

A Linked Data approach to sharing public sector service and project information

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esd-toolkit



www.esd-toolkit.org

a local government initiative



supported by Local
Government Group

*trans-
sharing nationally
to improve services locally*

esd-toolkit scope



UK local government

- 350 English local authorities in 9 regions
- 32 Scottish local authorities
- 22 Welsh local authorities
- Plus specialist authorities for national parks, fire, etc

23,000+ registered users

Standards, tools and communities for meaningful information sharing

Involvement across EU

Smart Cities



Innovation network between local government and academics for e-service delivery in North Sea region



Activating Drivers for Digital eMpowerment in Europe

framework and learning environment to support disadvantaged groups

Civil-servant Empowerment for Multi-media Service Delivery ICT-enabled

structured approach to using digital technologies to support the disadvantaged in small local authorities



Use of Linked Data

Linking public information

Service

<http://>
<http://>

Function List	
<input type="checkbox"/>	Advice and benefits (1)
<input type="checkbox"/>	Business and employment (6)
<input type="checkbox"/>	Community safety (16)
<input type="checkbox"/>	Education and learning (23)
<input type="checkbox"/>	Adult education and lifelong learning (24)
<input type="checkbox"/>	Early years and childcare (25)
<input type="checkbox"/>	Educational support (26)
<input type="checkbox"/>	Higher education (27)
<input type="checkbox"/>	Schools (28)
<input type="checkbox"/>	Special education needs (29)
<input type="checkbox"/>	Environmental protection (30)
<input type="checkbox"/>	Government, citizens and rights (42)
<input type="checkbox"/>	Health and social care (58)
<input type="checkbox"/>	Housing (66)
<input type="checkbox"/>	Leisure and culture (72)
<input type="checkbox"/>	Licences, permits and permissions (82)
<input type="checkbox"/>	Marine and waterway services (95)
<input type="checkbox"/>	Planning and building control (99)
<input type="checkbox"/>	Transport and highways (105)

st
152

- Data expressed as triples
- Everything has a URI (or is a literal)
- Lists of concepts according to Simple Knowledge Organisation System



UK LG Linked Data

- [esd-standards](#) – controlled vocabularies
- [data.gov.uk](#) – administrative organisations
(plus 100s of other datasets)
- [Ordnance Survey](#) – geographical boundaries
- [Legislation.gov.uk](#) – laws, statutes, etc
- [CIPFA](#) – financial classifications
- [Dbpedia](#) – disparate (eg currency)

