

Financial/Administrative co-ordinator

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Executive Summary

Main Achievements

- First Annual Review in Brussels – Permission to continue
- Project Meeting in Brussels
- 2nd Concertation Meeting in Brussels
- Detailed research into new Architecture technologies
- Completion of Supported Data Structures and Data Warehouse database designs
- Completion of Metadata structure and Metadata (Products) database design
- Kick-off Meeting for Workpackages 4, 6 and 7

Progress in implementation of the ‘Description of Work’

- Continued research into Metadata structures, following advice by the Reviewers
- Research into some new technologies (such SOAP), following advice by the Reviewers
- Modification of High Level Design
- Development of low-level design components
- Development of E-commerce Engine – almost complete

Problems encountered

- Re-location of the Dutch partner, NC
- Possible personnel changes at the MO
- Change in the technological direction of the High Level Design of the system
- Extension to the metadata structure
- Slight delays in completing deliverables for WP 3 and 5

Highlights for next reporting period

- Completion of Workpackages 3 and 5
- Technical meeting in Poland for WP 4 , 6 and 7
- User Workshop in Poland
- Commencement of detailed design of components for WP 4 and 6
- Commencement of WP 7
- Commencement of enhancement of the Mock-up into a prototype website

Anticipated problems for next reporting period

- None

1 – Overview

1.1 Objectives

<i>Objectives</i>	<i>Progress towards achieving objectives</i>
<ul style="list-style-type: none"> ❑ Workpackage 1: ❑ Ensure the smooth running of the project ❑ Maximise exchange of data and information between project participants ❑ Ensure the optimal focusing of effort towards meeting the project objectives ❑ Ensure the timely delivery of high quality deliverables to the EU ❑ Workpackage 3 ❑ Design and implementation of data broker central data warehouse and buffer dataset formats, based on data structures specification database ❑ Design and development of suitable high speed search utilities to search and retrieve data subsets based on spatial, temporal, data type and other search criteria ❑ Specification and establishment of metadata database to support all identified data types ❑ Design and implementation of data packaging suitable for compression and parameterisation of supported data types for fast transmission 	<p>Regular correspondence by e-mail to assess the status of each partner.</p> <p>6-monthly general Project Meeting in Feb in Brussels. (all partners except NC)</p> <p>Small-scale Project Meetings: Jan (BMT and TXT) and in March (MO and BMT). Both in the UK.</p> <p>Further research and extension of metadata to meet Dublin Core standards, following advice from the Reviewers at the Annual Review.</p> <p>Design and working specification of the Metadata Specification.</p> <p>Design and working specification of Supported Data Structures.</p> <p>Design and working specification of the Data Warehouse, and Metadata Databases</p> <p>Further research into GRIB2 data format, and existing GRIB1 extraction routines. Design and agreement of 4 other formats to be supported by Mermaid.</p> <p>Amendment of High Level Design Document, to reflect changes made due to new technologies and design theory, following advice from the Annual Review.</p>

