

The Future of Reading

Process Book

Corinna Sherman →

The task

Create a digital, self-running movie on the future of reading.

Along with my graduate studio classmates, I started by talking with Carnegie Mellon faculty from the English department about their thoughts and studies on reading. Our discussion touched on topics such as reading as a social act, repetition in reading, reading as a designed experience, and reinterpretations of texts by multiple individuals. I was particularly intrigued by the notion of reading as a reflective activity and began to ponder the ways in which technology helps and hinders reflection on what we read.

Guest Lecturers on Reading

- Linda Flower, Reading & writing (from writer's POV)
- Karen Schmalenberger, Professional & Technical writing
- William Alba, Director of Science/Humanities Scholars Program
- Suguru Ishizaki, Communication with (Visual + Verbal) together

representation — words — written (text) — imagination retelling, making connections to prior knowledge network
 spoken — performance (planned)
 dialogue (impaired) — on paper — on screen
 hand — machine — static — kinetic — interactive

- modes of knowing
 - prior knowledge driving understanding
 - imagery provides context that boosts comprehension more so than text alone
 - schemes people use to represent what they read
 - how do experts communicate knowledge to non-experts?
 - motivations, goals, prior knowledge people bring to their reading experience
 - meaning resides in the minds of writers and readers, not in the text
 - individuals read differently in different situations (situations)

LF: Target people's misunderstandings and the empirical work.
 - how to invoke the appropriate prior knowledge in the reader? (So they focus on the right issues)
 WA: Repetition in reading and of reading does not work for every text. Some are better suited to multiple reads.
 - Characters can embody some desire or dream

reading + meaning + memory

... already knows, the writer assumes the
 They are presumably part of the same community.

SI: - When do you feel the author's presence?
 How can we design the reading experience?

Multiple Pathways of Communication
 Human Expressions
 - experts vs non-experts
 - intercultural communication

Revising the Communication Periodically
 - to keep up with cultural, scientific, social changes

- Altering subsequent communication based on intermediate feedback from readers

Guide/entice readers into more thoughtful reflection during reading
 - TV news burbs VS NPR analysis (what + how) (why)

Evaluating credibility of

- Memory of argument is structural. Ideas occurred gets lost in the interface. Visual structure of ideas
 - Readers' notes get added to source doc and can inform/add to subsequent r
 - blog comments (threaded by topic)
 - wikis
 - Genres emerge out of social + tech context
 - Showing & hiding info at different times for space, clarity, comprehensive views
 - over dependence on maps? Divides are not always necessary, but after changing expectations, might they be? (Who remembers phone #s, driving directions anymore?)
 - Multiple interpretations of a...
 Contributed by...
 perspective

Research

Sources consulted:

“Ways of Reading: Interacting with Text”

Richard Buchanan, 2002

“Studying Cooperation and Conflict between Authors with history flow Visualizations”

Fernanda B. Viégas, Martin Wattenberg, Kushal Dave

CHI 2004

“Curling Up With Hybrid Books, Videos Included”

Motoko Rich, September 30, 2009

http://www.nytimes.com/2009/10/01/books/01book.html?_r=2&hp

“Kindling under the Covers”

PBS Frontline’s digital_nation: life on the virtual frontier

<http://www.pbs.org/wgbh/pages/frontline/digitalnation/living-faster/split-focus/kindling-under-the-covers.html>

“Reading More, Learning Less”

PBS Frontline’s digital_nation: life on the virtual frontier

<http://www.pbs.org/wgbh/pages/frontline/digitalnation/learning/literacy/reading-more-learning-less.html>

“Human 2.0”

PBS Frontline’s digital_nation: life on the virtual frontier

<http://www.pbs.org/wgbh/pages/frontline/digitalnation/living-faster/where-are-we-headed/human-20.html>

“Does the Brain Like E-Books?”

