SNOMED International

Leading healthcare terminology, worldwide

Vendor Engagement

March 28, 2018

Rory Davidson,
Technical Services Executive Lead

(standing in for)

Nick Egarhos
Global Vendor Engagement Lead,
Customer Relationship Executive,
Middle East/Africa

Table of Contents

Vendor Engagement

Vendor Programme

Vendor Liaison Forum

Vendor Portal

Marketplace

Vendor Toolkit

Vendor Engagement

Background

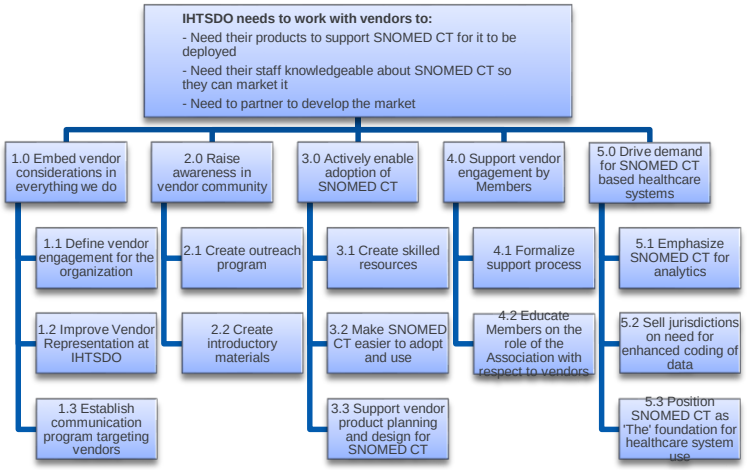
In 2014, SNOMED International identified the need to engage vendors

- Vendors represent the supply side of the SNOMED CT implementation and adoption equation
- As such, it was recognized as critical that SNOMED International engage with vendors in a more direct and strategic way in order to encourage and support vendor efforts to provide solutions that can then be deployed broadly
- During 2014, a number of individual initiatives were identified across a spectrum of program areas.

Vendor Engagement Principles

This strategy was distilled into the following principles:

- Continual, direct engagement
- Timely response and support by experienced personnel
- Being responsive to vendor requests and recommendations
- Educational and technical support for vendors



Vendor Engagement Programme

Vendor Engagement Programme

- Based on the strategic principles and organizational goals and objectives, several tactical opportunities presented themselves that would not only improve our ability to engage with vendors and respond to their requirements in the short term, but will provide the community with the tools to take the next steps up the SNOMED CT value chain
    - Vendor Liaison Forum
    - Vendor Portal
    - Marketplace
    - Vendor Toolkit

Vendor Liaison Forum

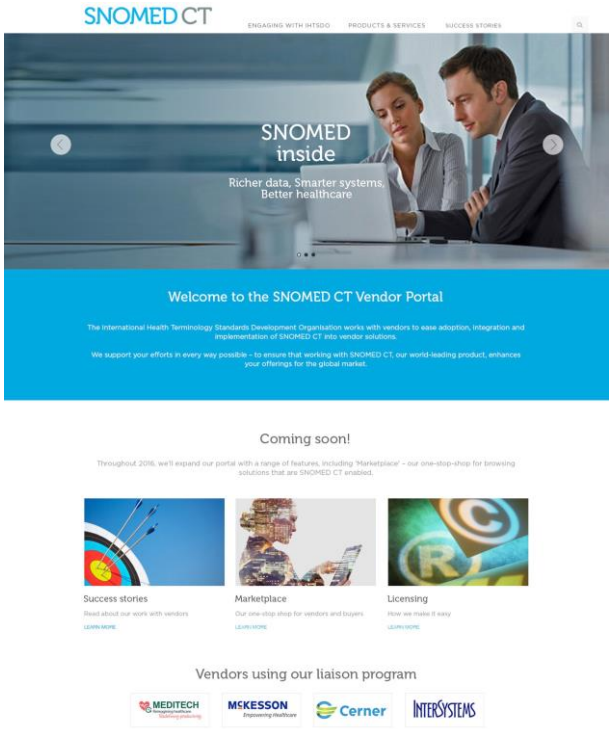
- Currently consists of 12 members, made up of a cross-section of solution provider types, geographies
- Meet quarterly via teleconference
- Typical meeting agenda:
  - SNOMED International update i.e. membership content, tooling, licensing, etc.
  - Presentation by LOB, or by specific request
  - Vendor requirements
  - Round table
- Given the limited number of vendors as part of the VLF, discussion ongoing to create vendor forums based on region.

