Natural Interactive Communication for Edutainment

NICE Deliverable D8.3

Dissemination and Use Plan

30 September 2002

Authoring sites

NISLab, Denmark, LIMSI/CNRS, France, Liquid Media, Sweden, Philips Speech Processing, Germany, Telia, Sweden

Project ref. no.	IST-2001-35293
Project acronym	NICE
Deliverable status	Restricted
Contractual date of delivery	31 August 2002
Actual date of delivery	30 September 2002
Deliverable number	D8.3
Deliverable title	Dissemination and Use Plan
Nature	Report
Status & version	Final
Number of pages	8
WP contributing to the deliverable	WP8
WP / Task responsible	Niels Ole Bernsen, NISLab
Editors	Niels Ole Bernsen, Svend Kiilerich
Author(s)	NISLab, Denmark, LIMSI/CNRS, France, Liquid Media, Sweden, Philips Speech Processing, Germany, Telia, Sweden
EC Project Officer	Mats Ljungqvist
Keywords	Edutainment, natural interactivity, speech interface, games, natural language processing, multimodal interaction, human language technologies.
Abstract (for dissemination)	This deliverable from the IST/HLT NICE (Natural Interactive Communication for Edutainment) project describes current plans for information dissemination, project results promotion, and results exploitation.

Table of Contents

Dissemination and Use Plan

1. Continuous market assessment

At the present stage the industrial partners Telia Research, Liquid Media and Philips Speech Processing have nothing to add in this section.

2. Dissemination activities

2.1 Dissemination plans

The basic means for dissemination of information about, and results from, the project is and will be publications, reports, web documents and demonstrations made by the NICE partners as well as press articles, radio and TV broadcasts, etc. made by journalists and others. At the start of the project, a website was set up at which relevant information and documents (external as well as internal) are being kept. The official NICE slides can be seen on the web site, as well as a first newspaper article and a press release.

Throughout the project, the NICE dissemination efforts will be synchronised with the Commission's horizontal information activities (project catalogues, web pages, meetings, etc.). Important results of the project will be published at scientific conferences and in scientific journals, such as ICSLP, Eurospeech, Interacting with Computers, and others, as well as in the more applied literature, such as the ACM and IEEE publications.

In addition, NICE will be carrying out regular system demonstrations at conferences and workshops, as well as at our respective sites. In particular, Telia has a facility for displaying ground-breaking and futuristic work to customers and visitors, the Telia Vision Centre in Farsta/Stockholm, where we anticipate that the system will be kept on display. Also, an initial prototype of the system aimed at collecting general spoken and gesture dialogue data will be put on display at the Telecom Museum (Telemuseum) in Stockholm and will be used for collection of Swedish speech data. Similarly, an initial prototype of the system aimed at collecting general spoken and gesture dialogue data will be put on display at the H. C. Andersen Museum in Odense and will be used for collection of English speech and dialogue data.

Finally, we will describe our activities related to dissemination in a report at the end of the project.

2.2 Dissemination activities so far

So far, LIMSI/CNRS has participated in two workshops with two papers related to NICE (they can be downloaded from http://www.limsi.fr/Individu/martin/research/index.html#2002):

Busine, S., Abrilian, S., Rendu, C., Martin, J.-C. (2002) Towards Experimental Specification and Evaluation of Lifelike Multimodal Behaviour. Proceedings of the Workshop on Embodied conversational agents - let's specify and evaluate them! Marriot, A., Pelachaud, C., Rist, T., Ruttkay, S., Vilhjalmsson, H. (Eds.), 42-48. http://www.vhml.org/workshops/AAMAS in conjunction with The First International Joint Conference on Autonomous Agents & Multi-Agent Systems, 16 July, 2002, Bologna, Italy.

Abrilian, S., Busine, S., Rendu, C., Martin, J.-C. (2002) Specifying Cooperation between Modalities in Lifelike Animated Agents. Working notes of the International Workshop on Lifelike Animated Agents: Tools, Functions, and Applications. Chair: Helmut Prendinger. Held in conjunction with the 7th Pacific Rim International Conference on Artificial Intelligence (PRICAI'02), Tokyo, Japan, 3-8. http://www.miv.t.u-tokyo.ac.jp/~helmut/pricai02-agents-ws.html

3 Exploitation planning

The market for advanced edutainment systems and component technologies is already huge. The industrial partners in the NICE consortium consider the development of conversational natural interactive interfaces as a crucial success factor for the next generations of interactive speech-embedded systems, computer games and telecommunication services. Therefore, they expect that the results of the NICE project will help to maintain their strong position in the current market and provide an excellent position to tackle the future market of next generation information and communication services.

By working on the ambitious goals of the NICE project, significant progress is expected in the areas of special-purpose robust speech recognition, multimodal input processing, dialogue modelling, complex multimodal output generation, and realistic and entertaining animated interface agent behaviour. The inclusion of two research institutes guarantees that the scientific results are distributed in the scientific community. Major innovations at systems level as well as components level will be exploited both directly in further RTD and product development of the industrial partners and in future co-operations of the research partners. In addition, the consortium partners (Telia, Philips) will provide input to ongoing standardisation processes for information and telecommunication services.