NYTimes.com, October 14, 2009

<http://roomfordebate.blogs.nytimes.com/2009/10/14/does-the-brain-like-e-books/>

“How big is the Internet?”

Stephen Abram, August 2009

http://stephenslighthouse.sirsidynix.com/archives/2009/08/how_big_is_the.html

Virginia Woolf, the intellectual, and the public sphere

Melba Cuddy-Keane

Transliterations Project:

Research in the Technological, Social, and Cultural Practices of Online Reading

<http://transliterations.english.ucsb.edu/category/collective-reading>

Google Wave

<http://wave.google.com/>

I ventured deeper into research to find out more about the past, present, and future of reading. Richard Buchanan presented four ways of reading – topical, interpretative or semantic, thematic, and systematic or philosophic – underscoring the complexity inherent in the act of reading. Exploring the topic from educational, journalistic, and consumer perspectives, I learned about new reading devices, trends in reading behavior, and the nature of collective reading. My sources ranged in form from physical pages to digitally scanned books to text-based websites to online videos accompanied by reader commentaries. The sheer variety of what I found inspired me to imagine what capabilities books might provide in the future. The research phase concluded with my writing a one-page project proposal focusing on the visualization of a future reading experience.

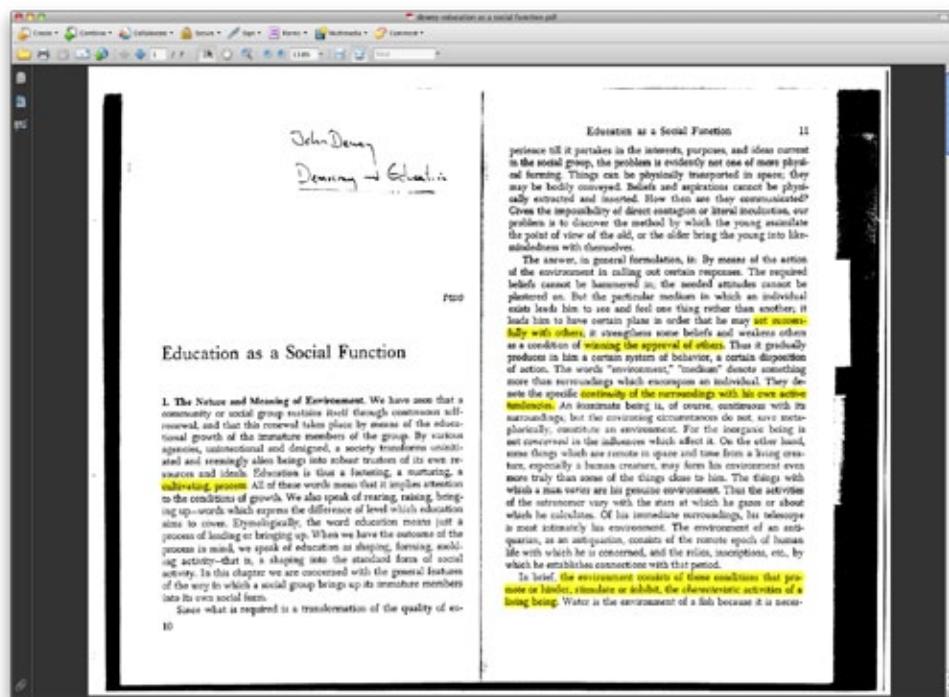
During the research phase, I continually bounced ideas off my peers, which they did as well. Their feedback made it easier to hone in on a specific aspect of what was initially a very broad topic.



Statement

I intend to explore the impact of collective memory on the evolution of reading by visualizing, in a time-based piece, a future reading experience in which the reader reflects on content by engaging with the collective memory of that content.

Product inspiration



Adobe Acrobat's document annotation features are useful but would be even better in an interface with more tactile feedback, like a physical book or tablet.

