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1 Overview

1.1 Executive Summary

This deliverable outlines the dissemination and exploitation activities of the CoLDEx project work package 1 (WP1 - 'Dissemination and Use Plan'). The objective of this deliverable is to define and implement plans for dissemination of knowledge gained during the project. It also aims to define exploitation plans of the results for the consortium as whole and also for the individual participants.

The key dissemination methods are:

- The CoLDEx website is the main source of information for the project and its progress. It is also a portal for several experimentation sites where they can meet, cooperate and distribute their work.

- Promotional material for dissemination through conferences and workshops as well as on exhibitions; these includes printed products such as brochures providing a brief project overview and information for end users and people working in related areas; also a promotion video presenting the aims, practices and activities in each partner site will be published.

- Publication and presentation of papers in conferences and workshops, project partners present papers and host workshops at conferences around Europe to disseminate project findings and distribute promotional material.

- Contributions to scientific journals and magazines; several approaches of the project will be published in scientific journals.

- Industry contacts; some partners already have good relationships to

several industries and within the project these contacts will be intensivated. Furthermore are new contacts planned.

- Cooperation with science museums; project partners plan to make their results accessible for science museums in order to get practical results not only from schools in europe and south america.

Within the Open User Scheme the project partners are forming a self sustainable trans-continental user community for the CoLDEx network that lasts beyond the scope of this project. The provision of CoLDEx material will be in english and spanish and potentially also in portuguese.

In the Dissemination and Use Plan, details of the type of dissemination activities that are and will be undertaken during the project lifetime are presented. Factors that have been considered in the Dissemination and Use Plan include the different target audiences, several types of media and a wide range of topics to disseminate.

1.2 Project Objectives

The project aims at developing and using new IT approaches and computational tools to foster scientific experimentation, modelling and simulation in distributed collaborative settings in an inter- cultural (European-Latin American) community of learners. Our efforts will result in the creation of innovative pedagogical scenarios. A common denominator for the learning domain is the study of visual and other perceptual phenomena, including astronomical and seismic measurements, from both a scientific and a subjective experiential perspective. The project will start with local learning communities sharing a rich everyday context. The target groups will range from higher secondary education to academic beginners. Computer-mediated collaboration tools will contribute to forming integrated synchronous/asynchronous access to a "group memory" on different levels.

The project objectives are:

- Generation and provision of source data

- Construction of realities

- Concrete modelling and design

- Abstract and conceptual modelling

Each project objective will now be presented in more detail:

Generation and provision of source data

Here, a small number of remote sites will be established which generate data. Among these will be an observatory with a quality telescope and a seismic measurement station in Chile. Technological challenges lie in the ease of use in accessing these data and in communicating the learners requests and specifications to the remote sites. The stress is put on re-usable components and protocols which are not only tailored to the specific case.

Construction of realities

The 'construction of realities' includes the setting of (real) experiments, the provision of 3D virtual scenarios, and artifacts that support other types of perceptual experience (e.g., tactile experience). An important point here is the use of 'mixed reality' technologies which allow for a smooth transition between the physical and the digital world.

Concrete modelling and design

The notion of concrete modelling and design refers to the use of concrete representations to model and simulate the phenomena to be studied. These range from 3D models which include sound and tactile I/O to physical models with IT components (e.g. Lego Mindstorms). Here, we do not expect to invent new genuine technologies but we want to adopt existing state-of-art techniques to educational needs.

Abstract and conceptual modelling

The question is how to bring 'paper work' (formula, diagrams, sketches) used to analyse and describe the phenomena into the digital information cycle. This will be achieved through a combination of visual concept mapping tools with more formal representations such as 'system dynamics' or other mathematical and computational formalisms.

1.3 Approach to Dissemination and Use

This Dissemination and Use Plan presents various approaches to articulate and distribute the knowledge gained during the lifetime of the project, reaching its target audiences. Making the project visible and spreading its results to a wide audience is the main objective of the dissemination activities. The results can and will be made publicly available through the project web site, as well as by publications and presentations at EU conferences and workshops.

