

The logo for IMesh Toolkit. The word "IMesh" is written in a large, bold, blue, sans-serif font. Below it, the word "TOOLKIT" is written in a smaller, blue, sans-serif font, with each letter centered under a corresponding letter in "IMesh".

IMesh

T O O L K I T

An Architecture and Toolkit for Distributed Subject Gateways

Edward Almasy <ealmasy@cs.wisc.edu>

Martin Hamilton <martinh@gnu.org>

UK Office for Library and Information Networking
Institute for Learning and Research Technology – University of Bristol
Internet Scout Project – University of Wisconsin – Madison
Department of Computer Science – Loughborough University

IMesh = Subject Gateway Interoperability

- Subject gateways are edited ***collections of metadata*** describing Internet resources, e.g. SOSIG (ILRT), Scout Report Signpost (ISP).
- They provide high quality search results, often including manually-written resource descriptions.
- They can offer greater collection depth, especially when created by specialists in the target subject area.

Early IMesh Discussions

- 1997: ILRT initiated discussions between international subject gateway developers who wanted to collaborate or interoperate. Result: IMesh mailing list.
- Additional discussions led to 1999 international IMesh workshop at Warwick University (UK), sponsored by JISC.
- Clear that subject gateway developers eager to work together, avoid duplication of effort.

IMesh Toolkit Project (IMeshTk)

- Desire for interoperability between subject gateways which use different protocols and metadata formats, e.g. ROADS and Isaac.
- ROADS and Isaac are distributed subject gateway systems: provide cross-searching of multiple, distributed subject gateways through a single search interface.
- Limited interoperability (CIP, WHOIS++, LDIF).
- Wanted: overriding architecture that will define ways in which subject gateways can interoperate.

IMeshTk Project Goals

- Develop and publish a flexible architecture for interoperability between subject gateways, including protocols and standards.
- Develop reference implementations for use by subject gateways software developers who want their software to be “IMeshTk compliant” and therefore able to interoperate with other compliant subject gateways.

IMeshTk Project Deliverables

Architectures and reference implementations for:

Interoperability

- standards and protocols for the exchange of data between distributed subject gateways

Metadata Management

- standards to allow searching and other manipulation of data from disparate subject gateway collections

Common Components

- other standards and protocols as needed for the implementation of distributed subject gateways

IMeshTk Project Plan (2000)

Subject Gateway Technology Review

- survey of established gateways' technologies.

Subject Gateway Requirements Review

- review of subject gateway community needs.

IMeshTk Evaluation Strategy

- plan for testing/eval of IMeshTk results.

IMeshTk Architectural Overview

- key protocols, formats, decision points.

IMeshTk Project Plan (2001)

IMeshTk Framework APIs

- initial specification of software component interfaces.

Alpha Testing

- validation of initial design and protocol choices through controlled testing.

Beta Testing

- validation of revised design and protocol choices through wide-area public testing of reference implementations.

IMeshTk Project Plan (2002)

IMeshTk Standards and Architecture Guide

- documents standards, protocols, and API.

IMeshTk Software Distribution

- documentation and reference implementations in a portable and readily accessible form.

Project Findings Summary

- results and findings from the project.

Initial Technology Review Results

IMeshTk and Renardus cooperation to examine:

Agora, Aquarelle, ASF Freeware, CHIC-Pilot, CORC/Mantis, DEF, Die Digitale Bibliothek Nordrhein-Westfalen (NRW), ETB: the European Schools Treasury Broker, EULER, Finnish Virtual Library, GAIA, Harvest, [ht://Dig](http://Dig), Isaac Network, GNU jake, NCSTRL/Dienst, Resource Discovery Network Resource Finder, ROADS, UNiVerse, ...

Topics addressed

- Responsible agency.
- Description/scope of the work.
- Logical architecture, in relation to the MODELS Information Architecture (MIA)
- Technical architecture (protocols, standards, software used).

✘ IMeshTk conclusions to follow. Renardus report available now via <http://www.renardus.org/>

Protocols & Formats

- Some Internet technology already mass market, e.g. HTTP, HTML & TCP/IP.
 - Widespread interest in Z39.50, LDAP and CIP for resource discovery, though earlier technology still used in many services - e.g. WHOIS++ & IAFA.
 - Other relevant developments - RDF, XML, XQL, CNRP, XHTML, RSS, ...
- ✕ Build on existing deployed technologies, but also explore potential of (and for) new ones.

Emerging standards: WAP

- Millions of WAP enabled phones being sold.
- Subject gateways ideally placed to exploit need for quick access to quality resources.
- WML easy to produce, but phones still very buggy.



Design & Architecture

- Some toolkits pull in lots of software packages (Harvest, ASF), propagating old versions and risking versionitis.
- Some essentially self-contained (ROADS) and so run the risk of reinventing the wheel.

