

PACKAGE ID - 001155MLTPL00 DOOGIS

KWIC TITLE - Distributed Object Oriented Geographic
Information System

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LIMITATION CODE -COPY **AUDIENCE CODE** - LIM

COMPLETION DATE - 06/01/1995 **PUBLICATION DATE** - 06/01/1995

DESCRIPTION - This interactive, object-oriented, distributed Geographic Information System (GIS) uses the World Wide Web (WWW) as application medium and distribution mechanism. The software provides distributed access to multiple geo-spatial databases and presents them as if they came from a single coherent database. DOOGIS distributed access comes not only in the form of multiple geo-spatial servers but can break down a single logical server into the constituent physical servers actually storing the data. The program provides for dynamic protocol resolution and content handling allowing unknown objects from a particular server to download their handling code. Security and access privileges are negotiated dynamically with each server contacted and each access attempt.

PACKAGE CONTENTS - Media Directory; Software Abstract; Media Includes Source Code, Compilation Instructions;

SOURCE CODE INCLUDED? - Yes

MEDIA QUANTITY - 1 3.5 Diskette

METHOD OF SOLUTION - Dynamic, distributed, flexible, and extensible object-oriented Java representation of concrete and abstract objects in a geographical area of interest. Data management is handled via a distributed geo-spatial access mechanism based on the WWW. Visuals can be of three types: one or more images of the area of interest returned from the various geo-spatial servers, the Java representation of the geographical objects passed by the server, or some combination of the two.

COMPUTER - MLT-PLTFM

OPERATING SYSTEMS - Machine dependent

PROGRAMMING LANGUAGES - SmallTalk (70%) Java (20%) C (10%)

SOFTWARE LIMITATIONS - Server can load millions of objects depending on the amount of physical and secondary storage; there are no explicit limitations. The client software can be run on processors with as little as 16 Mbytes of RAM.

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SOURCE CODE AVAILABLE (Y/N) - Y

UNIQUE FEATURES - Dynamic application distribution via the WWW.
Distributed GIS and geo-spatial databases, true object oriented
GIS, live interactive objects, dynamic addition of classes and code
to the application as needed.

RELATED SOFTWARE - Dynamic Environmental Effects Model (DEEM),
GeoViewer GIS, GIS Engine, stGISImage (CGI driver program which
handles communication between Java DOOGIS client and the SmallTalk
GIS engine).

OTHER PROG/OPER SYS INFO - The software is dynamically downloaded to
users via the WWW. A browser capable of executing Java code, such
as HotJava from Sun Microsystems or possibly NETSCAPE from Netscape
Communications is required.

HARDWARE REQS - A server requires 32 or more MBytes RAM and clients
require 16 Mbytes RAM.

TIME REQUIREMENTS - Execution time varies with network speed; with a
good network connection, a screen update should take about 15-25
seconds. Modems with a speed of 14.4/Kb/sec or better will require
an additional 5 or so seconds.

ABSTRACT STATUS - Submitted 2/5/97. Released AS-IS 2/28/97

SUBJECT CLASS CODE - RM

KEYWORDS -
COMPUTER PROGRAM DOCUMENTATION
D CODES
INTERNET
INFORMATION SYSTEMS
GEOGRAPHY
MAPPING
IMAGES

EDB SUBJECT CATEGORIES -
990200 540210

SPONSOR - DOE/ER

PACKAGE TYPE - AS - IS