HILT:
Enhancing subject search through embedded web services

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Edinburgh International Conference Centre

Outline

1. Background to HILT

2. Pilot Toolkit (main project deliverable)

    - various functions

3. Demonstration of Toolkit in action

    - Use within a real service - Intute
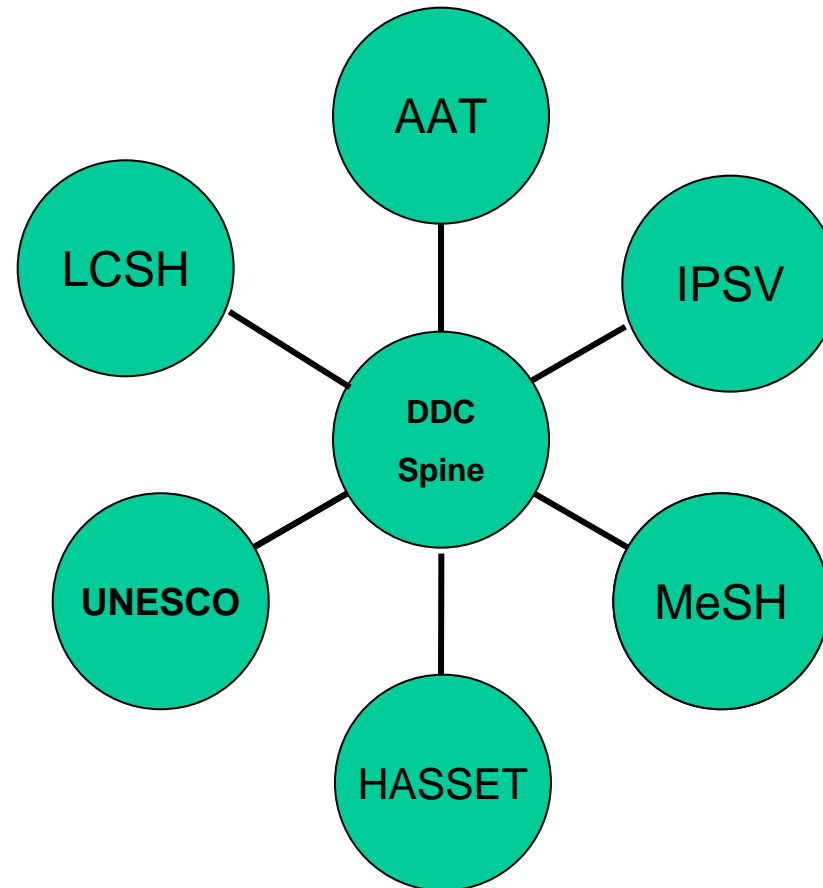

4. Future of HILT

HILT: Background

- HILT began in 2000

- Subject interoperability problem: soil/earth/terra firma!

- Distributed architecture

- SRU/W

- SKOS

Mapping Approach

High vs Deep Level
Mapping

Folksonomies

AAT

LCSH

IPSV

Mapping Types

DDC Spine

Local Schemes

UNESCO

MeSH

SKOS

Limitations

HASSET

University of
Strathclyde
Glasgow

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HILT APIs

http://hilt4.cdlr.strath.ac.uk/hilt_sru.cgi

SRU Functions
- get_collections
- get_ddc_records
- get_non_ddc_records
- get_all_records
- get_filtered_set (browse hierarchies)
- get_sp_suggestions (spelling suggestions)
- get_wordnet_suggestions

University of
Strathclyde
Glasgow

Enter your search term/dewey number here...

| | get_filtered_set ▼ | Get related concepts ☐

Use double quotes for phrase search. Input Dewey Number for get_non_ddc_records and get_collections. See search tips for details

Select schemes and type of terms to search (use CTRL for multiple selection)- **required only for get_filtered_set**

DDC
AAT
GCMD
HASSET
IPSV
JACS
LCSH
MeSH
NMR
SPEIR
UNESCO   ☑ Preferred Terms ☑ Non Preferred Terms ☑ Related Terms
☐ Search for Id?   Search

