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Educational Technology Expertise Centre OTEC
Open University of the Netherlands

ALFANET 2002

Active Learning for Adaptive Internet

COLOPHON

Title:	Alfanet 2002
Author:	Peter van Rosmalen
Project:	IST-2001-33288
Project manager:	Peter van Rosmalen
Project members:	S. Stoyanov, P.A. Kirschner, M.B.M. de Croock, F.M.R. Brouns, L.J.J.M. Wagemans, G.J.M. Joosten, P.H.A.G. Poelmans, H.G.H. Martens, H.F. Vogten, J.M. Manderveld, R. van Es, J. van der Baaren, P. Gorissen, E. Rusman, M.J.J.P.M. Boon, M.R. van der Klink, J.P.B. van den Broek, E.J.R. Koper, P.M. van Rosmalen (OTEC), F.J.M. Mofers, H. Passier (Informatics)
Project partners:	Software AG España (coordinator), UNED, Ernst Klett-Verlag, Electricidad de Portugal, ACE Business Networking
Programme:	OTEC and Faculty of Informatics
Project chair:	Prof.dr. E.J.R. Koper
Project board:	Prof.dr. E.J.R. Koper, Prof.dr. J.J.G. van Merriënboer, Drs. F.H.D. Gastkemper, Prof.dr.ir. R.R. Bakker
Project assistant:	N.M.H. Knebel
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Open University of the Netherlands

ALFANET 2002
Active Learning for Adaptive Internet

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the Netherlands
Tel. +31 45 5762624
Fax. +31 45 5762800

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1. Introduction

Alfanet is een driejarig project in het Europese Information Society Technology programma (IST-2001-33288). Alfanet is in mei 2002 van start gegaan. De Open Universiteit Nederland werkt binnen dit EU-project samen met de Spaanse afstandsuniversiteit UNED en met de bedrijven Software AG España, Ernst Klett-Verlag (DE), Electricidad de Portugal en ACE Business Networking uit Portugal. Het project omvat het ontwerp van een hoogwaardige leeromgeving voor het aanbieden van leer- en opleidingsactiviteiten aan werknemers.

Alfanet staat voor Active Learning For Adaptive Internet. Bijzonder aan Alfanet is dat het een adaptieve leeromgeving is die gebaseerd is op agents - software programma's die zelfstandig, in nauwe interactie met hun omgeving taken uitvoeren bijvoorbeeld een advies aan de student over de volgende, te kiezen activiteit -. Informatie over de lerende en hoe de lerende de leeromgeving gebruikt, wordt geregistreerd en geanalyseerd. Het resultaat hiervan wordt vervolgens benut door de agents voor het aanpassen van de leeromgeving aan de persoonlijke voorkeuren en leerstrategieën. Zo ontstaat een optimale, individuele afstemming tussen lerende en leeromgeving. Na de ontwerpfase wordt in pilots getest of deze optimale afstemming ook daadwerkelijk gerealiseerd wordt. Alfanet is een omvangrijk project. Alleen al de bijdrage van de Open Universiteit Nederland bedraagt ruim honderd werkmaanden.

Dit project sluit inhoudelijk goed aan bij de R&D-activiteiten van de OUNL, met name bij het Development Programma van het Onderwijstechnologisch Expertisecentrum, maar daarnaast ook bij het onderzoeksprogramma en bij de R&D-activiteiten van de faculteit Informatica. Alfanet wordt dan ook in onderlinge samenwerking uitgevoerd. De OUNL levert onder andere een bijdrage aan het ontwerp van de omgeving, waarbij EML (LD) en Edubox een belangrijke rol gaan spelen. Verder zal de OUNL meewerken aan de validatie van de omgeving en aan het onderzoek naar de impact ervan op het proces van standaardisering op het gebied van Learning Technologies.

Het project wordt uitgevoerd aan de hand van het projectplan zoals beschreven in contract 'IST-2001-33288' 'Annex 1 - "Description of Work"' [1]. De voortgang van het project wordt jaarlijks in een formele 'annual review' geëvalueerd. De eerste review is gepland op 25 maart 2003. Indien nodig of wenselijk wordt het projectplan op basis van de uitkomst van de review aangepast. Het vervolg van dit rapport is gebaseerd op de eerste halfjaarlijkse rapportage 'Progress Report no 1' [2].

2. Objectives

ALFANET concentrates in the new emerging market of e-learning, an area that will doubtless take advantage of the new technologies related with the internet, human interaction, and automatic learning.

More specifically:

- *ALFANET* will allow organisation personnel to have an interactive, adaptive and personalised learning through the internet bringing them the opportunity to learn on those matters that are relevant to perform and to improve their work.
- *ALFANET* will allow organisations to improve their intellectual capital, promoting the evolution of employees in specialised and also multidisciplinary areas that are required in their daily work.
- *ALFANET* will allow learning content providers and educational centres to provide learning contents in such a way that these contents can be adapted to the personal needs.

Outcomes are:

- a working prototype of an LMS with intelligent personalisation capabilities and focused on continuous training needs in corporate firms.
- a proposal for contributing to the current standards of the e-learning field in the adaptation and personalisation on contents and learning methods.
- an evaluation of the prototype's impact on the current learner needs.

