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TWiki: A Collaboration Platform for VO Projects

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Abstract. Finding an easy way of sharing knowledge and experience in a geographically dispersed project team is not easy. The ***TWiki*** is a Web-based collaboration platform. It looks like a normal Internet web site, but everybody can change pages or add content by just using a browser. A revision control keeps track of changes.

Several *Virtual Observatory* projects use this type of web site to share info among project members and across projects. This is an experience report on the usage and maintenance of TWiki sites in Astronomy.

Even if at first it seems almost the opposite of how the Web and on-line communications "normally" work, it is intuitive and aspires to the Zen ideals known as Wabi-Sabi: "It finds beauty in the imperfect and ephemeral and constantly evolving".

1. Introduction

Working in a distributed team always means spending a lot of time trying to keep everybody up-to-date about what other members are doing, as well to keep people in touch with each other. The infrastructure aims at facilitating project communication, therefore helping to share knowledge, the status and vision of the project, to draft ideas, and to synchronize different teams.

The *TWiki* is a web-based collaboration tool that offers the possibility to use a web site like an enhanced white-board. TWiki was not invented by the Astronomy Community but it perfectly suites our needs.

The astronomy-related TWiki sites considered in this paper have all seen a constant increment both in the number of visitors and users, as well as in the amount of pages created/updated and files uploaded. These *TWiki* sites are ALMA, Astrogrid, Aus-VO, AVO, EGSO, IVOA (Table. 1).

Table 1. Astronomical TWiki sites

Projects	Portal
ALMA	`http://almasw.hq.eso.org/almasw/bin/view/Main`
Astrogird	`http://wiki.astrogrid.org`
Aus	`http://www.aus-vo.org/twiki/bin/view/Main`
AVO	`http://www.euro-vo.org/intranet`
EGSO	`http://www.mssl.ucl.ac.uk/grid/cgi-bin/twiki/view.cgi/Main`
IVOA	`http://www.ivoa.net/intranet`

2. WikiWords (i.e. Terminology)

A TWiki *Web* is a collection of pages grouped by some logical meaning.
A *Topic* means a wiki page with all its content.

3. Usage/Usability

Usage statistics are plotted in Fig. 1 and Fig. 2: The former describes the number of pages modified and the number of files uploaded, i.e. real interactions with the Twiki. The latter displays the number of pages visited in each month. To create these charts, only relevant *Webs* of each TWiki site were taken into account.

The simplicity of TWiki is mostly due to the fact that one can access and work on such a site simply by using a web-browser. It is not necessary to install any particular client software. To have an idea of how many users are really working with the TWiki, Table. 2 presents the number of collaborators who put material on the mentioned sites.

Table 2. 2003 TWiki-VOs Users

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
TWiki										
ALMA	-	-	-	-	-	-	-	22	41	57
Astrogrid	54	55	59	64	84	87	94	94	95	101
Aus-Vo	7	15	16	17	17	17	18	19	19	20
AVO	121	123	123	123	123	123	123	123	126	139
EGSO	35	35	35	35	35	35	35	37	37	45
IVOA	11	19	37	52	67	71	74	78	83	93

4. Installation and Maintenance

The are only a few system requirements when setting up a TWiki server. Even though it was originally designed for Unix-like Operating Systems (and it is actually developed in a `Linux`/`Apache` environment) it works also on Microsoft

Windows.

Implemented as `CGI` scripts in `Perl`, it works on port 80 without any special firewall requirements. To assure transparency a revision control system (`RCS`) keeps track of changes and all prior revisions are directly accessible. The e-mail notification service[1] makes use of the `Net::SMTP` Perl module (alternatively `sendmail`).

5. Pros and Cons

5.1. Pros

- Easy to use, easy to maintain.
- Full public access on the Web.
- Simplified built-in markup language.
- Instant updates of the on-line material.
- Constant development to assure new features every month (with simple plug-in format to facilitate the installation phase).
- New plug-ins, provided by an archive user community, constantly enrich the functionality.

5.2. Cons

- The hardest piece is to get people to use it: ...Once they get started they can't live without it anymore.
- It is difficult to maintain a clear document structure since everybody can add pages and documents. So, the more active the user community, the bigger the mess that may result.
- Being a purely web based tool, the editor is a rather basic HTML form; there is a more advanced `Javascript` editor though.

[1]Inform users about changes in the TWiki Webs.

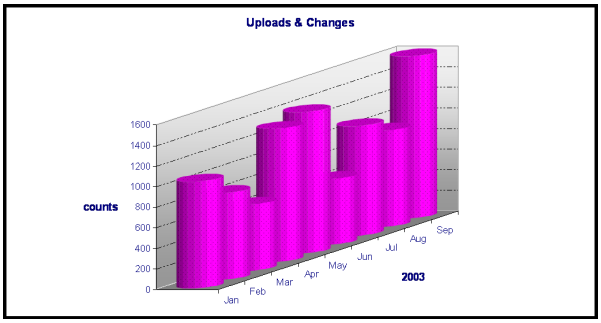

Figure 1. Uploaded documents and modified pages.

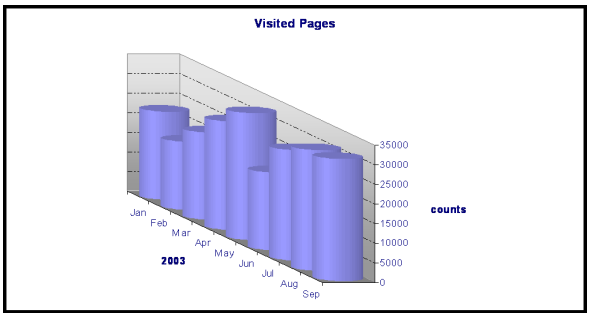

Figure 2. Visited Topics on all six TWikis.

References

TWiki.org, `http://twiki.org`
Wabi Sabi, `http://www.art.unt.edu/ntieva/artcurr/asian/wabisabi.html`