



The IHTSDO Workbench A Terminology Management Tool

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This talk will cover:

- An overview of IHTSDO and SNOMED CT
- An overview of the IHTSDO Workbench, including its functionality and technology
- An outline roadmap, identifying a timeline for future enhancements to the Workbench



IHTSDO and SNOMED CT

- IHTSDO is a not-for-profit association that develops and promotes use of SNOMED CT to support safe and effective health information exchange.
- SNOMED CT is a clinical terminology and is considered to be the most comprehensive, multilingual healthcare terminology in the world.
- SNOMED CT consists of over 500K concepts, arranged in a hierarchy, connected by relationships.
- SNOMED CT semantics are based on Description Logic.



A Simple Description Logic Notation (EL)

- An example Description Logic is given below:
 - **A** – Concepts (e.g.: Person, Female)
 - **R** - Roles (e.g.: hasChild)
 - **C \cap D** - Conjunction (e.g.: Woman \equiv Person \cap Female)
 - **$\exists R.C$** - Existential Qualification (e.g.: \exists hasChild.Person)
 - **$C \equiv D$, $C \sqsubseteq D$** - Equivalence and Subsumption
 - e.g.: Parent \equiv Person \cap \exists hasChild.Person (defining)
 - e.g.: YoungMother \sqsubseteq Female \cap \exists hasChild.Person (primitive)
- Description Logic statements can be built using these constructs.



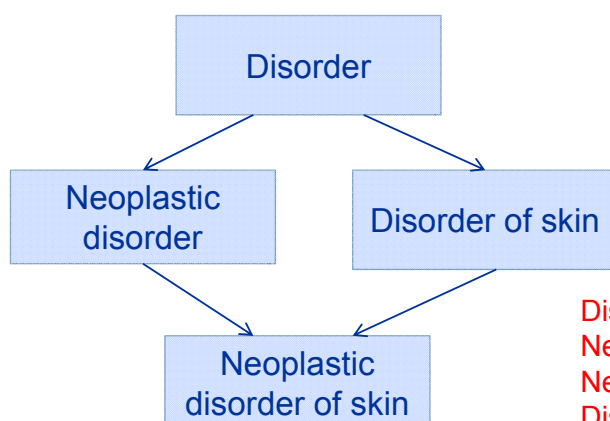
SNOMED CT Constructs

- SNOMED CT consists of four primary constructs:
 - **Concepts** – same as DL Concepts, these can be primitive or defined.
 - **Descriptions** - the text used to describe a Concept. These can be in multiple languages.
 - **Relationships** - same as DL existential relationships.
 - **Reference Sets** – extensible groups of concepts, descriptions or relationships.



The SNOMED CT Hierarchy

- Concepts are arranged into a multi-parent acyclic subsumption hierarchy:

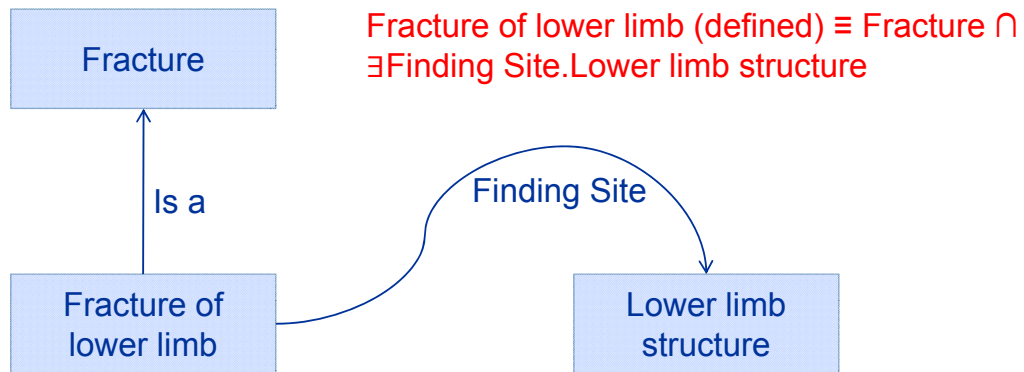


Disorder of Skin (primitive) \sqsubseteq Disorder
Neoplastic disorder (primitive) \sqsubseteq Disorder
Neoplastic disorder of skin (defined) \equiv
Disorder of Skin \cap Neoplastic disorder



SNOMED CT Roles

- Concepts may be refined using roles:

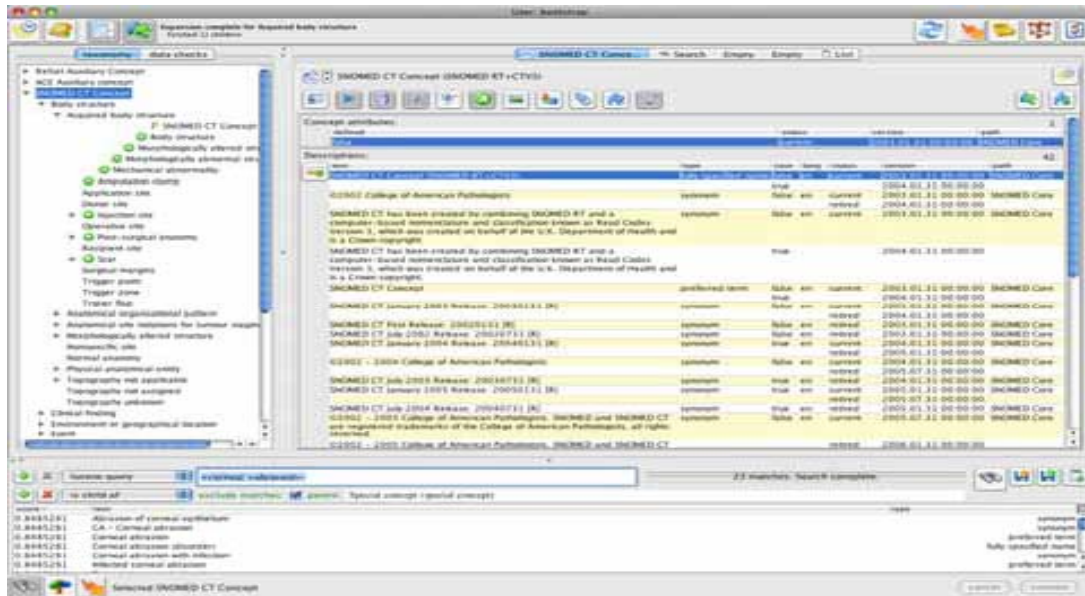


The IHTSDO Workbench - functionality

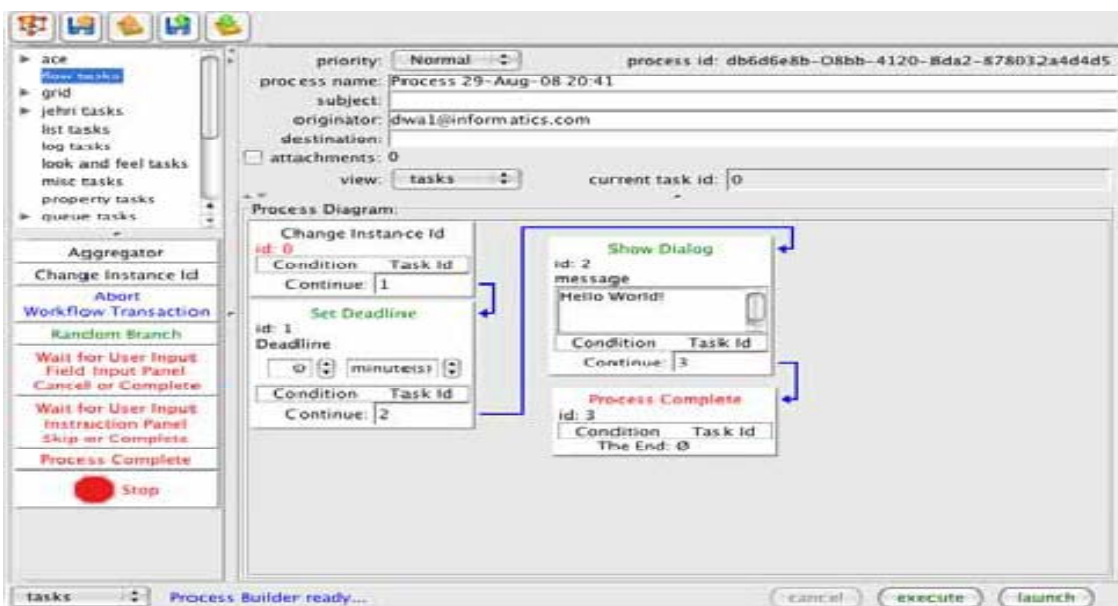
- Terminology Lifecycle Management
- Automated Workflow
- Searching, browsing and editing support
- Support for Reference sets
- Support for cross-mapping and translation
- Support for Classification
- Build process automation
- Change management and conflict resolution
- Collaboration tools
- Project management and support tools
- Lexical support



The IHTSDO Workbench – authoring user interface



The IHTSDO Workbench – workflow design user interface





Workbench use cases

- By IHTSDO
 - SNOMED CT management
- By Members
 - Management of extensions to SNOMED CT
 - Translation of SNOMED CT to national languages
 - Mapping to local code-sets
- By Affiliates
 - Creation of reference sets for inclusion in healthcare systems
- By others
 - Management of other vocabularies and terminologies
 - Submission of requests for updates to SNOMED CT



Workbench technology

The following technology is used in the Workbench

- Java
- Maven
- Oracle Berkley
- Subversion

- Thick client application with a local Oracle Berkley database.
- Links to a central Subversion repository over the Internet.
- Allows online and offline working.
- Synchronisation is under the control of the user.



Workbench Roadmap

