Knowledge Exchange and Terminology Interchange: The Role of Standards

Translating and the Computer 24

22 November 2002

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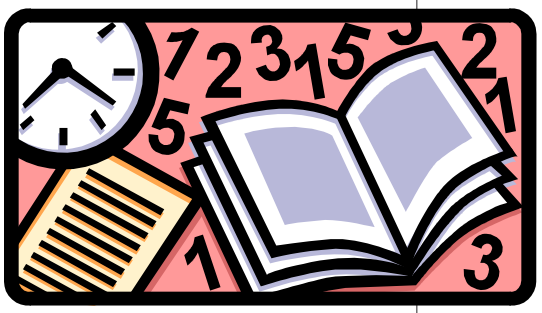
Brief Biography

- Researcher in Department of Computing at University of Surrey since 1995
- Involvement in EU IT R&D programmes - TRANSTERM, POINTER, INTERVAL, ACE, SALT and GIDA
- Involvement in UK EPSRC projects - Safe-DIS and SOCIS
- Since 2000, member of the International Standards Organisation (ISO) Technical Committee 37 (TC37) through the British Standards Institution (BSI)
- Represented BSI on subcommittee 3 (SC3) as a Principal UK Expert and headed the UK delegation to SC4.

Computer vs Human



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Computing

- People
- UCAS
- Events
- Opportunities
- Short Courses
- Laptop Scheme

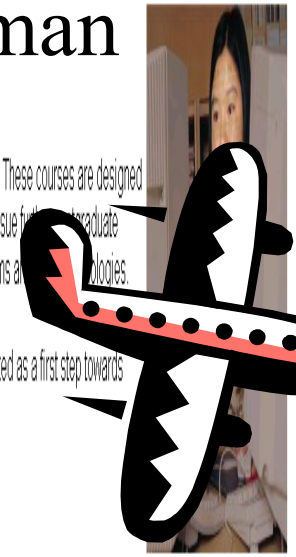
The Department of Computing offers degrees at undergraduate and postgraduate levels. These courses are designed both to equip students for challenging positions in the real world, and prepare them to pursue further undergraduate studies. Taught modules are in Computing and the innovative areas of Information Systems and technologies.

In addition students have the option of taking a professional training year, which is accepted as a first step towards Chartered Engineer (CEng) status.

Research

The department of Computing has two major research centres, the Centre for Knowledge Systems. Together they combine to cover the wide spectrum of computing, Electronics, Computing and Mathematics.

CKM Centre for Knowledge Management



Computer vs Human

- Try to understand understanding
- Interested in H-C and C-C for problem solving (expert systems)
- Enable systems to cooperate through sharing sources of information
- MT an unsolved problem – terminology may assist
- Not yet straightforward for a computer to wreck a nice beach

Talk Outline

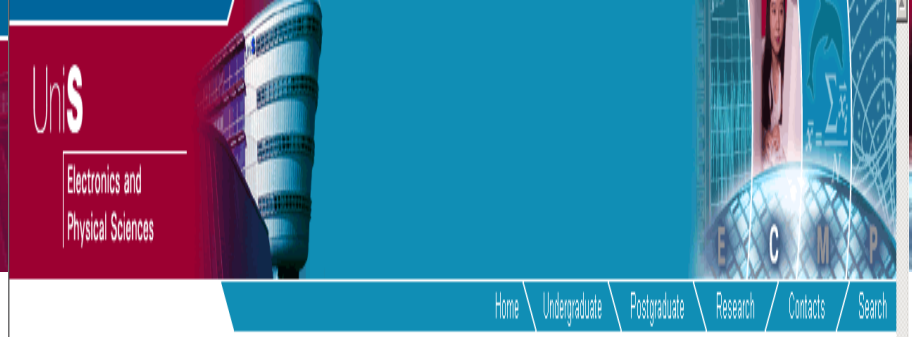
- Introduction to Standards
- Recent Work in Terminology Standards
- Using Terminology Standards – Data Encodings
- Application, Research and Benefits
- Notes and Links

Introduction to Standards

- Why bother?
  - Shared understanding; horizontalization
  - Documentation
  - Standards drafted by committees of experts
- Types
  - Industry, e.g. 802.11a
  - International, e.g. ISO8879 SGML, ISO9000
  - National, e.g. BS5750, precursor to ISO9000; ANSI C; DIN
  - Others? XML is not (yet) a standard – specification/recommendation

Introduction to Standards

- What are standards for?
  - ISO9000
    - International Standards for Quality management systems
  - ISO3166/ISO 639
    - Country Codes/Language Codes
  - BS1363
    - Specification for 13 A fused plugs and switched and unswitched socket-outlets
  - BS5987 and BS6008
    - Methods for Sampling tea and Method for Preparation of a liquor of tea for use in sensory tests (ISO1839 equivalent – Methods for sampling tea)



Introduction to Standards

- Why do we need a ‘plug’ standard?
  - Which wire is which? Colour coded
  - What do the symbols mean? Maximum rating of plugs for devices
  - “Marking BS 1363 on or in relation to a product is a claim by the manufacturer that the product has been manufactured in accordance with the requirements of the standard.”
  - “Socket-outlets shall be so constructed that, when inserting the plug, the earth connection is made before the current-carrying pins of the plug become live. When withdrawing the plug, the current-carrying parts shall separate before the earth contact is broken.

Introduction to Standards

- Tea?

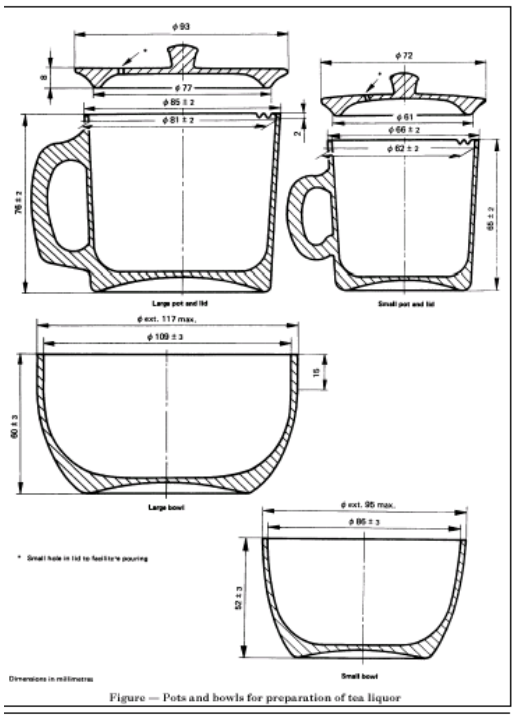


Figure — Pots and bowls for preparation of tea liquor

2.2
infused leaf
tea leaf from which liquor has been prepared

NOTE: In the tea trade in the United Kingdom, the term "infusion" is used with the meaning of **2.2**, but, to avoid confusion with the more general usage of this word, the expression "infused leaf" has been used.

Fill the pot containing the tea with freshly boiling water 1) to within 4 to 6mm of the brim (i.e.corresponding approximately to 285ml in the case of the large pot and 140ml in the case of the small pot described in the Annex) and put on the lid. Allow the tea to brew for 6min, and then, holding the lid in place so that the infused leaf is held back, pour the liquid through the serrations into the bowl (5.2) corresponding to the pot selected.

Introduction to Standards

- Kangaroo (apparently true!)
  - Western ‘settlers’ in Australia asked aborigine what the strange jumping thing was
  - Aborigine replied “I don’t understand you (mate)” – “Kangaroo”

Introduction to Standards

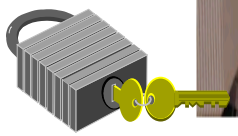
"secure the building"

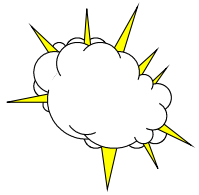
The Air Force will obtain a long-term lease.

The Army will clear the building and lock the doors and windows.

