Cartography 2.0: For people who make interactive maps

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Cartography 2.0 (http://Cartography2.org) is a free online knowledge base and e-textbook for students and professionals interested in interactive and animated maps. I (Mark) pitched the idea of doing an ‘online textbook’ to my co-authors because I knew that, as teachers, we were all frustrated with the inability of traditional textbooks to keep pace with the constant stream of new Web technologies. Further, we could not find any comprehensive online resources about web-based mapping that provided the same breadth and depth we’ve come to expect from a professionally produced textbook. The kind of knowledge that is needed to make dynamic maps spans many (traditionally separate) fields from computer science to education. While there are great books on all of these fields individually, none offered an answer to the basic question I’ve been asked many times: what’s the important stuff I need to know about making great on-demand/interactive maps?

As a response to that question, I thought I would try to distill what I knew into an open, online resource and share my experiences of making web-based maps over the past 15 years. Of course, it soon became clear I needed
help from my friends! The initial Cartography 2.0 team is myself, Anthony Robinson, Rob Roth, and Ben Sheesley, each of whom brings expertise in different areas of cartography. Axis Maps (axismaps.com) is the primary supporter of this effort and is hosting and maintaining the site for us.

The task we set ourselves was simple: If we only had 30 minutes to share everything we know about topic X, what would we talk about, what would we demo, and what advice would we offer?

From what we could see, at least five basic problems that are encountered when publishing material about emerging mapping technology:

1. **SPEED**: The world of Web-based mapping is evolving at light speed and textbooks are at least two or three years out-of-date by the time
they reach students. That is a lifetime online (e.g., Google Maps is only four years old!) and rapidly emerging areas like location-based services and crowd sourcing—which are profoundly re-shaping and expanding our notion of ‘mapping”—are terms that weren’t even coined when today’s textbooks were being written. No doubt, the next big thing(s) are happening now, as you read this.

2. LEARNING DEMANDS ‘LIVE’ EXAMPLES: Static screen captures of animated and interactive maps are a very poor substitute for the real thing. Imagine trying to share the joy of using Google Earth with two or three black-and-white screen captures? It is critical that people can get their hands on real working examples if they want to learn how to make great dynamic maps and understand how people use them. In the classroom, we assign URLs like an English teacher assigns novels; to become an expert in a field you have to immerse yourself in the works of that field. A CD-ROM insert in a textbook separates content from examples and is just as old as the book itself. The Web is “in the wild,” and we have to venture into it to understand it. (Fellow cartographer Rob Edsall has been saying this for years.)

3. BUILDING TWO-WAY LEARNING: Most of the mapping projects we’ve been involved with require input from a handful of people with a wide array of domain expertise. Ensuring that we tap into the knowledge base of this diverse group is essential for complete success of the project, but often is simply not feasible. What is needed with Cartography 2.0, then, is a way to facilitate an interactive learning community where folks post questions, comments, and links in response to our own contributions (i.e., a community where everyone is allowed to interact with each other). This idea is nothing new in online education and these kinds of ‘learning communities’ are at the very heart of the Web 2.0 ethic.

In both subtle and apparent ways, our university classrooms are already two-way learning communities. Despite our best efforts to stay on top of things, we have found that our students are routinely ahead of us on emerging concepts and technologies. In this way, our students act to keep us current, while we act to synthesize this input and integrate the state-of-the-art into extant frameworks, removing from our lecture notes what is now outdated. We expect a similar reciprocity with the learning community implemented in Cartography 2.0, where everyone plays the role of both teacher and student.

4. CONSTANT UPDATES: The great thing about online publishing is that material can be constantly updated and revised as the world of mapping moves forward and outward. There are now sophisticated technologies for identifying what is new on the Web. Many power Web users spending much of their time online in a content reader that stitches together numerous RSS feeds (i.e., real-time updates) from previously identified sources of interest, rather than actually seeking out new sources of information. This is a primary reason why Wikipedia is the most commonly referenced resource for encyclopedic knowledge: it
is hands down the most current. While Wikipedia may not always be the most accurate resource—and is undeniably used as a battle ground for competing ideologies with misinformation purposefully posted—it is definitely the most current resource for quickly changing fields. We hope that Cartography 2.0 can act as a similar resource for subjects cartographic. As new applications, strategies, and theories are released, they can be immediately disseminated to the readership. While this initial pass may not be complete or accurate from a textbook perspective, these rough edges can be softened over time through active discussion and iterative content updates.

5. EXPENSIVE: We firmly believe (as do many) that the era of the $150 textbook is coming to an end. While this is sad for our friends working in publishing houses, it is a boon for authors who now have others means for reaching—and indeed, creating—their audience. Authors are able to eliminate much of the overhead (and editorial red-tape) that consumes that $150 price tag.

Digital publishing is a boon for readers too, as they are now able to find and access content more easily and also embed content into a larger web of ideas (e.g., StumbleUpon, Digg, del.icio.us). Simply put, removing the financial barrier means that more people can access educational material about dynamic mapping, which not only means that more people can make dynamic maps, but that more people can construct great dynamic maps that better serve the needs of the targeted user audience. This, in turn, will generate a larger group of people who can contribute to Cartography 2.0, (hopefully) generating a positive feedback loop.

Please have a look at Cartography2.org and let us know what you think and send us a note if you’d like to see any other material. New material is added to the site continuously, so please subscribe to our RSS feed. Our goal is to continue to bring in contributors and have the site grow over time far beyond these initial topics and articles. Cheers!

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