

The `learnlatex.org` project

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1 Introduction

There are a plethora of resources available to new \LaTeX users. However, it is much more difficult to discover which of these provides the best introduction to \LaTeX . These online resources vary in quality and correctness: there are for example well-established concerns about the quality of advice in the \LaTeX Wikibook. Many good resources are over-detailed for a new user who needs only straightforward help to get over the initial barrier to using the system.

For many ‘programming languages’ there are now web-sites providing the opportunity to try coding online using a cloud compiler. These cloud compilers can be harnessed by a range of teaching websites to offer a simple introduction to the language using a suitable IDE (integrated development environment): a good example is <https://www.learnpython.org>. Such sites tend to be strictly limited in scope as they are not aiming to teach every possible idea in the language but only a strictly-limited ‘Beginners menu’.

Here I propose a new teaching site for \LaTeX , provisionally called `learn-latex.org`. The aim of this new site would be to provide a carefully-curated set of resources for beginner \LaTeX authors, with integrated use of an online \LaTeX environment and demonstrations accessed directly from these ‘lessons’. The scope of these learning resources would be limited, and the aim of the site would be to offer the material in ‘bite-sized’ chunks.

2 Content

The UK \TeX Users’ Group have prepared a set of notes for a one-day course (<https://github.com/uktug/latex-beginners-course>): these notes were originally prepared by Nicola Talbot and have been used successfully many times. A similar teaching scope is that provided in the Overleaf ‘Learn \LaTeX in 30 minutes’ page.

The content of the new site will draw on these two resources (with appropriate permissions), providing a set of around a dozen ‘lessons’, each focussed on a basic

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topic. Most, if not all, of the material will be taken from the basic (kernel) ideas or, in some cases, from L^AT_EX Team packages: only document-level commands taken from base and the `required` set of packages.

In addition to the learning resources, there will be a small set of suggestions for ‘going further’, along with links to finding help. Much of this extra material is already available elsewhere online via, for example, the L^AT_EX team site; but making this new site self-contained is a key aim.

To enable the content to be used as widely as possible, licensing is an important consideration. At this stage, a dual license approach seems most suitable. For the web pages themselves, the Creative Commons CC-BY-SA 4.0 license will allow re-use with attribution. For code samples, a more permissive license is likely best: the CC0 (roughly equivalent to Public Domain but applying in jurisdictions which do not have the PD concept) is suggested. This will allow users to simply pick and use the samples in their own documents without any legal concerns.

3 Design

The appearance and mechanics of the site will require some input from experts in web site design. One could, for example, envisage a simple layout with the bookmarks listed on one side of the screen and the bulk of the page taken up by the ‘learning materials’. Some visual relationship to the design of the L^AT_EX Team website would be appropriate.

Making the site visually attractive and, in all ways, accessible will be an important aim as this will help to differentiate it from many other online L^AT_EX resources (many of which are several years old and reflect older website practice).

At a technical level, the site will need to be fully-compliant with Web Content Accessibility Guidelines (WCAG). These are particularly important to visually-impaired users, for whom L^AT_EX offers significant advantage. Creating a new site using modern frameworks should make this straight-forward, and it will be part of the brief for the web designer contracted to carry out the design work.

4 Online compilation

A key aim of the new site will be to make learning L^AT_EX a ‘barrier-free experience’ for new users: therefore it needs to provide a well-integrated online compiler.

There are a number of commercial sites offering L^AT_EX, either as an explicit service or ‘behind the scenes’. Of the current set of websites, Overleaf is perhaps the most widely-used and it is the leader in providing L^AT_EX processing online. It will be important to be clear to users of the new site that there are multiple options for ‘compiling documents’, but establishing a relationship with an online provider will be important in making the site a success.

5 Technical Organisation

By far the easiest way of organising a relatively small site, as envisaged here, is to use a service such as GitHub Pages to serve the content. This will allow a team of maintainers to create the site using simple Markdown and HTML files, leaving the details of the web presence to the service providers.

This model has recently been adopted for the long-standing $\text{T}_{\text{E}}\text{X}$ *Frequently Asked Questions*, now served as www.texfaq.org as a custom URL around a GitHub site. This approach is scalable and flexible, and also means that the maintenance personnel can be managed simply, by adding/removing an individual's access to the host repository.

Strong institutional support will be important for such a 'canonical' learning resources site for $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$. Whilst both TUG and DANTE could act as central points, it seems most sensible for the $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ Team to have overall editorial and operational control of such resources for their core product. There are a number of individuals outside this team who would be useful collaborators, for example Nicola Talbot, Karl Berry and Barbara Beeton.

Relationships with commercial collaborators will need to be carefully managed. There are good reasons to think that online service providers will be keen on supporting such improved online learning resources for new users. At the same time, it is vital that overall control, of both the concept and the content, remains in the hands of the $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ Team. As such, material donated by any commercial entities will need clearly to be given without restrictions.

6 Funding

Resources for hosting the new site will be modest due to the use of many free services such as GitHub Pages and online compilation sites. The websites learn-latex.org and learnlatex.org have already been secured, and are renewable at a cost of around £20 (GBP) each a year.

The biggest single cost is likely to be for the design work on the web-site at the outset. Funding to support this effort will be required: unpaid expertise in web design is not available readily within the $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ community. User groups are probably the best source for such funds, which are likely to be of the order of £4000 to £6000.

Running costs of the proposed site will be minimal, likely limited to URL provision.

7 Ongoing support

There will be an ongoing need to curate the site: merging corrections and adding new content will be under the control of the 'curators' (likely the $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ Team). However, using the collaborative model offered by GitHub (or similar hosting sites), adding contributions from other experienced $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ users and teachers

will be possible. This should allow a good symbiosis of controlled, high-quality content *and* sufficient resources to maintain the site.

8 Conclusions

The creation of a new, high-quality L^AT_EX teaching site focussed strictly on new author users and providing a modern web experience will significantly enhance the spread of L^AT_EX to new users. The effort required to establish and maintain this site will be reasonable, with the more web-focussed aspects likely to be handled on a contract basis. This will allow L^AT_EX teaching experts to focus on content creation and review. These can be handled using standard Git workflows to allow third-party contributions to the site without endangering overall quality.

Funding at the level of £4000 to £6000 at outset will be a one-off cost, after which the site will be broadly self-sustaining in financial terms.