

GEODE – Sharing

# Occupational Data Through The Grid

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# Scope

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- ◆ Occupational Information
- ◆ GEODE
  - Objectives
  - Architecture
  - Prototype
- ◆ Future Work

# About GEODE

## ◆ UK ESRC Grant RES-149-25-1015

- E-Social Science Programme
- Duration 18 months

## ◆ Collaboration

- University of Stirling
  - ◆ Department of Applied Social Science
  - ◆ Department of Computing Science and Mathematics
- University of Glasgow, National e-Science Centre
- University of Cardiff

# Occupational Information

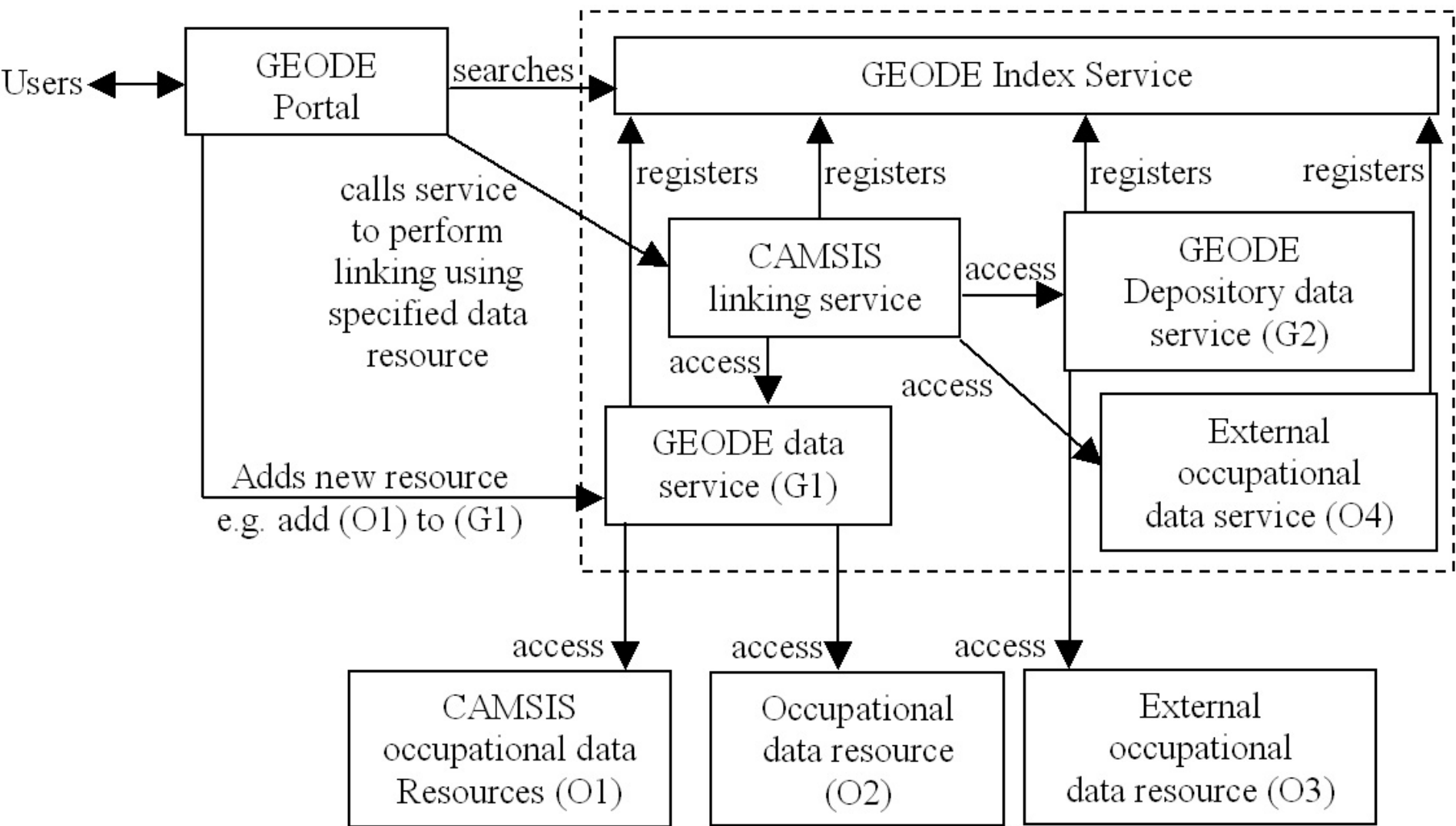
- ◆ Many statistical analyses involve/require occupational information
- ◆ Variety of occupational coding schemes
  - Occupational scheme linking is a common practice for researchers
  - No standard approach to linking
    - ◆ Statistical package syntax files (different formats)
    - ◆ Index tables lookup
  - No standard way of accessing/searching
    - ◆ Accessible via URL, email
    - ◆ Lack of good description
    - ◆ No metadata annotation (semantics)

# GEODE – Objectives

- ◆ Create a virtual community of occupational information researchers
  - Gateway for occupational information
  - Data abstraction
  - Uniform access to resources
- ◆ Accessible via a portal
- ◆ Occupational data curation
  - Annotation of data using DDI
- ◆ Occupational matching services
  - e.g. Linking surveyed data to CAMSIS scores

# GEODE - Objectives

- ◆ Occupational Matching Services (Grid Services) for various scale measures, e.g.
  - CAMSIS
  - Ganzeboom
  - Hakim



# GEODE - Architecture

- ◆ VO members can deploy own data services, also occupational matching services
  - Scalable
  - Distributed
- ◆ Possible application for other types of social science data
  - Annotation with DDI
  - Custom services can be deployed

# GEODE – Prototype

- ◆ Simple occupational matching services
- ◆ VO of Occupational Data Resources
- ◆ Portal for searching external resources

# GEODE - Prototype

## Grid Enabled Occupational Data Environment

Logout

Welcome, GEODE  
Portal Admin

Welcome Administration G1 Apps

Manage G1 Data Resources

Manage G1 Data Resources (Title)

Add to G1 Data Service (URI):

Resource ID (G1 Factory Resource ID):

Data Resource Name:

Product of Data Resource:

Product Version:

Vendor of Data Resource:

Type of Data:

URI to access Data Resource:

1 Database Roles

Credential (DN)	User ID	Password
*	guest	*****

Cancel

Add Data Resource

More Database Role

AddDBDataResource.jsp

# GEODE - Prototype

- ◆ Windows environment
- ◆ Java
- ◆ GridSphere Portal Framework
- ◆ Globus Toolkit 4
  - Index Service (Virtual Organization)
  - OGSA-DAI WSRF (Data Access Middleware)
    - ◆ Custom OGSA-DAI resources and activities
    - ◆ Accesses CSV, Relational data resources

# GEODE - Prototype

## ◆ Document Definition Initiative

- Annotate the data resources
- Searchable in index service

## ◆ Occupational Matching Grid Services

- Checks if DDI of target resource is compatible (e.g. category specified matches requirement)
- Map occupational unit group to data
- Returns mapped/matched results

# Future Work

- ◆ Possible extension of VO to other social science related datasets
  - With services
- ◆ Variety of occupational data analysis services