When people think of electronic reading devices, a common one that comes to mind is the Amazon Kindle. As I began to imagine a future reading experience, though, I opted not to model my concept on the Kindle. I wanted people to not just read but also reflect upon their reading material.

Taking the view that the Internet represents a form of collective memory, I started to develop a concept for a book that would incorporate online tools to enable knowledge sharing and individual reflection. In meditating on the form such a book might take, I drew from my own experience of reading as a graduate student. Though I have plenty of reading to do for classes, I have only had to purchase a handful of books, because most of the required reading material has been posted online. Thus, I have had to choose between printing out the pages on my own or reading them directly on the screen.

Printing pages would have enabled me to highlight and annotate the text by hand, but burdened with tree-killer guilt, I opted to go fully digital. While reading the material on my computer, I

used Adobe Acrobat's highlight and comment features to take notes. Though Acrobat lacked the tactile feedback I would have gotten through manipulating physical pages, I did like being able to carry all my annotated digital documents with me to class each day. It made me feel more prepared, though I would not have done so if it meant hauling a stack of loose-leaf papers in my backpack. Going digital also allowed me to undo or modify my highlights and notes, and I liked the fact that the length of my notes was no longer constrained by the size of physical page margins.

Despite the benefits, I often wished I had a tablet computer with a stylus so that I could make marks directly on the screen and handle and refer to them as I could with printouts. I also wondered how my classmates were marking up their copies of the texts and which passages they found particularly interesting. Wouldn't it be useful, I thought, if we could write all over our books in a nondestructive way and discuss individual passages with the ease of communication offered by social networking sites?

Concept refinement



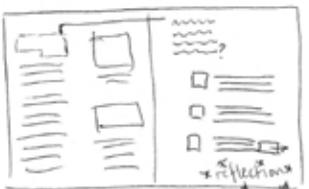
Reading in the future..



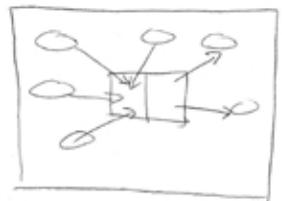
Incorporating the tactile benefits of physical forms with the networked power of the Internet.



One page of source material, viewed alongside another page of interactive material - text as threaded conversations, diagrams, colors, sounds.



Call out portions of the source material to discuss. Link to other sources that can be pulled up with a tap of a finger. Build a casebook out of multiple sources that is open to feedback.



Draw upon different parts of our collective memory and discuss in one "place" that is everywhere.

Commercial colored confabating conversation layers of info

I began to formulate a vision of a book that offers readers

- the portable convenience and tactile pleasure of holding a traditional book form
- the intimacy of interacting directly with text on page
- nondestructive annotation abilities
- tools to enable and encourage individual reflection, sharing, and discussion