Linked Data application toolkit

esd
improving together



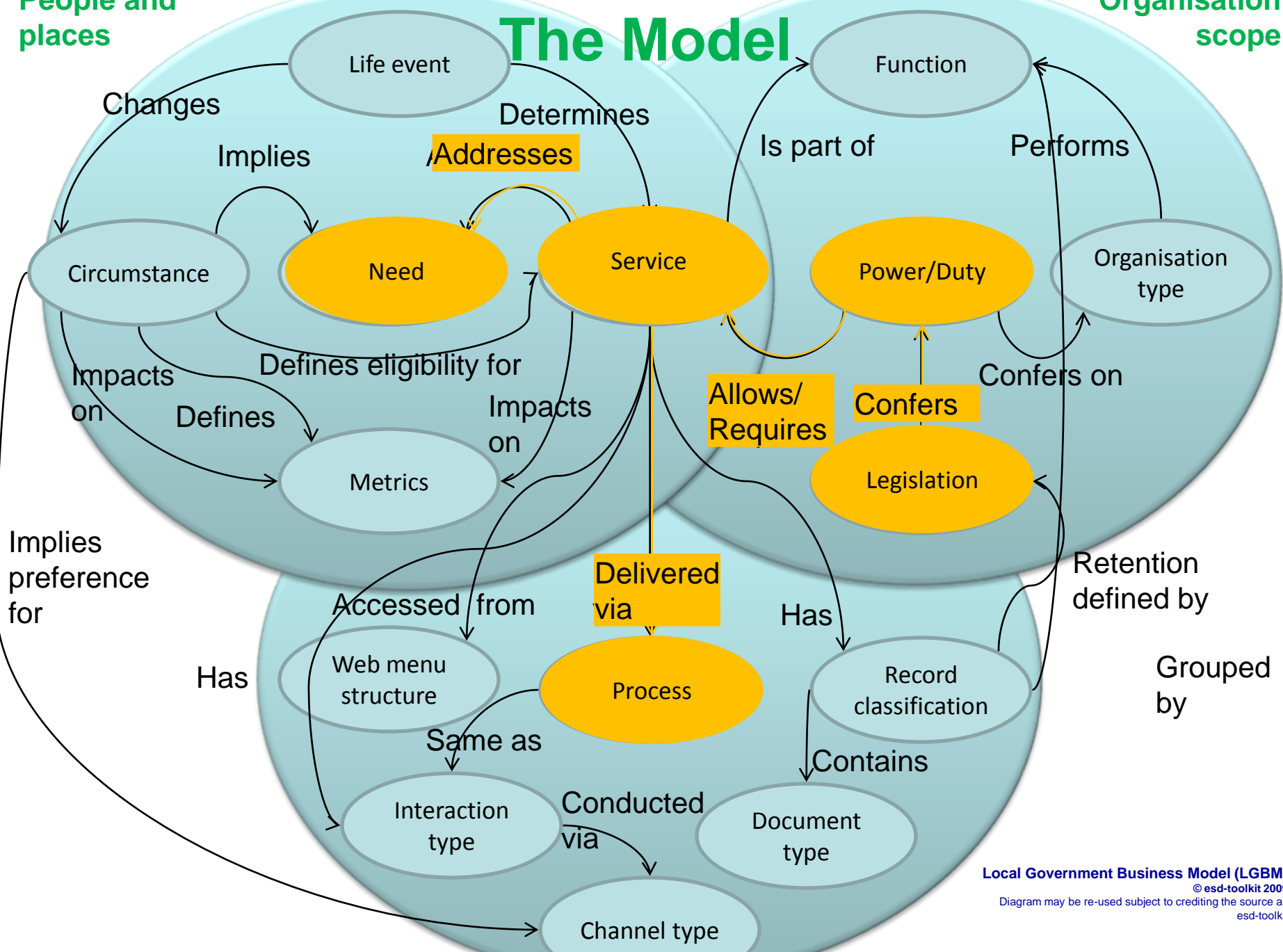
- Standards – lists of services and other components of Local government service delivery
- Council spending – detailed spending records
- Metrics – types of indicator and actual values
- Projects register – distributed / shared projects information



People and places

The Model

Organisation scope



Organisation

What is a service?

Carers - adult - respite care (227)

Details

Id 227

Name Carers - adult - respite care

Definition Carers and the people they are caring for may be entitled to respite care in the form of a temporary place in residential accommodation or provision of an alternative qualified carer to give both the carer and their families a break.

History note Term name changed from 'Respite care' to 'Respite care for adults' and access notes added in version 2.02. Term name changed from 'Respite care for adults' to 'Respite care for adults and access notes added in version 2.02. Term name changed from 'Respite care for adults and access notes added in version 2.02.'

Type Service

Resource uri <http://id.esd.org/>

Identifier = URI
Name(s) /Label(s)
Definition

Carers - adult - respite care (227)

Mappings

Cross-references between this item and items in other lists.

Has interaction

- Applications for service (0)
- Providing information (8)

Determined by life event

- Becoming a carer (1)

Allowed by power

- Assistance to carers
- Direct payments to carers to

Maps to

- Respite care (165)

Has classification

- Carers - England (27)
- Carers - N. Ireland (6027)
- Carers - Scotland (2027)
- Carers - Wales (4027)

Is part of service group

- Carers (61)

Relationship to other definitions

Carers - adult - respite care (227)