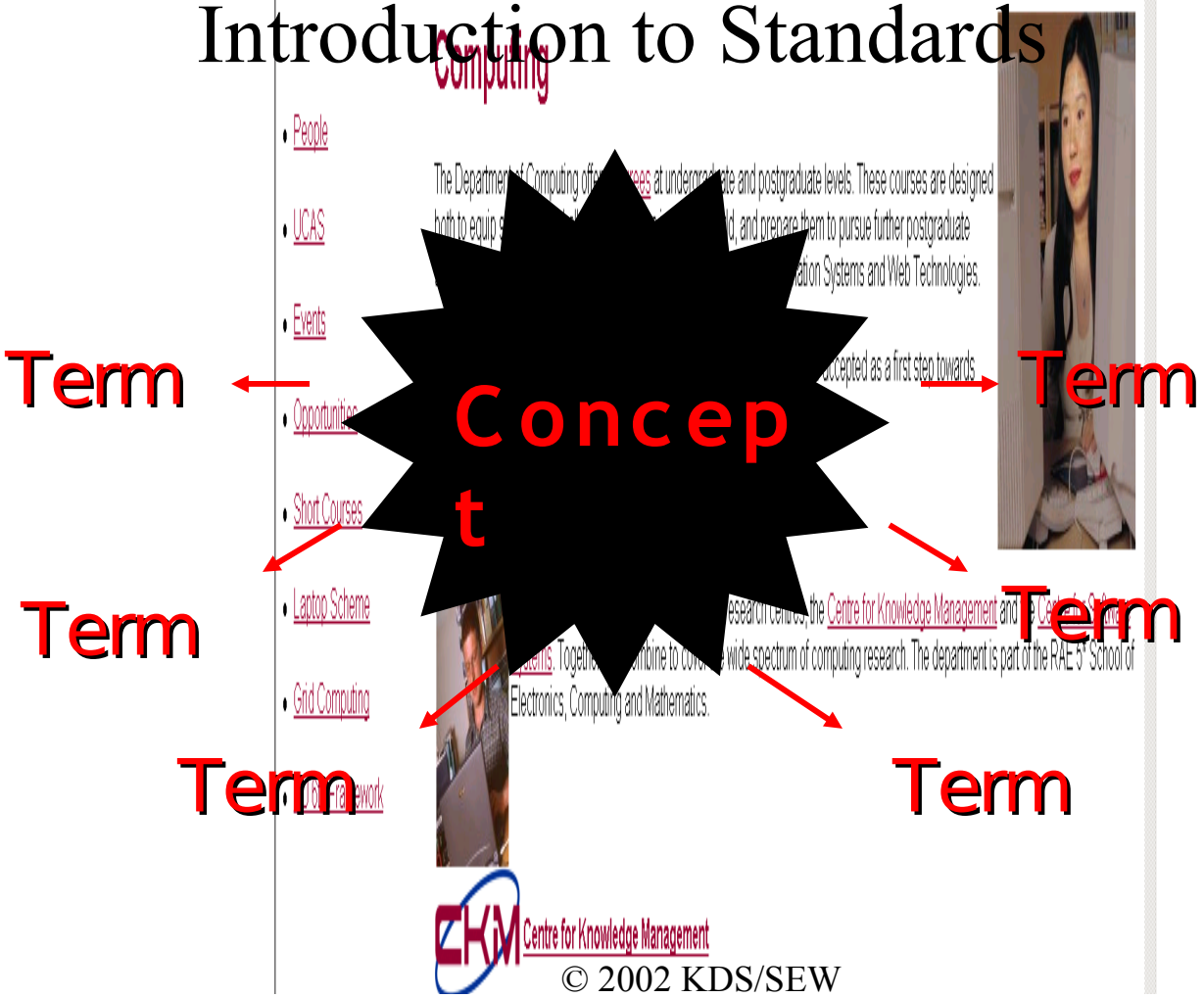
The Navy will cordon and blockade the facility.

The Marines will assault with heavy fire.

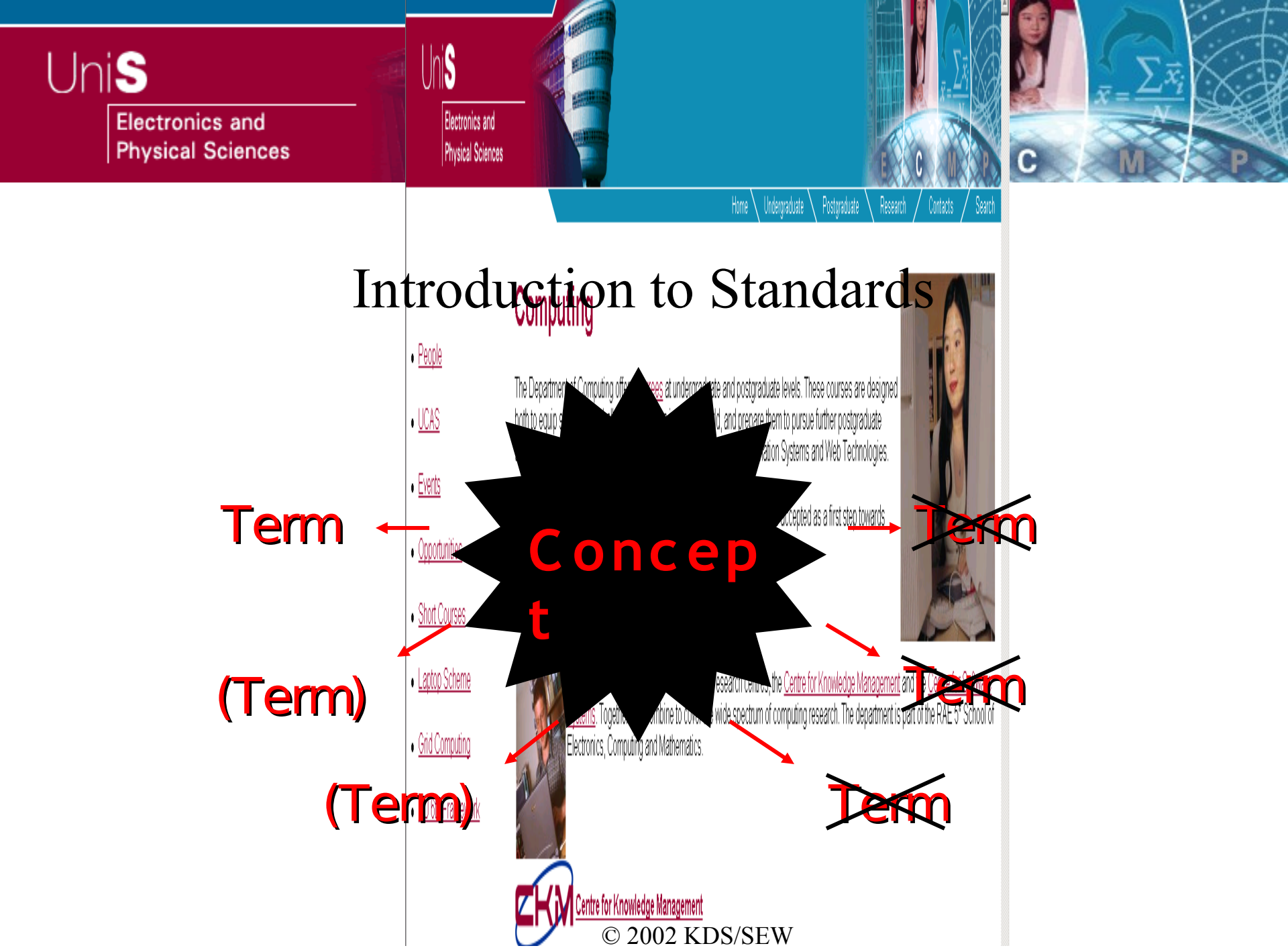




Introduction to Standards



Introduction to Standards

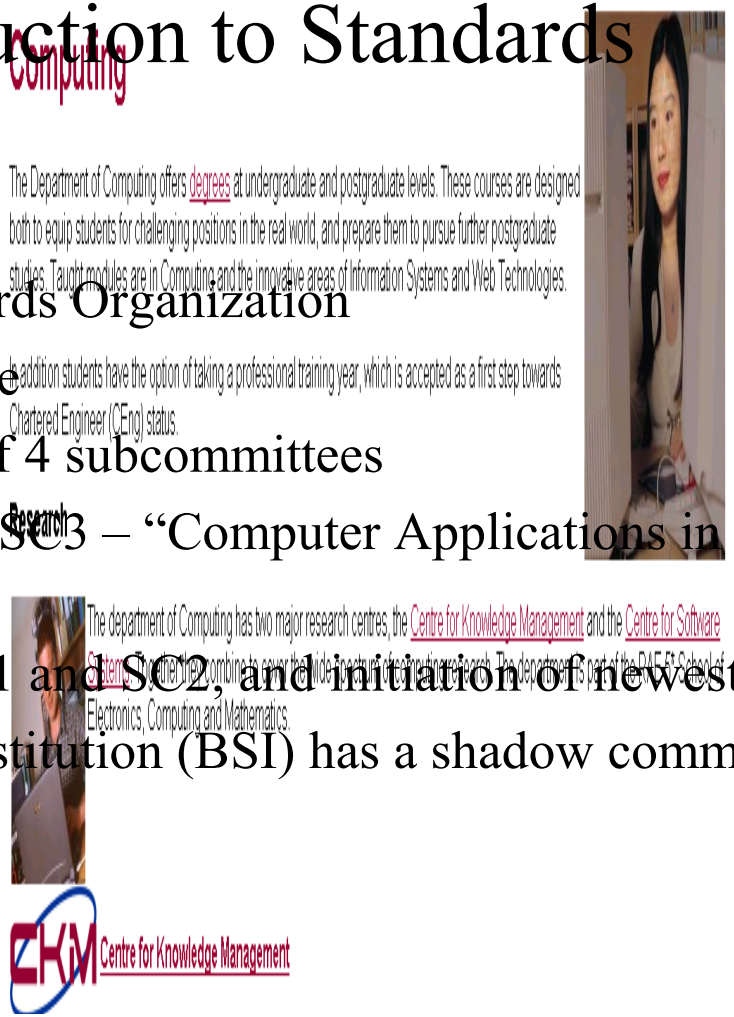


Introduction to Standards

- Why are we interested?
  - Interoperability / *horizontalization*
- What are the benefits?
  - Common reference sets
  - Know what others are encoding
  - Consider languages and their codes
- Where are they?
  - Standards are specifications for ‘machine’ (conform) or ‘people’ (comply)

