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## **THE PROFILE OF FREE TEAMWORK SOFTWARE**

**Abstract:** The article is the short introduction to the questions relating to the teamwork and software which supports collaborative work. We can notice a growing interest of free operating systems and the article focuses on entirely free systems therefore. The several most important definitions are introduced in the first part of the article. The most important is showed in the second part of the study: the profile of three chosen groupware systems which seem to be representative for the described class of computer software.

### **1. Introduction**

The problems of the computer-aided team work make up the current investigative area, being the object of interest of the representatives of many disciplines, also the scientists in the field of economic computer science. The part of team work and its computer support as the factor assuring the receiving of competitive superiority to the enterprise, though, not fully valued by economic practitioners yet, grows systematically. The increase of the supply of this kind of software (including open source and free software) has been observed for several years.

The presentation of the most important features and the chosen functions of free software helping the teamwork is the main goal of the present article. Their continuous development causes that they became an interesting alternative in the relation to commercial systems.

### **2. Basic definitions**

We will begin our analysis from the presentation of several chosen notions which establish the basic terminological base for the described subject matter. The most important term is **groupware** which means software designed to be used collaboratively by multiple users on a network. Groupware is a tool that helps people work together more easily or more effectively. It typically allows them to

communicate, coordinate and collaborate. Communication helps people share information, coordination helps people coordinate their individual roles with each other and collaboration helps people work together [Hills 1997, p. 45-47].

Other names sometimes used for groupware include collaborative software (computing) or group support systems. **Collaborative software** is software designed to help people involved in a common task achieve their goals. Collaborative software is the basis for computer supported cooperative work.

The term **computer supported cooperative work** (CSCW) was first coined by I. Greif and P. M. Cashman in 1984, at a workshop attended by individuals interested in using technology to support people in their work [Grudin 1994, p. 19-26]. On the one hand, a lot of authors consider that CSCW and groupware are synonyms. On the other hand, different authors claim that while groupware refers to real computer-based systems, CSCW focuses on the study of tools and techniques of groupware as well as their psychological, social, and organizational effects. The definition of Wilson expresses the difference between these two concepts: "CSCW is a generic term which combines the understanding of the way people work in groups with the enabling technologies of computer networking, and associated hardware, software, services and techniques" [Wilson 1991].

Other important term in CSCW area is **workflow**. According to Workflow Management Coalition (WFMC) workflow means "the automation of a business process, in whole or part, during which documents, information or tasks are passed from one participant to another for action, according to a set of procedural rules" [Workflow 1999, p. 8].

Workflow is closely connected with the next notion: **document management**. Document management technology can help support key business processes as exemplified by:

- vetting and approval of engineering design documents and drawings,
- processing insurance claims,
- document version control,
- controlled document distribution,
- quality management procedures such as those associated with ISO 9000 [Wiggins 2000, p. 3].

Groupware tools allow people to work together at the same time and be in the same place or a different place. Some of the tools that help users work together include the following:

- calendaring and scheduling tools,
- voice conferencing,
- videoconferencing,
- electronic meeting systems,
- whiteboards or data conferencing,
- chat tools.

Some groupware tools allow people to collaborate and share information, but generally not at the same time. These tools are the foundation of knowledge systems, and include the following:

- e-mail,
- conferencing and discussions
- knowledge repositories,
- group writing or shared document editing tools,
- workflow tools [Hills 1997, p. 49-52].

These functions are contained in present software packets which happen to be very complex, multimodular systems. Synthetic description of the most important features of such software will be introduced in the next point of the study.

### 3. Description of chosen software

In this part of the article we will concentrate on the description of three pieces of chosen software which seem to be the most popular and complex. We will begin from the presentation of the software named phpGroupWare.

