Originally developed by Rachel Arteaga in collaboration with Rebecca Kilpatrick, Andrew Archer, and Peter Gallo. For project information, see spartrees.wordpress.com.

Teacher Notes: Digital Humanities Lesson Plan
Originally designed for: 7th – 12th Grades · Computer Lab · Nonfiction · Digital Narrative Mapping
Note: this lesson plan supports instruction for CCSS RI.1 and CCR Anchor Standards for Reading 7

Thank you for participating in this pilot project! These materials are entirely open access. You are encouraged to share, adapt, and revise them as you see fit.

Note that the digital humanities (DH) definition provided on the lesson handout is all you and your students should need to get started. However, more information is available on the project website in the form of a one page, accessible overview: http://spartrees.wordpress.com/digital-humanities/

StoryMap requires a google account.

Note: because I wrote the handout to cover grades 7-12, you may want to make changes to the expectations of each grade. The most efficient way to do that would be to expect the 12th graders, for example, to include 5 locations instead of 3, etc.

Lesson Rationale and Student Learning Goals:

- Review and reinforce learning goals emphasized by teacher in previous class discussions
- Use the story maps as new objects for reading and discussion
- Provide a shared platform and visualization method for students to use for presentations of different books across grade levels and individual interests

Digital Humanities Tool: StoryMap: http://storymap.knightlab.com/
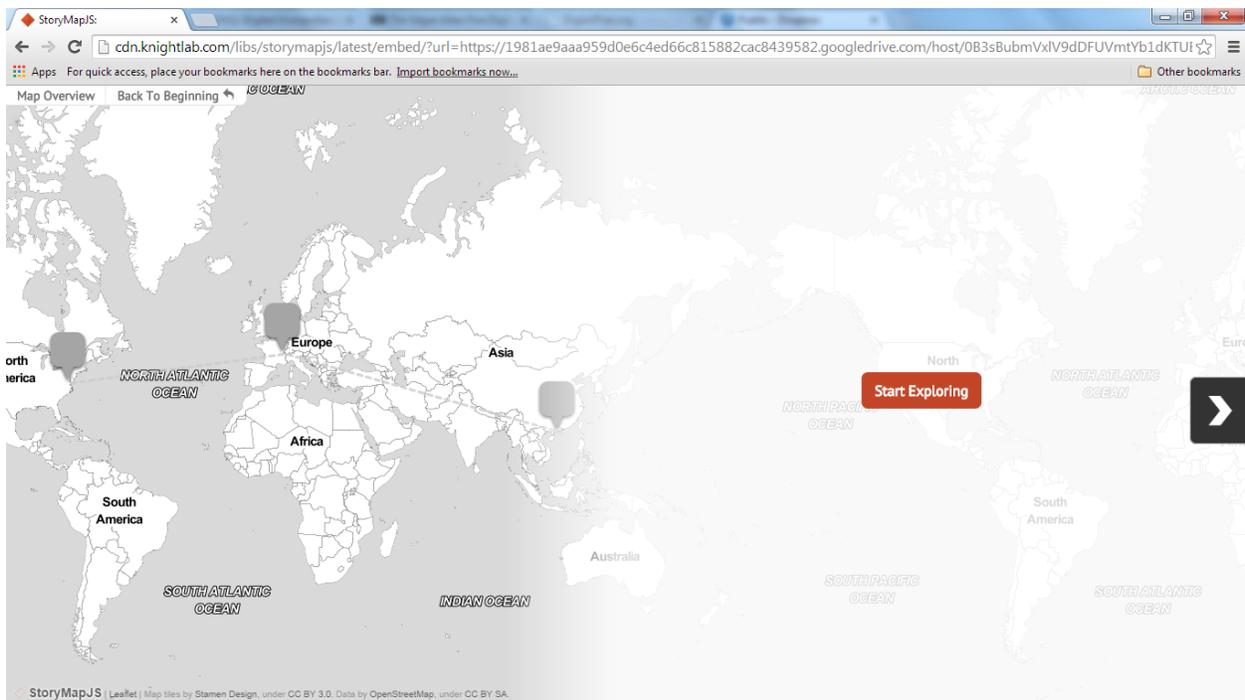
Introduction to Digital Humanities: Digital Narrative Mapping

The **digital humanities** (DH, for short) help us study subjects related to human culture, like English and History, by using computer programs. For example, we can use computers to help us read nonfiction. This handout will give you instructions for using a DH tool to map out the locations and movement in a book. The tool is called **StoryMap.**

Digital Narrative Mapping

First, we need to define our terms. Digital mapping is a way to visualize the places in a book (setting) and the movement or journeys taken by the characters. In a nonfiction book, mapping the setting and connecting the places can help us better understand the structure of the story the writer is trying to tell. It can also help us to think about space and time in a story. StoryMap lets you make a digital map with links and pictures, and share it.