References

London Borough of Harrow	A-Z of services Carers - adult - respite care
London Borough of Harrow	A-Z of services Respite care for children
London Borough of Harrow	A-Z of services Respite care
London Borough of Harrow	A-Z of services Care - support for young people leaving care
Knowsley Metropolitan Borough Council	Respite care for adults
London Borough of Lambeth	London Borough of Lambeth Carers' breaks
Manchester City Council	Manchester City Council - A-Z of services - Respite care - di...
Orkney Islands	Orkney Islands Council Local Government : Keevlang Day Centre
Orkney Islands	Orkney Islands Council Local Government : Respite for Carers
Orkney Islands	Orkney Islands Council Local Government : Gaitness Short Breaks
Orkney Islands	Orkney Islands Council Local Government : St Colm's Short Breaks
Royal Borough of Windsor and Maidenhead	Respite Care The Royal Borough of Windsor and Maidenhead
Rutland County Council	Service Directory : Respite Care
Stafford Borough Council	Stafford Borough Council - Respite Care
Stafford Borough Council	Stafford Borough Council - Respite Care for Children
London Borough of Camden	Camden Council Respite care for adults
http://www.esd.org.uk/	View web customer profiles, derived from sample data from Local Directgov.

Esd public link

Relationship to resources

The Service List

- ### Service List (European domain)
- Abandoned shopping trolleys (1152)
 - Accounts - accounting (967)
 - Accounts - financial management (968)
 - Accounts - financial planning (969)
 - Accounts - fund management (970)
 - Accounts - management and control (971)
 - Accounts - revenue and customs (972)
 - Accreditation - air conditioning system energy assessor (1314)
 - Accreditation - commercial energy assessor (1316)
 - Accreditation - domestic energy assessor (1313)
 - Accreditation - on-construction domestic energy assessor (1312)
 - Accreditation - operational ratings assessor (1315)
 - Advertisements - community boards (1570)
 - Agriculture - landowner access (1556)
 - Agriculture - notifiable pests and diseases (1527)
 - Agriculture - production subsidies (1446)
 - Airport fire officer certificate (1170)
 - Airport firefighter certificate (1171)
 - Animals - dead - removal (576)
 - Animals - dog bins (1094)
 - Animals - dog fouling (577)
 - Animals - dogs - registration (612)
 - Animals - dogs - warden services (432)
 - Animals - inspection (788)
 - Animals - pests - control (431)
 - Animals - pet burial - regulations (1506)
 - Animals - stray (575)
 - Animals - welfare services (434)

- ### Local Government Service List
- Abandoned shopping trolleys (1152)
 - Animals - dead - removal (576)
 - Animals - dog bins (1094)

- ### Norwegian Service List (draft)
- Adopsjon (160)
 - Adressetildeling (1421)
 - Arbeidsiverkontroll og -veiledning (1422)
 - Askesprøve (720)

- ### Scottish Service List
- Abandoned shopping trolleys (1152)
 - Animals - dead - removal (576)
 - Animals - dog bins (1094)
 - Animals - dog fouling (577)
 - Animals - dogs - registration (612)
 - Animals - dogs - warden services (432)
 - Animals - inspection (788)
 - Animals - pests - control (431)
 - Animals - stray (575)
 - Animals - welfare services (434)
 - Archaeology - consultancy (618)
 - Archaeology - excavations and surveys (619)
 - Archives - access (606)
 - Archives - enquiries (1034)
 - Archives - general information (448)
 - Archives - loans, donations bequests and sales (604)
 - Archives - withdrawals (605)
 - Arts - development (884)
 - Arts - information (838)
 - Asylum seekers - advice and support (77)
 - Asylum seekers - nationality checking (915)
 - Banking - credit unions (352)
 - Banking - municipal banking - information (1035)

- ### Belgium Service List (draft)
- Aanbesteding (829)
 - Aanpassing aan de wetgeving (1091)
 - Adoptie (160)