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Result for get_collections (DDC 621.8)

```
<zs:record>
    <zs:recordData>
      <dcmitype:Collection xmlns:cld="http://purl.org/cld/terms/" xmlns:dc="http://purl.org/dc/elements/1.1/"
xmlns:dcmitype="http://purl.org/dc/dcmitype/" xmlns:dcterms="http://purl.org/dc/terms/"
xmlns:iesr="http://iesr.ac.uk/terms/#usesControlledList" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance">

      <cld:isAccessedVia>http://www.intute.ac.uk/sciences/cgi-
bin/search.pl?gateway=Engineering&amp;limit=0&amp;term1=</cld:isAccessedVia>
      <dc:creator>Intute</dc:creator>
      <dc:identifier xsi:type="dcterms:URI">http://www.intute.ac.uk/sciences/engineering/</dc:identifier>
      <dc:subject xsi:type="dcterms:DDC">620</dc:subject>
      <dc:title>Intute: Science, Engineering &amp; Technology: Engineering</dc:title>

      <dc:type xsi:type="dcterms:DCMIType">Collection</dc:type>
      <dcterms:abstract>The Intute Engineering Gateway provides free access to high quality resources on the
Internet. Each resource has been evaluated and categorised by subject specialists based at UK universities. Our
target audience is students, staff and researchers in higher and further education.</dcterms:abstract>
    </dcmitype:Collection>
   </zs:recordData>
   <zs:recordPacking>xml</zs:recordPacking>
   <zs:recordPosition>1</zs:recordPosition>
  </zs:record>
```

get_non_ddc_records

• Retrieves terms mapped to a DDC notation, from other schemes.

• Combines with get_ddc_records to create the get_all_records API

Result for get_non_ddc (581.652)

```
<zs:record>

  <zs:recordData>

   <skos:Concept rdf:about="http://hiltm2m.cdlr.strath.ac.uk/hilt4/schemes/DDC.rdf#581.652"
     xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#" xmlns:skos="http://www.w3.org/2008/05/skos#">

     <skos:EXACTMATCH>

       <skos:Concept rdf:about="http://hiltm2m.cdlr.strath.ac.uk/hilt4/schemes/LCSH.rdf#26433" />

     </skos:EXACTMATCH>

     <skos:altLabel xml:lang="en">Weeds</skos:altLabel>

     <skos:exactMatch>

       <skos:Concept rdf:about="http://hiltm2m.cdlr.strath.ac.uk/hilt4/schemes/LCSH.rdf#26434" />

     </skos:exactMatch>

     <skos:exactMatch>

       <skos:Concept rdf:about="http://hiltm2m.cdlr.strath.ac.uk/hilt4/schemes/GCMD.rdf#24" />

     </skos:exactMatch>

     <skos:exactMatch>

       <skos:Concept rdf:about="http://hiltm2m.cdlr.strath.ac.uk/hilt4/schemes/HASSET.rdf#7011" />

     </skos:exactMatch>

     <skos:inScheme rdf:resource="http://hiltm2m.cdlr.strath.ac.uk/hilt4/schemes/DDC.rdf" />

     <skos:prefLabel xml:lang="zxx">581.652</skos:prefLabel>

    </skos:Concept>

  </zs:recordData>

  <zs:recordPacking>xml</zs:recordPacking>

  <zs:recordPosition>1</zs:recordPosition>

 </zs:record>
```

get_filtered_set

•Allows specified fields from specific terminologies or combinations of terminologies to be searched.