<ul style="list-style-type: none"> ❑ Workpackage 5 ❑ Site creation, customisation and maintenance, with the adoption of conceptual presentation language to permit designers to describe site presentation at a high level of abstraction. ❑ Dynamic merchandising for capturing and publishing information changing with time and continuously refreshed by sources. ❑ Order Purchasing Interface, to handle targeted functions – such as service billing, product tax, shipping and handling charges, payment authorisations, inventory checks and interface to invoicing programs – according to specific business rules. ❑ Industry-standard security to create a secure environment for customers, partners and site/application administrators with strong, integrated HTTP Authentication and Windows Challenge Response. ❑ Business analysis, to let users create custom reports for in-depths analysis of site usage data. ❑ Workpackage 4 – design and development of the communications protocols between the Data Broker to external data provider and user systems ❑ Establishment of data and messaging communications protocols between the Data Broker and the Broker Interface Applet ❑ Design and development of Broker Interface Applet to be hosted by user systems and service communications protocols with the data broker ❑ Implementation and testing of data despatch systems using realistic datasets 	<p>Continued development of the e-commerce engine. Nearly complete</p> <p>Further research into 3rd party e-commerce web servers for payment validation services.</p> <p>Detailed discussion of commercial aspects of the features to be employed.</p> <p>Continued research into Security systems.</p> <p>Official Kick-off meeting in Teddington, London in early March. However, in reality this workpackage had already begun, during WP3, as detailed in the last report, since communications had to be considered when designing the overall architecture.</p> <p>Working schedule, and internal deadlines agreed.</p> <p>Agreement to re-name the Broker Interface Applet, as the Broker Interface Component, as it will not be an Applet.</p> <p>Identification of 2 different practical solutions, employing different technologies.</p> <p>Commencement of investigative research into these different approaches.</p>
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<ul style="list-style-type: none"> ❑ Workpackage 6 – Integration of the software modules developed in WP3, WP4 and WP5 into the Data Broker prototype. ❑ Detailed design and specification of the Data Broker based on the enabling technologies developed in WP3, WP4, and WP6. ❑ Development of the Data Broker GUI with the Broker Interface Component and Broker Manager integration. ❑ Development of the Broker Manager and linking to the E-commerce Manager ❑ Configuration of the host web-site and establishment of the Data Broker ❑ Development of test plan and testing of Data Broker with sample datasets. 	<p>Official Kick-off meeting in Teddington in early March. However, some work has already indirectly begun on this WP, such as the development of the Mock-up, which will evolve into the Data Broker prototype.</p> <p>Schedule outlined and agreed, and task effort has been allocated.</p> <p>Identification of 2 different practical solutions, based on the two possible technological solutions to WP4. Initial research into these has begun.</p> <p>Plan for the development of the GUI, to be lead by BMT has been outlined.</p> <p>Agreement that each partner will supply BMT and TXT with as many sample datasets as possible by May.</p> <p>Test Plan Procedure has been discussed and agreed.</p>
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1.2 Milestones- Foreseen

<i>Milestone</i>	<i>Planned date</i>	<i>Actual date</i>	<i>Comments</i>
M02.1 Completion of design and documentation of Data Warehouse and data structures	31/02/2001	-	This document has suffered a slight delay, due to changes to the metadata structure, but is almost complete and will be delivered before the end of April
M02.2 Completion of code for Data Warehouse	31/02/2001	-	As the design will utilise an existing database technology (MS SQL Server), the code will be implicit in the database schema.
M03.1 Completion of design and documentation of metadata (Products) database	31/02/2001	-	This document has suffered a slight delay, due to changes to the metadata structure, but is almost complete will be delivered before the end of April
M03.2 Completion of code for metadata (Products) database	31/02/2001	-	As the design will utilise an existing database technology (MS SQL Server), the code will be implicit in the database schema.
M04.1 Completion of design and documentation of compression and parameterisation routines	31/02/2001	-	This document is complete, but will be delivered together with the Data Warehouse and Products Catalog documents, before the end of April
M04.2 Completion of code for compression and parameterisation routines	31/02/2001	-	As we will be utilising an off-the-shelf commercial product for this, no coding as such is necessary.
M05.1 Completion of designs for E-commerce Engine	31/03/2001	-	This work is very nearly complete, and will be delivered before the end of April
M05.2 Completion and testing of code and documentation	31/03/2001	-	This work is very nearly complete, and will be delivered before the end of April
No other milestones are planned for the forthcoming quarter.			

1.3 Deliverables - Foreseen

<i>Deliverable Code & Name</i>	<i>Planned delivery date</i>	<i>Actual delivery date</i>	<i>Comments</i>
D2. Design, code and Documentation for the data warehouse, and supported data structures, incorporating high speed search utilities	28/02/2001	-	Design and documentation of data structures, and data warehouse, is almost complete, and will be delivered by the end of April. As the design will utilise an existing database technology (MS SQL Server), the code will be implicit in the database schema. Designs for the search routines and DAE is still under development, but should be complete in the next 4-6 weeks.
D3. Designs, code and documentation for the metadata database	28/02/2001	-	Design and documentation for the metadata structure, and metadata database is almost complete, and will be delivered by the end of April. As the design will utilise an existing database technology (MS SQL Server), the code will be implicit in the database schema.
D4. Designs, code and documentation for compression and parameterisation routines for data packaging	28/02/2001	-	After discussions at the User Workshops, it was decided to utilise standard compression routines (such as PKZIP) for data packaging. Coding is not required, but we will provide a definition of how this will be achieved, which will be delivered with D2 and D3.
D7 E-Commerce engine design/documentation	31/03/2001	30/04/2001	Extra effort required to fully investigate third party transactions services, required for use within the e-commerce engine.
D7.1 Designs, code and documentation for the websites development environment for E-commerce	31/03/2001	30/04/2001	Extra effort required to fully investigate third party transactions services, required for use within the e-commerce engine.
No Deliverables are scheduled for the forthcoming quarter			