- ### German Service List (draft)
- Abfallwirtschaft (56)
 - Alkoholverbote (57)
 - Arbeitsvermittlung (194)
 - Archiven (4)
 - Arbeitsvermittlung (194)
 - Basissonderw
 - Bedrijfsafval
 - Begeleiding
 - Begeleidings
 - Begraafplaat
 - Begraafplaat
 - Begraafnisko
 - Begroting (9
 - Belg worden
 - Bemiddeling
 - Bermen (574
 - Besmettelijk
 - Bevolkingsre
- ### English Service List (draft)
- Alcohol
 - Arbeitsvermittlung
 - Archives
 - Arbeitsvermittlung
 - Basissonderw
 - Bedrijfsafval
 - Begeleiding
 - Begeleidings
 - Begraafplaat
 - Begraafplaat
 - Begraafnisko
 - Begroting (9
 - Belg worden
 - Bemiddeling
 - Bermen (574
 - Besmettelijk
 - Bevolkingsre
- ### Swedish Service List (draft)
- Aangifte av överliden (321)
 - Aanleggsmyndighet (59)
 - Aanskrifning wohnungverbesserung (138)
 - Aanslag Onroerende-zaakbelasting (OZB) (57)
 - Aanvraag Woonwagenaanstandplaats (1358)
 - Adopteren van Grond (1359)
 - Adoptie (160)
 - Afgraven, Transporteren of Hergebruiken van Grond (1419)
 - Afschrift uit de Gemeentelijke basisadministratie persoonsgegevens (GBA) (1411)
 - Afschrift van een akte van de Burgerlijke stand (663)
 - Afvalbrengstation Woldjerspoor (851)
 - Afvalstickers (588)
 - Algemene informatie gemeentehuis (359)
 - Ambulante handel (400)
 - Asbest (415)
 - Asbestverwijdering, aanpak opruimen na een brand (816)
 - Asielzoekers en vluchtelingen (77)
 - Bedrijfsafval inzameling (517)
 - Bedrijfspannen (1038)
 - Beginnende Kunstenaars (WWIK) (1155)
 - Begraafplaatsen (329)
 - Begravenisrechten (875)

Complete List of Local Government Service List (LGSL) Norwegian Service List (NLS) Scottish Service List (SSL)



Service Grouping - Administrative

Function List

- ▣ [Advice and benefits \(1\)](#)
- ▣ [Business and employment \(6\)](#)
- ▣ [Community safety \(16\)](#)
- ▣ [Education and learning \(23\)](#)
 - ▣ [Adult education and lifelong learning \(2\)](#)
 - ▣ [Early years and childcare \(25\)](#)
 - ▣ [Educational support \(26\)](#)
 - ▣ [Higher education \(27\)](#)
 - ▣ [Schools \(28\)](#)
 - ▣ [Special education needs \(29\)](#)
- ▣ [Environmental protection \(30\)](#)
- ▣ [Government, citizens and rights \(42\)](#)
- ▣ [Health and social care \(58\)](#)
- ▣ [Housing \(66\)](#)
- ▣ [Leisure and culture \(72\)](#)
- ▣ [Licences, permits and permissions \(82\)](#)
- ▣ [Marine and waterway services \(95\)](#)
- ▣ [Planning and building control \(99\)](#)
- ▣ [Transport and highways \(105\)](#)

- ▣ [Education - behaviour development \(896\)](#)
- ▣ [Education - citizenship \(895\)](#)
- ▣ [Education - consultations \(49\)](#)
- ▣ [Education - mentoring schemes \(627\)](#)
- ▣ [Education - musical instrument hire \(1050\)](#)
- ▣ [Education - tuition - instrumental \(51\)](#)
- ▣ [Libraries - schools - book exhibitions \(43\)](#)
- ▣ [Libraries - schools - book purchase scheme \(42\)](#)
- ▣ [Libraries - toy libraries \(893\)](#)
- ▣ [Schools - breakfast clubs \(1089\)](#)
- ▣ [Schools - education in hospital \(1090\)](#)
- ▣ [Schools - extended services \(897\)](#)
- ▣ [Schools - health promotion \(889\)](#)
- ▣ [Schools - home schooling \(1\)](#)
- ▣ [Schools - language and cultural support \(6\)](#)
- ▣ [Schools - mentors \(628\)](#)
- ▣ [Schools - musical instruments - assisted purchase scheme \(704\)](#)
- ▣ [Schools - nursing \(890\)](#)
- ▣ [Schools - psychological, psychiatric or social work services \(7\)](#)
- ▣ [Schools - support for gifted children \(892\)](#)
- ▣ [Schools - teenage pregnancy \(736\)](#)
- ▣ [Schools - transition between schools \(894\)](#)
- ▣ [Schools - transport \(891\)](#)
- ▣ [Schools Library Service - advice and training \(41\)](#)
- ▣ [Schools Library Service - loans \(44\)](#)
- ▣ [Schools Library Service - school visits and promotions \(45\)](#)
- ▣ [Travelling people - support for children \(737\)](#)

