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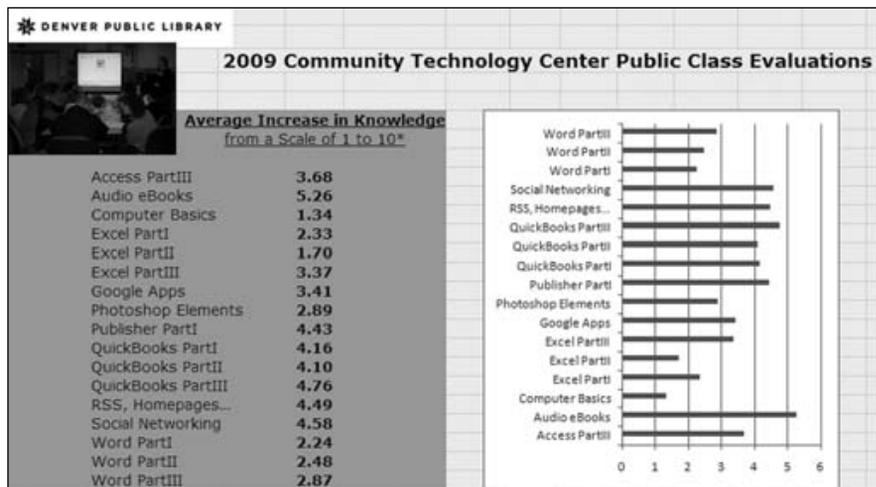
Clouds

By
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and
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A few years ago the Denver Public Library, where Cassi Pretlow serves as technology librarian/trainer and Tina Jayroe is a docent, developed a long-term strategic plan that included a new mission statement and vision to better serve the residents of Denver. In this plan was a commitment to implement a technology training program for customers and employees. Like most libraries, we had limited staff and budget, yet we saw the potential of free, cloud-based applications. The use of web-based services has been incorporated into our traditional training at little cost to the library. This has leveraged our ability to train and coordinate a larger number of volunteer and in-house trainers, thereby leading to increased outreach and a higher presence in the Greater Denver area. We are currently using Google Calendar, Wikidot, Google Docs, Google Sites, YouTube, craigslist, and

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Zoomerang at our library. So far we consider these tools very successful because in the last 2 years we have done the following:

- Increased one-on-one computer lessons by 365%
- Increased the number of classes offered by 265%
- Collected data revealing that 88% of students reported an increase in their knowledge by two or more points (on a 10-point scale) per class, and 99% of students reported that the class was a valuable addition to their skill set
- Developed a sustainable system of recruiting and training instructors, who then educate the community

These results were accomplished with a small staff and budget and would not have been possible without free, cloud-based applications. Cloud computing was also a practical solution for another reason: Most customers of the Denver Public Library's Community Technology Center (CTC) do not own personal computers. Teaching them how to use web-based services is crucial not only for closing the digital divide and assisting with employment but also because it provides them with the essential social and computing skills needed to express themselves safely, freely, and confidently in today's online environment.

The Cloud Services We Use and How We Use Them

Google Calendar, Gmail, and Wikidot. At our library, we are very fortunate to have many volunteers. In fact, one of the only benefits to the downturn in the economy is that the number of volunteers at the library has increased sub-

stantially. Last year we had 69 volunteers in the CTC yet only three staff people to schedule them. Since none of our volunteers is on our internal calendar or email server, we chose Google Calendar and Gmail to schedule, connect, and share scheduling information. We have embedded that calendar into our wiki. We use Wikidot to host a slew of relative information, such as the daily schedule of one-on-one computer lessons; the technology center's rules, processes, and announcements; and customer FAQs (e.g., "Where is the closest Kinko's/homeless shelter/ATM/unemployment office?").

Google Docs. Before Google Docs, when we offered training for our volunteers, we would distribute a paper sign-up sheet. Often those sheets would disappear like a favorite sock. We smartened up and started using Google Docs. This tool has proved to be much more efficient not only for this task, but for many others: We use it to collect and edit brainstorming ideas; we train staff members to use it as a platform for sharing their learning (a required component of employee enrichment duties); we offer Google Docs classes to the public; and we even used it to write this article, which was a lot of fun!

We use videos not only to help us with instruction but also to subtly teach how to search.

Google Sites. Our classes are taught by employees, interns, and volunteers. Since resources for these types of projects tend to be temporary, we realized that we needed to archive the work that went into composing a trainer's notes, presentations, outlines, exercises, and evaluations. By doing this, others could access them in the future as guidelines for teaching a particular class with minimal effort.