The project will also use the opportunities offered by the Fifth Framework Programme to disseminate its work, progress and results and to interact with other projects in exchanging experiences, methods and knowledge.

However, dissemination is a process that requires a careful match among a) the creation of products or knowledge and the context of that creation, b) the target audiences, and c) the content, media, formats and language used in getting the outcomes into the hands of those target groups. Therefore, special attention should be paid regarding the above factors.

The key dissemination means are:

- The CoLDEx web-site

- Production of promotional material

- Presentation of papers on conferences and workshops

- Publications in scientific journals and periodicals

- Collaboration with related projects

- Industry contacts

- Cooperations with science museums

Main diffusion activities that can and will be materialised by the consortium include: maintaining lists of potential users from educational-related communities or potential customers, presenting project-related information and products in project home pages and in workshops organised by the consortium members, distributing informative material electronically, by post or in events, providing demo releases of software components to community members and in events, and demonstrating projects in conferences.

2 Description of Dissemination Plan

2.1 Dissemination strategy

The dissemination strategy of the project is guided by the following basic principles:

- 'target group'-focused activities for each one of the project products

- goal-oriented actions to achieve the expected impact on each target group

- 'let the material speak' to be able to access a bigger group of people the project will not install the scenarios directly in certain schools/institutions but will make the 'scenarios' publicly available

A distributed dissemination approach will take several facts into account, like the geographic position of each partner, here the cooperation between europe and south-america is an important factor, or already established relationships and strengths of each partner. Main activities include:

- Develop and maintain lists of potential users/active members of academic, developer, authoring and educational communities, who will form the target group for diffusion activities.

- Develop and distribute informative material addressing each target group: Publicity, advertising and trade articles, brochures, presentations and a small video will be developed for this purpose. Distribution: via direct mail, Post-office, at various events, via web pages. Furthermore the project will organise exhibitions in science museums like the eXhuset in Växjö, Sweden.

- Provide demo and pre-releases of computational components, educational activities and development platforms to active community members and participants in events that will be organised by the project partners.

- Demonstrate project products and other results: Participate to workshops, conferences, trade shows (regional, national and international events) and organise demonstrations at partner's sites and to pre-selected potential customers. A list of potential events will be generated and maintained; the audience, the location and the budget and effort required for participation will be judged each time with respect to the prospects and expected impact.

- Co-organise workshops within European and international contexts.

- WWW servers and project Home pages.

The following table presents the dissemination means that will be used by the consortium in correlation to the project work areas and the target groups.

Work Areas	Target Group	Dissemination Means
Design educational activities	Educational researchers Teachers Students School networks Science museums	active participation in Conferences Exhibitions Workshops Website
Develop educational software components	Teachers Students School networks Science museums	active participation in Conferences Exhibitions organisation of Workshops

Work Areas	Target Group	Dissemination Means
		Website
Generate communities of experimentation	Teachers Students School networks Science museums	active participation in Conferences organisation of Workshops Publications
Articulate methodology (for distributed experimentation and combining models and experiments)	Researchers Science museums	Publications active participation in Conferences

After introducing the dissemination strategy for the project, we will elaborate an analytic description of the dissemination means that will be utilised for the project.

2.2 Development and Maintenance of the CoLDEx web site

The CoLDEx web site is set up, hosted and maintained by the project coordinator (UDUI). It is located at http://www.coldex.info and provides a wide range of information including:

- Project description and objectives

- Project structure (partners, information about experiments, ...)

- A member area (deliverables, a forum, a chat, BSCW, ...)

The web site aims to enhance the projects internal communication among the project partners but also to provide material and information to interested visitors. To achieve this the project web site splits up into two major parts:

A publicly available website with information about the project, its partners, the experiments and lots of other interesting things that visitors of the web site might be interested to be informed about.

The second part is the 'Member Area' for CoLDEx project partners or closely related institutions. Here special information are to be found that are only interesting for project internal purposes like deliverables, internal discussion or ad hoc meetings on the projects chat server.