EU Functions List - <http://id.esd-toolkit.eu/FunctionList/>



Linked Data projects register

- Driven directly from a triple store of projects complying with projects ontology
- Configurable for any SKOS lists
- Open PHP source
- ‘Skinnable’
- Share all compliant projects in all instances
- Update managed by “owner” application

Projects ontology

- <http://purl.org/project/def#>
- <http://purl.org/project/c>

```
@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .
@prefix owl: <http://www.w3.org/2002/07/owl#> .
@prefix dcterms: <http://purl.org/dc/terms/> .
@prefix foaf: <http://xmlns.com/foaf/0.1/> .
@prefix skos: <http://www.w3.org/2004/02/skos/core#> .
@prefix xsd: <http://www.w3.org/2001/XMLSchema#> .

@prefix vcard: <http://www.w3.org/2006/vcard/ns#> .
@prefix project: <http://purl.org/project/def#>.

<http://purl.org/project/def#>
  a owl:Ontology;
  rdfs:label "Projects ontology"@en;
  owl:versionInfo "1.0";
  rdfs:comment "Ontology of projects."@en;
  dcterms:hasFormat <http://purl.org/project/def.ttl>;
  dcterms:hasFormat <http://purl.org/project/def.doc>;
  dcterms:publisher [ foaf:mbox "support@esd-toolkit.eu" ];
  dcterms:created "2010-11-05"^^xsd:date;
  dcterms:modified "2010-11-05"^^xsd:date.

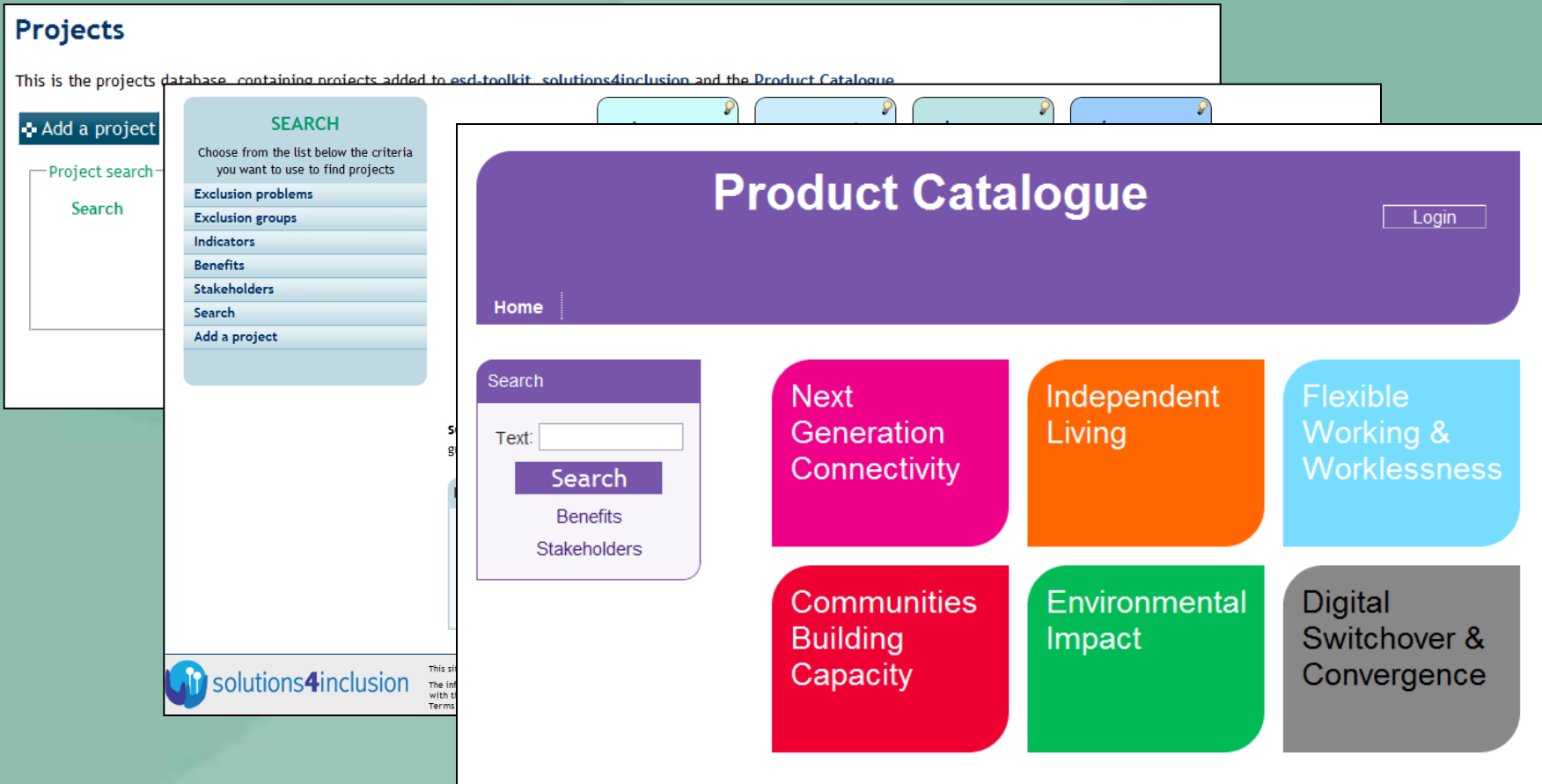
# project class:

project:Project a rdfs:Class, owl:Class;
  rdfs:label "Project"@en;
  rdfs:comment "A class to represent a project"@en;
  rdfs:isDefinedBy <http://purl.org/project/def#>;

# project properties:

# Project title (mandatory) (1 per language)
rdfs:subClassOf [ a owl:Restriction;
  rdfs:comment "The main title for the project."@en;
  owl:onProperty skos:prefLabel;
  owl:minCardinality 1
];
```