Before Google Sites, trying to get all of the latest documents in one place was very difficult. We were desperate to make this content available to future/rotating volunteers and staff with the least amount of effort for two reasons: 1) CTC staff is already overworked, and the last thing we needed was to find the documents ... from the last person who taught a course ... who gave it to someone in the lab ... who was off that day ... in order to send it to someone new (you get the idea); and 2) we wanted the materials to



be accessible to both the instructors and customers from any remote location.

Google Sites to the rescue! We began assembling instructor outlines at <http://sites.google.com/site/dplinstruct>. We then we made a TinyURL (tinyurl.com/dplinstruct) so people could actually remember it. Google Sites solved a variety of problems for us: not only can instructors upload their PowerPoint files to Google Docs and then import them into Google Sites, but they can create them from scratch in Google Docs and publish them to the website as well. Or they can simply attach a PowerPoint file to the bottom of the class' webpage for easy retrieval.

Several instructors found creating PowerPoint presentations very time consuming and chose to use only text and static images for their instructional outlines instead. Others used a combination of presentations and videos embedded in the webpage along with traditional text and image formats. Since Google Sites is technically a structured wiki, this seems to work well for everyone.

We found that, regardless of the course's content, letting the instructors have flexibility in using their preferred teaching application—yet keeping it stored in the same place—not only helps to retain high-quality personnel but lessens the workload for CTC staff and proves less stressful for new recruits who need to get up-to-speed on the class' objectives. With Google Sites, trainers can review, upload, or download a course's contents from home, work, or any place with internet access. This allows them more time and insight when preparing for a class. And customers can access and review the instructor's content before or after tak-

ing a class. The best part is that anyone can view the contents of classes taught at the CTC because every page is shared with the world. We feel this contributes to open access initiatives, which are so important today. Finally, we use open source code from the google-sites-liberation project (<http://code.google.com/p/google-sites-liberation>) to back up the entire site, including revisions and attachments, with a single click.

YouTube. We started incorporating an average of two short videos into each lecture hour; our classes are usually 2 hours in length. We did this for a number of reasons: It breaks up the lecture while keeping the class dynamic and interesting; much of the time, someone else has already made a very concise and precise video explaining a certain software function perfectly; and it teaches students about the rich audio-visual content that can be found freely on the web ... once you get past all the cat videos.

For example, when we teach a class on Google Apps, we begin with a 4-minute video on YouTube explaining the concept of cloud computing (most of our customers do not know what it is). Since there are many to choose from, we preview them and have the hyperlinks ready. We feel that videos narrated by someone other than ourselves help to reinforce a particular concept, function, or task. We also tend to look for silly, yet instructional, videos to promote a livelier atmosphere. Sometimes we will have the students search for a very specific function of a very specific computer program in the YouTube search box and then ask them to look at the



results. Then we will have them change a term and look at the new set of results. In other words, we use videos not only to help us with instruction but also to subtly teach how to search for high-quality and relevant information on a site that happens to contain a lot of junk. (We know, “Junk is in the eye of the beholder.”)

craigslist. We keep a free, ongoing ad on craigslist as part of our outreach program. The following text is updated every 2 weeks by a volunteer: “The Denver Public Library offers free computer classes in the Community Technology Center at the Central Branch. For a complete schedule and registration information go to <http://denverlibrary.org/ctc> and click on View CTC Classes.”

Evaluating the Cloud

To better serve our students and gather data for future funding, the CTC tracks the increase in students’ knowledge. We decided to analyze learning outcomes per class by simplifying and revising evaluations and using an online application to make sure the input was anonymous. We have each attendee answer five questions regarding his or her knowledge and/or skills on the class topic *before* each class begins. We call this the “Pre-Class Evaluation.” When the student arrives, a browser displaying an evaluation is open on his or her monitor, and a few scaled, multiple-choice questions are ready to be answered.

During the last 10 minutes of class the instructor asks students to answer the “Post-Class Evaluation,” which consists of the same five questions asked at the start of class but requires the individual to rate his or her increase (or lack thereof) in knowledge on the subject matter that was taught. In other words, we seek to understand and evaluate: “How much more do you know now compared to before you walked in the door?”