Introduction to Standards

- ISO TC37
  - International Standards Organization
  - Technical Committee
  - TC consists (now) of 4 subcommittees
  - Majority of work in SC3 – "Computer Applications in Terminology"
  - Contributions to SC1 and SC2, and initiation of newest – SC4
  - British Standards Institution (BSI) has a shadow committee of TC37 – TS/1



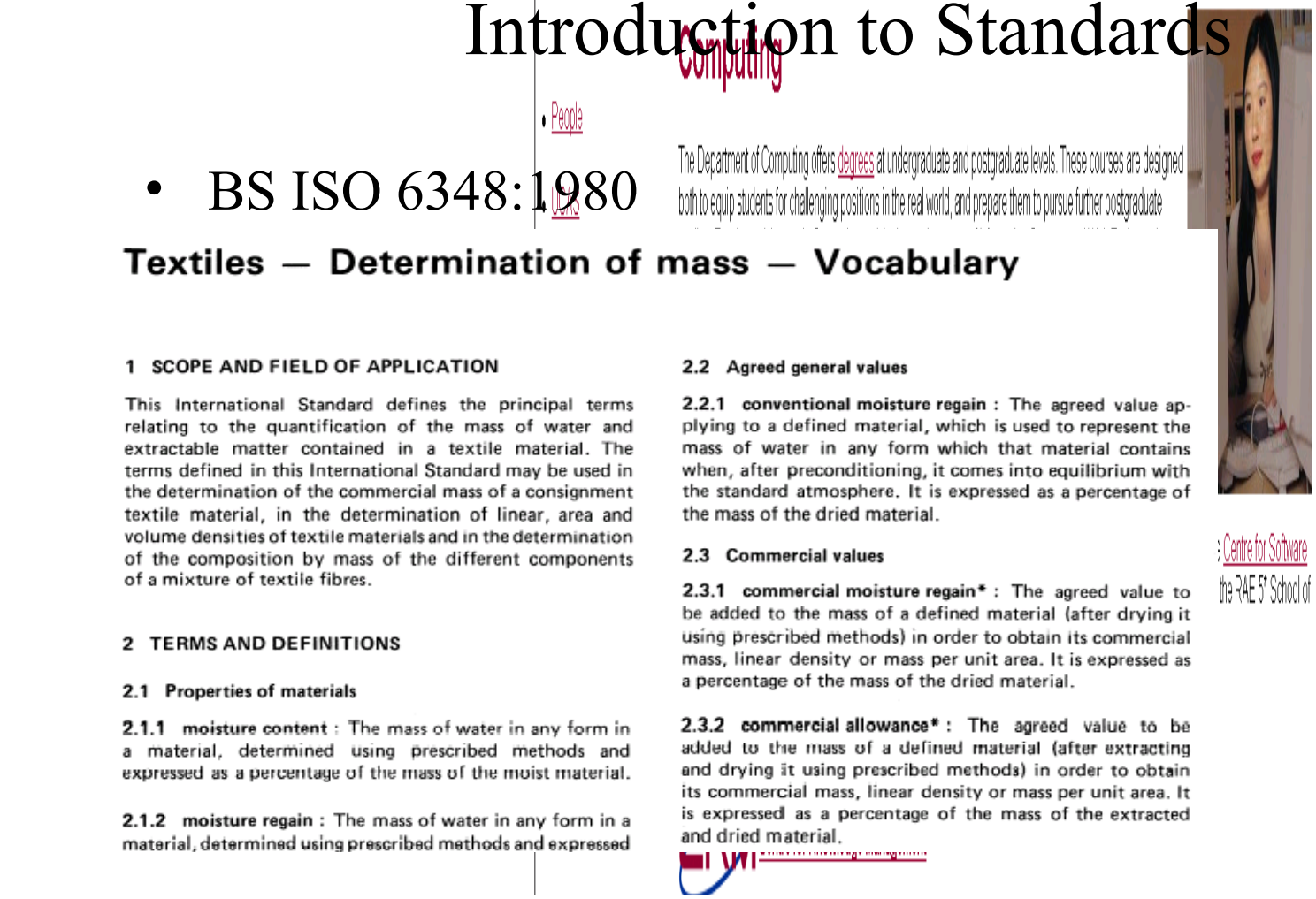
Introduction to Standards

- Standards OF Terminology
  - BS EN 13622:2002, Gas welding equipment – Terminology – Terms used for gas welding equipment

2.3.3	**blowing off the flame** the detachment of the flame from the blowpipe nozzle. This may cause the flame to be extinguished	**décollement de flamme** détachement de la flamme de la buse du chalumeau, pouvant conduire à l'extinction de la flamme	**Abheben der Flamme** das Abwandern der Flamme weg vom Brennerkopf. Dies kann zum Erlöschen der Flamme führen
2.3.4	**blowpipe with multiple flow rates** a blowpipe giving a range of flow rates corresponding to a series of nozzles	**chalumeau à débits multiples** chalumeau donnant une gamme de débits correspondant à une série de buses	**Brenner mit vielfachen Durchflussmengen** ein Brenner mit einer Anzahl verschiedener Durchflussmengen entsprechend einer Anzahl von Düsen
2.3.5	**blowpipe with multiple flow rates adjusted by means of gas control valves** a blowpipe with multiple flow which are varied by mans of the adjustment valves	**chalumeau à débits multiples réglés par des robinets d'admission** chalumeau à débits multiples dans lequel la variation du débit est obtenue par réglage des robinets d'admission	**Brenner mit vielfachen Durchflussmengen, einstellbar mit Dosierventilen** ein Brenner mit vielfachen Durchflussmengen, die durch Einstellen von Dosierventilen verändert werden
2.3.6	**blowpipe with a variable injector** a blowpipe with multiple flow rates which are varied by means of a device for adjustment of the injector cross-section	**chalumeau à débits multiples par réglage de l'injecteur chalumeau à aiguille** chalumeau à débits multiples dans lequel la variation du débit est obtenue par un dispositif de réglage de la section de l'injecteur	**Brenner mit verstellbarem Injektor** ein Brenner mit vielfachen Durchflussmengen, die durch Einstellung der Drücke verändert werden
2.3.7	**blowpipe with a fixed mixer** a blowpipe with multiple flow rates which are varied by adjusting the feed pressures	**chalumeau à mélangeur fixe** chalumeau à débits multiples dans lequel la variation du débit est obtenue par réglage des pressions d'alimentation	**Brenner mit festeingestelltem Mischer** ein Brenner mit vielfachen Durchflussmengen, die durch Einstellung der Drücke verändert werden

Introduction to Standards

- BS ISO 6348:1980



Textiles — Determination of mass — Vocabulary

1 SCOPE AND FIELD OF APPLICATION

This International Standard defines the principal terms relating to the quantification of the mass of water and extractable matter contained in a textile material. The terms defined in this International Standard may be used in the determination of the commercial mass of a consignment textile material, in the determination of linear, area and volume densities of textile materials and in the determination of the composition by mass of the different components of a mixture of textile fibres.

2 TERMS AND DEFINITIONS

2.1 Properties of materials

2.1.1 moisture content : The mass of water in any form in a material, determined using prescribed methods and expressed as a percentage of the mass of the moist material.

2.1.2 moisture regain : The mass of water in any form in a material, determined using prescribed methods and expressed

2.2 Agreed general values

2.2.1 conventional moisture regain : The agreed value applying to a defined material, which is used to represent the mass of water in any form which that material contains when, after preconditioning, it comes into equilibrium with the standard atmosphere. It is expressed as a percentage of the mass of the dried material.

2.3 Commercial values

2.3.1 commercial moisture regain* : The agreed value to be added to the mass of a defined material (after drying it using prescribed methods) in order to obtain its commercial mass, linear density or mass per unit area. It is expressed as a percentage of the mass of the dried material.

2.3.2 commercial allowance* : The agreed value to be added to the mass of a defined material (after extracting and drying it using prescribed methods) in order to obtain its commercial mass, linear density or mass per unit area. It is expressed as a percentage of the mass of the extracted and dried material.

This British Standard reproduces verbatim ISO 6348:1980 and implements it as the UK national standard. It supersedes BS 1051:1992 which is withdrawn.

Introduction to Standards

- BS ISO 12353-1:2002 Road vehicles - Traffic accident analysis. Vocabulary, English and French

5.23
point of impact (deprecated)
site of impact not precisely defined

5.23.1
initial point of impact
point in time and in the site coordinate system where the vehicles or objects begin to touch or interact without significant force

NOTE The initial point of impact is the start of the impact phase.

5.23.2
point of maximum impact
point in time and in the site coordinate system where the maximum forces have acted

5.23.3
non-central impact
eccentric impact
impact in which the impulse vector does not pass through the CG at the point of maximum impact

NOTE The CG can move during the impact phase.