1.4 Deviations from Plan

<i>Causes and Description</i>	<i>Corrective actions</i>
<p>Workpackage 3 D2 “Designs code and documentation for the data warehouse and supported data structures incorporating high speed search utilities”. Most parts of this deliverable are almost complete, but have been delayed due to changes to the metadata structure. These changes were introduced following advice from the EU reviewers. The Data Warehouse, and the Products Catalogue are both dependent on the metadata structure, and have therefore both been delayed. The search and extraction routines are comprised within the DAE, a component that spans several WP’s (3, 4 and 6). The exact design of this component is dependent in part on the high level design of the system as a whole, which has undergone a shift in it’s technological direction. The technological basis of the original design, considered early on in the project, is now no longer cutting-edge due to newer developments. Following comments received at the Annual Review, urging the consortium to consider newer technologies, the HLD has been re-visited, and is under-going some modifications.</p> <p>Workpackage 5 D7 “E-Commerce engine design/documentation” will be delayed by 1 month. This was due to the fact that in order to complete an on-line transaction it is necessary to rely on a 3rd party web service. Even if the choice of what service to use can be considered as an exploitation issue, due to the fact that such services offer different features amongst themselves, (and that what is not featured can be hardly implemented), it has been necessary to perform a deep level analysis of such services in WP5 itself. The e-commerce model cannot be completely independent from the choice of the web-service. On the basis of the results of such analysis the best e-commerce model can then be finalised and the code completed.</p>	<p>The metadata revision is almost now complete, and the deliverables dependent on this will therefore been finalised before the end of April.</p> <p>The high-level design is currently still being researched and will not be fully finalised until the next technical meeting, in Poland on May 9th. However, the fundamental principals will be agreed before then, allowing the designs of DAE and the search routines to be completed. It is expected that these should be finished by mid-May, and that this will not affect the completion of the next workpackages (WP4 and 6).</p> <p>An investigation of 3rd party services offering online transactions has been carried out in March by TXT. The e-commerce model therefore will be finalised according to the results of such analysis and code completed in April.</p> <p>Everything that is not dependent on the results of such analysis has already been developed.</p> <p>The results of such analysis will be reported in D7 “E-Commerce engine design/documentation” as an appendix.</p>

2 – Contractual Arrangements

The partner MCED have now officially left the consortium. Following advice from the EU Project Officer, the remaining partners have recently submitted a request to amend the contract to reflect this change, in terms of effort (and budget) allocated in the Technical Annex.

BMT have re-employed Chris Rawlings, who was originally involved in the project, but left the company last year.

3 - Project Meetings (held and foreseen)

<i>Title</i>	<i>Data and Place</i>	<i>Main conclusions</i>
Technical Review Meeting	9 th January 2001 – BMT Offices, Southampton	BMT and TXT present. Agreement on what technological direction the key components should follow, and when key deliverables could be achieved. Review of Mock-up, and what preparations required before the review.
General Project Meeting	5 th February 2001 – Ibis Hotel, Brussels	All partners (except NC) present. Preparation for the review the following day. Preliminary discussions of forthcoming workpackages, and review of forthcoming deliverables. Also commencement of discussion of potential commercial exploitation.
Annual Review	6 th February 2001 – EU offices, Brussels	Review of the first year of the project. Project progressing, and OK to continue, with some comments to be considered during the forthcoming year. These include the revision of the chosen metadata, and the use of more cutting-edge technologies for the development of the system as a whole.
Technical Review Meeting	8 th March 2001 – MO Offices, Bracknell.	BMT and MO present. Explanation of the MO's current on-line purchasing mechanism. Discussion of GRIB1 and GRIB2 data formats, and compatibility of existing extraction procedures with the new system. Discussion of metadata review. Agreement on MO responsibilities.
Workpackage 4, 6 and 7 Kick-off Meeting	11-12 th March 2001 – BMT Offices, Teddington.	All partners present (except NC). Agreement on schedules for these workpacakges. Agreement on work required, and on responsibilities. Discussion of outstanding e-commerce issues (WP5).
Meetings Planned:		
Technical Meeting /workshop (WP4, 6, and 7)	9 th - 10 th May 2001 – IMGW, BMT, TXT, CEDRE	Detailed discussion on requirements on these workpackages. Design decisions to be made.

