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Contents

1 Introduction

Objectives. This report aims at introducing and detailing a Dissemination and Use Plan (the Plan, in the following) of the produced INFOMIX results. Before describing the operating Dissemination and Use Plan, attention is focused towards identifying the expected effects of the Plan activities and the results to be spread across the scientific and industrial community.

Relations to other documents. The reader may refer to report D8.1 (Self-assessment criteria) for a detailed discussion on the result expected from the project. The overall INFOMIX system architecture can be found in report D2.2 (Infomix System architecture). Most of the Dissemination and Use activities (e.g. prototype demonstrations) are strictly dependent on the completion of tasks specified within D2.3 (INFOMIX implementation plan).

Intended audience and usage guidelines. This report is accessible to the INFOMIX research groups and to the European Commission referees. It may be consulted at any time by INFOMIX partners, in order to program activities following the prescribed Plan. The content of this report is subordinated and extends Annex I of the INFOMIX contract.

Notational conventions. Nothing particular.

2 Expected effect of dissemination activities

The INFOMIX project is mainly concerned with providing tools and methods for powerful information integration which will be part of advanced user-friendly information systems in the near future. The results will, in the long run, not only be profitable to Europe's enterprises and thus to European economy, but also to the individuals and they will contribute in the effort of providing high-quality affordable information services to a large number of users, helping them in being more effective and efficient in their work. Developing advanced information services is a very active and competitive area of research, which is pursued under increasing efforts by different institutions and organizations, which are aware of the great strategic importance of this area. Undoubtedly, advanced information services will significantly influence social affairs, working conditions, economy, and personal spheres, thus affecting the community as a whole. Expected effects of dissemination activities can be classified in the following aspects:

European competitiveness. To be competitive in the global marketplace, Europe needs to master the supply and use of leading information society technologies. This is one of the major goals behind the IST programme strategy. The development of such technologies is thus beyond the interest of a single member of the European union, and pertains to the community as a whole. INFOMIX is a project which clearly contributes to this effort, and thus resides at a level of strategic European interest in this respect. We remind that the need to pursue advanced information services at a large scale level,

bringing together leading institutions has been recognized e.g. by the US government, which funds the US DARPA project on High Performance Knowledge Bases in order to take leadership in this field. As simple as it may appear, but if Europe does not support similar efforts, then it will stay behind in this leading technology and suffer loss of competitiveness in the global market place, with all its negative consequences on economy, politics, and social affairs.

European leadership. Currently, Europe is internationally leading in the area of computational logic, which is the key technology for advanced information systems of the next generation. That is, state-of-the-art techniques and systems have been developed by various European academic and industrial institutions. Europe thus has an advantageous position for developing the basis technologies which are needed for providing the advanced information services that are desired by the users. This position must be exploited, in order to gain European leadership in the supply and use of tools and techniques for advanced information systems, and in particular for powerful information integration as envisaged by the INFOMIX project.

Improved take-up of results. As a matter of fact, the dissemination of the results of a project at the European level to a broad international audience, both in academia and in industry, is more likely to be successful than the dissemination of the results of a national project. This pertains also to the take-up of the results by industry, since the results of a project at the European level are recognized of having higher significance for strategic and economic development than the results of an (isolated) national project. It will then also be easier to launch follow up projects in which the results of this project are exploited for the use at a commercial level, and to find strong partners from the European RTD industry which are needed for reaching this goal. Furthermore, international standardization efforts, which at this stage of the INFOMIX project are not planned but which may be pursued in the future in this area, are much easier and more likely to be successful if the promoter is an international consortium rather than a national group.

Thus, in a nutshell, the INFOMIX project suggests leading edge pioneering research on a subject of high strategic importance to Europe, which utilizes the leading position of Europe in the field of computational logic and fruitfully combines the skills of different groups hardly found in a single country. The prospective results will strengthen the position of Europe in the global competition of obtaining leadership in advanced information services technologies, and may lay the basis for future standardization efforts.

Economic development The results of the INFOMIX project, if successful, will be profitable to a wide range of applications in different contexts. On the one hand, companies, organizations, and other enterprises might use the techniques and methods for improving their information systems at the intra-organizational level. On the other hand, the results will also be applicable in the context of inter-organizational, global information integration, and will be helpful towards the realization of a global eco-information system which is populated by a large number of users.