**phpGroupWare** is a fully featured, web based messaging, collaboration and enterprise management platform. phpGroupWare comes with over 50 applications that can be mixed and matched according to needs. Some of the features it offers include:

- contacts management,
- e-mail,
- shared calendar,
- web content and document management and sharing,
- project management,
- issues tracking.

phpGroupWare is a free and open source software which means the software can be modified to suit user's specific needs. At the core of phpGroupWare is advanced Application Programming Interface (API) which allows to build and deploy web based applications quickly and easily. API easily supports multiple database backends, permissions and access controls, user interface generation and multiple languages. phpGroupWare is also flexible and scalable. It is suitable for small groups of people and large organisations. phpGroupWare is international, currently supports over 20 languages.

The content (application data, translations of the user interface) is stored in a database (MySQL, PostgreSQL, Oracle, Sybase). The look of the graphic user interfaces is described in separate files (templates). The appearance of the interface of phpGroupWare (e-mail client and calendar) is shown in Figure 1 and Figure 2.

eGroupWare is the second software which we will present. **eGroupWare** is a free enterprise ready groupware software and groupware server. It is an open source, web-based, collaborative groupware software solution. It is written in PHP

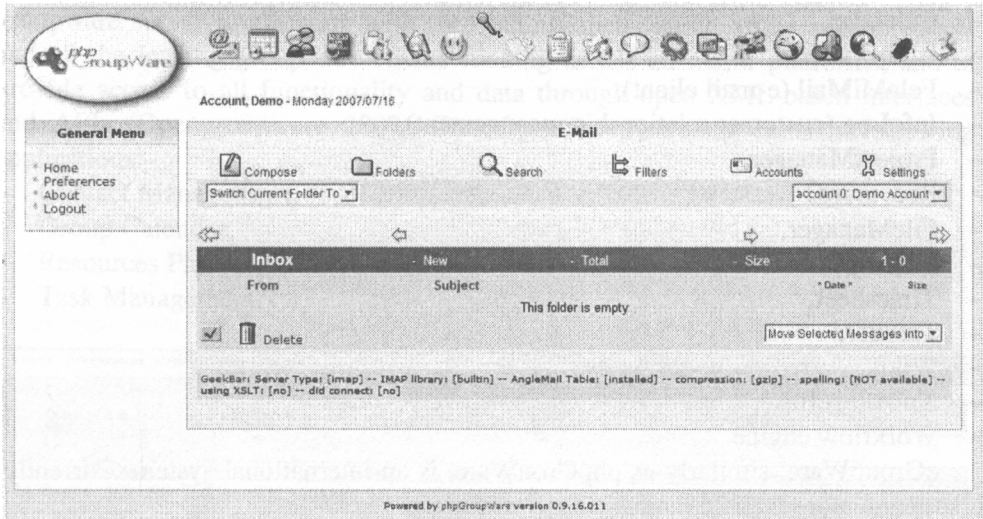


Figure 1. E-mail client in phpGroupWare

Source: own study on the basis of [Php 2007].