Vendor Portal

- http://www.snomedinside.org/

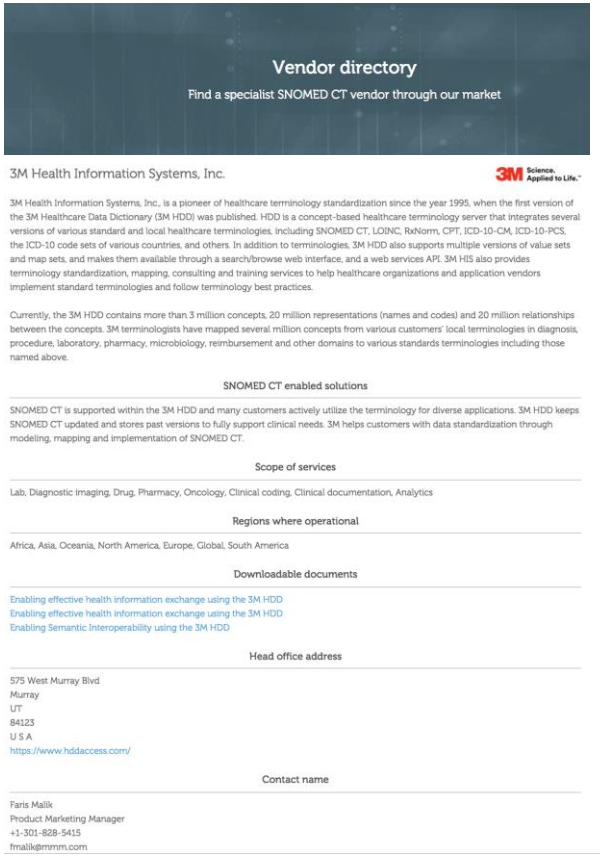
- Provides value to vendors, and promotes and highlights the role of SNOMED International in managing and maintaining the SNOMED CT product
- Provides relevant links, documentation (white papers, business cases, licensing, etc.)
- Marketplace

- *(changing during 2018)*



Vendor Marketplace

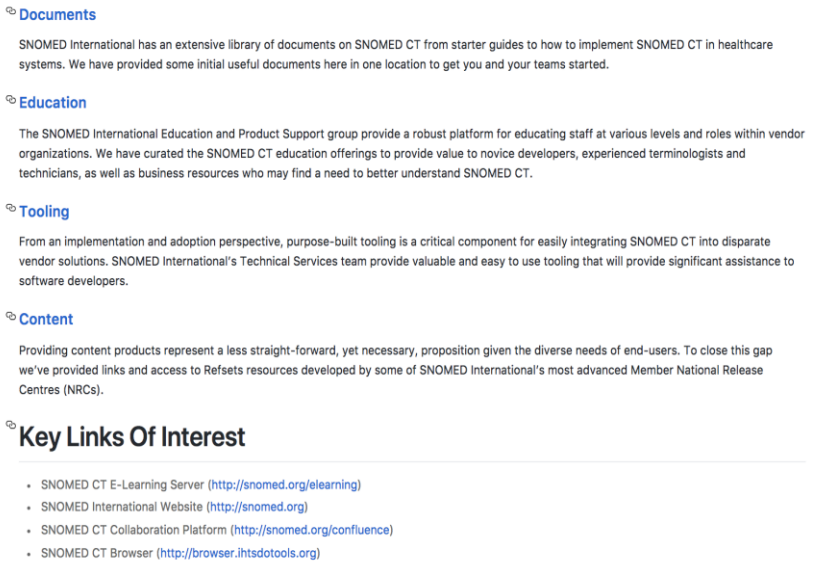
- An area where vendors can upload information on their SNOMED CT-enabled solutions
- Provides purchasers with an initial location to view offerings in the market, “one-stop-shop”
- Can filter by vendor/solution type e.g. EMR, Lab, System Integrator, etc. or by geography
- 32 vendors registered
- Concept of a “Resource Marketplace” being discussed as well, given the significant challenge of finding skilled resources