✘ Don't reinvent the wheel, but don't throw in the kitchen sink either ;-)

Documentation/Standardisation

- Some toolkits never documented their internal workings (Harvest).
- Some tried (and failed!) to use the standardisation process (ROADS).
- Some based on pre-existing & well documented stuff (Isaac, ASF).

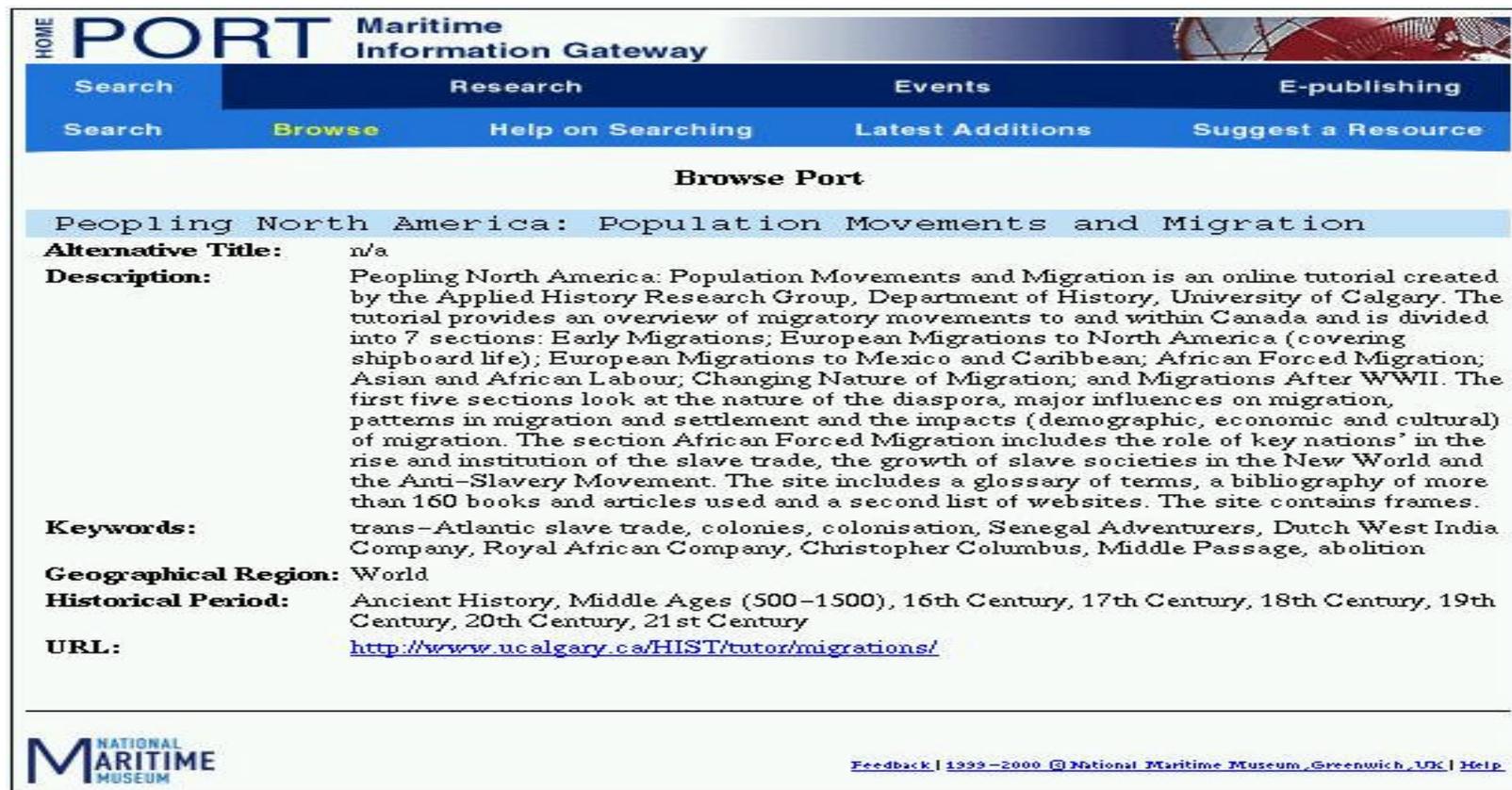
✘ New toolkits should be properly documented & specified.

The User Interface

- Short on Web based/GUI cataloguing interfaces (c.f. *ROADS mktemp.pl*).
- Some toolkits (ELT, ASF) rely on robot based indexing rather than manual cataloguing.
- User expectations are high - e.g. Flash, graphic design, chat, annotation/ratings, personalisation.

✕ Usability testing & iterative refinement.

A typical subject gateway...