Skinnable application



The screenshot displays a web application interface for a 'Product Catalogue'. On the left, a 'Projects' sidebar includes a search section with a list of criteria: Exclusion problems, Exclusion groups, Indicators, Benefits, Stakeholders, Search, and Add a project. Below this is a 'Project search' box with a 'Search' button. The main content area features a purple header with 'Product Catalogue' and a 'Login' button. A 'Home' breadcrumb is visible. Below the header is a search box with a 'Text' input field, a 'Search' button, and filters for 'Benefits' and 'Stakeholders'. The main area contains six colored tiles: 'Next Generation Connectivity' (pink), 'Independent Living' (orange), 'Flexible Working & Worklessness' (light blue), 'Communities Building Capacity' (red), 'Environmental Impact' (green), and 'Digital Switchover & Convergence' (grey). At the bottom left, there is a 'solutions4inclusion' logo and a small disclaimer: 'This site... The inf... with t... Terms'.

Project search

Projects search results

+ Add a project

You searched for: unemployed

1/3

Project title	Overview	Publisher
ECDL for Unemployed Citizens of Zagreb County	The project provides a training hall for participants to engage in the development of computer skill with trained experts.	esd-toolkit
WIN (web in de wijk/my portfolio online/web in neighbourhoods)	Web in Neighbourhoods is an initiative launched in 2002, which employs trained professional to assist inhabitants of a neighbourhood to use ICT strategically in their everyday lives.	esd-toolkit
CTSP Unlimited Potential (Community Technology Skills Program) Microsoft Europe	Microsoft Community Technology Skills is a global community based learning programme to enhance the IT skills and provide economic opportunities for young people and adults.	esd-toolkit
iCentres Network Project	The iCentres project has established a constantly developing network of telecentre facilities in local communities in Bulgaria.	esd-toolkit
Losingyourjob.ie	This microsite provides public service information for those who are currently unemployed or are becoming unemployed in Ireland.	esd-toolkit
ICT @ Home - Katie's Story	The ICT @ Home project provides Katie with a laptop computer and a desktop printer.	esd-toolkit
Burslem Ethical Recycling of Computers	Computer Recycling project for local community groups, unemployed and developing world.	esd-toolkit
East Serve	For a small monthly fee, residents of a deprived area offered discounted ICT equipment, training, maintenance support. 'Third sector' heavily involved.	esd-toolkit
Digital Fife	The Digital Fife project works with community groups using Information Technology and website Development as ways of engaging with them and supporting them to raise the profile of their work.	esd-toolkit
Renfrewshire Digital Inclusion Project	Installs computers and broadband access and assist participants in achieving formally accredited ICT certificates. Provides adaptive technology for disabled / special needs participants.	esd-toolkit

Download this [result set](#) as a CSV.