Preparing to make your StoryMap

First, you'll want to take some notes on the book you are reading. What is the setting of the book? Choose three locations that are important to the book – countries, states, cities, landmarks – and write them down.

1.
2.
3.

Making your StoryMap

1. Go to the StoryMap homepage: http://storymap.knightlab.com/
2. You will be prompted for a google account. Ask your instructor for details.
3. What type of story do you want to create? Click Map
4. Name your map using the title of your nonfiction book and your initials for your instructor to identify you
5. A new screen will appear with many features. On the left side, click "add slide" three times
6. Click on each slide and in the "HEADLINE" field type in the name of a location (repeat three times!)
7. On each slide, move the red map pin to the location matching that slide
8. On each slide, beneath the headline, write what happens in your book at that location
9. On each slide, add a link to a trusted source that gives more information about the location. You can also upload images from your computer to show more visual information about the location.
10. Now click the tab at the top that says "Preview" – you can see your StoryMap all in one place, with details
11. Remember to save your work using the "save" button in the top left hand side
12. To share your work, click the "share" button in the top right hand side and copy the link
13. Show your StoryMap to your peers and instructor. Does it help you better understand the book? Why or why not? Does the map give you a different way of thinking about space and time in the book?

Questions for Discussion: Conclusion:

- Now that you have read the book yourself, and used a computer program to help you read it in new ways, what do you think are the advantages of both strategies? What is best about reading the story yourself – perhaps this is something that the computer can't offer – and what is best about using the tool? In other words, what are the strengths and weaknesses of both?
- If you could make a computer program that could change the way we read, what would it do?

Teacher Notes: Digital Humanities Lesson Plan
Originally designed for: 9th Grade · Computer Lab · Reading Fiction · Sentiment Analysis
Note: this lesson plan supports instruction for CCSS RL.1 and CCR Anchor Standards for Reading 7

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The digital humanities tool used in this lesson plan is a demo page on the Stanford Natural Language Processing (NLP) Group page. It allows a reader to type or paste a small excerpt of a text into the browser, then it gives a text analysis of the mood of the excerpt based on the range of words it contains. In other words, this tool attempts to assess the emotional content of a text. It uses five classes of sentiment: very negative, negative, neutral, positive, and very positive. The sentence "I am so happy today!" is read by the tool as "very positive," while the sentence "I am so sad today!" is interpreted as negative, and so on. Of course, literary texts are much more complicated, and this is where things become interesting.

Lesson Rationale and Student Learning Goals:

- Review and reinforce learning goals emphasized by teacher in previous class discussions
- Use the sentiment analysis charts as new objects for reading and discussion
- Connect prior reading comprehension and discussion of texts to the sentiment analysis charts

Primary text available online: *Of Mice and Men* by John Steinbeck
http://www.kgbsd.org/cms/lib3/AK01001769/Centricity/Domain/664/Of_Mice_and_Men_-_Full_Text.pdf

Digital Humanities Tool: Sentiment Analysis by Stanford Natural Language Processing (NLP) Group
http://nlp.stanford.edu:8080/sentiment/rntnDemo.html
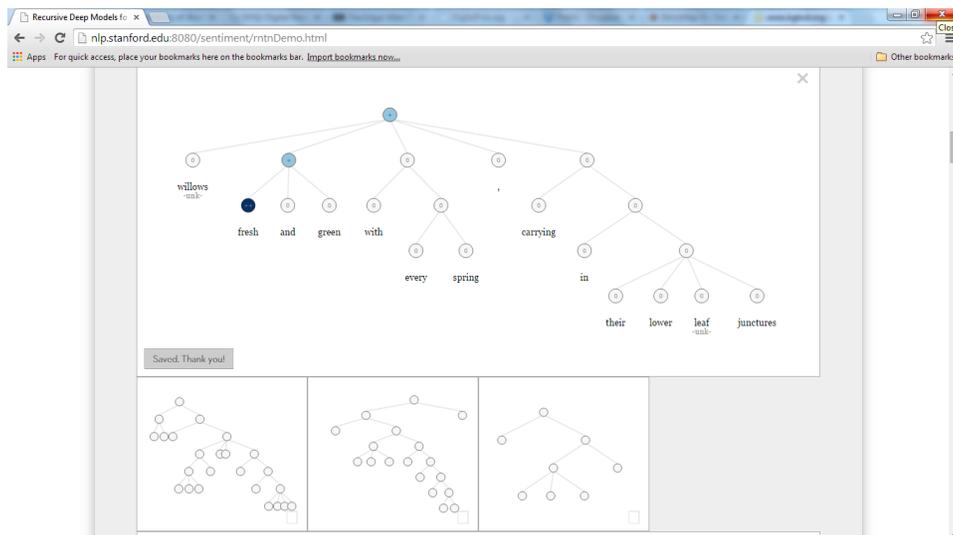
Introduction to Digital Humanities: Sentiment Analysis