Area	*Description*	*Access*
Objectives	This page includes the project objectives and overall information about the project itself.	public

Area	Description	Access
Partners	The partners page exists of information about the project partners.	public
Project Plan	This page focuses on the planned work within the project.	public
Members	This section includes a BSCW server presenting a Up/Download area, an internal chat and a forum to discuss project internals.	project partners
Contact	This link just leads to an email address for under which the visitor can get additional informations.	public

The CoLDEx web site demonstrates the work carried out during the first half year of the project. In the remaining two and a half years it will be enriched and improved in order to serve as a better information and dissemination source.

There are several steps planned to improve the web site:

- Adding more dissemination material such as photos, short videos, brochures, DExT's (Digital Experimentation Toolkits), ...

- Perfection of the documents presented in the public areas.

- Registration on various search engines.

2.3 Production of promotion materials

The promotion materials that are considered for conveying the project information to interested parties are:

Feature	Description
Video	A 10-minute promotion video will be produced illustrating the scenarios created by the partners, that will demonstrate the work being carried out in each partner site, the methods used and the collaboration among the CoLDEx community.
Brochure	The context and objectives of the project will be explained using illustrations and images where appropriate. The consortium details and the project logo will be presented.
Poster / Animation	Based on the design of the brochure, the same information can be presented in a poster for demonstrating the project work in conferences and workshops, and also in a Flash (or Power Point) animation for dynamic presentations.

2.4 Conferences

The following conference/workshop papers and presentations have been targeted during the first half year of the projects lifetime:

Subject	*Lead Participant*	*Conference*	*Date*
This conference does formally not belong to the project since its submission deadline was due before the project started, but the work presented there is also important for the project.	UDUI/VXU	WMTE 2002	September 02

The following gives a list of conferences and workshops that are most relevant for the CoLDEx project. Some of them will be targeted during the lifetime of the project.

CSCL 2003	http://www.intermedia.uib.no/cscl
AI-ED 2003	http://www.cs.usyd.edu.au/%7Eaied/
ED-Media 2003	http://www.aace.org/conf/edmedia/
WMTE	
Earli	
ITS 2004	
Euro CSCL	
System Dynamics	
CRIWG	http://criwg2003.imag.fr/

3 Description of Use Plan

3.1 Project outputs

The chosen course of action along the four main project objectives (Generation and provision of source data, Construction of realities, Concrete modelling and design, Abstract and conceptual modelling) will lead to the following outputs:

Building up a web portal where teacher, students and all kind of other interested people have the possibility to inform themselves about the material that will be provided by the project partners.

Building up the CoLDEx network consisting of people, institutions and resources supported by a computer network providing specific services for collaborative learning with remote experimentation. A distributed server architecture should be implemented in order to achieve to increase the performance for serving local learning groups, customised server profile for serving certain learner groups, e.g. Language, interest areas or educational background, and the replication of data will improve the scalability and fault tolerance of the system. Updating of relevant information to be stored by a server will be achieved by multicasting of learning material, multicast groups will be formed on the basis of user profiles. Distribution of learning material should be resource adaptive, i.e. depending on bandwidth as well as hardware and software resources on the client.

Furthermore so called DExTs (Digital Experimentation Toolkits) will be developed to enrich already existing experimentation toolkits with digital material like modelling tools, text files, etc.

3.2 Exploitation Strategy

Project's products like on the one hand the software tools and components and on the other hand the educational activities built out of them, may well have the potential of commercial exploitation far beyond the scope of the project. Partners interested in investigating this prospect will work through a process of identifying how these deliverables can be rendered marketable.

The exploitation plan will involve actions like the search for collaboration and exploitation through the support of European Commission services or active participation in European networks of excellence and will incorporate strategic investment opportunities and an extensive marketing analysis. Furthermore already existing industry contacts will be intensivated and new ones will be tried to established.

Although academic institutions dominate in the CoLDEx consortium, several of these pursue an active "spin-off" strategy, cooperating with "incubators" (in the case of VXU such an incubator is on-campus, in the case of UDUI, the COLLIDE group is partly located in the "Medienzentrum Duisburg" which is an incubator for the printing and media industries).