HOME PORT Maritime Information Gateway

Search Research Events E-publishing

Search Browse Help on Searching Latest Additions Suggest a Resource

Browse Port

Peopling North America: Population Movements and Migration

Alternative Title: n/a

Description: Peopling North America: Population Movements and Migration is an online tutorial created by the Applied History Research Group, Department of History, University of Calgary. The tutorial provides an overview of migratory movements to and within Canada and is divided into 7 sections: Early Migrations; European Migrations to North America (covering shipboard life); European Migrations to Mexico and Caribbean; African Forced Migration; Asian and African Labour; Changing Nature of Migration; and Migrations After WWII. The first five sections look at the nature of the diaspora, major influences on migration, patterns in migration and settlement and the impacts (demographic, economic and cultural) of migration. The section African Forced Migration includes the role of key nations' in the rise and institution of the slave trade, the growth of slave societies in the New World and the Anti-Slavery Movement. The site includes a glossary of terms, a bibliography of more than 160 books and articles used and a second list of websites. The site contains frames.

Keywords: trans-Atlantic slave trade, colonies, colonisation, Senegal Adventurers, Dutch West India Company, Royal African Company, Christopher Columbus, Middle Passage, abolition

Geographical Region: World

Historical Period: Ancient History, Middle Ages (500-1500), 16th Century, 17th Century, 18th Century, 19th Century, 20th Century, 21st Century

URL: <http://www.ucalgary.ca/HIST/tutor/migrations/>

NATIONAL MARITIME MUSEUM

Feedback | 1999-2000 © National Maritime Museum, Greenwich, UK | Help

The Admin Interface

- Usually very limited, e.g. Unix command line if anything.
 - Short on Web based admin tools, c.f. ROADS admin centre.
 - Installation often painful - ROADS and Isaac (forthcoming in July) Linux RPM based install (one liner) are very much the exception.
- ⊗ Admin person mayn't be a technical guru (Unix/NT/Apache/Perl/...) !

Development Environment

- Assertion: Perl, Linux and PHP are platforms of choice for rapid Web development. C/C++ also still widely used.
- But how to measure this?
- Explosion in use of cheap/free SQL servers, e.g. PostgreSQL, MySQL.
- ✕ Lots of relevant work going on outside the research & education community, e.g. Slash <http://slashcode.com/>

Slash in action at <http://slashdot.org/>



Slashdot
News for Nerds. Stuff that matters.

faq
code
awards
privacy
slashNET
older stuff
rob's page
preferences
andover.net
submit story
advertising
supporters
past polls
topics
about
jobs
hof

Sections
6/2
[apache](#)
6/7 (10)
[askslashdot](#)
1/27
[awards](#)
6/6
[books](#)
6/6 (2)
[bsd](#)
6/7 (2)

Data Haven To Open For Business – Today

Posted by [timothy](#) on Sunday June 04, @09:03PM
from the [ready-or-not-they're-coming dept.](#)

[pq](#) writes: *"The real world catches up with Neal Stephenson's 'Cryptonomicon' on Monday, June 5th, when a data haven opens on a WWII military fortress six miles off England's coast. Read the (nologin) [NYT article here](#) about the strange case of [HavenCo](#) and the independent principality of Sealand: yes, they'll host DeCSS, Metallica songs, even pictures of Natalie, all for a price."* (More below.)

([Read More...](#) | 1469 bytes in body | 303 of 427 comments)

Your Rights Online: Barbie Demands A Domain

Posted by [jamie](#) on Sunday June 04, @04:58PM
from the [yet-another-trademark-dispute dept.](#)

[localman](#) writes: *"In an ongoing legacy of tormenting Web site owners, Mattel Inc. is threatening legal action against my wife and I for planning to make a non-business all-girl [video game](#) clan site entitled [thebarbies.com](#). Apparently they have [a long history of censoring people](#). I've put up [a page about the dispute](#), but what else can an individual do against a corporation?"* Write a [story?](#) Seriously -- this is a standard trademark domain dispute, it's happened many times and will continue to happen -- maybe someone should write an FAQ for legitimate domain holders who get The Letter.



Apache

- [IBM donates B2B technology to Apache](#)
- [Internet.com Launches Apache Today](#)
- [ApacheCon Europe 2000 Announced](#)
- [PHP 4.0.0 Released](#)
- [Final Release Of Apache JServ, 1.1.1](#)
- [ApacheCon Europe 2000 Call For Papers](#)
- [PHP 4.0 RC2 Is Out](#)
- [www.apache.org Defaced](#)
- [Apache Jakarta Releases Java-Based Regex Package](#)
- [3rd Alpha Release of Apache 2.0 Announced](#)

Slashdot Login

Nickname:

Password:

Don't have an account yet? [Go Create One](#). A user account will allow you to customize all these [nutty little boxes](#), tailor the stories you

Project Resources

IMesh Mailing List:

- For the discussion of subject gateway collaboration issues
- To subscribe send a message with:

subscribe imesh *firstname lastname*
to mailbase@mailbase.ac.uk

IMesh Toolkit Website:

<http://www.imesh.org/toolkit/>