WHY USE A CMS?

A MINES CMS OVERVIEW

The Colorado School of Mines has two main campus websites: [http://www.mines.edu](http://www.mines.edu) (our outward-facing marketing site for prospective students and their parents) and [http://inside.mines.edu](http://inside.mines.edu) (our larger, inward-facing website where day-to-day information of interest to the campus community is found).

Both sites are maintained primarily through the aid of something called a “content-management system” or “CMS.” (In fact, for reasons of security and branding, we use two separate-but-similar CMSes, one for each site.)

These content-management systems can be accessed through any web browser, by anyone with a CMS account. They have been in place for several years and now hold more than 20,000 Mines web pages, created and maintained by approximately 270 different Mines employees.

Why have we chosen to build our main websites in this fashion?

Large, modern, university websites like ours face a number of ongoing challenges. For instance, how do we put tens of thousands of pages of crucial information online in the first place? Who will do the work? How many web workers are needed? How much and what kinds of training does someone need to do a good job? What happens when that person leaves the university? Who will quickly take his or her place?

Also, how do we keep all pages looking more or less alike? How do we make sure they have a “family resemblance”? This is an issue of branding, consistency, and professionalism. Do all pages use the same fonts, logos, and graphical elements? When a visitor sees a Mines web page, does she immediately know that she’s looking at a Mines page? And, having observed the way the page is constructed, can she then easily guess how to navigate the site? Is the site logical and consistent throughout?

Finally, after a website is in place, how do we keep the information on its many pages up to date?

A CMS answers many of these questions.

THE BAD OLD DAYS

Traditionally, websites have been constructed by highly trained individuals with an elaborate knowledge of “hypertext markup language” (HTML) coding and access to complex and expensive web-editing software like the commercial product Dreamweaver.
It is no exaggeration to say that one can study for years to become proficient in these technologies and tools. Training one such individual may cost thousands of dollars, all told. These highly trained professionals command relatively high salaries.

Such individuals typically construct web pages from scratch, laboriously designing the website and developing its “look and feel” over a period of weeks or months. After a website is constructed in this manner, it must be uploaded to a web server, usually one running the Linux operating system. So, in addition to constructing the site, the web professional must know how to upload it to a particular directory on a particular server. Even then, the website may not yet be available to the outside world until the expert has edited various access and ownership permissions to make this possible. Again, relatively esoteric knowledge of Linux commands is often required.

CONTENT MANAGEMENT MADE EASY

By contrast, a CMS eliminates most of these issues in an elegant and simple manner. Basic CMS skills can be learned in half an hour with no prior knowledge of web page construction. Creating a new page with complex and sophisticated graphics is a matter of a few mouse clicks and choosing a pre-made design from a selection of professionally-created templates.

Editing an already existing page is even simpler:

1. Log into the CMS via any web browser.
2. Navigate to the page in question.
3. Open the page in an editing window that resembles a typical word processor.
4. Type words.
5. Save the page.

That’s it. There’s no need to specify fonts, font sizes, font colors and other graphical elements. There’s no need to write the HTML code for headers, footers, left-hand menus, or right-hand sidebars. When the page is saved (a matter of a couple of mouse clicks), the CMS takes care of all the elaborate formatting behind the screens. The edited page is immediately available to all via the World Wide Web, completely, consistently—and professionally—formatted.
To illustrate, here is a page being edited inside the CMS interface:

![CMS Interface](image)

In the content-management system

Note that aside from specifying a few names and labels, there’s very little to do here. Simply typing in words is enough to produce a polished, professional result. Click the “Save” button and the page is formatted automatically by the CMS itself (see below).
Here is the same page after it was saved and published to the web:

This demonstration page took literally a minute to create.

Because the CMS is relatively easy to use without previous experience, many more people can be quickly trained in its use. Rather than a few highly trained professionals entering information into a huge website all day, a large number of quickly trained staff can do the same work in minutes each per day. Thousands of Mines web pages were created this way, by hundreds of different people.

And if someone leaves a department, it is easy to hire someone on campus with previous CMS experience, or even to train a new employee from scratch. The department can be back up and editing web content in hours.