5.23
point de choc (expression à éviter)
site de choc qui n'est pas défini avec précision

5.23.1
point initial de choc
point dans le temps et dans le système de coordonnées du site où les véhicules/objets commencent à se toucher ou à agir les uns sur les autres sans force significative

NOTE Le point initial de choc est le début de la phase de choc.

5.23.2
point de choc maximum
point dans le temps et dans le système de coordonnées du site où les forces maximales ont agi

5.23.3
choc non central
choc excentré
choc dans lequel le vecteur d'impulsion ne passe pas par le CG au point de choc maximum

NOTE Le CG peut se déplacer pendant la phase de choc.

Introduction to Standards

- Glossary of terms / Vocabulary / Terminology
  - BS ISO 12353-1:2002 Road vehicles. Traffic accident analysis. Vocabulary, English and French
  - BS ISO 6348:1980 Textiles. Determination of mass. Vocabulary, English only
  - BS EN 13622:2002 Gas welding equipment. Terminology. Terms used for gas welding equipment, English, French and German
  - BS 1051:1992, ISO 6348:1980 Glossary of terms relating to the mass determination of textiles, English only

‘Standards and their Terminology’ seems to be needed!

ISO TC37 Standards

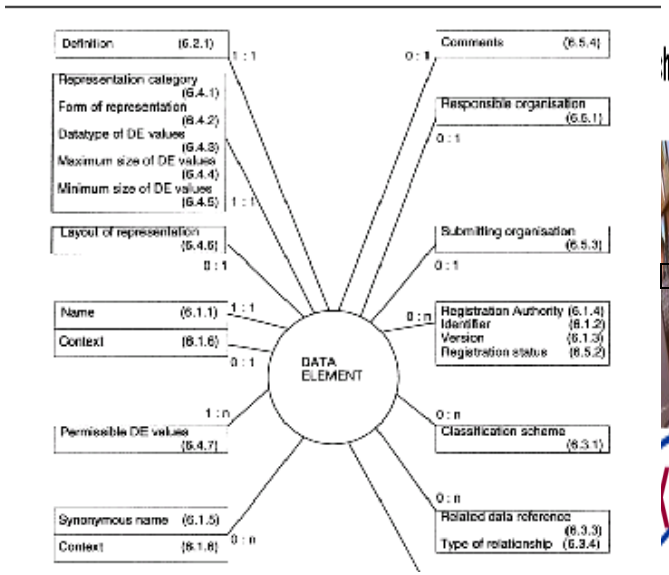
- Peer Review
  - Academic
    - Prof Dr Kiyong Lee & Prof Key-Sun Choi, KAIST
    - Prof Dr Klaus-Dirk Schmitz, DIN
    - Prof Alan Melby, ANSI & Prof Nancy Ide, ANSI
    - Laurent Romary & André LeMeur, AFNOR
    - ….
  - Industrial
    - Binke Fiedler (Daimler-Chrysler), DIN
    - Robin Lombard (Microsoft), ANSI & Jennifer De Camp (Mitre), ANSI
    - Kara Warburton (IBM), SCC
    - ….

ISO TC37 Standards

- **Terminology and other language resources**
  - ISO 639:1988 Code for the representation of languages
- **TC 37/SC 1**
  - ISO 704:2000 Terminology work -- Principles and methods
  - ISO 860:1996 Terminology work -- Harmonization of concepts and terms
  - ISO 1087-1:2000 Terminology work -- Vocabulary -- Part 1: Theory and application
- **TC 37/SC 2**
  - ISO 639-2:1998 Codes for the representation of names of languages -- Part 2: Alpha-3 code
  - ISO 1951:1997 Lexicographical symbols and typographical conventions for use in terminography
  - ISO 10241:1992 International terminology standards -- Preparation and layout
  - ISO 12199:2000 Alphabetical ordering of multilingual terminological and lexicographical data represented in the Latin alphabet
  - ISO 12616:2002 Translation-oriented terminography
  - ISO 15188:2001 Project management guidelines for terminology standardization
- **TC 37/SC 3**
  - ISO 1087-2:2000 Terminology work -- Vocabulary -- Part 2: Computer applications
  - ISO 6156:1987 Magnetic tape exchange format for terminological/ lexicographical records (MATER)
  - ISO 12200:1999 Computer applications in terminology -- Machine-readable terminology interchange format (MARTIF) -- Negotiated interchange
  - ISO/TR 12618:1994 Computational aids in terminology -- Creation and use of terminological databases and text corpora
  - ISO 12620:1999 Computer applications in terminology -- Data categories

Recent Work - ISO 12620

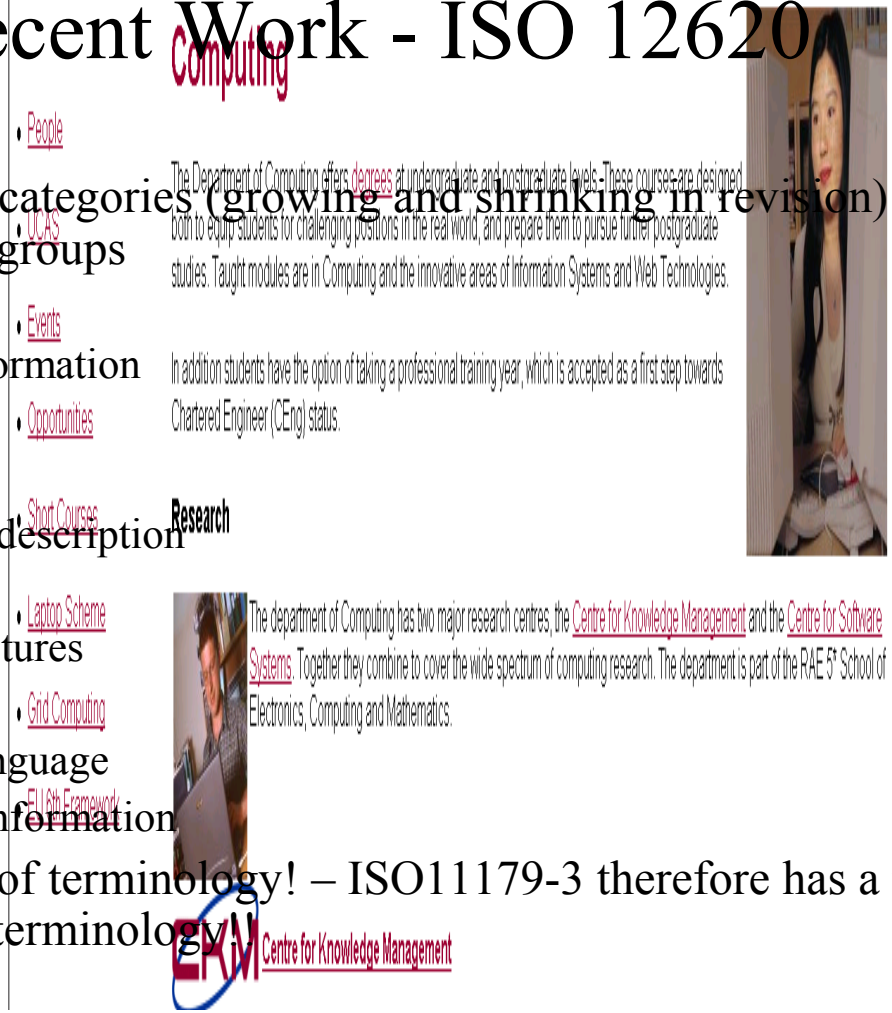
- Data Category Registry based on ISO11179 part 3
  - "Each data category specification consists of a set of attributes designed to uniquely identify and define that data category and to provide data modeling information for that data category, along with useful examples and tips on using individual data categories"



term	
DC ID	ISO12620A-01
DC Name	term
DC Definition	A verbal designation of a general concept in a specific subject field.
DC Source	For definition of related term, see ISO 1087-1, 3.4.3.
Comment	
Concept-related Comment	Terms can consist of single words or be composed of multiword strings. The distinguishing characteristic of a term is that it is assigned to a single concept, as opposed to a phraseological unit, which combines more than one concept in a lexicalized fashion to express complex situations. Quality assurance system is a term, whereas satisfy quality requirements is a phraseological unit, specifically a collocation.
Example	"radix" in annex D, figure D.1.
Data Type	noteText (open)
Level(s)	Term Section, Term Component Section

Recent Work - ISO 12620

- Contains 170 data categories (growing and shrinking in revision) organised into the following groups
  - term
  - term-related information
  - equivalence
  - subject field
  - concept-related description
  - concept relation
  - conceptual structures
  - note
  - documentary language
  - administrative information
- It's a terminology of terminology! – ISO11179-3 therefore has a terminology of terminology of terminology!!