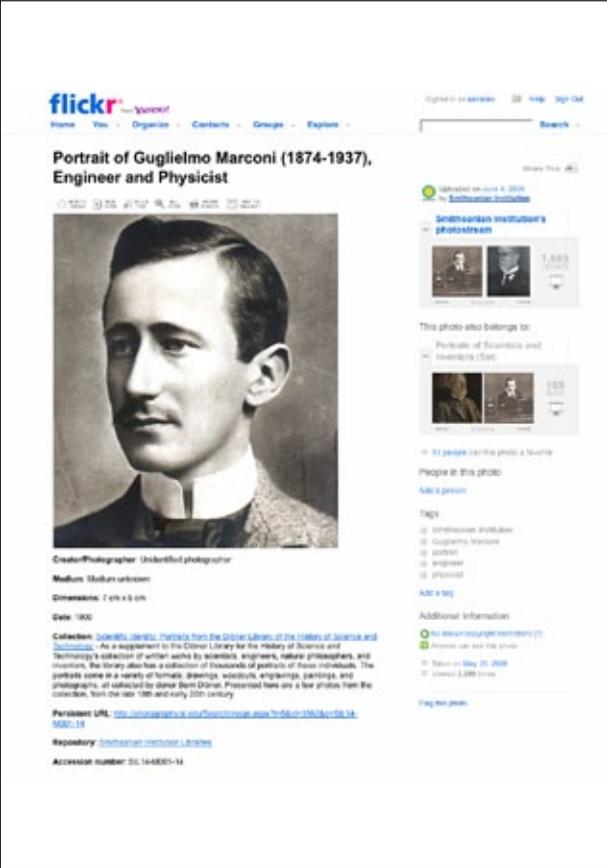
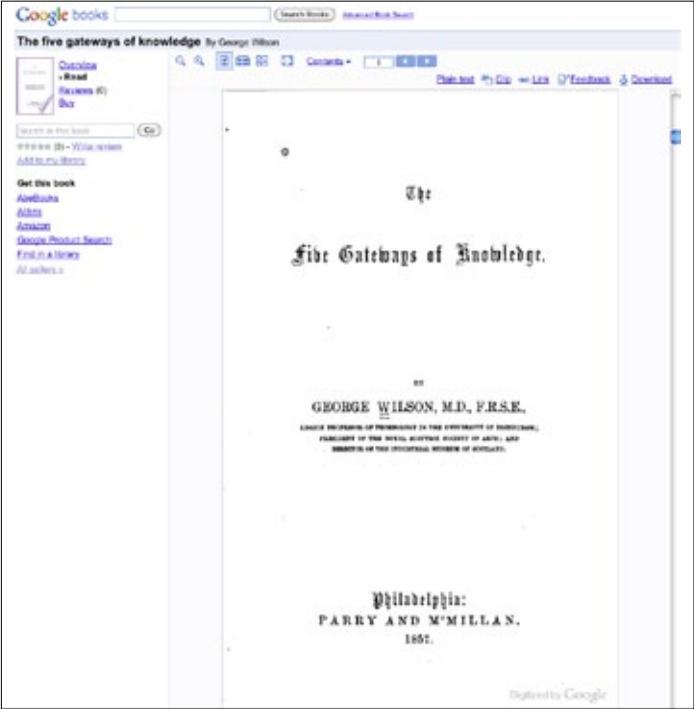
I created a preliminary storyboard illustrating the main concept, which I shared with classmates in a small-group critique session. Based on their feedback, I drew a more detailed storyboard consisting of a brief product demonstration to serve as the basis for my video. My storyboard continued to evolve as I gathered content.

The Google Wave page opens on the left. History collapses into a dropdown menu to conserve space. The reader can highlight sections of text on any part of the screen, view discussion threads, and add private notes.

As the reader adds a note to a highlighted section, there are post options he can use to control who can see this note (defaults to private): self; specific individual contacts or group contacts; public.

