

This is a pre-print version of the Timothy R. Amidon's webtext "Brightness Behind the Eyes: Rendering Firefighters' Literacies Visible" published in *Kairos: Rhetoric, Technology, Pedagogy*, 25(1), available at <http://kairos.technorhetoric.net/25.1/inventio/amidon>

Transcript of "File and Data Structure Walkthrough" video

In this final walkthrough video, my goal is to show some of the structure of the files, the code, and the data visualizations themselves. I talked through some examples in the webtext and video, of design choices I made to make the visualizations work. And, also one of the goals that I had was not just to offer the visualizations, but offer a richer account of firefighters practice in a visualized representation. I thought it was really important to include the audio recordings and offer examples of who that element of practice look and feel, and the visualizations themselves abstract in a way that don't necessarily enable people to experience or get a sense of what practices feel like.

In this dataviz folder, I want to show some stuff. As I mentioned in the design ops page, I had to create a set of pages for each visualization. There is a burke alpha, aural, cognitive, kinesthetic, a burke on scene, tactile, space-time, visual, etc., You'll notice that there's some other visualizations that I've included that I haven't talked about, so I want to go to environment. So one of the things that I get frustrated with, when clicking through the visualization at scale, is that when I model at scale the text nodes get in the way of the other text nodes. So, you'll see that a text node will block the ability to hover over the nodes—so that's a kind of design limitation. But to fit it in an iFrame screen, I had to reduce the size of the SVG elements so you can get a sense of the visualization as a whole.

So, one strategy that I've been using for analysis is to pull out those segments. So this is the Environmental segment from the Orderville Data Visualization. So, you have the national standards that I spoke a bit about, you have SOGs/SOPs, Special Hazards 1, tool use, NIMS/ICS the framework that firefighters use to manage scenes. These are elements of the environment that are shaping practice in really influential ways. So, what you see is that a lot of alphabetic and visual elements are present in this segment. But, there are also the fire, the heat, the superheated gases that one can feel that are significant unique elements of practice that you're not going to see in many representations of literacy or environment where workplace writing unfolds. So if you have complex practice or a large network, it's may be helpful for you to segment because it can enable you to break nodes out and get a better spread out view sense of how practices relate.

Another way to analyze the data that I haven't discussed is that you can build comparative visualizations. This visualization compares Chief Burke and Lt Lamb, comparing two people who are managing a scene to another. This is tricky because it's a complex, large network visualization. So, I have B-Observe (Burke Observe) and L-Observe (Lamb Observe), we can see some similarities in practice where both are reading smoke. But, we also have monitoring watch, monitoring watch inside/outside, and those are things that Chief Burke suggests but doesn't expressly state in interview data. But, we can get a richer view of Chief Burke's practice, than me—as an analyst inferring or identifying practices in a observational set of data. So, when we look at interview data versus observational data, you can start to see different things more clearly. And, you can see different

trends and relationships in the data. And, this comparative data visualization kind of offers the ability to see that. The overarching point is that there's different ways to play with the data once you have it set up.

You can build different visualizations by pulling out the data and organizing them in different ways. So, I could say what are the alphabetic practices that connected to Chief Burke and Lt. Lamb's practice. Both are using accountability boards and tags; Lt. Lamb had his tag on the board. Where there appears to be a significant difference, is that Lt. Lamb was not writing information down or using an iPad, like Chief Burke mentioned. It's also a drill, so there's a lot less going on than an actual incident. It's similar in that activities are comparable, but the complexity of an actual structure fire (where multiple companies are performing operations) versus a training fire (where one company is going through evolutions) is going to have less activity to manage and account for, so you can probably perform that activity with your active memory a little better. We can also see Chief Burke discussing a search crew, again.

Now, earlier I mentioned that for each of the visualizations, I had to build independent javascript files for each. So, let's discuss the data structure. I mentioned that there are key branches. So, I started by identifying the key objective of practice, and then, I built the branches of activity that support that objective. Thereafter, you can see the observational segment. Each practice/tool/genre, for example, 360, will connect back to a key branch. Radio communications is connected to observe. From that there is a subsegment that connects to evaluate reports and message tone. So there's ways to plan and build a hierarchy and plan for that in the data.

I won't go through all of this right now, but for those are interested in spending time with this data or doing this work themselves, I'd encourage you to come into this area of the webtext and click into the files and dig in at that root level. To navigate into these, go into the 'dataviz' folder, and you'll see pages, and within the 'ecologyassets' you find the java script 'js' and you can pull out some of that and look at it. One last point I want to mention is that by spending time slicing the data in different ways, these are ways of pulling out a piece of data to build those comparative models, so it's kind of exciting to think about the potential for analysis in data visualizations. Thanks again for your time!