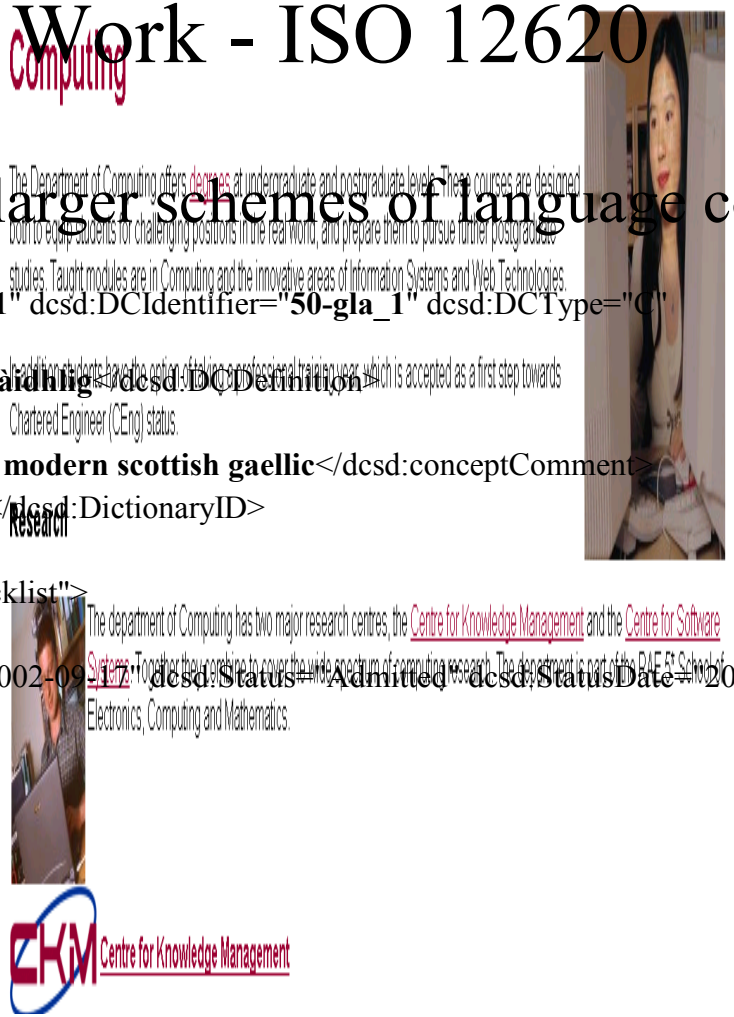
Recent Work - ISO 12620

- SALT Project
  - Data Category Management tool: SALT Suite (Free)
  - Testing codification of Linguasphere language codes
  - Mappings between language systems: ISO 639, 3166, SIL, Apple and Microsoft code sets

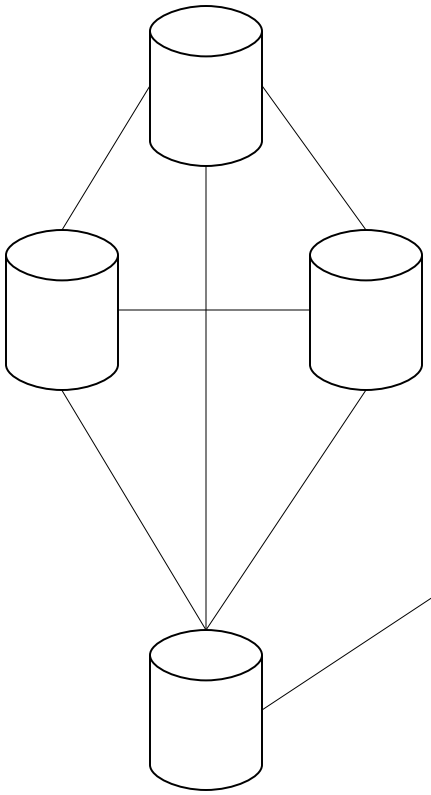
Recent Work - ISO 12620

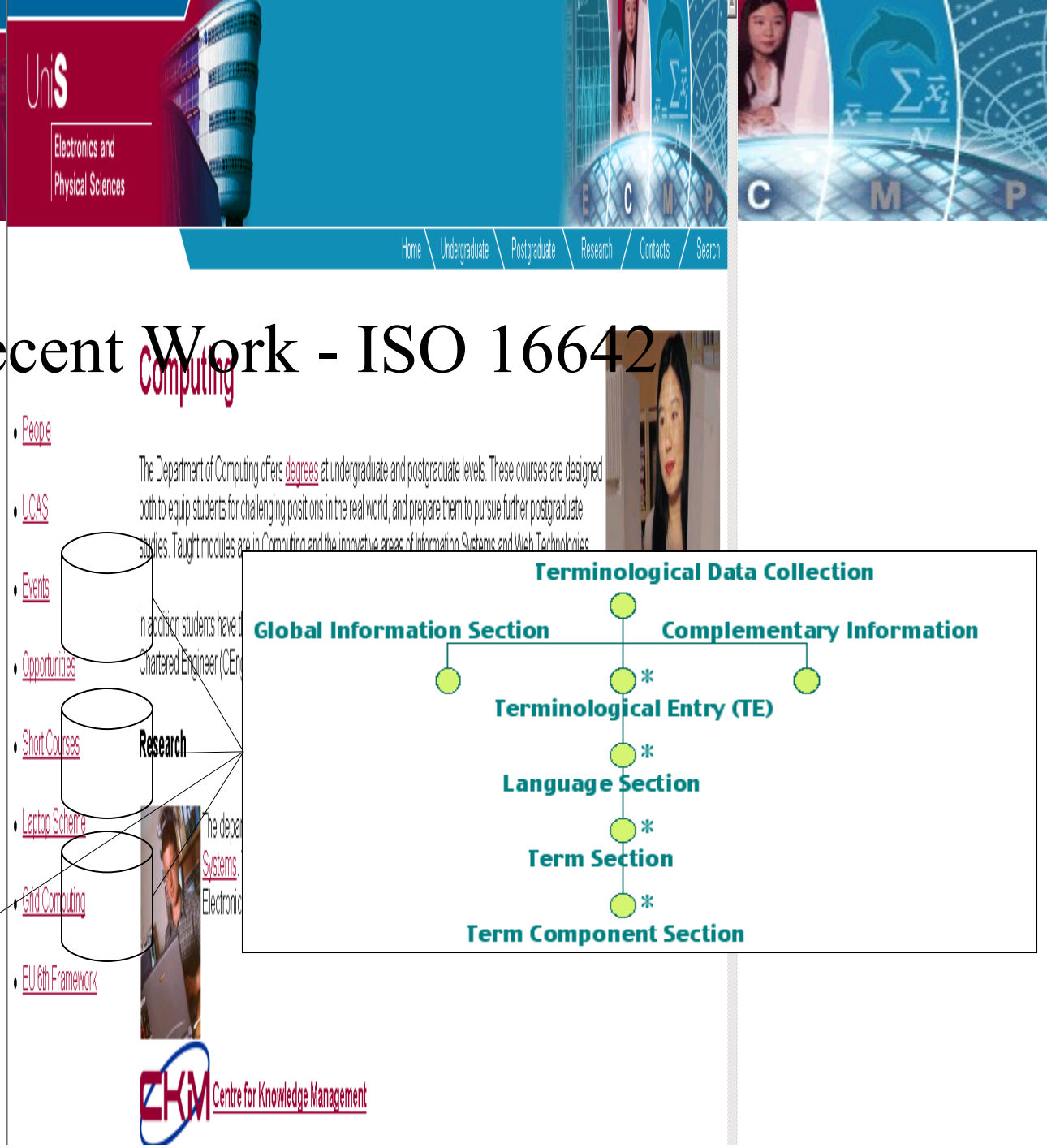
- Enabling migration to larger schemes of language codings

```
<dcsd:DataCategory dcsd:DCName="50-gla_1" dcsd:DCIdentifier="50-gla_1" dcsd:DCType="C"
        dcsd:DCOccurrence="0..1">
        <dcsd:DCDefinition>"pre-modern" gàidhlig</dcsd:DCDefinition>
        <dcsd:DCComment>
                <dcsd:conceptComment>early modern scottish gaellic</dcsd:conceptComment>
                <dcsd:DictionaryID>50-gla_1</dcsd:DictionaryID>
        </dcsd:DCComment>
        <dcsd:DCContent dcsd:DataType="picklist">
        </dcsd:DCContent>
        <dcsd:DCAdmin dcsd:EditionDate="2002-09-17" dcsd:Status="Admitted" dcsd:StatusDate="2002-09-17"/>
        <dcsd:DCParent>
                <rdf:Alt>
                        <rdf:li>50-gla</rdf:li>
                </rdf:Alt>
        </dcsd:DCParent>
</dcsd:DataCategory>
```