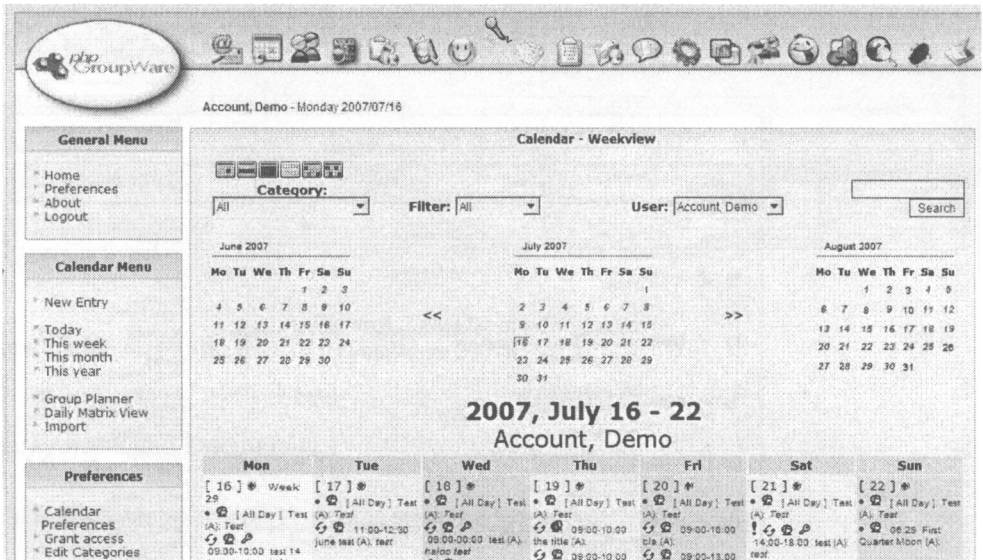


Figure 2. Calendar in phpGroupWare

Source: own study on the basis of [Php 2007].

and makes use of the MySQL database. It comes with a native web-interface which allows to access data from any platform. The server runs on Linux, Mac, Windows and many other operating systems. The eGroupWare suite consists of a number of individual installable applications such as:

- Calendar,
- AddressBook,
- FelaMiMail (e-mail client),
- InfoLog (customer relationship management),
- ProjectManager,
- Resources,
- FileManager,
- SiteMgr,
- Timesheet,
- Tracker,
- Wiki,
- KnowledgeBase,
- Workflow engine.

eGroupWare, similarly as phpGrouWare, is an international system. Currently it supports more than 25 languages.

The appearance of two modules of eGroupWare (InfoLog and Calendar) is shown in Figure 3 and Figure 4.

The screenshot shows the InfoLog module interface. At the top, there is a navigation bar with icons for various eGroupWare modules: FelaMiMail, Calendar, Gallery, Addressbook, InfoLog, ProjectManager, Resources, Timesheet, Tracking System, Weblogs, Wiki, and Bookmarks. Below the navigation bar, there is a sidebar with 'InfoLog Menu' and 'Preferences' sections. The main content area displays a list of tasks. The list has columns for 'Status', 'Subject', 'Priority', 'Category', 'Owner', 'Last changed', and 'Sub Action'. The tasks listed are:

Status	Subject	Priority	Category	Owner	Last changed	Sub Action
Completed	callit ttest	#519 change		Account, Demo [demo]	16/07/2007 13:29	
✓	Moin Moin Herr Moin Moin hat angerufen. Bittet um Rückruf	#518 ChangeLog		Account, Demo [demo]	16/07/2007 13:22	
✓	Blainkdvknck Unit Hanselmann, Frank Anrzf hat angerufen	#517		Account, Demo [demo]	16/07/2007 12:00	
✓	2701: Woodbridge @ Ivan's Acres test files adddiag.txt	#516		Account, Demo [demo]	16/07/2007 07:16	
✓	P-2007-0030: Wonderful Project Everything fixed Re: Documentation of	process documentation #510		Account, Demo [demo]	15/07/2007 12:45	

Figure 3. InfoLog in eGroupWare

Source: own study on the basis of [eGroupWare 2007].

OpenGroupware.org is the third solution which we will describe. **OpenGroupware.org** is a free collaborative software (groupware) server for multiple clients. It is mostly written in Objective C and uses PostgreSQL and Apache. The main goal of developers of this software is to create, as a community, the leading open source

groupware server to integrate with the leading open source office suite products and all the leading groupware clients running across all major platforms, and to provide access to all functionality and data through open XML-based interfaces and APIs (OpenGroupware 2007). The OpenGroupware.org consists following applications:

- Contact Management,
- Group Calendar,
- Resources Planner,
- Task Management,

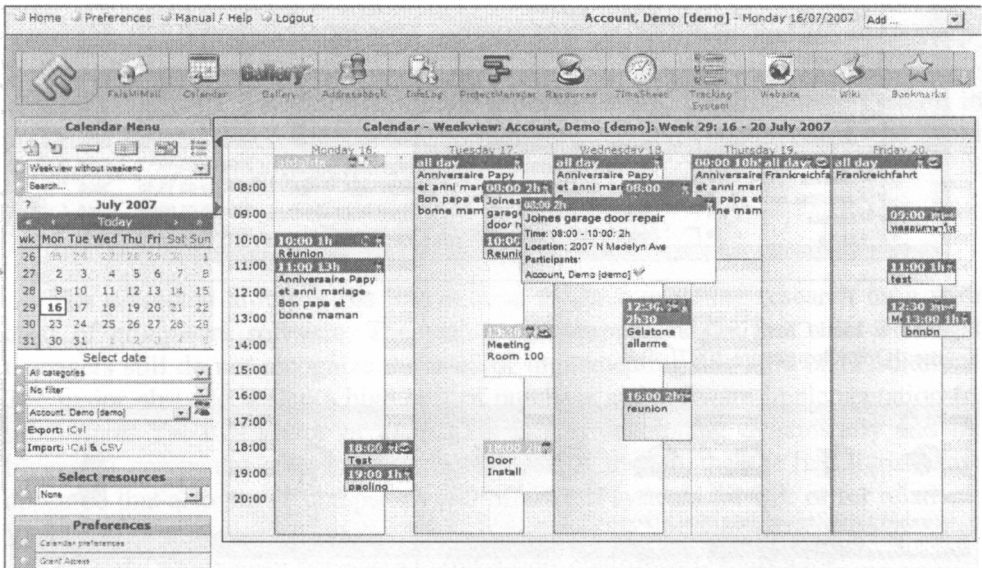


Figure 4. Calendar in eGroupWare

Source: own study on the basis of [eGroupWare 2007].

- E-Mail Client,
- Projects and Documents,
- News,
- Palm Sync,
- Preferences,
- Usermanager.

OpenGroupware.org is fully localized in English and German. There are contributed localizations for Danish, Spanish, Italian, French, Dutch and Portuguese.

The appearance of two applications of OpenGroupware.org (E-Mail Client and Group Calendar) is shown in Figure 5 and Figure 6.

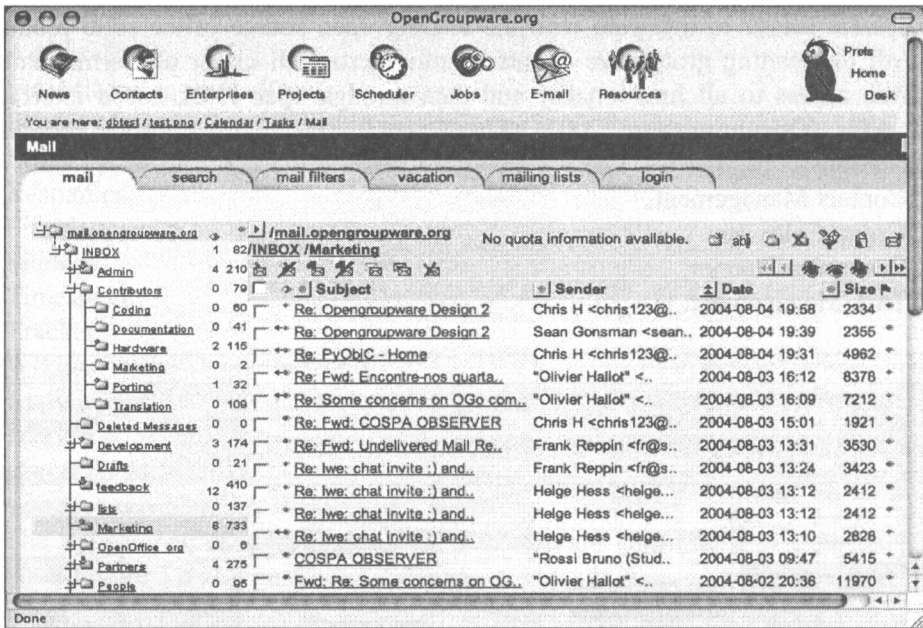


Figure 5. E-Mail Client in OpenGroupware.org  
Source: [OpenGroupware 2007].

