

Setting up a Graph Drawing E-print Archive (GDEA) a proposal

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May 10, 2005

- Introduction

“E-prints” are electronic copies of research output, like pre-prints, journal articles, conference papers, etc. An e-print archive is simply an online repository of such electronic copies. E-print archives promise many benefits for academics. They maximize visibility and accessibility of research. There are a number of successful open access e-print archives. “ArXiv” [1] or “ECCC” [2] are very good examples. Both are centralized subject-based services. Based on these facts we propose the Graph Drawing E-Print Archive Project (GDEA). Like the “Open Problems Wiki” [3] from Marcus Raitner and the “graphdrawing.org” [4] from Ulrik Brandes, GDEA will be another possibility to enhance the communication inside the Graph Drawing Community.

- Aims of GDEA

GDEA seeks to be the main and free repository for publications on Graph Drawing. It provides easy access to deposited contributions and serves as a permanent archive for their retention. GDEA should be used by academics, researchers, and students working in the field of Graph Drawing. It will give a possibility to adding graph visualization toolkits for analysis within the Graph Drawing literature, e.g. the GraphAEL system [5].

- Architecture

GDEA is running with GNU EPrints and Paracite. These tools are among the most frequently used software systems for E-Print-Archives. Both are based on the classical LAMP-Architecture (Linux, Apache, MySQL, Perl) and have been developed at the University of Southampton, UK.

- Concept

GDEA accepts papers in any language. However, there must be an English abstract. GDEA has four classes of users:

- Ordinary users can browse and search the archive’s public contents.

- Registered users can create new e-prints in their workspace and can deposit them into the buffer.
- Editors have the right to deposit the new e-print from the buffer into the archive, to reject the e-print or to send it back to the submitter for revision.
- Administrators have the ability to turn users into editors and can make radical changes.

For indexing, storage and archiving of the digital documents international standards like the guidelines of the Open Archive Initiative (OAI) are employed.

- Submission of a paper

The author self-archives the paper on GDEA. The work-flow to submit a paper to GDEA is simple and consists of four steps.

 1. Registration

This is only necessary for uploading papers or e-mail notification of new contributions. There is no need to register for searching or down-loading material from GDEA.
 2. Upload

After login, a user can start uploading documents. When ready, the finished e-print record is entered into the archive buffer.
 3. Screening

Incoming submissions do not go straight into the archive; initially they are placed in a buffer. The papers in this buffer are then valued by a GDEA editor and only those with content suitable for the archive are installed. This prevents the archive becoming clogged up with unsuitable material.
 4. Public Archive

Once validated, a GDEA editor transfers the e-print record into the public archive.
- Status quo

We created a subject classification and uploaded all LNCS Graph Drawing Proceedings articles as well as a few local (Cologne) Graph Drawing papers. Based on an agreement with Springer-Verlag we have deposited the Meta-data (title, author, etc), the abstracts, the references and a link to the full text by Springer of the GD Conference Papers on GDEA. At the moment we are creating a tool for parsing references in the contributions and upload them automatically in the depository interface and we plan to create a possibility for exporting the meta-data in $\text{BIB}_{\text{T}}\text{X}$ format.
- Open questions

There are a number of decisions which should be made before the Graph Drawing Community starts depositing papers in GDEA.

- Validity control
Validity control is one main task of the editors. An initial editorial board must be formed.
 - Enhancement of the Classification
A central problem with any classification scheme is the question of how well it helps a user to actually find the sort of material that s/he is interested in finding. So GDEA needs an editorial board who will continually improve the classification.
 - Full text or only meta-data
As you see in the deposit of the LNCS Graph Drawing conference papers, GDEA does not make full text obligatory. But GDEA should encourage full text. The important principle should be:
Every author decides for every single publication to offer only meta-data or free access to the full text.
 - Copyright concerns
Authors will often have concerns about the legality of making their work available on a public archive. In this context it is important to know that an author holds the copyright and he is free to give away or sell copies, on-paper or on-line, unless the author has signed the copyright to a publisher.
 - System-Administration
In our experience GDEA needs only minimal technical support. GNU EPrints and Paracite installed worldwide will give extensive support.
- More information
<http://gdea.informatik.uni-koeln.de/>

References

- [1] <http://www.arxiv.org/>
- [2] <http://eccc.uni-trier.de/eccc/>
- [3] M. Raitner, Open Problems Wiki, Proc. Graph Drawing '04, Springer LNCS 3383:508-509, 2005
- [4] <http://www.graphdrawing.org/>
- [5] <http://graphael.cs.arizona.edu/graphael/>