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made a huge impact on the
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The Post-Class Evaluation also has an extra section that consists of a handful of general library questions. For example: Was this class a valuable addition to your skill set? Where did you hear about it? What are the most convenient times for you to attend classes? etc. We also ask about the instructor’s performance to help determine the quality of the trainer. Finally, the evaluation has an area for written testimonials, which are used for more detailed feedback. These statements are often incorporated into grant proposals and used for marketing and publicity.

Community Technology Center Class Evaluation

Social Media Marketing for Small Business

1 Rate Your Pre-class Knowledge:

1 2 3 4 5 6 7 8 9 10
nothing a lot

How much do you know about social media sites (Facebook, Twitter, etc.)?

1 2 3 4 5 6 7 8 9 10

How much do you know about marketing yourself online?

1 2 3 4 5 6 7 8 9 10

How much do you know about establishing your web presence?

1 2 3 4 5 6 7 8 9 10

How much do you know about interacting with your community online?

1 2 3 4 5 6 7 8 9 10

How much do you know about current online trends for businesses?

1 2 3 4 5 6 7 8 9 10

Community Technology Center Class Evaluation

Social Media Marketing for Small Business

1 Rate Your Post-class Knowledge:

1 2 3 4 5 6 7 8 9 10
nothing a lot

How much did you learn about social media sites (Facebook, twitter, etc.)?

1 2 3 4 5 6 7 8 9 10

How much did you learn about marketing yourself online?

1 2 3 4 5 6 7 8 9 10

How much did you learn about establishing your web presence?

1 2 3 4 5 6 7 8 9 10

How much did you learn about interacting with your community online?

1 2 3 4 5 6 7 8 9 10

How much did you learn about current online trends for businesses?

1 2 3 4 5 6 7 8 9 10

Zoomerang allows us to create free surveys of up to 12 questions for up to 100 respondents. One can pay \$199 per year for the Pro version or \$599 for the Premium version depending on needs. Before implementing Zoomerang, we had paper evaluations and had to enter the results manually into an Excel spreadsheet. This was very time-consuming and also led to the occasional input error. Also, prior to using Zoomerang it might have taken 2 months for the staff to find the time to gather the data. But Zoomerang's statistics module compiles all the data accurately and automatically. We now get our analyses done in 1 week. The data from our classes have recently been used in three grant proposals.

Customer Testimonials Regarding Our Web-Based Classes

Here's a sample of comments we received regarding our classes:

- "The class helped me to find new and more efficient way of looking for a job and getting useful information from the web."
- "I knew nothing about RSS except that everyone talks about it. Now I believe I do understand it and it is simple. Who knew! I can't wait to start organizing my online life."
- "This class is an ENORMOUS help to our young non-profit organization. We want to become much more efficient with our time, and we want to reach more and more people with our environmental education message. These e-tools will help us do that."
- "I am currently unemployed and need to put my portfolio on the web. This class will allow me to do that without having to build it from scratch and pay for hosting."
- "I will join LinkedIn because it fits my professional needs. It's great to know about Facebook and Twitter, and if I ever need them I will know them as a result of this DPL class."

What We Have Learned and Future Plans

- Cloud-based services create many economical and time-saving opportunities, but they also have limitations. Applications do not always behave as expected. For example, Google Sites has an easy GUI interface for building webpages, but it does not always format the way you intend. However, if you

have general HTML knowledge, there is an option in Google Sites to edit it directly.

- The legality of who owns the data should be considered. If Google went under, the data is gone, so routinely do backups. Indeed, it is highly unlikely that Google will go under, but how many of us remember the best-selling 1980s computer—the Commodore 64? As we all know, tech companies can lose dominance within a decade. Commodore International filed for bankruptcy in 1994.
- In CTC classes, we ask students to bring a USB or floppy disk to save their data, since most only have computer access through the library. In addition, we mention copyright considerations with images and other content. When appropriate, we distribute a handout on copyright law.
- Due to market penetration of Microsoft Office, we offer training on both cloud-based and Microsoft applications.
- In the near future, we will be offering OpenOffice classes. In addition, we plan on using Skype to train staff and the public remotely.

In conclusion, thanks to the ever increasing number of data and resources that function "in the cloud," the Denver Public Library has made a huge impact on the education of its community. In December, Denver mayor John Hickenlooper publicly acknowledged the hundreds of people who attended classes and increased their employment/computing skills at the library last year. The authors of this article were just two of many hardworking people involved in the development of a long-term curriculum and sustainable training program. In particular, CTC senior librarian Megan Kinney has been our tireless leader through all the challenges and changes, and it is with her guidance that we will continue to take advantage of these types of services in order to benefit our community.



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