+ Search again



Local Government a local government initiative

Improvement
and Development

trans-
sharing nationally
to improve services locally

Project detail

ECDL for Unemployed Citizens of Zagreb County

Receive e-mail updates

Overview

The project provides a training hall for participants to e

Description

The programme provides a training hall available to all NGO where participants who are actively engaged in the computer while being under supervision of ECDL certified. The project has been under way since July of 2003. The projects purpose is Information Technology training acc chances for employment. The project is co-financed by exceptionally good; till August 2007.

The Croatian Employment Service provides feedback in successfully completing the programme. 2000 beneficia gained knowledge and internationally recognized diplom moving out of social isolation, the unemployed increase improvement.

First workshop with UNDP (United Nations Development the local community trough workshops for beneficiaries knowledge of how to format a winning job application a interview. The workshop was attended by employees an recruitment of new staff. The candidates' (project bene were made on alterations to make them more appealing beneficiaries were made aware of the impressions they to format their CVs with the application and how to con

Contact(s)

info@mreza.com

Audience(s)

All communities

Subject(s)

Digital Exclusion

Benefit(s)

[Education and skills](#)
[Equality, inclusion and empowerment](#)
[Stronger community](#)

Stakeholder(s)

Central government and wider public bodies
Communities and excluded groups
Society
Users and clients

```
<?xml version="1.0" encoding="UTF-8"?>
- <rdf:RDF xmlns:ns3="http://purl.org/project/def#" xmlns:ns2="http://purl.org/dc/terms/"
  xmlns:ns1="http://xmlns.com/foaf/0.1/#" xmlns:ns0="http://www.w3.org/2004/02/skos/core#"
  xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  - <rdf:Description rdf:about="http://id.projects.esd.org.uk/project1023">
    <rdf:type rdf:resource="http://purl.org/project/def#Project"/>
    <ns0:prefLabel xml:lang="en">ECDL for Unemployed Citizens of Zagreb County</ns0:prefLabel>
    <ns1:homepage rdf:resource="http://www.mreza.com."/>
    <ns2:abstract xml:lang="en">The project provides a training hall for participants to engage in the
      development of computer skill with trained experts.</ns2:abstract>
    <ns2:audience xml:lang="en">All communities</ns2:audience>
    <ns2:created rdf:datatype="http://www.w3.org/2001/XMLSchema#date">2009-09-
      18</ns2:created>
    <ns2:description xml:lang="en">The programme provides a training hall available to all project
      participants which is situated in the space provided by Mreza NGO where participants who are
      actively engaged in the project are provided with the opportunity to train skills in using a
      computer while being under supervision of ECDL certified experts who are available to help,
      explain and clarify questions. The project has been under way since July of 2003. The direct
      beneficiaries are unemployed citizens of Zagreb County and the projects purpose is
      Information Technology training according to the ECDL START programme with the aim to
      increasing the chances for employment. The project is co-financed by the City of Zagreb
      meeting 50% of the expenses and the results are exceptionally good; till August 2007. The
      Croatian Employment Service provides feedback in regards to how many project participants
      have found employment after successfully completing the programme. 2000 beneficiaries
      completed the project, of which 44% found employment due to gained knowledge and
      internationally recognized diploma. The project also has certain side-effects on the
      beneficiaries: moving out of social isolation, the unemployed increase of optimism and self-
      respect and motivation for further work on self-improvement. First workshop with UNDP
      (United Nations Development Projects) in having the economic sector participate with
      activities in the local community trough workshops for beneficiaries of the project. The
      workshop was conceived as a means to provide knowledge of how to format a winning job
      application and CV along with giving an excellent performance during a job interview. The
      workshop was attended by employees and experts of respected firms who participate in
      processes regarding recruitment of new staff. The candidates' (project beneficiaries)
      applications and CVs were evaluated and than suggestions were made on alterations to make
      them more appealing to potential employers, followed by a simulated interview. The
      beneficiaries were made aware of the impressions they left and provided with constructive
      criticism as well as information how to format their CVs with the application and how to
```

Why?