•Additional parameters can be selected e.g. NPT, RT

•Accepts a subject term

(Partial) result for 'pottery' searching AAT using get_filtered_set. Pref labels for BTs and NTs can be retrieved by clicking 'get related concepts' when entering search term.

```
<zs:record>

 <zs:recordPacking>xml</zs:recordPacking>

- <zs:recordData>

- <skos:Concept xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#" xmlns:skos="http://www.w3.org/2004/02/skos/core.rdf#"
rdf:about="http://hiltm2m.cdlr.strath.ac.uk/hilt4/schemes/AAT.rdf#300112569">

 <skos:prefLabel xml:lang="en">British Isles Medieval pottery styles</skos:prefLabel>

 <skos:broader rdf:resource="http://hiltm2m.cdlr.strath.ac.uk/hilt4/schemes/AAT.rdf#300020794" />

 <skos:narrower rdf:resource="http://hiltm2m.cdlr.strath.ac.uk/hilt4/schemes/AAT.rdf#300069526" />

 <skos:inScheme rdf:resource="http://hiltm2m.cdlr.strath.ac.uk/hilt4/schemes/AAT.rdf" />

 </skos:Concept>

 </zs:recordData>

 <zs:recordPosition>1</zs:recordPosition>

 </zs:record>

- <zs:record>

 <zs:recordPacking>xml</zs:recordPacking>

- <zs:recordData>

- <skos:Concept xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#" xmlns:skos="http://www.w3.org/2004/02/skos/core.rdf#"
rdf:about="http://hiltm2m.cdlr.strath.ac.uk/hilt4/schemes/AAT.rdf#300106969">

 <skos:prefLabel xml:lang="en">Italian Medieval pottery styles</skos:prefLabel>

 <skos:broader rdf:resource="http://hiltm2m.cdlr.strath.ac.uk/hilt4/schemes/AAT.rdf#300106965" />

 <skos:narrower rdf:resource="http://hiltm2m.cdlr.strath.ac.uk/hilt4/schemes/AAT.rdf#300021115" />

 <skos:inScheme rdf:resource="http://hiltm2m.cdlr.strath.ac.uk/hilt4/schemes/AAT.rdf" />

 </skos:Concept>

 </zs:recordData>

 <zs:recordPosition>2</zs:recordPosition>

 </zs:record>
```

Uses of HILT

• Identifying potentially useful collections from a user's subject term (via registries such as IESR).

• Provision of synonyms and related terms (Improving recall).

• Providing the best term(s) for a subject search in a remote service that uses a subject scheme unfamiliar to users.

• The ability to send a term from a chosen subject scheme and receive back data on broader terms, narrower terms, hierarchy information, preferred and non-preferred terms, and so on.

Uses of HILT (2)

•Providing cataloguing staff with information on subject schemes and inter-scheme mappings to assist in metadata creation.

•A spell-check mechanism to assist user searching (of HILT terms).

•Generating an interactive browse structure where a scheme is arranged hierarchically.

•A service to assist user search formulation by providing information on search terms entered (e.g. what the term means, whether it has alternative meanings, whether there are synonyms that might be useful in a search and so on).

Toolkit Demonstration

Hopefully live….

http://hilt4.cdlr.strath.ac.uk/toolkit/intro.cgi

Toolkit Demonstration (1)

This toolkit helps you to enhance your search results by embedding Hilt functions within your local search service.

- Page1 - your_search.cgi mimics your search page ....expand...
- Page2 - your_search_results.cgi will be your search result page. Hilt can enhance your result page by providing spelling suggestions, wordnet suggestions and alternate search terms. This page calls three hilt functions get_sp_suggestions, get_wordnet_suggestions and get_filtered_set to get these results...
- Page3 - search_hilt.cgi uses get_ddc_records to clarify users topic of interest...
- page4 - search_jisc.cgi searches within local collections database to find out collections revlevant to users search term (using get_collection function) and any term to search that collection based on the subject scheme used in that collection (uses get_non_ddc_records function)....
  You can search the collection directly if a low level mapping term is identified and open urls are available to search the collection. You can also browse the collection if a high level mapping term is identified.
  A script is available to search within IESR records(search_iesr.cgi). Because Not many IESR records have scheme information and open url information, Hilt cannot complete the task using IESR records. That's why we are using a local collections database....