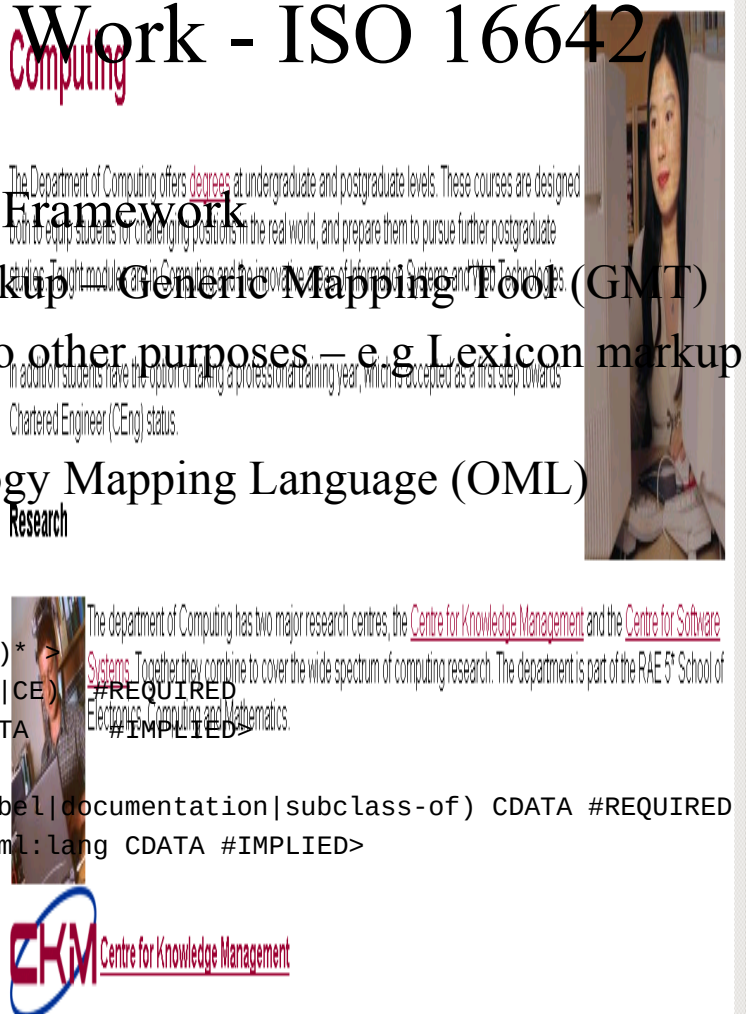
Recent Work - ISO 16642





Recent Work - ISO 16642

- Terminological Markup Framework
  - Specifies a simple markup – Generic Mapping Tool (GMT)
  - GMT can be adapted to other purposes – e.g Lexicon markup formats such as OLIF
  - Example for an Ontology Mapping Language (OML)




```
<?xml version="1.0"?>
<!ELEMENT oml      struct*>
<!ELEMENT struct    (feat|struct)* >
<!ATTLIST struct   type       (CDC|CE)   #REQUIRED
                    xml:lang CDATA      #IMPLIED>

<!ELEMENT feat     #PCDATA*>
<!ATTLIST feat     type (name|label|documentation|subclass-of) CDATA #REQUIRED
                          xml:lang CDATA #IMPLIED>
```

Recent Work - ISO 16642

- GMT used on results of Multidoc project, a global automotive industry ontology
  - <struct type="**CE**">
  - <feat type="**name**">**c1.3.1.1.1.1**</feat>
  - <feat type="**label**" xml:lang="**en**">**connexion**</feat>
  - <feat type="**documentation**" xml:lang="**en**">**a place constituting a structural or functional union between two or more entities**</feat>
  - <feat type="**subclass-of**">**c1.3.1.1.1**</feat>
  - </struct>
- Can be converted to current Ontology Interchange formats – OIL-DAML/XOL
  - <rdfs:Class rdf:ID="**#c1.3.1.1.1.1**">
  - <rdfs:label xml:lang="**en**">**connexion**</rdfs:label>
  - <rdfs:comment xml:lang="**en**">**a place constituting a structural or functional union between two or more entities**</rdfs:comment>
  - <rdfs:subClassOf rdf:resource="**#c1.3.1.1.1**" />
  - </rdfs:Class>
  - <rdfs:Class rdf:ID="**#c1.3.1.1.1.1.1**">
  - <rdfs:label xml:lang="**en**">**attachment**</rdfs:label>
  - <rdfs:comment xml:lang="**en**">**a place constituting a structural union between two or more entities**</rdfs:comment>
  - <rdfs:subClassOf rdf:resource="**#c1.3.1.1.1.1**" />
  - </rdfs:Class>

Encoding Data

- Term Encoding – ISO16642 (DIS) and ISO12620 (Rev)

ISO 12620 Name	Identifier	DataType	Level Restrictions	Type
term	ISO12620A01	plainText	TL TC	C

Definition : A verbal designation of a general concept in a specific subject field.

Source note : For definition of related term, see ISO 1087-1, 3.4.3.

Comment : Terms can consist of single words or be composed of multiword strings. The distinguishing characteristic of a term is that it is assigned to a single concept, as opposed to a phraseological unit, which combines more than one concept in a lexicalized fashion to express complex situations. Quality assurance system is a term, whereas satisfy quality requirements is a phraseological unit, specifically a collocation.

Example : "radix" in annex C, figure C.1.

ISO 12620 Name	Identifier	DataType	Level Restrictions	Type
term type	ISO12620A0201	picklist	TL TC	C

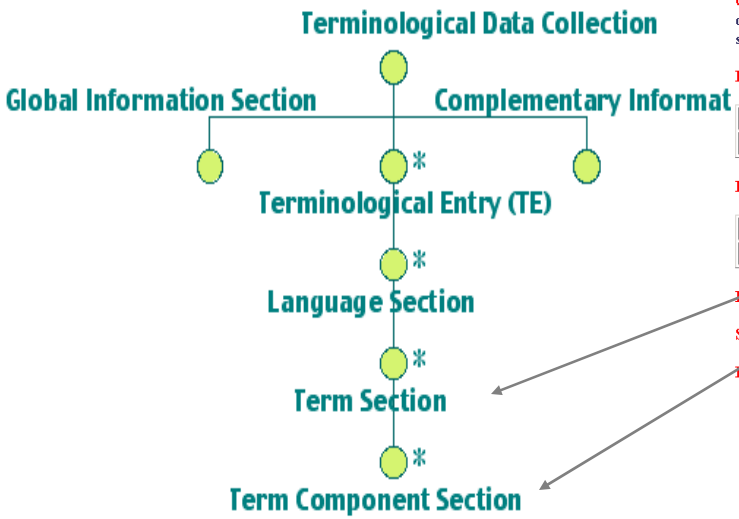
Definition : An attribute assigned to a term.

ISO 12620 Name	Identifier	DataType	Level Restrictions	Type
entry term	ISO12620A020101	picklistValue		S

Definition : A term that heads a terminological entry.

Source note : Was "main entry term" in ISO 12620:1999; changed to conform to ISO 1087-1:2000.

Example : "radix" in annex C, figure C.1.



Encoding Data

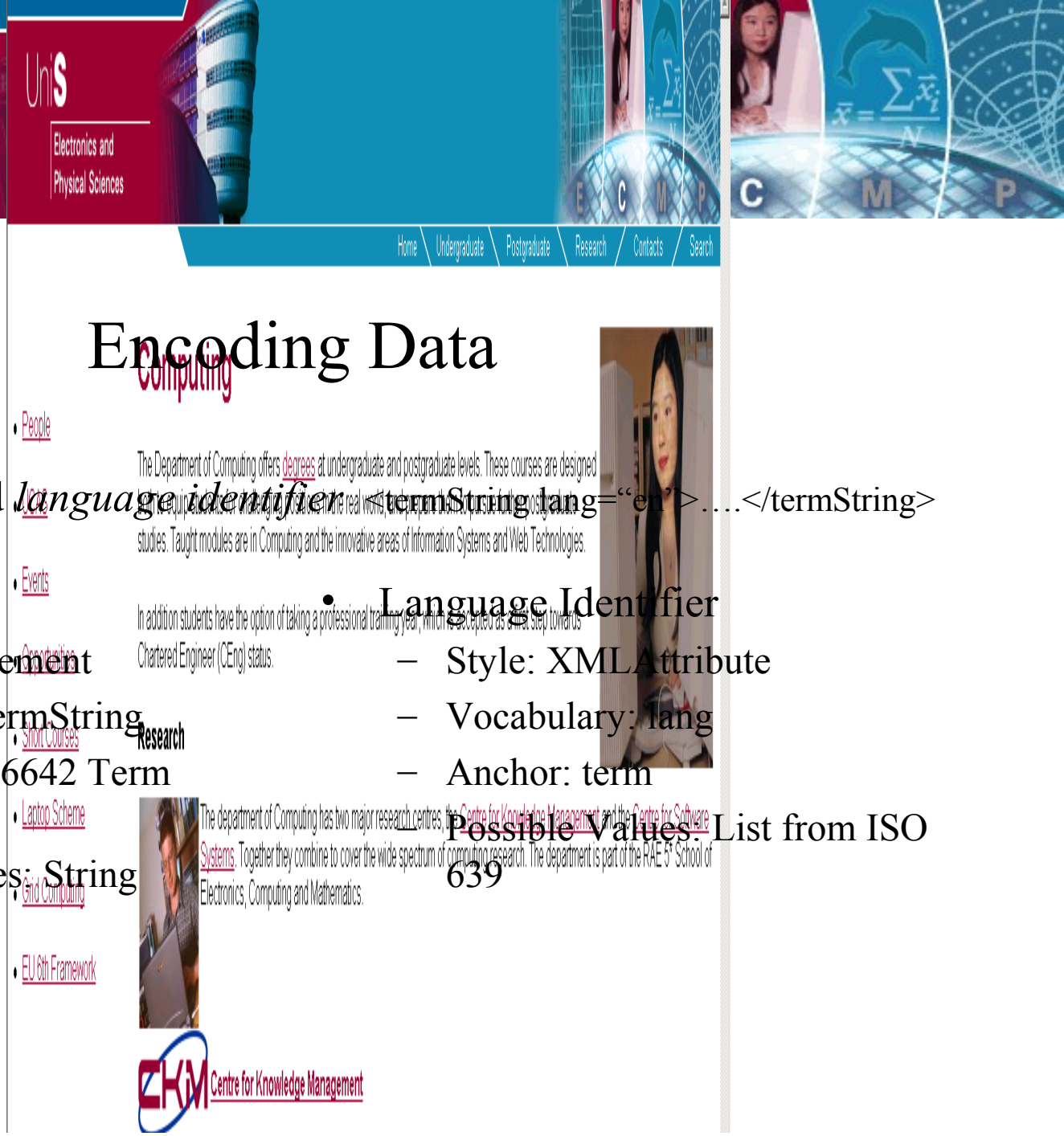
- 12620 Data Category — e.g term applied within 16642 framework
  - Style – e.g. <XMLElement> or XMLAttribute
  - Vocabulary – e.g. called "termString"
  - Anchor - <XMLElement> anchored on structure; XMLAttribute anchored on an <XMLElement>
  - Possible Values?
  - Example: *term* and *language identifier*
    - <termString lang="en">