4 - Dissemination / Promotional Information

4.1 Conferences and/or Workshops attended/organised/foreseen by the project

<i>Date</i>	<i>Title</i>	<i>Number of persons attended + other information</i>
7 th February 2001	2 nd IST Concertation Meeting, Brussels	The Mermaid consortium was heavily represented at this meeting, and in addition to the presentation given by Chris Little, had the opportunity to meet with representatives of other projects. Unfortunately, Mermaid has more in common with the other themed concertation meeting, Water Management, and a good opportunity was therefore lost.
26 th - 30 th March 2001	International Oil Spill Conference – Tampa, Florida, USA. This is a biennial conference, and is the largest of such meetings in the world. It is the focus for every organisation involved in oil production, oil spill planning, protection, recovery and clean-up.	3 Mermaid representatives (from BMT and CEDRE) attended this conference, where each company had a display stand. Project Flyers were distributed, and the attendees took the opportunity to discuss the project with a large variety of representatives of the marine emergency response domain.

4.2 Articles Published , Press coverage, development web sites, etc.

<i>Date and Type</i>	<i>Details</i>
February 2001, scientific publication	The accessibility of coastal environmental information through the Internet (MERMAID – the Internet data broker concept). Oceanological Studies, 2, 2001, University of Gdansk

5 – Main results

<i>Description</i>	<i>Details</i>
None in this reporting period	

6 - Reporting per partner and per workpackage**Partner name: BMT (CO 1)****WP 1: Project Management**

Activities:

- Preparation for and chairing of the General Project Meeting in Brussels (5th February)
- Preparation for and attendance at the Annual Review in Brussels (6th February)
- Preparation for and attendance at the 2nd Concertation Meeting (7th February)
- Preparation for and attendance at the technical meetings in the UK (8th and 11/12th March)
- Preparation and delivery of project reports and deliverables
- General Administration

WP 3: Data Management

Activities:

- Continuation of extension of EDMED metadata format
- Design and documentation of DataWarehouse database
- Design and documentation of Metadata Database
- Design and documentation of Supported Data Structures
- Research and Design of the Data Access Engine

WP 5: E-commerce Integration

Activities:

- Feedback on e-commerce issues discussed with TXT

WP 4: Data Broker Interfacing and Communications

Activities:

- Discussion of WP4 at the kick off meeting with action plan
- Commenced Investigation into communication technologies
- Research of new technologies for overall system design

WP 6: Data Broker Prototyping

Activities:

- Discussion of WP6 deliverables and action plan at the kick off meeting
- Continued Research into components integration and overall system architecture

Partner name: TXT (CR 2)**WP 1: Project Management**

Activities:

- In the reporting period, TXT attended the technical meeting in Southampton (January), the project review meeting in Brussels (February) and the WP4/6 kick off meeting in Teddington (March)
- Preparation of these meetings from a Management point of view is the main activity performed in this task, especially about the review meeting

WP 3: Data Management

Activities:

- metadata language: feedback, review and improvement of the modified EDMED
- search applet
- file transfer servlet, to be used as a base for the Data Access Engine
- components integration

WP4: Data Broker Interfacing and Communications

Activities:

- TXT presented the WP4 kick off meeting with action plan
- Investigation about communication technologies started

WP 5: E-Commerce Integration

Activities:

- E-commerce engine development
- E-commerce GUI development
- E-commerce gateway definition and development
- E-commerce integration issues and development plan (to be continued in WP6)
- E-Commerce issues where analysed and investigated, especially about payment methods
- On-line transaction web services analysis performed

WP6: Data Broker Prototyping

Activities:

- TXT presented the WP6 kick off meeting with action plan
- Research about components integration and overall system architecture continued

Partner name: CEDRE (CR 3)

WP1 – project management

Activities :

- Preparation for and participation to annual review and concertation meetings in Brussels

WP3 – Data management

Activities

- Evaluation on best management of Cedre data of potential interest for Mermaid

WP 4 – Data Broker Interfacing and Communications

Activities

- Participation in partners discussion/meeting on interfacing and communications for aspects concerning French concerns and Cedre products

WP5 – E commerce integration

Activities

- Participation in partners discussion/meeting on possible E-commerce practice for aspects concerning French concern and Cedre products

