ShareLaTeX

LaTeX in Teaching

University of California San Diego

About University of California San Diego

NanoEngineering Department

The NanoEngineering department at the University of California San Diego was the first of its kind in the US to offer both undergraduate and graduate degree programs in NanoEngineering. Those programs have become increasingly popular and run alongside a Chemical Engineering undergraduate program.

We spoke with Aaron Drews, who is an assistant teaching professor in the Chemical Engineering Faculty, to find out how he and his class have been using ShareLaTeX.

Aaron has recently started using a department license for ShareLaTeX which covers all of the students in his class. We spoke about how he's now using the tool to make life easier for himself and his student, while also helping newcomers get to grips with LaTeX.

The Problem

Every year at the University of California San Diego, Aaron Drews teaches a new batch of around 200 senior-level chemical engineering students.As a part of their course, the students work in groups to put together a technical report based on some work they carry out in the laboratory.

> *"I teach senior-level chemical engineering students, who prepare written technical reports for a laboratory course. I have to review nearly a hundred reports over a twenty-week period" Aaron told us.*

Before adopting a ShareLaTeX department license to handle the task, Aaron gave students some general style guidelines and left the rest of the presentation of the reports to them. But that inevitably made the reports difficult to review, with a whole range of different formats and styles to navigate.

> *"I used to allow students to use any document software as long as they followed general style guidelines. Unfortunately, they usually didn't, which meant I had everything from beautiful papers to scanned copies of printouts."*

After a year of wading through a huge array of different types of reports, Aaron decided there had to be a better way. There had to be a way to focus on the content of the reports, without wasting countless hours searching for particular pieces of information or fighting with their format.

So Aaron turned to LaTeX. Both as a way to teach his students how to use the system as well as hopefully ensuring a professional quality of their reports.

Quickly Up And Running

But LaTeX is not the easiest system to pick up from scratch. For students who had not encountered LaTeX before, it was important to reduce the learning curve so that they could focus on the content of their reports, rather than spending all of their time learning LaTeX.

And so, Aaron chose ShareLaTeX to help standardize the reports. Students were able to get up and running quickly, and Aaron had a much easier job of reviewing their reports.

"ShareLaTeX greatly reduced the learning curve for the students because there are no package management headaches and the compilation process is very simple. The cloud aspect also makes it simple for me to help students troubleshoot their documents when they encounter problems, much more easily than if I had to review their source files off-line."

The collaborative features of ShareLaTeX also proved to be especially helpful for Aaron's class. The students were working in groups of 4, so producing the reports involved them working closely together.

Where they'd previously had to manage version control themselves and share files using email, ShareLaTeX stepped into handle all of that.
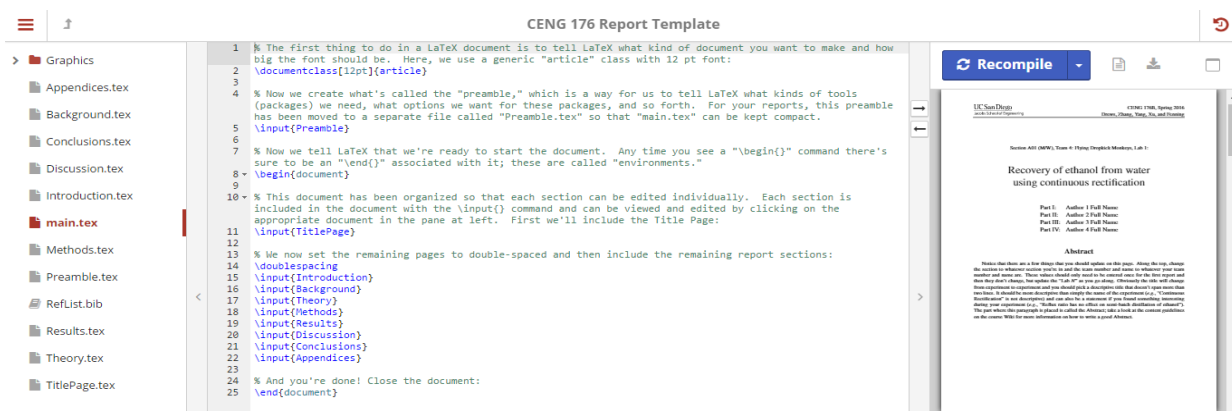
"The cloud aspect of ShareLaTeX encourages and simplifies collaboration for the students which makes their lives easier because they don't have to e-mail copies of their reports back and forth."

A Standardized Approach

One of the ways Aaron has been able to really make life easier with ShareLaTeX is through his use of standardized templates. With all of his students submitting work in the same format, reviewing the reports and troubleshooting for problems became a much simpler task

"I created my own 'template', but it wasn't a template in the official LaTeX sense because I didn't want to give the students the impression that LaTeX was specific to engineering reports (or that it can't be used without a template). Instead, I provided several files within a single project to each student at the beginning of the class.

Those files go step-by-step through the entire process of putting their reports together. Because I created a separate source file for each section of the report, it's been easier for students to edit the appropriate sections and also for me to find and isolate coding errors. ShareLaTeX has been a life saver."

Behind The Scenes

While it would have been possible for each of the students to take out an individual ShareLaTeX license for the duration of the course, Aaron instead opted for a single department license.

This covered the whole group and significantly cut down on the admin involved.

"I took out a group license because it's a way to essentially transfer the costs from my individual department to someone else (namely, our software purchasing/administering office). It's much easier to let someone else deal with those headaches than for me to do it.

I also wanted it to become standard software so that I can continue to use it without having to personally renew ~200 licenses every year or so."

ShareLaTeX has proven to be a robust solution which has taken a lot of the headaches away from reviewing and troubleshooting student work in Aaron's class.

The inbuilt collaborative aspects and the ability to standardize every report have made the prospect of facing another hundred or so next year much more appealing.

Do You Want An Easier Way To Introduce Your Students To LaTeX?

If you'd like your students to learn how to use LaTeX to present their work and want to give them an easy way in, ShareLaTeX could be for you.

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