Encoding Data

- Example: *term* and *language identifier*: <termString lang="en">….</termString>

- Term
  - Style: XMLElement
  - Vocabulary: termString
  - Anchor: TS [16642 Term Section]
  - Possible Values: String

- Language Identifier
  - Style: XMLAttribute
  - Vocabulary: lang
  - Anchor: term
  - Possible Values: List from ISO 639



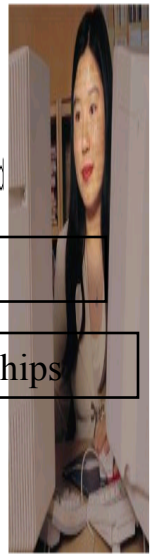
Encoding Data

- <struct type="**TE**">
  - <feat type="**identifier**">HR-2</feat>
  - <feat type="**subjectField-12620A.4**">800</feat>
  - <feat type="**antonym-12620A.10.18.6**">HR-1434</feat>
  - <feat type="**antonym-12620A.10.18.6**">HR-1435</feat>
  - <struct type="**LS**">
    - <feat type="**language**">fr</feat>
    - <struct type="**TS**">
      - <feat type="**term-12620A.1**">à flot</feat>
      - <feat type="**TermNote**">adj/adv</feat>
  - <struct type="**LS**">
    - <feat type="**language**">en</feat>
    - <feat type="**definition-12620A.5.1**">Floating, as opposed to being aground.</feat>
    - <struct type="**TS**">
      - <feat type="**term-12620A.1**">afloat</feat>
      - <feat type="**TermNote**">adj</feat>

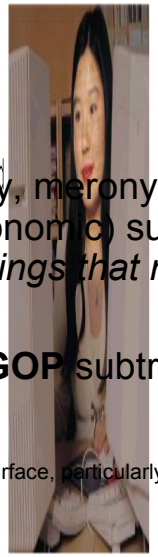
Implicit Semantic Relation

Explicit Semantic Relationships

Language equivalence
"concept"



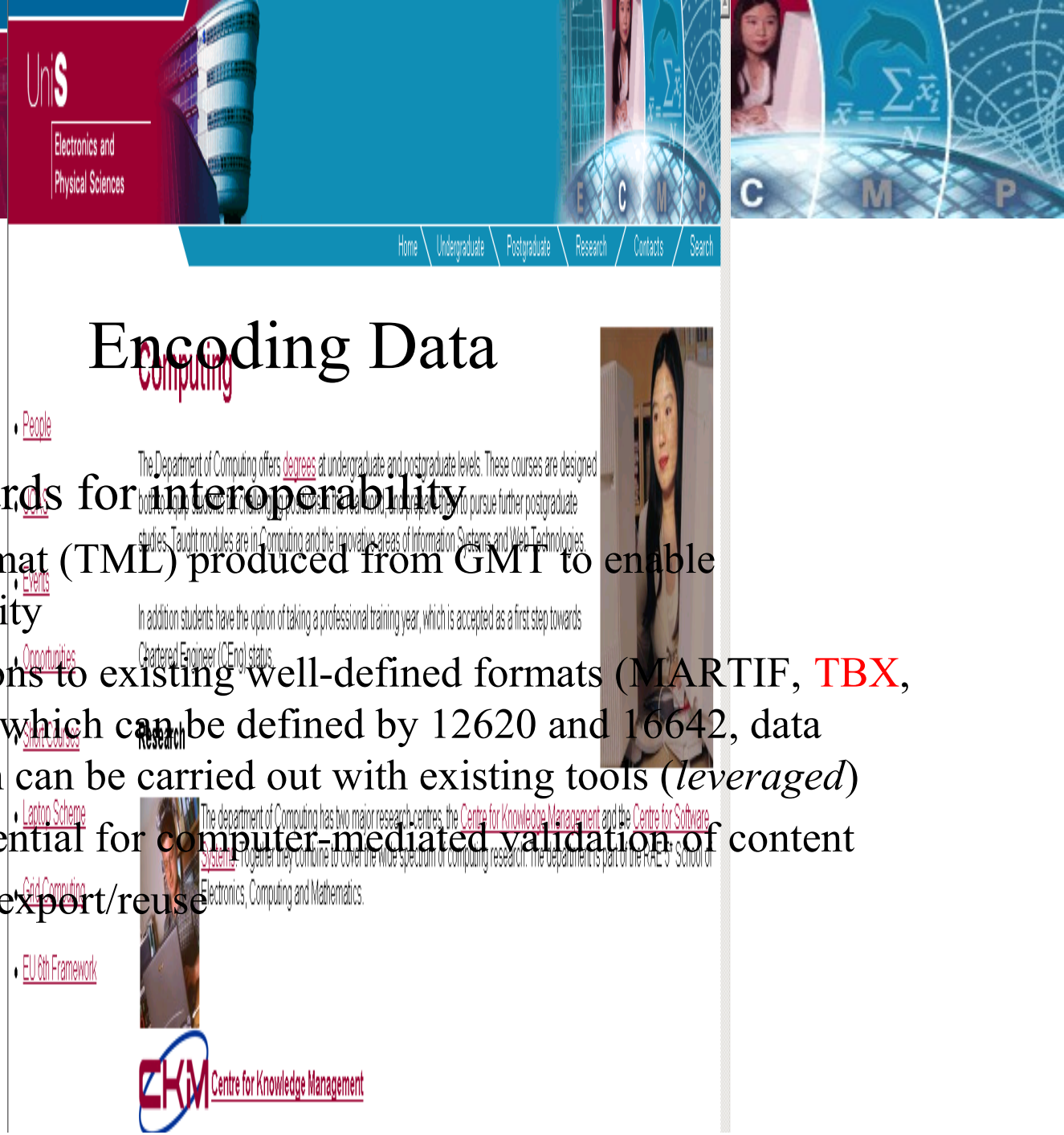
Encoding Data



- Aside from explicit conceptual relations between terms – synonymy, meronymy and so on – relations between terms are created through association with (taxonomic) subject fields (c/w Dewey Decimal) - an (hidden) Ontology? (*categories of the things that may exist)*
- This data collection (Dhydro), **800 = Hydrography**
- In Lenoch Classification system (Eurodicautom), **Hydrography** in **GOP** subtree (3631 possible hierarchically arranged classifications):
  - GOP hydrography & oceanography
  - GOP1 hydrography (nt: the sounding, charting and mapping of the waters of the earth's surface, particularly as applied to navigation)
  - GOP2 oceanography
  - GOP3 sea water
  - GOP31 ocean currents
  - GOP32 tides
  - GOP4 lakes
  - GOP5 rivers
  - GOP6 reservoirs
  - GOP7 shallows
  - GOP8 deeps
  - GOP9 topographical aspects
  - GOPA winds & current
- To converge terminologies, need to create mechanisms for convergence of relations – need the formats.