WP 6 - Data broker prototyping

Activities

- First assessment of prototyping approach of a typical accidental pollution product for Mermaid (environmental sensitivity information in a local marine pollution response plan)

Partner name: MO (CR 4)**WP 1: Project Management**

Activities:

- Preparation for and attendance at Project Review meeting, Brussels (6 Feb 2001) and Concertation meeting, Brussels (7 Feb 2001)
- Hosted technical meeting to discuss data formats and delivery systems, 8 Mar 2001

WP 3: Data Management

Activities:

- Data format options: further discussions on formats to be implemented
- Further work on design and documentation of data delivery system; technical co-ordination meeting of Mermaid project team with operations and GRIB2 development teams at UKMO.
- Metadata: discussion on draft schedules and consideration of existing standards, as recommended at the Project Review; developed comparative spreadsheet of several metadata standards, including Mermaid choice, and suggested enhancements to meet Dublin Core initiatives; proposed implementation details of metadata enhancements, based on NASA DIF

WP5: E-commerce integration

Activities:

- Further examination of developing technologies
- Review and discussion on practicalities of e-commerce

WP4 and 6: Data broker interfacing and prototyping

Activities:

- Attendance at kick-off meeting for these two sub-projects, 12-13 Mar 2001

Partner name: IMGW-OM (CR 5)**WP 1: Project Management**

Preparation for and participation in the Annual Review Meeting

WP 3: Data Management

- Working on metadata formats and Metadata Database design

WP 4: Data Broker Interfacing and Communications

- Preparation for and participation in kick-off meeting -Teddington
- Development of the concept of the interfacing between Data Broker and external user application
- Preparation of the presentation for the meeting

WP 5: E-commerce Integration

- Working on e-commerce issues related to the end user requirements

WP 6: Data Broker Prototyping

- Working on the concept and technical requirements related to the application for the end users
- Preparation of the presentation for the Annual Review Meeting
- Preparation for and participation in kick-off meeting

WP 9: Dissemination and Use

- Publishing the publication: "The accessibility of coastal environmental information through the Internet (MERMAID – the Internet data broker concept)" in Oceanological Studies of University of Gdansk.

Partner name: NC (CR 7)

No activities were scheduled for this reporting period

6 – Project Effort

Effort for the reporting period (person-hours) (preferably presented as an Excel sheet either per partner or per person)											
Contractor designation	Acronym	WP 01	WP 02	WP 03	WP 04	WP 05	WP 06	WP 07	WP 08	WP 09	Total
CO1	BMT	50	-	624	195	47	75	-	-	-	991
CR2	TXT	34	-	868	84	840	140	-	-	-	1966
CR3	CEDRE	16	-	10	20	34	30	-	-	-	110
CR4	MO	80	-	50	45	20	-	-	-	-	195
CR5	IMGW	28	-	140	105	105	70	-	-	14	462
CR7	NC	-	-	-	-	-	-	-	-	-	-
Total		208	-	1692	449	1046	315	-	-	14	3724

Cumulative Effort to-date (person-hours) (preferably presented as an Excel sheet either per partner or per person)																	
Contractor designation	Acronym	WP 01		WP 02		WP 03		WP 04		WP 05		WP 06		WP 09		Total	
		P	A	P	A	P	A	P	A	P	A	P	A	P	A	P	A
CO1	BMT	420	613	1120	1813	2009	1956	450	275	280	237	151	105	140	324	4570	5323
CR2	TXT	140	131	1120	1232	1540	1232	300	84	1820	1946	302	140	140	140	5362	4905
CR3	CEDRE	70	96	280	128	0	20	120	20	280	48	43	30	0	41	793	383
CR4	MO	70	198	1260	223	560	185	180	45	560	65	92	0	70	17	2792	732
CR5	IMGW	70	90	420	284	280	294	120	105	140	105	70	70	0	152	1100	1100
CR7	NC	70	29	280	76	0	0	0	0	0	0	0	0	0	5	350	110

Total		840	1157	4480	3756	4389	3687	1170	529	3080	2401	657	345	350	679	14966	12553
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P: planned A: actual

NB. The unit of person-hours has been used, with 1 month = 140 hours. The number of productive hours per month in fact varies between partners from 132 to 140 hours.

Estimates for effort planned have been calculated as a linear average per month over the entire workpackage duration.

Please note that there were some errors in the figures in previous reports, which have been amended in this report.