  You can use this interface to create your own SRU/W requests: Hilt SRU/W
  Proceed to toolkit demo

Toolkit Demonstration (2)

This page mimics a services local search page

Enter your search term here...

predation | Search

Toolkit Demonstration (3)

Hilt is providing spelling suggestions and alternative search terms with which to search collections/services.

Enter your search term here...

[   ] Search

Alternate search terms	Spelling suggestions	Wordnet suggestions
predation (biology)--rats, predation (biology)--sharks--art representation, predation (biology)--snakes, predation (biology)--tigers, predation (biology)--wolves,	redaction prediction depredation sedation predator	predation, depredation, preying -- (an act of plundering)

Next part of the illustration

Your local search results for '**predation**' will be displayed here

Toolkit Demonstration (4)

Hilt can help clarify what the user's chosen subject is for a local search or an external search. DN to expand-
Click on one of the links to retrieve collections corresponding to that term

Enter your search term here...

[ ] Search

Click on a link to retrieve collections relevant to that term

1. Predation
Top of Dewey22 > Natural sciences and mathematics > Life sciences Biology > Natural history of specific kinds of organisms > Plants and animals > Animals (Zoology) > Specific topics in natural history of animals > Behavior > Feeding behavior > Predation

2. Predation (Biology)--snakes
Top of Dewey22 > Natural sciences and mathematics > Life sciences Biology > Natural history of specific kinds of organisms > Plants and animals > Animals (Zoology) > Specific taxonomic groups of animals > Cold-blooded vertebrates Pisces (Fishes) > Reptilia (Reptiles) > Lepidosauria > Squamata (Scaly reptiles) > Serpentes (Snakes) > Predation (Biology)--snakes

3. Predation (Biology)--rats
Top of Dewey22 > Natural sciences and mathematics > Life sciences Biology > Natural history of specific kinds of organisms > Plants and animals > Animals (Zoology) > Specific taxonomic groups of animals > Mammalia (Mammals) > Eutheria (Placental mammals) > Miscellaneous orders of Eutheria (placental mammals) > Rodentia (Rodents) > Muridae > Rattus (Common rats) > Predation (Biology)--rats

4. Predation (Biology)--tigers
Top of Dewey22 > Natural sciences and mathematics > Life sciences Biology > Natural history of specific kinds of organisms > Plants and animals > Animals (Zoology) > Specific taxonomic groups of animals > Mammalia (Mammals) > Eutheria (Placental mammals) > Carnivora Fissipedia (Land carnivores) > Fissipedia (Land carnivores) > Felidae (Cat family) > Panthera tigris (Tiger) > Predation (Biology)--tigers

5. Predation (Biology)--wolves
Top of Dewey22 > Natural sciences and mathematics > Life sciences Biology > Natural history of specific kinds of organisms > Plants and animals > Animals (Zoology) > Specific taxonomic groups of animals > Mammalia (Mammals) > Eutheria (Placental mammals) > Carnivora Fissipedia (Land carnivores) > Fissipedia (Land carnivores) > Canidae (Dog family) > Canis lupus and Canis rufus (red wolf) > Predation (Biology)--wolves

6. Predation (Biology)--sharks--art representation
Top of Dewey22 > The arts Fine and decorative arts > Standard subdivisions of fine and decorative arts > Special topics in fine and decorative arts > Iconography > Specific subjects > Nature and still life > Animals > Specific animals > Fishes--art representation > Predation (Biology)--sharks--art representation

7. Physiology of predatory activity
Top of Dewey22 > Natural sciences and mathematics > Life sciences Biology > Internal biological processes and structures > Specific parts of and physiological systems in plants > Reproductive organs and physiological systems in plants > Animal-like physiological processes > Physiology of predatory activity

Toolkit Demonstration (5)

Hilt has searched in JISC collections database to find collections relevant to your search term. These are displayed below. Any suggested terms to search the collection with are also displayed. Any deep level mapping term allows you to search the collections directly (if available) and any high level mapping term allows you to browse the scheme from that particular point and then search the collection once you identify a useful term.

Enter your search term here...

