

## Hypertext-based Campus Wide Information System

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### **Summary:**

Since 1991 a hypertext-based campus wide information system is provided for the users of the Banyan Vines network of the Agricultural University Wageningen. The user friendly interface and easy maintenance of the hypertext application directed the choice this way. In a hierarchic structure information is reached after several keystrokes, in a hypertext structure the number of keystrokes is limited. A hypertext application offers the possibility to start other applications too.

### **Anotace:**

Od roku 1991 je na základě hypertextu vytvořen celoškolský informační systém pro uživatele sítě "Banyan Vines" na Zemědělské Universitě ve Wageningenu. Tento záměr vychází z přátelského uživatelského rozhraní a snadné údržby hypertextových aplikací. Při hierarchické struktuře získáme informaci po stisku několika kláves, v hypertextové struktuře je počet stisků kláves omezen. Hypertextová aplikace umožňuje také start jiných aplikací.

### **Key words:**

Hypertext, Campus wide information system, CWIS, database, information services

### **Klíčová slova:**

Hypertext, celoškolský informační systém, CWIS, databáze, informační služby

### **History**

In 1990 a study of three students of the development of an Electronical Network Agenda (ENA) resulted in three reports: a definition study<sup>(1a)</sup>, a prototype of the program<sup>(1b)</sup> and an overview of the desired information<sup>(1c)</sup>.

The aims of the study:

1. contact co-workers of the Agricultural University with the interesting network-feature: the electronical information service
2. developing an experimental network information system for internal information service

This study was done during the early implementation of a FDDI network for the Agricultural University Wageningen which should end up in a network connecting over 3000 pc's, several workstations of several types, a Vax-cluster, all geographically spread over Wageningen.

Some main core demands for co-workers were:

Literature references (library catalogues, current contents)

Internal/ external phonebook, e-mail addresses

Agenda of agricultural and environmental activities

Available software (network)

At the time of the study, students could only participate in the network by connected departments. This will change in future.

### Information service tool

In 1990 the standard client in the network is a MS-DOS station equipped with a 80826 processor. The choice for tools for offering and gathering information was limited to tools available for the client platform.

Although the main part of the information is changing during the time, for each subject an optimal refreshing-scheme can be defined to assure information of good quality. Direct connection to the information-source e.g. a database-application is not obliged, so the user interface for gathering information can be standardized. Some parts are only available by starting other applications e.g. library catalogues from other universities are available by connecting their own computers, the national phonebook is provided on CD-ROM etc. etc. By making the choice to provide external information services too, a tool should support starting external applications.

Therefore we ended up in a hypertext environment where a linked subject could be defined as information or as a call to another application controled by the hypertext application.

HYPERSHELL from Text Technology provides the demands. This program is available as ShareWare.

Each subject can be annotated as frame or note to link to internal information or script to connect to external services. Hypershell still runs on our starting platform but provides also a graphic environment with version 5 for clients more powered.

A hypertext application offers an user friendly front end to a relational database<sup>(2)</sup>.

If the information is stored in a relational designed database, the basic entities of the logic model provide the entries of the main frame. Basic entities do not have foreign keys to other entities but are only referred by other entities. The defined relations show up in the frames

based on basic entities as hyperlinks. An occurrence of a many to many relation results in a frame which is linked with two other frames.