3. Activities

In this section attention is paid to the tasks belonging to the first project milestone 'M1.- Specifications' which is due by the end of month 9, i.e. by the end of January, 2003 and the current state of their progress. The tasks include:

WP1. User Requirements & Specifications, it is related with fulfilling user's needs in the light of a thoroughly review of the state-of-the-art of related tools. It includes different analysis: the functional needs of the two pilots sites and the requirements of the software application. User partners have an important role in this work-package. WP1 consists of four main tasks. At the end of 2002 *T11. User Needs Identification*[3], *T12. State-of-the-art of related technologies* [4] and *T13. Functional Specifications* [5] are finalised with the delivery of the respective reports.

Currently the consortium is focusing on *T14. Assessment and Validation Plan*, that has been affected by a delay in the other WP1 tasks and a continued discussion on the scope of the validation.

The completion of WP1 is expected by the end of February, 2003.

WP2. Architecture & Design, covers the global system design, and includes the following activities: to detail the system architecture, to agree the decomposition of the development activities into components, to define the

interfaces between components which could be independently developed while ensuring future integration and compatibility.

WP2 has started with one month delay, i.e. at the beginning of November. The consortium is currently working on *T21. General Architecture* and will soon start with the details of *T22. Content Model definition*.

Both tasks are fundamental for the subsequent technical activities of the project. Also we must mention the difficulties of defining a common architecture, having into account that (1) we aim to select some existing components to integrate within the system instead of starting from scratch and that (2) the architecture must conform a set of requirements of modularity, extensibility, interoperability, etc. In the following period this will be then one of the main activities. Once the architecture is defined, the work will focus on the initial design of *T23. LMS corporate Lecturer Design* and *T24. LMS Administration and Support Design*.

WP2 is expected to finalise one month later than the initial planning, i.e. by the end of February, 2003.

WP3. Standards, has the objective of both taking advantage of using current standards, and contributing to the current learning standards including adaptation information to the Content Models. WP3 has performed an analysis of existing standards (*T31. Existing Standard Analysis*) in various fields related with ALFANET project. The investigation has been finalised, and now the consortium is analysing the various standards for a selection of which of them to include in ALFANET system.

The delay on T31, does not have significant implications on T32, as this task is active along the project life cycle, and will have its major contributions at design and development stage.

T31 is expected to finalise by the end of February, 2003.

WP7 Exploitation & Dissemination and *WP8. Management*, in parallel along the complete project life-cycle, cover exploitation and management activities.

WP7 has already produced the *Project Presentation (D71)*, and the *Initial Market Studies (D72)* [6]. The consortium is currently working on *T73. Dissemination* and *T72. Exploitation Plans*. Outcomes of these tasks will be available by the end of February 2003.

WP8 covers management and coordination activities. The results of WP8 include among others the bimonthly reports, the half year progress report including cost statement and the organisation of meetings, i.e the kick-off in Madrid in May and a plenary in November in Houthem and in December in Madrid.

Overall, the status is that the project suffers a delay of one month in getting the results of 'M1. Specifications' milestone. This, however, is not the main issue at this point in time. The main issues are:

- to come to an agreement and understanding on how to integrate the existing applications in an efficient manner;
- to pay sufficient attention to the most important challenges of the project, i.e. the use of agents and the integration of standards;

-given the high requirements and expectations- to use the limited resources in an effective and efficient manner.

4. Outcomes

The following deliverables have been scheduled for this period. Their current states are:

Deliverable	Originally planned	Current View	Actual	Status	Partner Responsible
D11. Compilation of User Needs	31/7/02		4/11/02	Delivered	EDP
D12. State of the Art	31/9/02		25/10/02	Delivered	OUNL
D13. Functional Specs	31/9/02	15/12/02	23/12/02	Delivered	SAGE
D14. Initial Validation Plan	31/9/02	28/02/03		On-going	UNED
D21. Architecture & Design	31/1/03	28/02/02		On-going	SAGE
D31. Existing Standards Analysis	31/9/02	28/02/02		On-going	OUNL
D71. Project Presentation	31/10/02		11/06/02	Delivered	SAGE
D72. Initial Market Studies	31/8/02		20/9/02	Delivered	OUNL
D73. Initial Use & Dissemination Plan	31/10/02	28/02/03		On-going	UNED
D74. Signed Consortium Agreement	30/10/02	28/3/03		On-going	SAGE
D75. Initial Exploitation Plans	31/1/03	28/2/03		On-going	SAGE

Figure 1.- Status and schedule of Deliverables

5. References

- 1) Contract IST-2001-33288 Annex 1 - "Description of Work" (2001).
- 2) Arana, C., IST-2001-33288 Progress Report no 1 (2002).
- 3) Moutinho, A., Fuentes, C., Barrera, C., Arana, C., Escala, E., Barros, F., Hoke, I., Boticario, J., Franco, M., Rodrigo, M., Barros, M., Santos, O., Kirschner, P., Fickel, S., Stoyanov, S., Aleixo, S. (2002). *Compilation of User Needs*. Alfanet/IST-2001-33288 Deliverable D11. Lisboa: EDP
- 4) Croock, M., Mofers, F., Van Veen, M., Rosmalen, P., Brouns, F., Boticario, J., Barrera, C., Santos, O., Ayala, A., Gaudioso, E., Hernández, F., Arana, C., & Trueba, I. (2002). *State-of-the-art*. Alfanet/IST-2001-33288 Deliverable D12. Heerlen: Open University of the Netherlands.
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- 6) Van der Klink, M., Boon, J., Rusman, E., Rodrigo, M., Fuentes, C., Arana, C., Barrera, C., Hoke, I., & Franco, M. (2002). *Initial Market Study*. Alfanet/IST-2001-33288 Deliverable D72. Heerlen: Open University of the Netherlands.