

How to Write a Unicon Technical Report

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Abstract

Technical reports are an essential means by which technology and ideas are disseminated. This report is for Unicon contributors and students who are asked by their community or their research advisors to produce a technical report that describes their work.

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1 Introduction

This technical report serves as a template and guide to how to produce a Unicon technical report as of July 2013. It is based on an earlier "How to Write a CS Technical Report" document [1].

Unicon technical reports are the primary and permanent archival technical documentation for an open-source software project. As such, it is important that they are open documents (for example, public domain or GNU Open Documentation License). This particular report is formatted in LaTeX. You may use any formatting system, font families and sizes and so forth, but the preferred formats are human-readable ASCII-based text, because it is amenable to long-term archival survivability and revision control repository difference analysis. If you use LaTeX, you can use `utr.sty` and this file's `utr15.tex` source code as a template; they are located in the `doc/utr` directory of the Unicon source distribution. In any case, the Unicon Project reserves the right to reformat any document submitted for consideration as a Unicon Technical Report into an open ASCII text-based format.

The only hard formatting requirement is that your cover page follow the general format that this report observes, so that its title, author(s), date, and technical report # appear in the window on the report cover. An abstract and the institutional address, if any, should appear lower on the title page. Unicon Citizens without an institutional address may use "Unicon Project" in that location.

2 Who Writes Unicon Technical Reports

Unicon Technical Reports describe core contributions to the Unicon Programming Language, its supporting tools, and/or its libraries. Typically faculty members, thesis and dissertation students, research assistants, and independent study students write technical reports when they have a substantial piece of work of relevance to the Unicon community. Many reports serve as a mechanism to make research results available quickly, before they see publication in a conference or journal. Other reports present smaller results or material that may not warrant external publication, such as reference materials that accompany software developed during the course of Unicon-related research and development. Basically, any document that a Unicon Citizen feels should be a technical report can be made into one.

3 The TR Production Process

Once you have written the essential technical content of your report, follow the steps below to introduce it electronically to the Unicon Project files. A sponsoring Unicon Citizen should either be a coauthor or should approve the content of the report before you start this process. If you have made a contribution that warrants a Unicon TR, you may well have become a Unicon Citizen yourself by the time you are finished with the report.

- 1. TR Number Assignment. Request a TR number only after you have a finished copy ready to go. In your request for a number, send the UTR Tzar (currently jeffery@uidaho.edu) a draft electronic copy of the report.
- 2. You receive a number when the UTR czar updates the Unicon TR list.
- 3. You add the number to your cover page, and give the UTR czar electronic source code and letter-size PDF final copy of your document.
- 4. The UTR czar posts the UTR PDF to the Unicon web site, and enters the source code into the Unicon Project revision control system.

4 Revisions

Useful software has a long life during which it goes through many updates and revisions. The accompanying technical reports get revised, also. The steps to follow for a revision are similar to the steps for a new report, except that the previous TR number should be in the messages sent to the UTR czar. Typically an update does not require a new TR number; instead the UTR number is appended with a revision letter, and your revised TR should include the original date followed by the most recent revision date. Large changes to a technical report may warrant issuance of a new TR number.

5 Advice to Junior Authors

The quality of technical writing is important. If you haven't written technical documentation before, allow yourself time for numerous draft revisions with

your sponsor, and your committee members if you are writing a thesis. You will also need time to master the publishing software or formatting language. Most document preparation systems are full of quirks and obscure bugs. The best thing to do is find someone who is already an expert and seek advice; your faculty sponsor is such a person. The abstract is extremely important. Many people will read it who may never read the rest of your document, especially if the abstract is poor. The abstract should be to the point, and it must convey the central contributions of your work.

6 Conclusions

Writing technical reports is a lot of work but it is an important form of participation in the local and global computer science community. Whether research or development, if an open source contribution is not understood and used by others its value is limited. The list of Unicon Project technical reports is located at <http://unicon.org/reports/html>

References

[1] Clinton Jeffery. "How to Write a UTSA CS Division Technical Report". University of Texas at San Antonio Computer Science Division Technical Report 95-1, 1995.