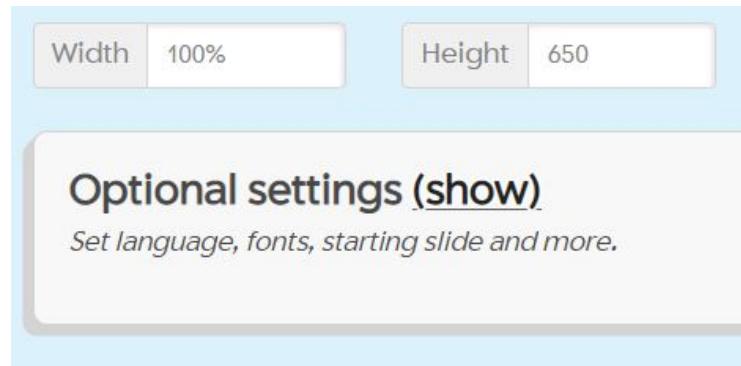


## 3.2: Generate your Timeline

**Width** is a percent of total screen size

**Height** is measured in pixels

Use the **Optional settings** for high-level customizations



### Things to Consider:

Which fonts might be appropriate for your audience?

What zoom level best shows your information?

Should your timeline's navigation be on top or at the bottom?

# 4: Share Link

After choosing the settings you want, the links below will update automatically.

Copy the top option to share your timeline on its own.

Use the bottom option only if embedding in a website.

**Share Link**  
Use this to link directly to your timeline.  
*If you're embedding on Medium.com or other oembed-aware services, just paste this link on a line by itself where you want your timeline to appear.*

```
https://cdn.knightlab.com/libs/timeline3/latest/embed/index.html?  
source=1xuY4upIooEeszZ_1CmeNx24eSFWe0rHe9ZdqH2xqVNk&font=Default&lang=en&initial_zoom=2&height=100%
```

**Embed**  
Copy this embed code and paste it on your site where you want your timeline to appear (just like a YouTube video).

```
<iframe src="https://cdn.knightlab.com/libs/timeline3/latest/embed/index.html?  
source=1xuY4upIooEeszZ_1CmeNx24eSFWe0rHe9ZdqH2xqVNk&font=Default&lang=en&initial_zoom=2&height=100%"  
width="100%" frameborder="0"></iframe>
```

[Preview](#) [Open Preview in a new window](#)

# Best Practices and Accessibility

# Best Practices

- Think carefully about the **audience** you are trying to reach with your timeline. This will impact your language and the media that you choose.
- Think also about the **tone of the timeline**: the visual style of TimelineJS can be seem very upbeat and informal, and that may not match the content you are sharing (think, for example, about changing colors or fonts)
- **Test your timeline** after you have created it, to make sure that all the narrative points flow and that the language is clear and concise

# Community Engaged Best Practices

- If your timeline is community-centered, make sure to **engage in respectful and collaborative practices**. This may include:
  - Crediting all participants for their work
  - Ensuring privacy and protocols are respected
  - Building relationships with community members based on trust
- For more guidance, check out these links sourced by Dipa Desai:
  - [Principles of Anti-Oppressive Community Engagement for University Educators and Researchers \(northeastern.edu\)](#)
  - [Reckonings Project Interview Toolkit \(reckoningsproject.org\)](#) (if your timeline will involve this type of media)

# Consider accessibility concerns

Interactive multimedia is frequently effective, but not always accessible to all users. Take time to make your project as accessible as possible:

- Add rich textual descriptions which complement images/media
- Choose colors with high contrast for backgrounds and text
- Communicate information in ways beyond color differences
- Include transcripts of embedded audio
- Provide descriptive links ([more TimelineJS resources](#), NOT [click here](#))

[WAVE Accessibility Tool](#): shows the underlying structure of web pages

[Color Contrast Checker](#): clarifies accessible levels of color contrast

[DITI Handout on Accessibility](#): more info on accessible practices

# Timeline's Data Privacy FAQs (1/2)

- KnightLab Timeline provides information on the data and privacy of your work on their [FAQs page](#) (copied below).
- **Who can access the data in my Google spreadsheet?** You must make the data public to the web to use TimelineJS with a Google Spreadsheet as the data source. Normally, the data is still only visible to people who know the link, so if you publish a timeline privately, outsiders are unlikely to see the data. However, it is still public, so you must decide if that is acceptable.

# Timeline's Data Privacy FAQs (2/2)

- **Privacy is very important to me. How should I use TimelineJS?** If you want complete control over who can see the information in your timeline, you cannot use Google Spreadsheets, and you cannot use our standard **iframe** embed code. Instead, you must use JSON format for the data and instantiate the timeline directly using javascript. You can then use standard web server security measures to control who has access to your timeline and the data used to create it.
- **Will my spreadsheet get picked up by search engines?** Under normal circumstances, Google tells search engines not to index spreadsheets which are published to the web. Of course, if the page is public on the web, it is possible that a search engine will disregard those instructions.

# Your Turn!

Think about your favorite author and the books they have written. Based on the chronological order of the books (either by publication date or in a series):

Create a timeline which:

- Has at least 4 slides
- Includes 2 forms of media (start with [Wikimedia Commons  
\(wikimedia.com\)](https://commons.wikimedia.org))
- Changes the background for at least 1 slide
- Uses the 'group' feature
- Optionally, create 1 'era' in your timeline
- Examples of some authors and series: R.L. Stine's *Goosebumps* series, Rick Riordan's *Percy Jackson* series

# For Further Exploration

[DITI Handout on Timeline](#)

[DITI Handout: Copyright and Fair Use](#)

[DITI Handout on Accessibility](#)

[DITI Handout on Data Ethics](#)

[DITI Handout on Data Privacy](#)

[DITI Handout on HTML](#)



# Thank you!

—Developed by Claire Lavarreda, Ana Abraham, Chris McNulty, and Benjamin Grey, Shannon Peifer & Emily Sullivan

Slides and handouts available at: <https://bit.ly/sp26-engl2490-timeline>

- For more information on DITI, please see: <https://bit.ly/diti-about>
- Schedule an appointment with us! <https://bit.ly/diti-meeting>
- To give us feedback: <https://bit.ly/diti-feedback>
- If you have any questions, contact us at: [nulab.info@gmail.com](mailto:nulab.info@gmail.com)