Improved information services will stimulate more commerce, and increase the competitiveness of a company on the market, due to increased awareness of relevant business factors. The availability of powerful, affordable information integration infrastructure is in particular beneficial to small and medium enterprises (SMEs), since it will increase their chances in the global competition. Currently, SMEs are handicapped by the fact that advanced comprehensive information integration requires considerable resources which they may not afford. Take-up of the results of the INFOMIX project, and their incorporation into concrete applications, may contribute to such economic development as the effect of their usage.

3   High-value results to be disseminated

Results produced by the INFOMIX project can be classified in the following main points:

- An information model with rich semantics, which is capable of expressing semantic properties of both the data sources and the global schema by using powerful constraints.

- A high-level declarative language for interaction between the user and the system, both for formulating queries and communicating task-specific knowledge.

- Techniques for view-based query processing.

- Techniques for handling incomplete and inconsistent information in an information integration system, in a semantically clean method at the level of the information integration model.

- Tools which support the design of a whole information integration system, together with a formal design methodology.

- Methods for dealing with source data beyond flat (relational) format, and in particular with semi-structured data (e.g. XML data).

- A modular prototype system, which components provide services through well-defined APIs.

These results may be utilized for improving decision making in several areas within a company, and lead to more cost-efficient business processes. Obviously, leading edge information systems add strength to the economy and are important for the standing of a player on the global market. The successful achievement of the INFOMIX goals, and successive take-up of the project results in industry will contribute in assuring that Europe has a strong position on the global market in the future. If, on the other hand, no efforts in this direction will be made, then Europe is endangered in staying behind other players which have such key technology, and as a consequence might suffer negative economic development, with all its effects on social and political affairs.

A second form of economic development concerns the development of tools and integration environment kits, based on the results of the projects, and specific user applications.

This will require qualified personnel which is familiar with this problem and the emerging technology. By our industrial partner, exploitation of the project results in this direction and dissemination to RTD partners will be actively pursued. In this way, skills will be developed in Europe not only in academia, but also at the industrial level in state-of-the-art technology for information integration, and provide a fertile ground for successive refinement and commercialization of information integration technology by RTD industry.

Further applications and commercialization of the project results by the academic partners of this project, in cooperation with other industrial users identified during the project (cf. the dissemination strategy below), or in terms of spin-off companies, will be explored on the basis of industrial feedback and suitable ramifying conditions.

3.1   Scientific and technological prospects

We believe that research on information integration, and in particular the INFOMIX project, has high scientific and technological prospects. We recall at this point the vision of powerful global information systems, in which information integration can be done efficiently at a human level of competence, and even beyond. The results of this project, if successful, will provide us with methods and techniques which can be used for developing tools that approximate such capabilities to a certain extent.

However, the results obtained will not solve all the problems which come up in the area of advanced information integration. In fact, during this project, we expect that new research challenges and problems will be become apparent, which will have to be tackled in follow-up research. In particular, the results of the INFOMIX project may provide the basis for a much more complex research programme on *turning dispersed information into knowledge.* For such a programme, computational logic seems indispensable as an underlying representation and processing formalism. The key role of computational logic in the INFOMIX project, whose results make use of state-of-the-art technology from computational logic, will thus provide a suitable basis for research efforts in this direction at a strategic level. The leadership of Europe in computational logic will be advantageous for this enterprise, which, on the other hand, may drive the research in computational logic, which has often focused in the past on abstract domains and theoretical foundations, to important application domains.

As for the technological prospects, the soft revolution which is taking place by the rapidly increasing use of the Internet and the World Wide Web renders combining and integrating the wealth of information which is available through it as a central problem. The current technology is poor in this respect and at its infancy. The results of the INFOMIX project will provide a theoretical foundation and prototype components for an advanced information integration tool, which is usable for several kinds of users. Investment into further research and development should focus on a powerful information integration environment kit for developing applications that provide hight comfort to the user. The need for such technology is generally acknowledged, and by its capabilities, it will be an important component of a user-friendly information infrastructure. The impact of such technology, both from the strategic and the user dissemination point of view, is high and creates economic and social opportunities for its proponents.

4   Dissemination and use plan

Dissemination objectives.   Dissemination activities are planned, in order to obtain input from realistic applications and to provide feedback to our ideas and, on the other hand, input for guiding the project work. This will be achieved in specific activities, and by employing the market knowledge of our industrial partner, RODAN. Through RODAN we plan to reach representatives of large European companies in the field, and to keep close contacts with potential users in all phases of the project. The dissemination of the project results aims at different objectives in all phases of the project:

1. In the first phase, the dissemination channels will help to identify the main needs of industry in the area of information integration, which is useful for the specification of the main requirements to be fulfilled by an advanced integration system for industrial use.