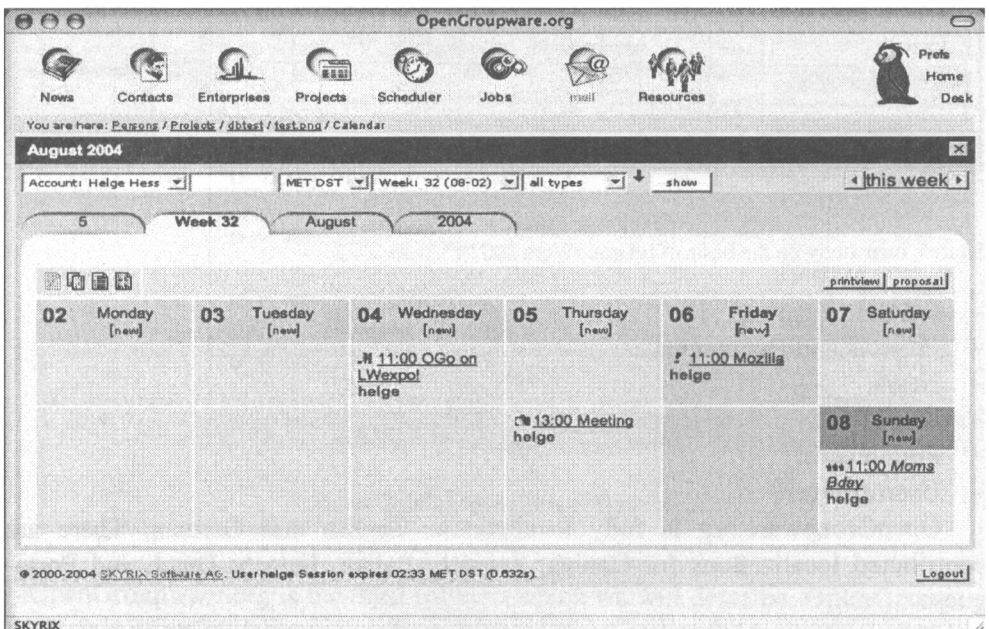


Figure 6. Group Calendar in OpenGroupware.org  
Source: [OpenGroupware 2007].

From the introduced short review of free groupware systems we can draw the conclusion that this is already comparatively mature software which is also being implemented at commercial organizations more and more widely. The functional range of this software is very wide and, in fact, similar to others. It is hard to show the decided leader among the introduced systems. However, these systems distinguish themselves in the range of complexity and the number of implementations among different systems of this kind. We send back the readers interested in the wider list of free groupware software to resources of Wikipedia at the Internet address [http://en.wikipedia.org/wiki/List\\_of\\_collaborative\\_software](http://en.wikipedia.org/wiki/List_of_collaborative_software).

Today groupware systems are implemented at many various institutions: productive companies, council offices and consulting firms. For example a short reference list for eGroupWare system we can find on webpage <http://www.egroupware.org/references>.

Currently there are only few studies about the use of the groupware systems in practice. Several interesting results on this subject are contained in the work [Wójtowicz 2006, p. 276-283].

## 4. Conclusions

The presented article is the introduction to the forthcoming research on a wide class of groupware software. The author's experiences show that a lot of Polish managers still do not recognize the need of implementing this kind of IT solutions. The major obstacle is also a high cost of purchase and software implementation for groupware. Yet this sector of IT market is still developing dynamically and the biggest IT companies offer their products. It seems, though, that the first signals have appeared that also big IT companies will offer their systems for free or for relatively low prices (for example Google Docs). It needs to be highlighted that producers of free systems which were presented in this article contributed to this a lot.

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