The NICE consortium is fully capable and motivated to exploit the research results of this project. Exploitation plans for each company are presented below followed by ideas for joint exploitation and commercialisation which have been generated during project preparation.

3.1 Telia exploitation

Telia has been active in speech and language RTD since the mid-1980s and adopted its first roll-out plan for speech-enabled telephone services in 1998. Following that, several such services have been released, for example, voice-activated dialling (Digitala), phone directory (ANU), reverse phone directory, train information from the Swedish State Railways (SJ), and car-registration information from the Swedish National Road Administration (Vägverket). Telia is also very active in developing and marketing services based on fixed and wireless broadband networks. Telia business units anticipate that multimodal interfaces involving spoken and gestural input as well as spoken and graphical output (including animated characters) will play a key role in making services based on broadband transmission attractive to the general public, and for retaining competitive advantages. For these reasons, speech-enabled and multimodal information services are the focus of strongly increasing activities in Telia's business units, who are displaying great interest in the types of technology which we plan to develop in NICE.

3.2 Philips Speech Processing exploitation

Apart from the general prospects and uses of the kind of applications targeted in NICE (see on joint exploitation below), the project will be of use to Philips for:

- gaining a thorough understanding of children's and adolescents' speech;
- gaining experience with multimodal applications and their dialogue structure;
- re-using the language data for our own applications.

3.3 Liquid Media exploitation

Liquid Media is a leading Swedish computer games company with which Telia Research is already cooperating on a bilateral basis in another project. Liquid Media sees a great opportunity in pioneering the introduction of speech technology and multimodal interfaces in future games products. We are currently not aware of any commercially available speech-controlled computer game. The strategy of Liquid Media is therefore to exploit the results of the NICE project as a way of reaching the market with such a product faster than would otherwise have been possible.

3.4 NISLab exploitation

On a grant from the Danish government, NISLab has surveyed the Danish market needs for spoken language dialogue systems and evaluated speech recognisers from the world's main suppliers of speech recognition technology. As a result, NISLab is currently working on a project with a Danish software house and a public organisation which will produce the first commercial spoken language dialogue system in the Danish. The know-how acquired in NICE will be used by NISLab to strengthen the capacity for acting as research collaborator with industry in developing innovative natural interactive applications for the Danish market and beyond.

3.5 Joint exploitation

The NICE partners (including Telia business units) have already had thorough discussions concerning the possibilities of joint exploitation or commercialisation of NICE results. Generally speaking, we see excellent possibilities for this because of the composition of the consortium, with Scandinavia's largest telecom operator (Telia), a leading computer games company (Liquid Media), Europe's leading provider of speech recognition systems (Philips), and two of the best academic partners in the field (NISLab and LIMSI) joining forces in multimodal edutainment applications. Options that have been discussed so far include:
- a speech-enabled, internet-connected computer game that also includes the possibility of a multi-player mode would be interesting for both Liquid Media and Telia;
- the development of attractive and entertaining multimodal interfaces for tomorrow's commercial broadband services are interesting from Telia's point of view. Portals and infotainment applications aimed at both children and adolescents would target a so far less explored market segment;
- the visualisation of a voice portal in the form of a 3D world, in which one may communicate both with other people (multimodal chat) and with intelligent agents, makes it easier to navigate the portal and thus access different services, e.g. buying train tickets. For instance, different services could be organised geographically, so that travel agencies are gathered in a "house" where the user can enter and meet a number of agents that represent different sales agents. This would make a large voice portal feasible since it would be almost impossible to present all possible services with voice alone.

All NICE partners (including Telia business units) will continue to have regular discussions and meetings concerning exploitation and commercialisation throughout the project. To keep track of

exploitation and commercialisation activities, we will maintain a central repository of information detailing how each partner and the consortium as a whole intend to utilise the results of the project.

The partners will use the user panel, interest groups, customers, groups of (lead) users, etc. to gain market-related information as the project develops. This report reflects this information, as will a final report at the end of the third year.

3.6 User groups

NICE will from early on establish contact to potential user groups and invite potential users to join the NICE User Panel. NICE will actively seek user contact and user involvement by:

- putting out the first prototype at the Telemuseum site (young museum visitors are seen as a potential user group);
- putting out the first prototype at the H. C. Andersen Museum (young museum visitors are seen as a potential user group);
- deploying and evaluating system prototypes to existing customer bases of Liquid Media and Telia business units; and
- deploying and evaluating system prototypes to computer clubs involving young people, to school classes, etc.

At the time of writing, the latter is already happening. Thus, during Wizard of Oz experiments with a simple game application, LIMSI received feedback from 7 adults and 10 children on the use of speech and pen gesture for interacting with conversational characters. NISLab has started to perform Wizard of Oz experiments and is about to start gathering data on HCA-user conversations in local school classes in Odense.