2. During the intermediate project-phases, dissemination activities will be useful for feedback on design choices on the system functionalities.

3. In the last project phase, the system prototype realized in the project will be presented to the industrial and scientific community, which should comment on its suitability and provide suggestions for future directions of research.

Dissemination activities classification.   Dissemination activities are classified in two main categories:

1. **Scientific dissemination and use activities**. Such activities are intended in order to reach as many entities belonging to the Scientific Community as possible. They comprise scientific publications in the top level journals of the field, interventions in conferences and workshops, system demonstrations. The whole Database Management and Artificial Intelligence communities should be reached: in particular, action will be aimed at involving the Data Integration field, the Knowledge Representation field and the Query Optimization field.

2. **Industrial dissemination and use activities**. Such actions will be pursued aiming at the Industrial community. Actions of this kind will mainly include the third phase activities, such as system demonstrations, benchmarking, etc. Most of the industrial actions will be taken on a one by one basis, by means of activities aimed at revealing and contacting possibly interested entities.

The channel types we intend to exploit are, in detail:

1. Web site. The INFOMIX web site will be online throughout the whole project duration and after the project completion, serving the purpose of official INFOMIX information source, status reporting and deliverable publishing.

2. Scientific Publications. Results on the foundations will be made accessible through publications in conferences, symposia, and journals. Such publications will explicitly mention the INFOMIX project and the European Commission as funding entity.

3. Talks. INFOMIX project representative are expected to give talks either in order to present published contributions or to present the INFOMIX project in the context of european and world wide conferences.

4. Dissemination of Public Reports. Deliverables tagged as public will be available through the INFOMIX web site as soon as they are available.

5. Demonstrations. A pilot usage of the prototype INFOMIX integration engine will be publicly available over the Internet. The engine will be embedded by available APIs in a traditional web site architecture.

6. Final Workshop. A workshop, to be held jointly with a well-known conference having industrial interest for peoples of the database and information systems area, and devoted to the results of the INFOMIX project (deliverable D8.6), will be organized aiming at people from RTD industry to take up the results of the project.

Detailed Dissemination and Use Plan.   Table 1 sums up the intended Plan. For each action it shows its name, the type of action and the internal project event which should trigger action execution. Although Dissemination and Use actions should not be compulsorily carried out strictly after trigger event completion, the table serves as a guideline for the suggested dissemination actions INFOMIX partners should pursue throughout the whole project duration. The dissemination and use activities are coordinated and carried out within the Workpackage 8 activities.

Acronyms.

1. MGI = Mapping Generator Interface.

2. GSI = Global Schema Interface.

3. WGI = Wrapper Generator Interface.

The reader is referred to D2.2 for a detailed description of the abovementioned list.

Action Name	Suggested Type	Trigger Event
Dissemination of the INFOMIX architecture	Publication	Deliverable 2.2, 2.3
Dissemination of the IIM foundations	Publication	Deliverable 3.1
Query Language dissemination	Publication	Deliverable 3.2
Dissemination of the Internal Integration Formalism	Publication	Deliverable 4.1
Dissemination of Techniques for handling inconsistency and incompleteness in the IIM	Publication	Deliverable 3.3
Dissemination of Algorithms and implementation techniques for the internal integration formalism	Publication	Deliverable 4.2
Dissemination of Optimization techniques for the internal integration formalism	Publication	Deliverable 4.3
Dissemination of Methods and techniques for query answering	Publication	Deliverable 5.1
Dissemination of Methods for data acquisition and transformation	Publication	Deliverable 6.2
Dissemination of Methods and techniques for query rewriting	Publication	Deliverable 5.2
Dissemination of Methods and techniques for query optimization	Publication	Deliverable 5.3
WGI subsystem demonstration	Web Demo	Completion of WGI[1] implementation
GSI subsystem demonstration	Web Demo	Completion of GSI[2] implementation
MGI subsystem demonstration	Web Demo	Completion of MGI[3] implementation
IIM Management Layer demo	Web Demo	Deliverable 7.1
Integration Layer demo	Web Demo	Deliverable 7.2
Data Acquisition Layer demo	Web Demo	Deliverable 7.3
INFOMIX system demonstration	Web Demo	Deliverable 7.4
INFOMIX benchmark demonstration	Web Demo	Deliverable 8.5
INFOMIX workshop (D8.6)	Workshop	Project completion

Table 1: The Dissemination and Use Plan