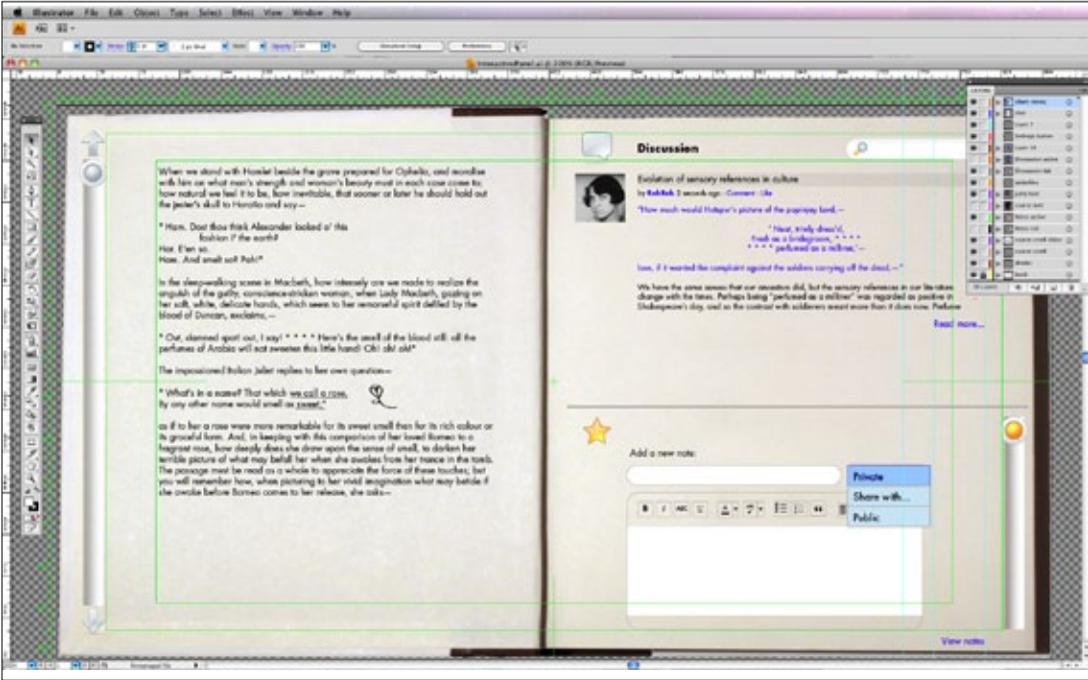
Text & images

For my sample text, I used excerpts from a 1857 edition of The Five Gateways of Knowledge by George Wilson, M.D., which I accessed through Google Books. Perhaps as a result of spending so much time thinking about the future of reading, I set the text in a Futura typeface.



For the sample profile pictures, I used portrait images of influential engineers and inventors from the late 19th and early 20th centuries, which I downloaded from the Smithsonian Institute Libraries Flickr collection.

Interface design



The interface was laid out on a standard book spread, with the source text on one side and interactive features on the other.

I wanted to make discussing the source text as simple as leaving a comment on Facebook.



I created elements of the book's graphical user interface in Adobe Illustrator, which I later imported directly into AfterEffects to make the animation. As I laid out the interface based on my own intuition and reasoning, I wished I had time to conduct usability studies with paper prototypes. I settled for asking my classmates if anything looked weird.

The collectively authored web site Wikipedia has discussion (aka talk) pages where editors can discuss improvements to articles, and news web

sites like nytimes.com are adding increasingly sophisticated comment and forum sections so that readers can chat about posted articles. To support such dialogues, I placed a discussion panel opposite the book's text. I imagined the left-right configuration could be customized based on individual preference or handedness.

I modeled the discussion panel's message format after Facebook comments, which are short, time-stamped, organized by author, quickly scannable, and positioned adjacent to the content discussed.

Creating the soundtrack

Once I had created all the graphics I needed, I used GarageBand to create background music for the video soundtrack. I browsed the built-in Apple loop library for something that captured the excitement of introducing a new technology product while also fostering a feeling of reflection. After some deliberation, I selected a moderately energetic piece to carry the video through the product demo and faded into a slower, more contemplative piece for the ending.