Vendor Toolkit

https://github.com/IHTSDO/snomed-vendor-toolkit

- In cooperation with the Vendor Liaison Forum (VLF) and SNOMED International teams, the Vendor Toolkit was conceived, containing assets that would address actively enabling adoption of SNOMED CT
- The Toolkit Working Group was struck to assist in developing the structure and content of the toolkit
- A vendor survey was distributed to over 90 vendors for input into strategy related to tooling
- Toolkit currently consists of several sections including:
    - Education
    - Tooling
    - Content



Documents

SNOMED International has an extensive library of documents on SNOMED CT from starter guides to how to implement SNOMED CT in healthcare systems. We have provided some initial useful documents here in one location to get you and your teams started.

Education

The SNOMED International Education and Product Support group provide a robust platform for educating staff at various levels and roles within vendor organizations. We have curated the SNOMED CT education offerings to provide value to novice developers, experienced terminologists and technicians, as well as business resources who may find a need to better understand SNOMED CT.

Tooling

From an implementation and adoption perspective, purpose-built tooling is a critical component for easily integrating SNOMED CT into disparate vendor solutions. SNOMED International's Technical Services team provide valuable and easy to use tooling that will provide significant assistance to software developers.

Content

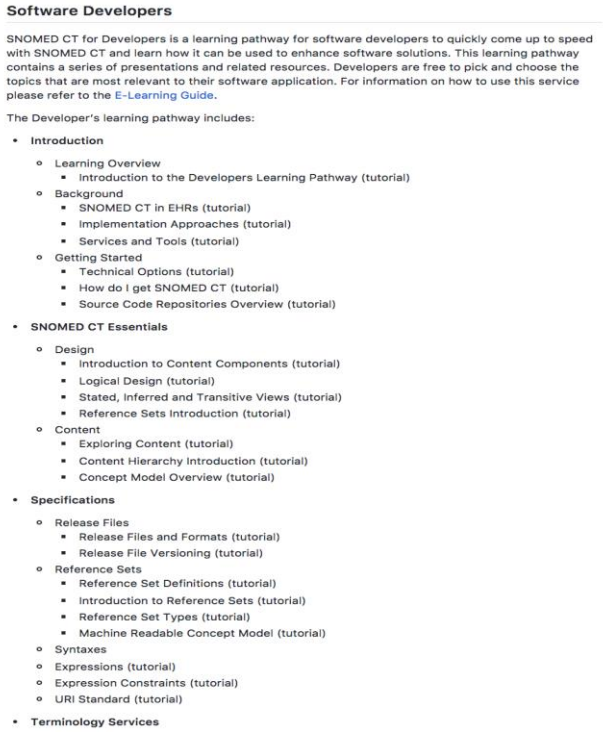
Providing content products represent a less straight-forward, yet necessary, proposition given the diverse needs of end-users. To close this gap we've provided links and access to Refsets resources developed by some of SNOMED International's most advanced Member National Release Centres (NRCs).

Key Links Of Interest

- SNOMED CT E-Learning Server (http://snomed.org/elearning)
- SNOMED International Website (http://snomed.org)
- SNOMED CT Collaboration Platform (http://snomed.org/confluence)
- SNOMED CT Browser (http://browser.ihtsdotools.org)

Vendor Toolkit – Education

- Creating skilled resources in the market will be aided our ability to provide educational material that speak to the specific needs of vendors
- The Education & Product Support team has been re-structuring eLearning with the addition of learning pathways that are targeted at vendors, including the Developers Pathway.
- The team is also working on documentation that reflects specific benefits to the various roles within vendor organizations



Software Developers

SNOMED CT for Developers is a learning pathway for software developers to quickly come up to speed with SNOMED CT and learn how it can be used to enhance software solutions. This learning pathway contains a series of presentations and related resources. Developers are free to pick and choose the topics that are most relevant to their software application. For information on how to use this service please refer to the E-Learning Guide.