1. To share learning without saying “come to my website”
2. To evolve linkages

Further reference 1

what is a service list?

A Service list provides a catalogue of the services that are delivered by an organisation. It is sometimes referred to as a Service Catalogue or a Product Catalogue. A Service defines what is delivered by one organisation, department or individual to another. It has a precise definition.

The definition of one service with cross-references to other definitions and links to related information

In the public sector, an organisation's services are determined by political decisions within the framework of what satisfies public need or benefits the community directly and what is mandated by law. European, national and regional (federal) laws shape what services local governments can and should deliver, but there is much commonality between the services that are delivered by local authorities in different regions across Europe.

ten reasons to use a service list

A service list provides a standard way of referring to each service when communicating within and between organisations. It uses unique numeric identifiers for each service, irrespective of the language and naming conventions that are used by different people and organisations to identify or describe services. These common numeric service identifiers make it possible to share information about services, wherever it is gathered and to build up a collective intelligence about services and users.

1. sharing resources, content and generic forms
2. defining relationships to other resources

Service information compiled by one organisation can be used by many others if the individual services are clearly referenced. As an example, cross-referencing against services enables the esd-toolkit to share FAQs that were developed for the Scottish Improvement Service with all 32 Scottish local authorities. Service descriptions and the content of e-forms can be compiled by service and legal experts for sharing and, if necessary, customisation by local authorities.

From a service definition, you can identify and link to other types of information that assist in the delivery of a service. For each service, the esd-toolkit defines:

- The citizen or community needs that a service is designed to address
- The processes involved in service delivery
- The legal powers and duties under which the service is delivered
- Where a service might appear in a web site's navigation structure
- The channels through which a customer might access a service
- Where services records should be classified in a file plan (with associated retention guidance)
- The metrics by which service delivery might be measured
- The outcomes a service might improve

Standards for classifying services and related information in the public sector

Abstract
This report describes the role of standards in local government. It draws on the experience of esd-toolkit in the UK and describes how controlled vocabularies maintained by esd-toolkit help municipalities improve their service delivery. Standards are viewed within the context of a consistent model for the public sector.

1 Means of Profiling Citizens and Customers

1.1 What is meant by 'Standards'?

For the purposes of this report, standards are defined as:

- Data structures that are common to organisations (primarily municipalities) who share or refer to the same information;
- Controlled vocabularies which list values that are acceptable to describe a particular concept (eg a service, a citizen, a resource) according to commonly agreed definitions.

The term 'standards' is also used to describe those things, which are beyond the scope of this report:

- Protocols for controlling the transfer of information
- Rules defining the security model for data access
- Quality levels used to assess work against political, policy and customer service goals

1.2 Lists, taxonomies and ontologies

The simplest form of controlled vocabulary is a 'flat' list of values suitable for populating a data element. Advancement to the next may be achieved through an encoding scheme within a program(s) language or schema, such as an XML schema used to constrain and validate information transformed between electronic data repositories.

Computer systems typically use drop-down lists, as illustrated in Figure 1 (overleaf) to constrain the value(s) selected to those from a controlled list.

What is a service list?

Ten reasons to use a service list

Standards for classifying services...

Further reference 2

The Openness of Government

share change open data collaborate transparency

The Openness of Government | **Articles** 1 2 3 4 5 6 7

Open Linked Data to Inform Policy and Improve Services

[Journal of ePractice - Open Linked Data article](#)

More information and contacts

Websites

- esd-toolkit esd.org.uk
- EU standards esd-toolkit.eu
- Smart Cities smartcities.info

Email

- Support Support@esd.org.uk
- Mike Thacker Mike.Thacker@esd.org.uk