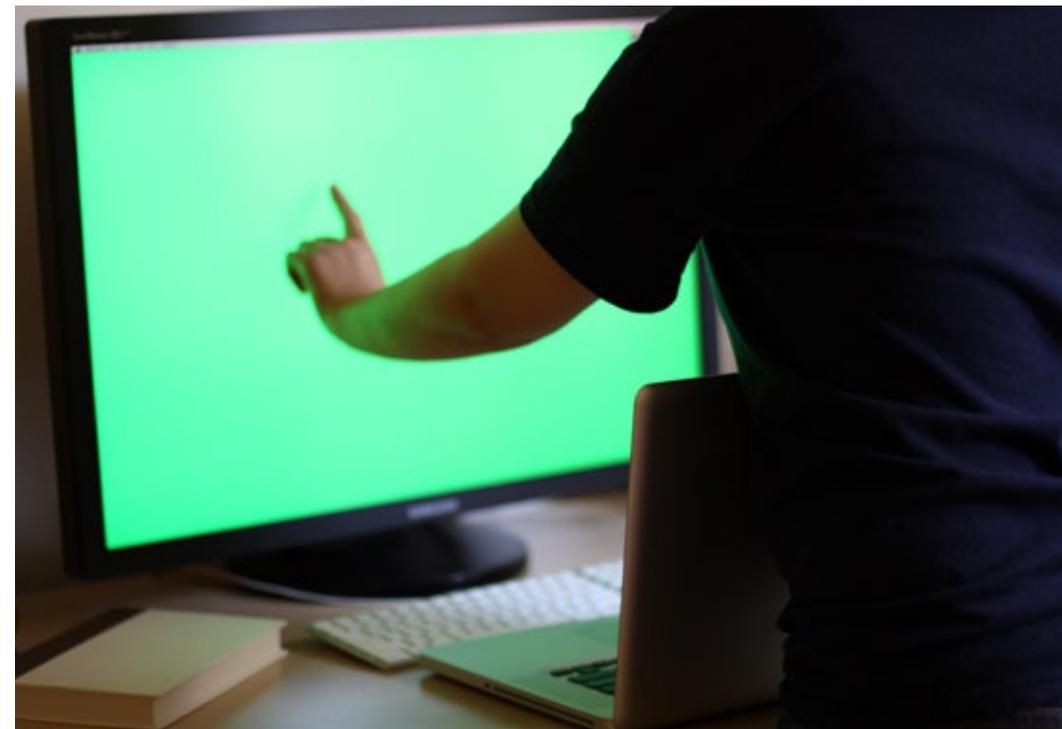
The screenshot shows the GarageBand interface for a project titled "Future of Reading Soundtrack". The top section displays the Tracks and Mixer areas. Two tracks named "Jingles" are visible, each with a volume knob and a solo button. The main workspace is currently empty, with the text "Drag Apple Loops here." centered. The bottom section features a Loops browser with a grid of categories and a list of loops. The "Relaxed" category is selected, and the list shows several loops, including "Pendulum" which is highlighted.

Name	Tempo	Key	Beats	Fav
Acoustic Sunrise	-	-	01:18	<input checked="" type="checkbox"/>
Awareness	-	-	01:46	<input checked="" type="checkbox"/>
Nostalgic Piano Long	-	-	02:11	<input checked="" type="checkbox"/>
Pendulum	-	-	00:30	<input checked="" type="checkbox"/>
Reflections	-	-	02:23	<input checked="" type="checkbox"/>