The **digital humanities** (DH, for short) help us study subjects related to human culture, like English and History, by using computer programs. For example, we can use computers to help us read fiction. This handout will give you instructions for using a DH tool to make charts of the emotions of a story. The tool is called **sentiment analysis.**

Sentiment Analysis
First, we need to define our terms. Sentiment analysis is a tool that asks the computer to read words and tell us what type of emotions they express. This tool can only tell us if these emotions are more positive or negative.

You can use the Stanford Sentiment Analysis tool to determine whether the emotions in the story are mostly positive or mostly negative. Before you start, answer this question:

Based on your reading of the entire novella *Of Mice and Men* by John Steinbeck, would you say that the book expresses mostly positive emotions or mostly negative ones? Why? In your answer, use evidence from the book.

1. Go to the Stanford Sentiment Analysis demo page:
   http://nlp.stanford.edu:8080/sentiment/rntnDemo.html
2. Copy and paste this excerpt from the beginning of the novella into the screen:

   For a moment the place was lifeless, and then two men emerged from the path and came into the opening by the green pool.

3. Click "submit"
4. Notice that the sentiment charts that pop up in the next screen give a color to each word. If there is no color, then the program thinks that the word is "neutral" or without emotion. The more blue the color, the more positive the emotions the word makes us feel. The more red, the more negative emotions. The highest colored circle on the chart is what the program thinks of the whole phrase. So, the phrase above is light red, or somewhat negative, overall. Do you agree?
5. If you disagree with the program's results, and you want to change a word's color, click on the circle above the word. Change the color to the one you think is more accurate. Then click on the check mark to save it. For example, you might think that "lifeless" is very negative. Make it dark red, and save your work!
6. Once you have changed the colors to match your interpretation of the emotions of the sentence, print the page (just the first page, because the comments below are not important to your work) or save the page as a pdf. If you don't save your work by printing or creating a pdf, it will be lost.
7. Go back to the original link. Copy and paste this excerpt from the end of the novella into the screen: George shivered and looked at the gun, and then he threw it from him, back up on the bank, near the pile of old ashes.
8. Click "submit"
9. Repeat the instructions above, then discuss!

Questions for discussion:

- Do you think that the overall feeling of the story was mostly positive or mostly negative?
- Do these sentences from the story express mostly positive or negative emotions? Why?
- Which parts of the sentiment charts did you think were accurate? Which did you change? Why?

Questions for discussion: conclusion:

- Now that you have read the book yourself, and used a computer program to help you read it in new ways, what do you think are the advantages of both strategies? What is best about reading the story yourself – perhaps this is something that the computer can't offer – and what is best about using the tool?
- If you could make a computer program that could change the way we read books, what would it do?

Teacher Notes: Digital Humanities Lesson Plan
Originally designed for: 9th Grade · Chromebooks · Short Stories · Google Ngrams
Note: this lesson plan supports instruction for CCSS RL.1 and CCR Anchor Standards for Reading 7

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Note that the digital humanities (DH) definition provided on the lesson handout is all you and your students should need to get started. However, more information is available on the project website in the form of a one page, accessible overview: http://spartrees.wordpress.com/digital-humanities/

The digital humanities tool used in this lesson plan is introductory, and you may have already heard about or used it yourself. Google Ngrams produces a timeline charting the frequency of any words you choose during any time period you choose based on the vast digital library Google has created. This tool may seem simple, even "just for fun" – and it is fun – but, it also echoes the most advanced scholarship in digital humanities today. The learning goals for this lesson plan help the students move from the fun part to the rigorous analysis part of what is made possible by DH.