While our web content is admittedly not always up to date, using a CMS means that it is more likely to be current. Since each web staff member—typically a program assistant or even a student worker—will maintain just a small, circumscribed fraction of our entire web presence, that person can be very familiar with its content. Where a few individuals could never hope to keep tens of thousands of pages up to date, hundreds of individuals (each with much smaller areas of responsibility and far more intimate knowledge of their own department) can do so much more easily. When using a CMS, out-of-date pages are more likely to be caused by a breakdown in process within a department than by the CMS technology itself. In fact, a distributed CMS system with many workers, each supervising a limited number of pages, is the best way to keep content up to date.
THE FUTURE OF WEBSITE MANAGEMENT AT MINES

As noted above, the two largest Mines websites are maintained through a content-management system. However we have many more small sites— institutes, working groups, collaborations, programs, and even several departments—not using the CMS. Some of those departments use special HTML templates provided by CCIT that appear identical to comparable CMS pages. To look at them, you would swear you were looking at a CMS page. In terms of appearance and branding, those departments adhere closely to our graphical standards.

However, such departments will eventually run into issues of website sustainability. In departments with a single expert familiar with HTML and web servers, what happens when that person moves on? Who takes his place? In some departments, no one can. In that case, there is often a crash program to move the old HTML website into the CMS on short notice. Or, less often, if there is sufficient expertise in place, the department may continue to edit its website in the traditional fashion for some time. At this time, departments have been granted this option.

Much more worrisome are the many department, program, and institute websites that look nothing like official Mines web pages. While they may feature a Mines logo somewhere on the home page, and may even attempt to use the school’s official color palette, these pages are typically amateurish in appearance, problematic to maintain, and hard to navigate. These sites are prime candidates to move into the CMS.

The process of moving an HTML site into the CMS is not a complex one. And it is described in detail in the new CCIT manual, *Moving Your Website into the Mines CMS*. But, in broad strokes, the process involves a few simple steps:

1. Via Helpdesk, tell CCIT’s Client and Web Services team about the proposed structure of the new website. This generally means listing the labels—the sub-categories—that will be seen in the site’s left-hand menu tree. Once we know what the structure will look like, we will create a skeleton site in the CMS with all needed behind-the-scenes components in place. Graphically, the site is substantially complete. All that remains is to add specific content.

2. If necessary, a representative from that department or institute will require a half-hour of training in basic use of a CMS: Creating, editing, formatting, saving and publishing pages. That’s all it takes to get started.

3. The departmental representative will then open new CMS pages one at a time, cut and paste text from the old site to the new site, move documents and images if necessary, create any needed links, and save the pages.

4. Once the new site has been fully migrated to the CMS, we will change some server settings and visitors to the old website will see the new website instead.
While on first blush this process may seem intimidating, in retrospect it is often found to be quite straightforward by the department involved. CCIT has helped migrate many sites into the CMS over the years and the process is now well understood, almost routine.

**CONCLUSION**

If working in a content-management system has so many advantages, why do people sometimes resist the transition? There are a number of reasons cited, some more and some less convincing in our view.

1. **It's a lot of work to move to a new CMS site.** True, there is some cost in time and effort to learn and use the CMS, and to migrate a site into it. But this is a one-time cost. A simple website can be migrated in a day or week; more complex websites, a few weeks. Going forward, we believe that the CMS actually makes editing a website far easier and faster. It certainly makes a site more sustainable.

2. **But I already know how to edit HTML pages the traditional way. It's too much trouble to learn a new system.** Understandably, many people who study advanced web-editing techniques for years are loathe to throw away this hard-earned knowledge. For them, maintaining HTML code by hand is easy. They can do so in a few minutes per week and (if they use our standard Mines templates) their pages look fine. There is merit to this argument. But what happens when this person leaves the department or the school? Who is there to take their place? In many cases, we have found, there is no one.

3. **Sure, the CMS is okay. But I like editing HTML because it lets me be creative and do things I can't do in the CMS.** Several Mines websites have utilized special fonts, bright colors and graphics, pull-down menus, and other features that you don't see on official Mines web pages. These websites are creative. But another word for “creative” is “nonstandard.” When the goal is a consistent online presence, the more “creativity” (i.e., variation) that is allowed in a website, the less it looks like an official “Mines page.”

So, for these and other reasons, Mines' main websites are maintained via CMS. We encourage CMS use as by far the best way to create and maintain graphically sophisticated and consistent web pages with a minimum of effort.