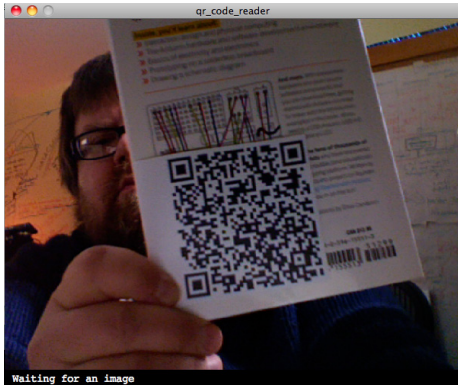


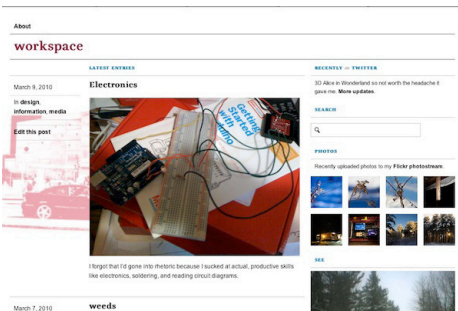
QRCode Reader

Hold codes up to webcam. Press space bar to capture barcode for processing. Works best if you hold code still and flat (unlike that clumsy oaf in the picture).



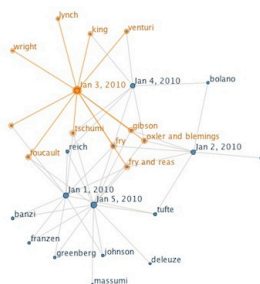
QR Codes are two-dimensional bar codes. Originally used primarily in Japan, they are increasingly popular in the United States. QR Codes on physical objects out in the world—magazine ads, business cards, buildings, books, etc.—allow users to call up information from the Web or other locations. In one sense, QR Codes are a very simple idea: in many cases not much more than the automation of typing a URL into a browser. In other senses, they are one more step in the blurring of the line between virtual and physical, helping us move back and forth between the two.

Simple URL Identification: johndan.com



One of the simplest uses of QR Codes is to hold URLs that users scan with cellphones or webcams. This QR Code calls up my weblog by passing the URL encoded in the QR Code to the default browser (in this case, Safari).

Metadata Visualization: On My Desk



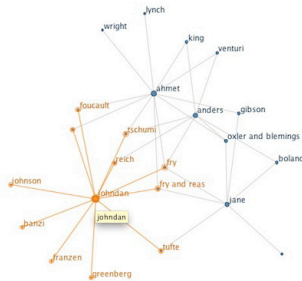
As with traditional bar codes, QR Codes allow cheap, simple tracking of objects as they move from place to place. In most cases, such codes are used in large commercial and industrial illustrations. As applications such as Delicious Library illustrate, bar codes can also be used to track objects on a much more personal level.

Why not, for example, track what the eddies and pools of text as they pass across our desktop? Examining large collections of data over time could assist us in better understanding the ways we work.

This proof of concept demo connects the QR Code to a Many Eyes visualization that was prepared earlier. A slightly more complex version of the Processing code could auto-

matically track the data as users scanned texts entering and leaving their personal workspaces. Such data could be combined automatically with similar information on virtual texts for more comprehensive data ecologies.

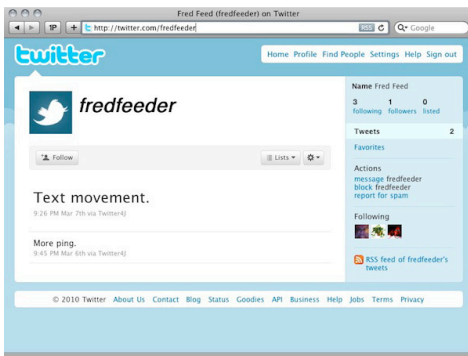
Metadata Visualization: Reader and Read



“Reader and Read” aggregates personal text-use data across groups of users, providing the ability to compare how different people use similar and different ways. Those new to a discipline could examine not only their own text use over time but those of experts, seeing gaps in their own forming knowledge. Similar to social bookmarking sites for sharing web pages, “Reader and Read” could also allow experts to share emerging data both in print and online.

As with the “On My Desk” code, the “Reader and Read” code connects to a Many Eyes dataviz that I prepared earlier.