The Developer's learning pathway includes:

- **Introduction**
  - Learning Overview
    - Introduction to the Developers Learning Pathway (tutorial)
  - Background
    - SNOMED CT in EHRs (tutorial)
    - Implementation Approaches (tutorial)
    - Services and Tools (tutorial)
  - Getting Started
    - Technical Options (tutorial)
    - How do I get SNOMED CT (tutorial)
    - Source Code Repositories Overview (tutorial)
- **SNOMED CT Essentials**
  - Design
    - Introduction to Content Components (tutorial)
    - Logical Design (tutorial)
    - Stated, Inferred and Transitive Views (tutorial)
    - Reference Sets Introduction (tutorial)
  - Content
    - Exploring Content (tutorial)
    - Content Hierarchy Introduction (tutorial)
    - Concept Model Overview (tutorial)
- **Specifications**
  - Release Files
    - Release Files and Formats (tutorial)
    - Release File Versioning (tutorial)
  - Reference Sets
    - Reference Set Definitions (tutorial)
    - Introduction to Reference Sets (tutorial)
    - Reference Set Types (tutorial)
    - Machine Readable Concept Model (tutorial)
  - Syntaxes
  - Expressions (tutorial)
  - Expression Constraints (tutorial)
  - URI Standard (tutorial)
- **Terminology Services**

SNOMED International

SNOMED CT

The global language of healthcare

E-Learning

SNOMED CT Foundation Course

The official course developed and delivered by SNOMED International experts.

- Online and self-paced, enroll and start on your schedule
- 30-35 hours of study
- For anyone seeking to acquire or demonstrate a broad foundational knowledge of SNOMED CT
- Provides a foundation for advanced SNOMED CT E-Learning courses
- Currently available at no cost

"Excellent layout and easy to understand"

"This course very clearly covers the content for understanding SNOMED CT"

SNOMED CT Implementation*

Provides a deeper understanding of SNOMED CT for those engaged in various parts of the implementation process – from the decision to adopt SNOMED CT, through to specification and procurement and/or design and development of SNOMED CT enabled solutions, to deployment and practical use.

SNOMED CT Content Development Theory*

Provides a theoretical understanding of SNOMED CT content and its development and maintenance from a content authoring perspective.

** SNOMED CT Foundation Course is a prerequisite and intakes occur in January, May and September*

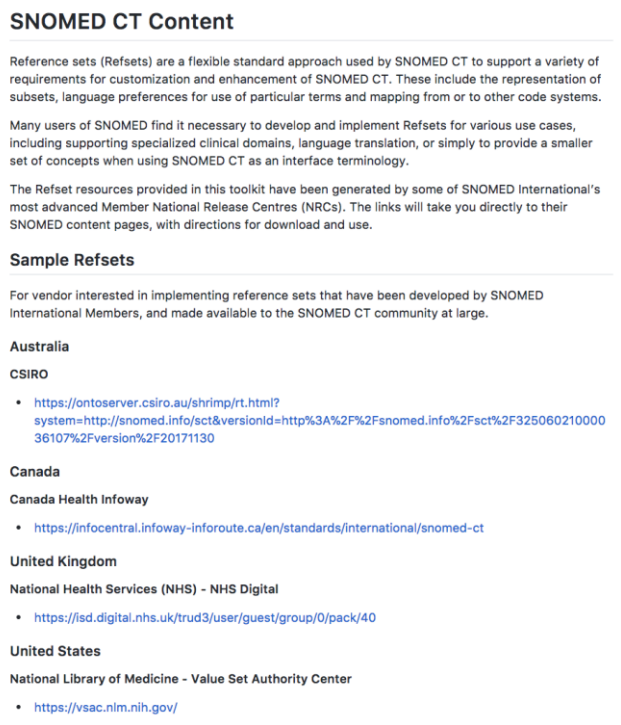
The E-Learning Server also provides links to open access services including:

- Starter tutorials
- SNOMED CT Challenge quiz
- Other education materials

snomed.org/elearning

Vendor Toolkit – Content

- Vendors and Members alike are continuing to move their SNOMED-enabled solutions into new clinical domains
- Product roadmaps and ROI calculations rely heavily on availability of tooling and content that allows vendors to more rapidly develop these solutions
- Links to content that has been developed by NRC's will provide a significant head-start for vendors seeking to understand the viability of new product offerings across the globe



SNOMED CT Content

Reference sets (Refsets) are a flexible standard approach used by SNOMED CT to support a variety of requirements for customization and enhancement of SNOMED CT. These include the representation of subsets, language preferences for use of particular terms and mapping from or to other code systems.