Green screen challenge

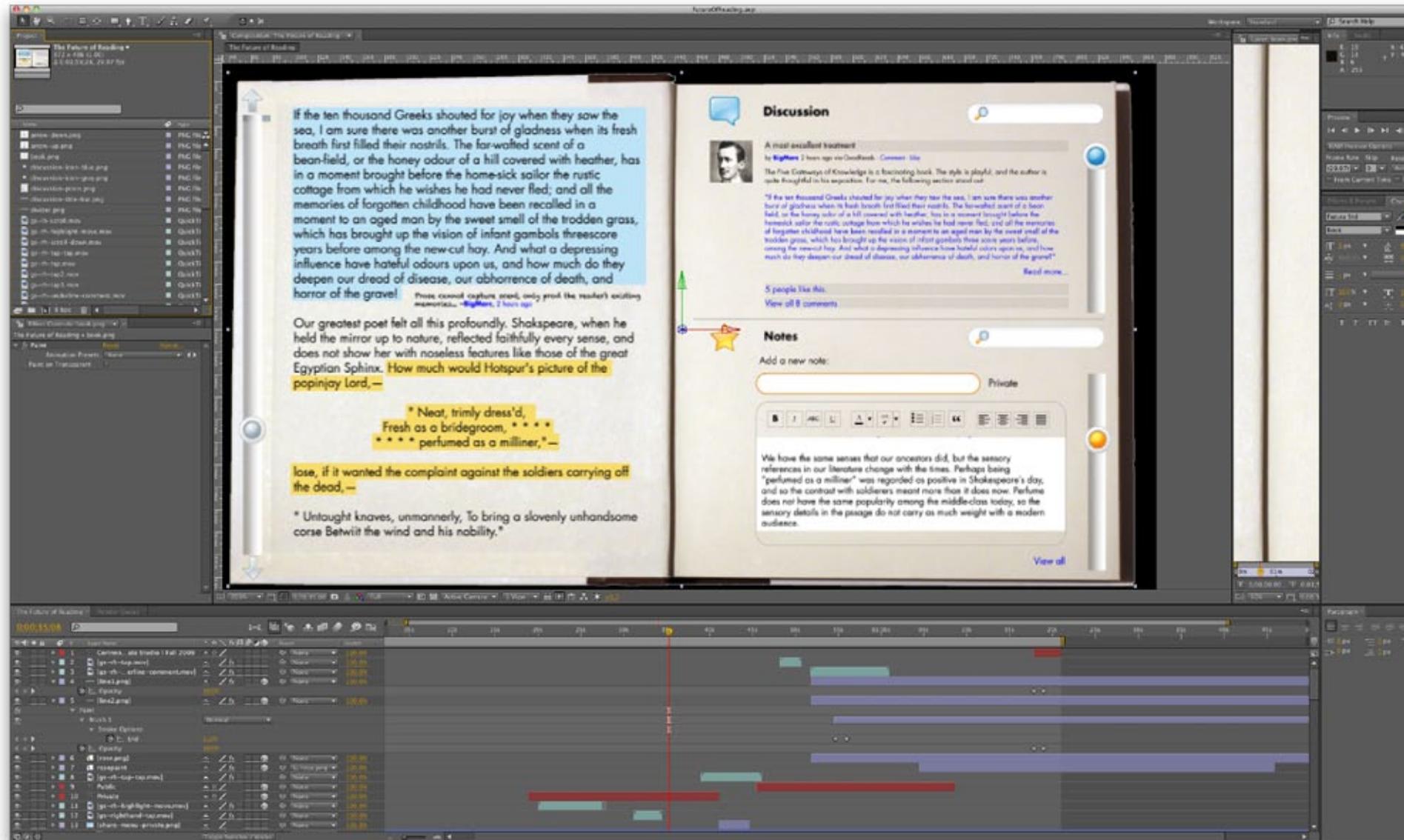


My storyboards called for a user to interact with the book, leading me to experiment for the first time with green screens and digital compositing. Not having a physical green screen or a video camera, I improvised my own set-up at home by pointing my laptop's webcam at a green image on a large computer monitor. I stood behind my laptop and, positioning my hands in front of the green image, recorded multiple takes of the taps, clicks, and stylus motions I needed.



Compositing & animation

I imported my green screen footage into Adobe AfterEffects, used the Keylight effect to remove the green background, and layered the live-action hand motions with animated paint strokes over the rough cut. Once I had the rough cut, I adjusted the composited footage to be in sync with the music and made some revisions to the graphical user interface based on the real-time flow of interaction. In the final tuning phase, I did some color correction on the composited footage, adjusted the levels on the music, and added the end credits. ■

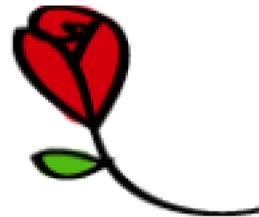


About the author

Corinna Sherman earned her Bachelor of Science in computer science at Massachusetts Institute of Technology and worked for six years as a software developer in the financial industry before enrolling as a graduate student in the Master of Design in Interaction Design program at Carnegie Mellon School of Design. For more information, please visit her website:

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