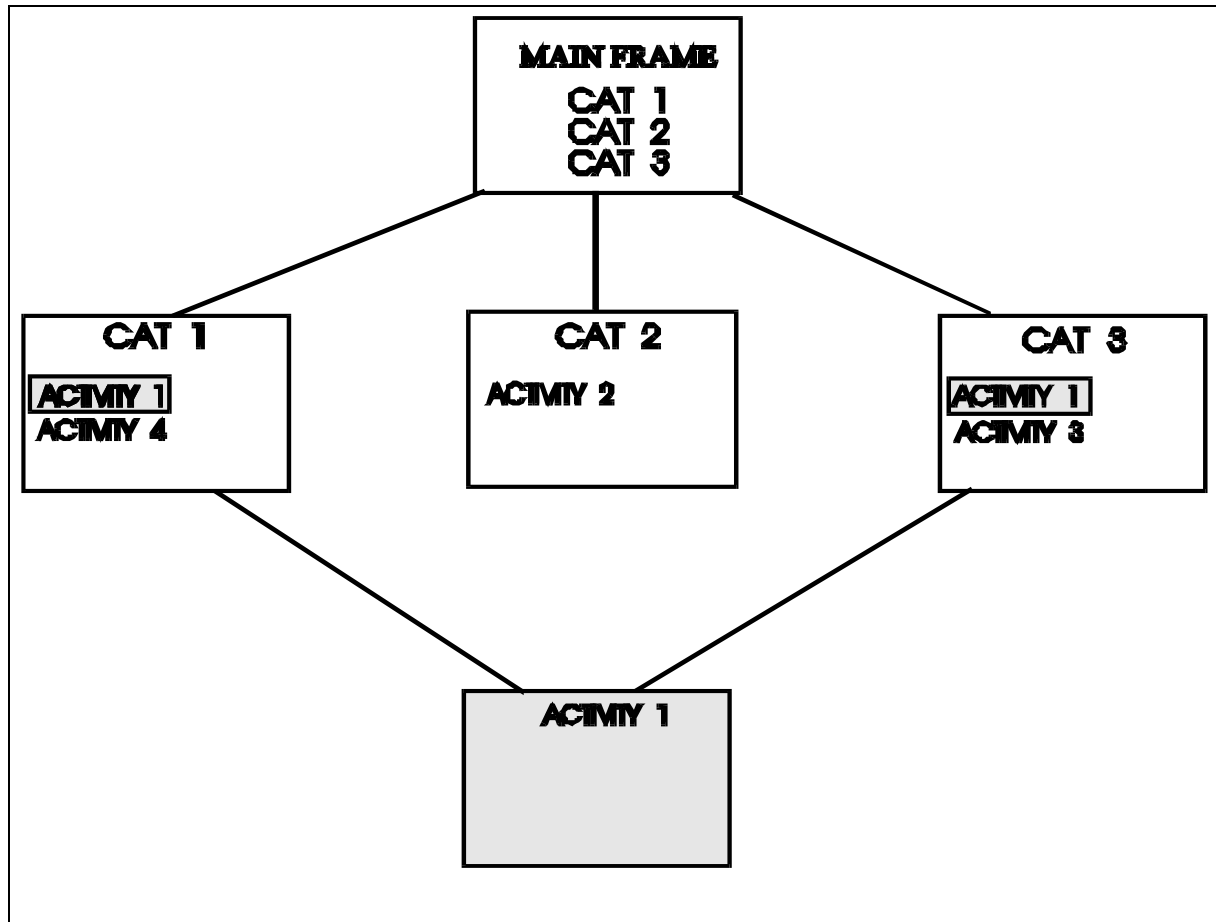
Reduction of maintenance activities by the information supplier will be explained on the subject Agenda of activities.

**Agenda of activities.**

The Press and Public Relations office maintains a database constructed for storing information on activities concerning the university and agricultural and environmental activities where co-workers of the university play a role. The information is added, modified and selected for publishing by the supplier using a tailormade application. Output of the database is provided as information service for the CWIS and for external information (local press etc.) too. According to the principles of SGML<sup>(3)</sup> the information is stored without layout, just as plain information. A procedure writes the output in the desired format. Ideally the layoutcodes for output definitions are stored in a database too.

An activity is defined by:

- what : the title
- when : the date and the time



Optional data: description, name(s) of the speaker(s), short title, categorization.

To be able to define hyperlinks, the short title and a plain categorization is also necessary to define an activity. The short titles can be used as link between the overview and the information stored in the activity frame. The main categories can then be used as user entries in the hypertextdocument.

All the activities can be ordered by the main categories.

The main frame contains the links to the different categories. Each category shows the links to the specific activities.

Activity 1 will pop up in the total agenda overview and in the frame category 3. In both frames links are defined to the basic activity frame in which the information is shown concerning the activity.

Once a week the supplier refreshes the hypertext document. The quality of the information can be assured by early and complete supply. Therefore a good supplier organization is indispensable.

### Next steps

In future the same information will be available in a hypertext environment not only for MS-DOS clients but for other platforms too. Maintenance will be reduced by implementing a SGML-based information base equipped with procedures to construct documents according to the desired definitions.

- (1) De ontwikkeling van een elektronische informatiedienst voor de Landbouwwuniversiteit. (1990)
  - .a B. Kampfens Een definitiestudie
  - .b H-J. Meijer Documentatie van de programmatuur
  - .c M. Velders Beschrijving van de gebruikersparticipatie
- (2) N. Woodhead Hypertext & Hypermedia, Sigma Press (1991)
- (3) J.M. Smith SGML and Related standards, Ellis Horwood Limited (1993)