Many users of SNOMED find it necessary to develop and implement Refsets for various use cases, including supporting specialized clinical domains, language translation, or simply to provide a smaller set of concepts when using SNOMED CT as an interface terminology.

The Refset resources provided in this toolkit have been generated by some of SNOMED International's most advanced Member National Release Centres (NRCs). The links will take you directly to their SNOMED content pages, with directions for download and use.

Sample Refsets

For vendor interested in implementing reference sets that have been developed by SNOMED International Members, and made available to the SNOMED CT community at large.

Australia

CSIRO

- https://ontoserver.csiro.au/shrimp/rt.html?system=http://snomed.info/sct&versionId=http%3A%2F%2Fsnomed.info%2Fsct%2F32506021000036107%2Fversion%2F20171130

Canada

Canada Health Infoway

- https://infocentral.infoway-inforoute.ca/en/standards/international/snomed-ct

United Kingdom

National Health Services (NHS) - NHS Digital

- https://isd.digital.nhs.uk/trud3/user/guest/group/0/pack/40

United States

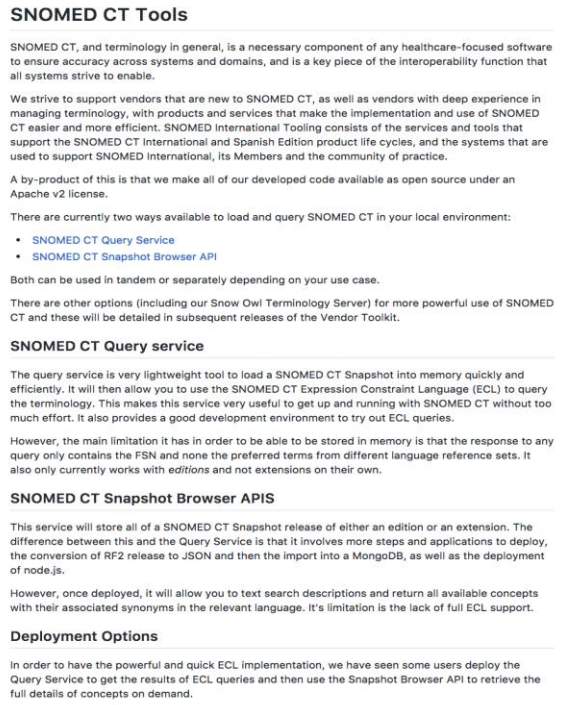
National Library of Medicine - Value Set Authority Center

- https://vsac.nlm.nih.gov/

Vendor Toolkit – Tooling

- Feedback from the vendor survey, along with the VLF and Toolkit Working Group, provided requirements to address ease of adoption issues

- Phase 1 (current inventory)
  - SNOMED CT Browser
  - Refset & Translation Tool
  - SNOMED Query Server
  - Mapping tool can be used to map SCT to other terminologies
  - Signposting the open source code for all products currently available



SNOMED CT Tools

SNOMED CT, and terminology in general, is a necessary component of any healthcare-focused software to ensure accuracy across systems and domains, and is a key piece of the interoperability function that all systems strive to enable.

We strive to support vendors that are new to SNOMED CT, as well as vendors with deep experience in managing terminology, with products and services that make the implementation and use of SNOMED CT easier and more efficient. SNOMED International Tooling consists of the services and tools that support the SNOMED CT International and Spanish Edition product life cycles, and the systems that are used to support SNOMED International, its Members and the community of practice.

A by-product of this is that we make all of our developed code available as open source under an Apache v2 license.

There are currently two ways available to load and query SNOMED CT in your local environment:

- SNOMED CT Query Service
- SNOMED CT Snapshot Browser API

Both can be used in tandem or separately depending on your use case.