Lesson Rationale:

- Review and reinforce learning goals emphasized by teacher in previous class discussions
  - Angelou: making predictions and inferences
- Introduce students to the term "digital humanities," and to Ngrams
- Use the timeline charts as new objects for analysis and discussion
- Connect prior reading comprehension and discussion of texts to the charts

Student Learning Goals:

- Learn the term "digital humanities" and understand Ngrams as part of the field
- Use Ngrams to produce timeline charts and note the quantitative aspect of the tool
- Gain a new perspective on and deeper comprehension of the assigned primary texts

Primary text available online: "New Directions" by Maya Angelou
http://www.nexuslearning.net/books/holt_elementsoflit-3/Collection%204/new%20directions.htm

Digital Humanities Tool: Ngrams: https://books.google.com/ngrams
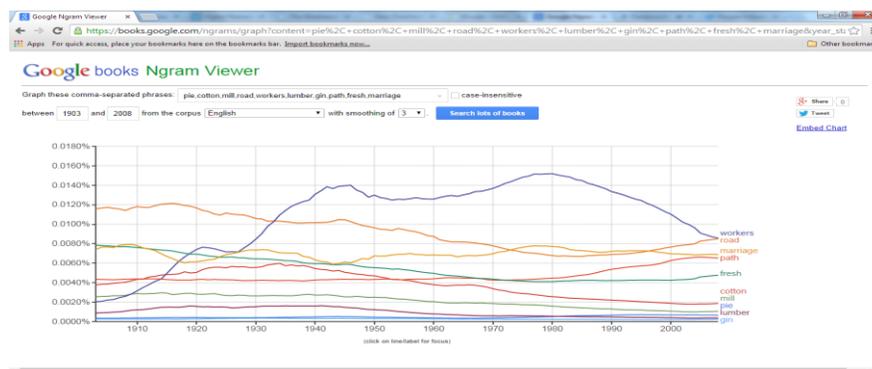
Introduction to Digital Humanities: Google Ngrams

The **digital humanities** (DH, for short) help us study subjects related to human culture, like English and History, by using computer programs. For example, we can use computers to help us read short stories.

This handout will give you instructions for using a DH tool online to make timeline charts. The tool is **Google Ngrams**.

Google Ngrams

First, we need to define our terms. An "Ngram" is a continuous unit of language. This means that it can be a word, a phrase, a single letter, and so on. Instead of calling these units "words," we have the word "Ngram" to show that the unit might be less or more than a whole word. When you search for these units in the Google Ngram viewer, it creates a timeline chart based on all of the many thousands of books in its digital library.

You can make timeline charts using the prominent words from the story as your Ngrams:

1. Go to https://books.google.com/ngrams
2. Delete the examples in the google search box after the words "Graph these comma-separated phrases:"
3. Type in your words there. For "New Directions," you might choose a list like this one:
   pie,cotton,mill,road,workers,lumber,gin,path,fresh,marriage
4. In the boxes for "between" and "and" choose two years for your starting and ending points. Google Ngram viewer tracks words from anytime between 1800 and 2008. For "New Directions," you might choose 1903-2008, because based on the first line of the story, the story takes place in 1903.
5. The word "corpus" simply means a big library full of books. In this case, that library is the digital library that Google has made and shared with us. You will notice that the drop down menu shows that there is a corpus available for many other languages than English. You can search terms in these languages as well.
6. When you change the "smoothing" number, you can see that there will be more jagged lines the smaller the number is, and smoother lines the larger the number is. This is basically the same effect of "rounding up" numbers from their decimals. You've done this in your math classes, for example, when you round up from 9.7 to a smooth 10.
7. The best way to save your timeline is to print it out. Otherwise, when you clear the fields, you start again.

Questions for Discussion:

- Which words are used most frequently during the time span you chose? In other words, which words are attached to the top lines on the chart? Which are the least frequently used? So, the bottom lines?
- Are there any words that are used more often earlier in the century, and less often later? What do you think this means?
- Some people have used Google Ngram viewer to track two different words that have a similar meaning. In the example list above, the words "road" and "path" are similar. Are they used at the same rate? Do they overlap? What do you think this means?
- Think about the language used in the story. Using your own knowledge of the world, did the story sound like it was set in the year 1903, over 100 years ago? Would using the Ngram viewer help us to know that, for example, if Maya Angelou had not told us the year?

Questions for Discussion: Conclusion:

- Now that you have read the stories yourself, and used a computer program to help you read them in new ways, what do you think are the advantages of both strategies? What is best about reading the story yourself – perhaps this is something that the computer can't offer – and what is best about using the tools? In other words, what are the strengths and weaknesses of both?
- If you could make a computer program that could change the way we read stories, what would it do?