[   ] [Search]

Your search term in Dewey hierarchy

BT: Feeding behavior
   Predation (Dewey no:591.53)
     NT: Predatory aquatic animals

Results from JISC collections/services database

1. BUBL LINK: Zoology
Catalogue of selected Internet resources.
Dewey no: 590
Taxonomy:

2. Intute: Health and Life Sciences: Natural History
The natural history pages of Intute. A free online service providing access to the very best web resources for education and research, evaluated and selected by a network of subject specialists.

Dewey no:	590
Taxonomy:	CAB; LCC; MeSH; HASSET;
Search *Intute: Health and Life Sciences: Natural History* using following terms:	Predatory Behavior Feeding Behavior Cannibalism
Browse *Intute: Health and Life Sciences: Natural History* using following terms:	ZOOGEOGRAPHY OR ZOOPATHOLOGY ZOOLOGY

3. COPAC
COPAC provides free access to the merged catalogues of 22 major university research libraries in the UK and Ireland. It offers a single point of access to details of materials held in many different locations, bringing together the strength of individual
Dewey no: 500

Toolkit Demonstration (6)

Toolkit Demonstration (7)

Intute

http://www.intute.ac.uk/search_hilt.html

Again, hopefully live…

intute
best of the web

Quick links

Go

Who we are

About Intute

Working with Intute

Support materials

Projects

Internet catalogue

Search

A-Z of services

New resources

Suggest a site

User support

Internet training

Virtual Training Suite

Informs

Seminars and events

Additional services

MyIntute

Repository Search

Demo HILT search

skin   Go

Search help

MANCHESTER 1824
The University of Manchester

Mimas

JISC

intute
best of the web

Who we are
About Intute [»]
Working with Intute [»]
Support materials [»]
Projects [»]

Internet catalogue
Search [»]
A-Z of services [»]
New resources [»]
Suggest a site [»]
User support [»]

Internet training
Virtual Training Suite [»]
Informs [»]
Seminars and events [»]

Additional services
MyIntute [»]

Login to MyIntute
Email:
[   ]
Password:
[   ]
[Log in]
New user? Register

Search Results

Search [skin   ] in [All subjects   ▼] Go

Advanced search Subject A-Z New resources Help

Search term(s)	**skin** [subject(s): **All**]
Related terms [max 10]	allergies skin skin cancer skin diseases skin types sunburn suntanning carcinoma, skin appendage digestive, oral, and skin physiology galvanic skin response
Intute catalogue results	**473** [By group: Ⓐ 110 Ⓗ 328 Ⓢ 31 So 4 (What's this?)]
Harvester results	**View results** (What's this?)

Filter by resource type: [All   ▼] Go

Ⓢ Sciences Ⓐ Arts So Social Ⓗ Health

Now showing: **1 - 25** of 473 records
Page: **1** 2 3 4 5 ... 19 >> Next   Order by **Relevance** | Alphabetical

Skin treatment guide   Ⓐ More details Save record

The **Skin** Treatment Guide website contains brief overviews of a number of popular **skin** treatments including: Botox; Collagen injections; Laser treatments and Thermal treatments, with more detailed sections dedicated to Chemical Peels and Dermabrasion. There is also information on the negative effects of exposure to the sun, and the use of **skin** creams. A section on basic **skin** care covers aging, smoking and facial exercises, different **skin** types and rashes. There are natural **skin** care tips, with reference to nutrition, vitamins, free radicals and **skin** cancer, a feature section on acne, with reviews of the top five acne treatments, and a collection of **skin** care related articles.
http://www.skin-treatment-guide.com/

Click here to rate this resource or leave a comment.

Type: Subject guides; Texts Format: HTML

L'Oréal skin science.com   Ⓗ More details Save record

HILT: The Future

- JISC Shared Service

- Distributed approach

- Substantial mapping effort

- Link up with other terminology services?

Tell us what you think!

http://hilt.cdlr.strath.ac.uk/hilt4/demonstrators.html

http://hilt4.cdlr.strath.ac.uk/toolkit/intro.cgi

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