Twitter Feed: Fred Feeder

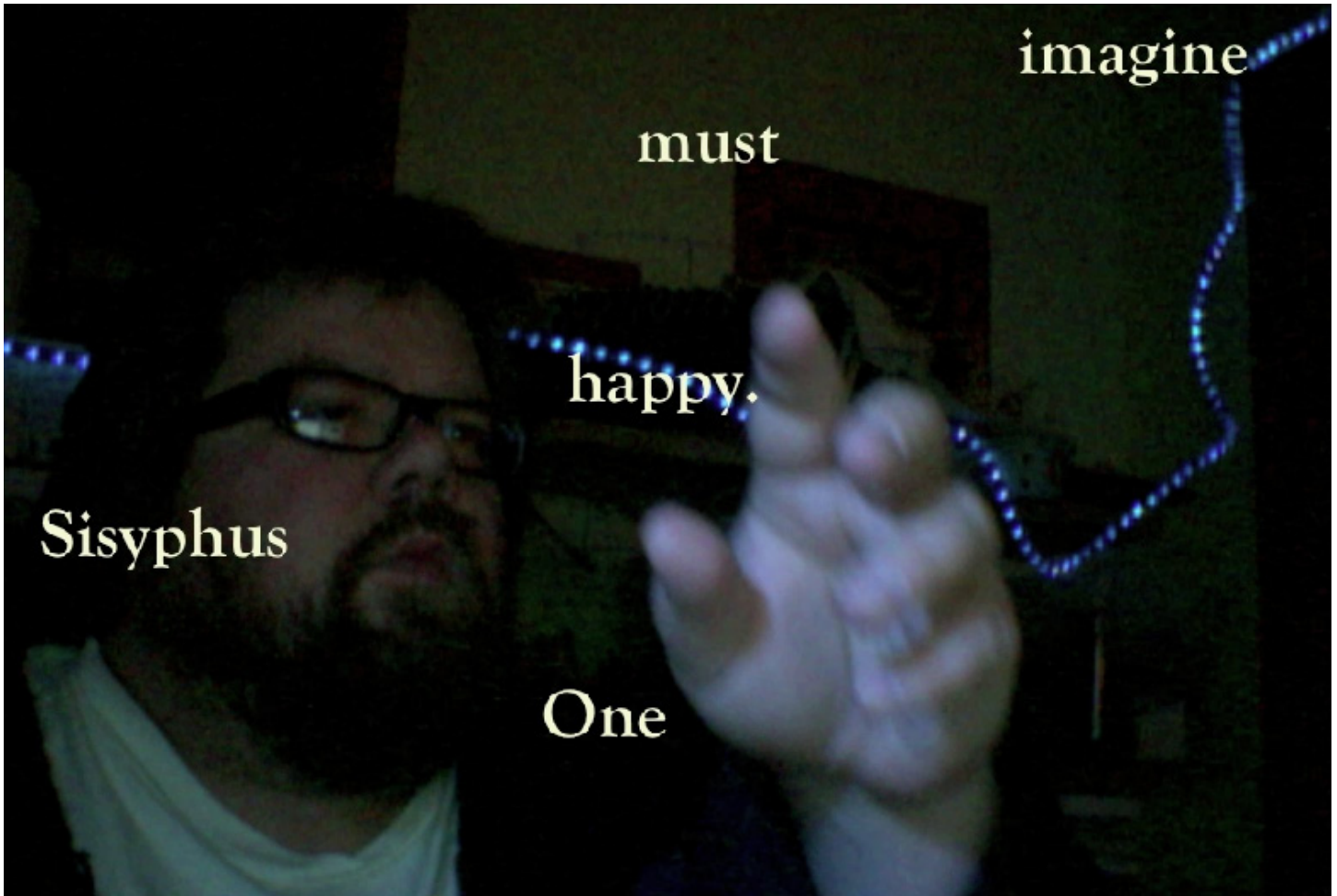


Similar to the URL identification example, this QR Code links to a Twitter account for Fred Feeder, a hypothetical book that tweets when the QR Codes are scanned by users.

I’ve not included the Processing example that uses Twitter API to send tweets from Processing, but it’s relatively straightforward and common. Precursors to this include Pothos, a houseplant that tweets when soil moisture sensors indicate that watering is needed. (Pothos lives at a Toronto-based Botanicalls, a company that produces the Ethernet-equipped, Tweeting sensors.)

Motion Recognition: Phrases

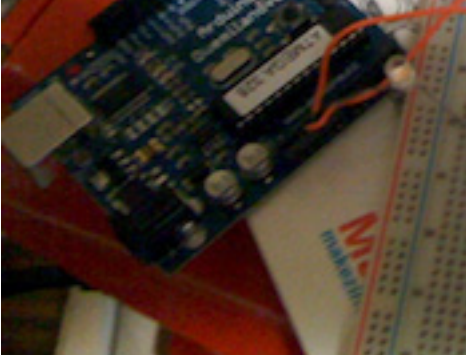
Move hands or fingers to touch the left or right side of words to push them around on the screen. Tip: Move slowly.



Motion recognition tracks interactions between virtual text and physical space. As hands, fingers, arms, heads, or other objects in front of the webcam reach the left or right sides of the words (from Camus' "The Myth of Sisyphus"), the virtual words respond to the physical touch, skittering away.

The soundtrack (Sparklehorse's cover of Pink Floyd's "Wish You Were Here") is occasionally interrupted by a sigh as the words reach the top of the screen. They disappear off the top, only to reappear over and over at the bottom of the screen.

Wireless Tag Readers



Objects with wireless tags (RFIDs: Radio Frequency ID) can be detected at a distance to cue interaction with the environment around them. Depending on the specific system, tags can be read at distances between 10 cm to 10 meters (30+ feet). The reader systems here are effective at an inch or two. The repurposeable Arduino bases for the systems cost between \$25 and \$150+ (for models with built-in Bluetooth); the two RFID readers are between \$20 and \$30 while the individual card-based tags cost \$2 each (but drop significantly in bulk); simpler, smaller tags run 10 - 20 cents in bulk, making them suitable for mass adoption.

The operation is similar to that shown in the live QF Code reader demo (although Web connectivity would involve the addition of an Ethernet board (\$40 - \$50). (The Ethernet board would allow the reader to operate without a computer attached once the initial code has been uploaded to the reader.)