Teacher Notes: Digital Humanities Lesson Plan

Originally designed for: 9th Grade · Chromebooks · Short Stories · Wordle Word Clouds
Note: this lesson plan supports instruction of CCSS RL.1, RL.4, and RL.7

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The digital humanities tool used in this lesson plan is introductory, and you may have already heard about or used it yourself. Wordle makes word clouds instantly from any text that you copy and paste into your web browser. This tool may seem simple, even "just for fun" – and it is fun – but, it also echoes the most advanced scholarship in digital humanities today. The learning goals for this lesson plan help the students move from the fun part to the rigorous analysis part of what is made possible by DH.

Lesson Rationale:

- Review and reinforce learning goals emphasized by teacher in previous class discussions
    - Angelou: making predictions and inferences
- Introduce students to the term "digital humanities," and to word clouds
- Use the word clouds as new objects for analysis and discussion
- Connect prior reading comprehension and discussion of texts to the word clouds

Student Learning Goals:

- Learn the term "digital humanities" and understand word clouds as part of the field
- Create word clouds and see the quantitative aspect of their design
- Gain a new perspective on and deeper comprehension of the assigned primary texts

Primary text available online: "New Directions" by Maya Angelou
http://www.nexuslearning.net/books/holt_elementsoflit-3/Collection%204/new%20directions.htm

Digital Humanities Tool: Wordle: http://www.wordle.net/
Note: tech requirement: Wordle requires a Java plug-in.
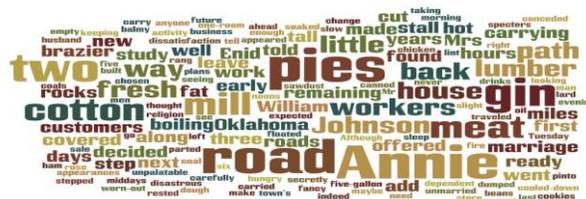
Introduction to Digital Humanities: Word Clouds

The **digital humanities** (DH, for short) help us study subjects related to human culture, like English and History, by using computer programs. For example, we can use computers to help us read short stories.

This handout will give you instructions for using a DH tool online to make word clouds. The tool is **Wordle**.

Before we get started, let's do a quick memory exercise. Without looking at the story you read for class, take one minute to write down the words or concepts you remember most strongly from it. We will return to this after you make your word clouds.

"New Directions" by Maya Angelou Words I remember most:	Important ideas from the story I remember most:

Making Word Clouds
Go to www.wordle.net and answer the following question based on what you see on the first page. When you have an answer, share it with the class.
What is a word cloud?   _____

1. Go to www.wordle.net and click "create"
2. Open a new tab or window in your web browser. Go to the online copy of "New Directions" http://www.nexuslearning.net/books/holt_elementsoflit-3/Collection%204/new%20directions.htm and highlight all of the text on the page (except for the words "click here to navigate…etc."). After you have highlighted the text, either right click your mouse and select "copy" or hit CTRL+C on your keyboard.
3. Go back to the Wordle "create" page that you opened. In the box, right click and select "paste" or hit CTRL+V on your keyboard.
4. Click "Go" on the Wordle "create" page
5. A word cloud should appear
6. You can use the Language, Font, Layout, and Color tabs in the top left hand side of the screen to change the way the word cloud looks
7. If you want to remove a word from the cloud, right click on the word (for example, the word "the" is sometimes very prominent and distracting, and you might want to remove it)
8. Show your word cloud to your peers and teacher! What do you notice about it?
9. The best way to save your word cloud is to print it. Otherwise, you will have to start again.
10. To make a word cloud for a different story, copy and paste it into another Wordle "create" page.

Questions for Discussion:

- Which words are most prominent? In other words, which words stand out to you visually? Write them down here:
- Do these words match up with the words you wrote down for the memory exercise?
- Wordle shows the words used *the most often* in a story. How does this help us understand the story?
- In class, you looked for significant details in "The Washerwoman." Does the word cloud give you different answers to which details are significant in the story? The same answers?
- In class, you practiced making predictions and inferences while reading "New Directions." Do you think that your predictions would have changed if you had seen the word cloud before reading the story?

Questions for Discussion: Conclusion:

- Now that you have read the stories yourself, and used a computer program to help you read them in new ways, what do you think are the advantages of both strategies? What is best about reading the story yourself – perhaps this is something that the computer can't offer – and what is best about using the tools? In other words, what are the strengths and weaknesses of both?
- If you could make a computer program that could change the way we read stories, what would it do?