Encoding Data

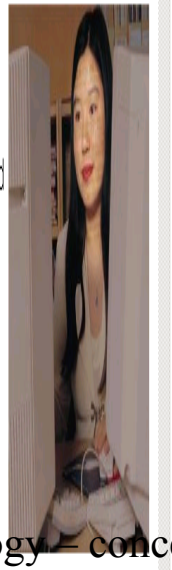
- Recall: standards for interoperability
  - Abstract format (TML) produced from GMT to enable interoperability
  - By conversions to existing well-defined formats (MARTIF, TBX, GENETER) which can be defined by 12620 and 16642, data manipulation can be carried out with existing tools (*leveraged*)
  - Improve potential for computer-mediated validation of content
  - Ease import/export/reuse



Current Application Areas

- Generic Information Decision Agent (EU).
  - The link between numerical data and language is explored for financial market analysis. Industrial partners: Finsoft, Ibermatica, JRC.
- Television In Words (EPSRC)
  - Information extraction from textual, audio and film descriptions. Customized audio descriptions for young and old, and for different languages. In association with BBC, RNIB, ITFC, Softel.
- Scene Of Crime Information System (EPSRC)
  - Automatically indexing scene of crime images through the link between photographs of crime scenes and the language used by police investigators to describe them. In association with 5 major UK Police Forces
- Bowne Global Services

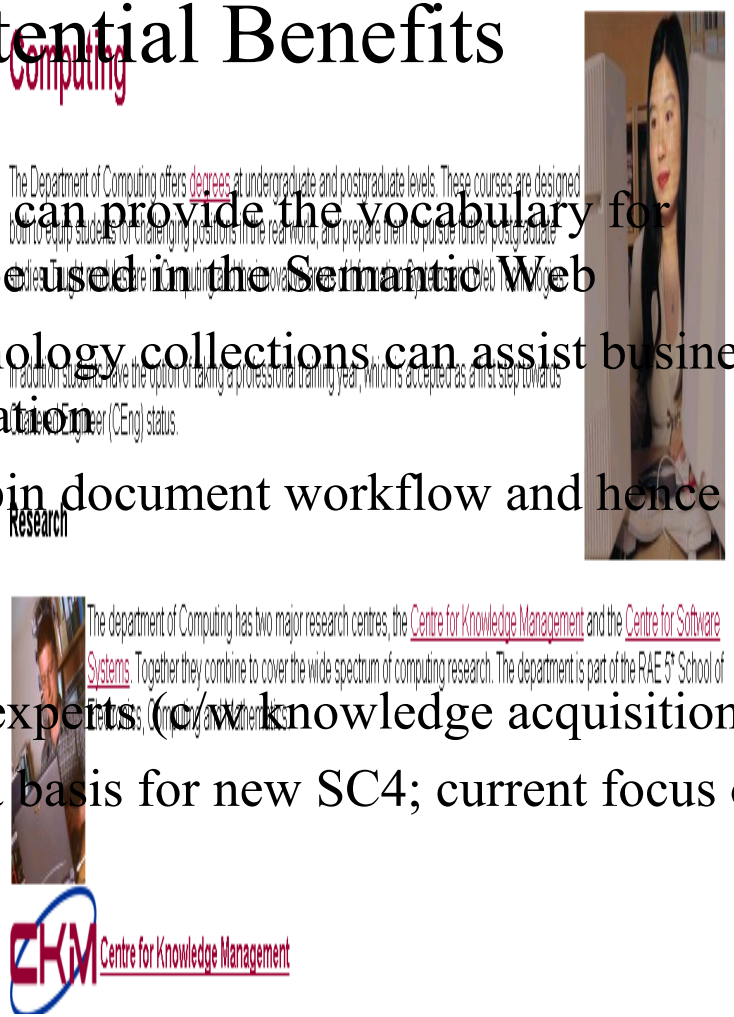
Research Questions



- How can terminology collections be harmonised?
  - Fit to common structure
  - Fit to common data sets
  - Mapping values?
  - How can systems of classification be harmonised?
- Can we do things for ontology?
  - Ontology – "specification of conceptualization"; Terminology – concept system
  - Harmonisation of terminology ⇒ Harmonisation of ontology?
  - Sowa's framework of distinctions
- How can terminology collections be populated and appraised?
  - Multiple languages (EU collections)
  - Changing terminology
  - Exploitation of relations within texts

Potential Benefits

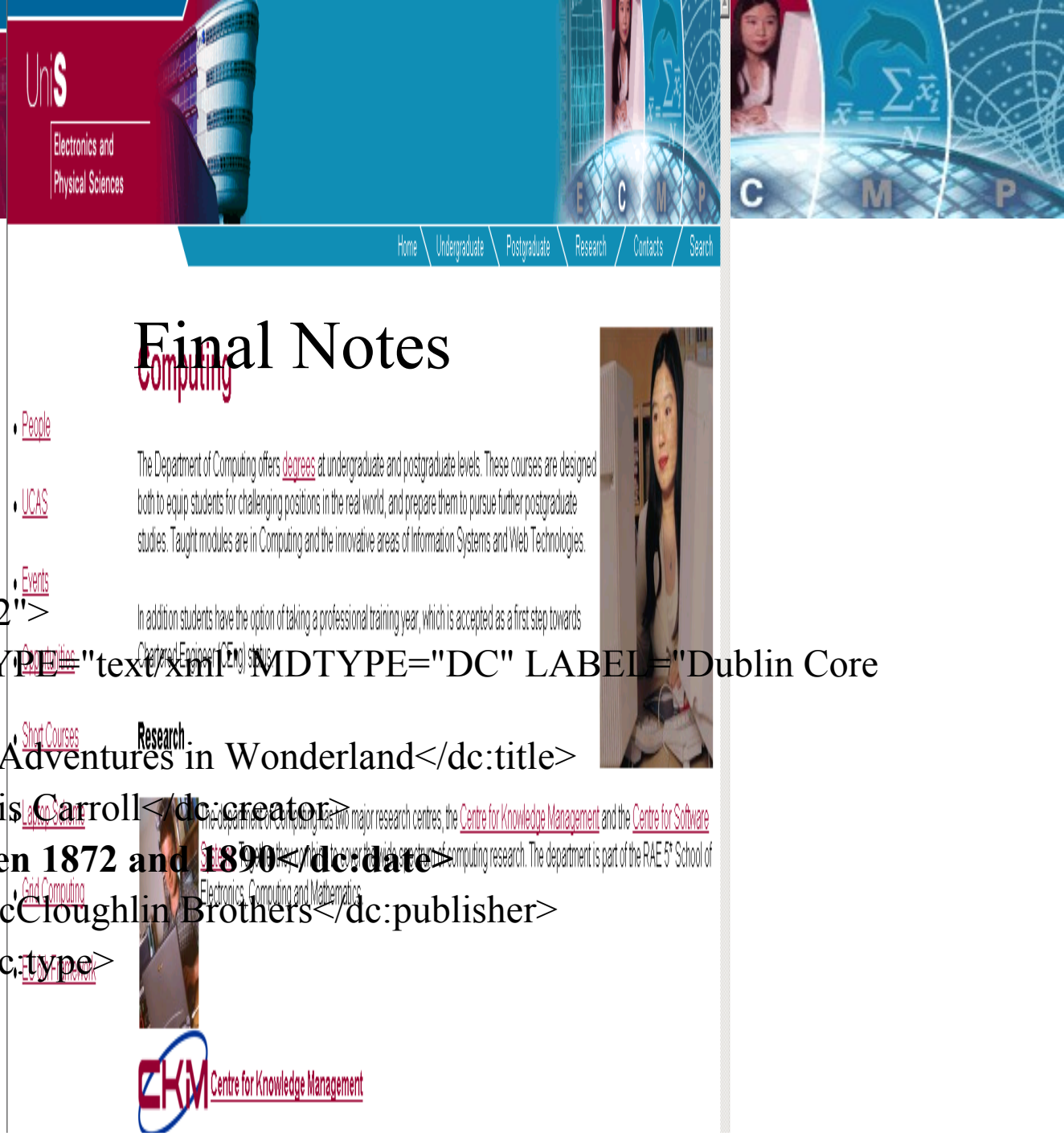
- Terminology collections can provide the vocabulary for conceptualisations and be used in the Semantic Web
- Harmonisation of terminology collections can assist business – new markets, product localisation
- Terminology can underpin document workflow and hence knowledge management
- Reusability (cheaper!)
- Less need for access to experts (c/w knowledge acquisition)
- 12620 and 16642 form a basis for new SC4; current focus on metadata



Final Notes

- Tag abuse

```
<dmdSec ID="dmd002">
  <mdWrap MIMETYPE="text/xml" MDTYPE="DC" LABEL="Dublin Core
   Metadata">
    <dc:title>Alice's Adventures in Wonderland</dc:title>
    <dc:creator>Lewis Carroll</dc:creator>
    <dc:date>between 1872 and 1890</dc:date>
    <dc:publisher>McCloughlin Brothers</dc:publisher>
    <dc:type>text</dc:type>
  </mdWrap>
</dmdSec>
```



Final Notes

- ISO 16642 will shortly be published and will be promoted through the UK as BS ISO 16642
- ISO 12620 is currently undergoing revision and will likely become 2 parts: a specification of Data Categories and their management, and subsequent parts of specific Data Categories – part 2 for Terminological DCs, part N for Language Codes?

Web Links

- http://www.computing.surrey.ac.uk/
  - GIDA project: /ai/gida
  - SOCIS project: /ai/socis
  - TIWO project: /cke/tiwo_project
  - EU FP6: /FP6
  - System Quirk: /SystemQ
- SALT Project: http://www.loria.fr/projets/SALT
- BSI: http://www.bsi-global.com
- ISO TC37 http://www.iso.ch/iso/en/stdsdevelopment/tc/tclist/TechnicalCommitteeDetailPage.TechnicalCommitteeDetail?COMMID=1459