There are other options (including our Snow Owl Terminology Server) for more powerful use of SNOMED CT and these will be detailed in subsequent releases of the Vendor Toolkit.

SNOMED CT Query service

The query service is very lightweight tool to load a SNOMED CT Snapshot into memory quickly and efficiently. It will then allow you to use the SNOMED CT Expression Constraint Language (ECL) to query the terminology. This makes this service very useful to get up and running with SNOMED CT without too much effort. It also provides a good development environment to try out ECL queries.

However, the main limitation it has in order to be able to be stored in memory is that the response to any query only contains the FSN and none the preferred terms from different language reference sets. It also only currently works with *editions* and not extensions on their own.

SNOMED CT Snapshot Browser APIS

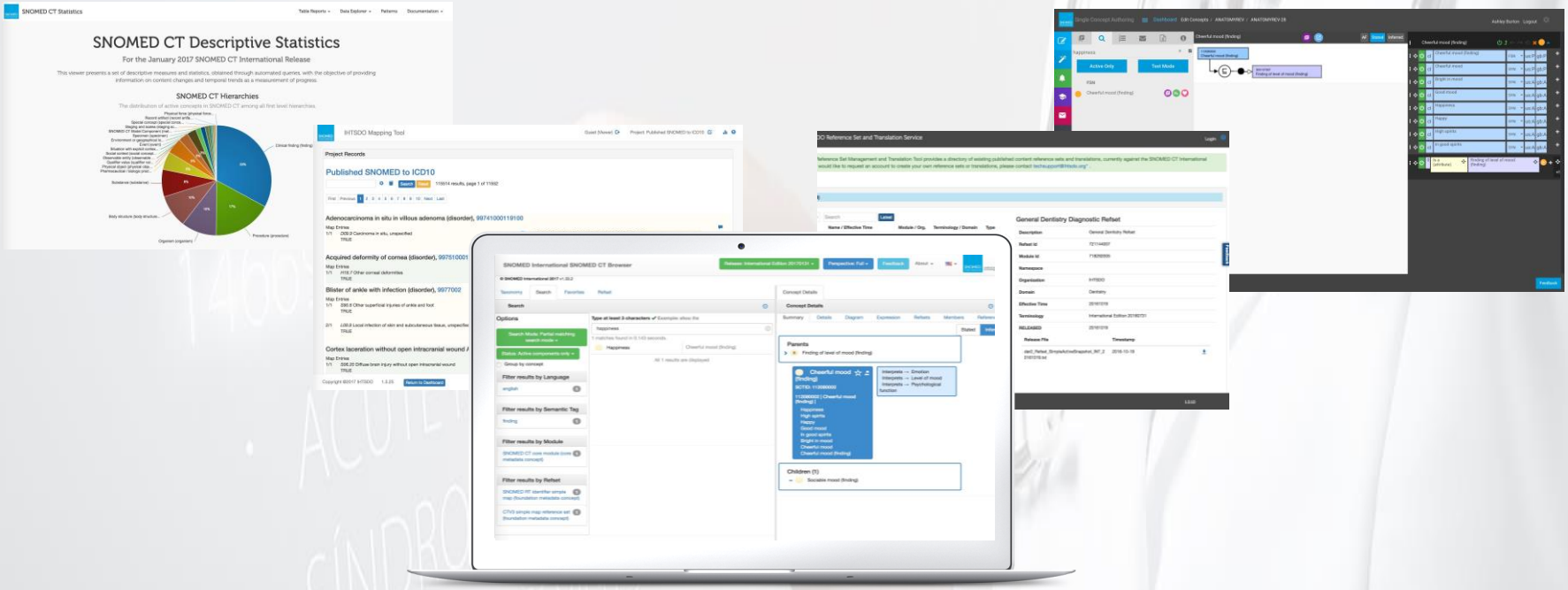
This service will store all of a SNOMED CT Snapshot release of either an edition or an extension. The difference between this and the Query Service is that it involves more steps and applications to deploy, the conversion of RF2 release to JSON and then the import into a MongoDB, as well as the deployment of node.js.

However, once deployed, it will allow you to text search descriptions and return all available concepts with their associated synonyms in the relevant language. It's limitation is the lack of full ECL support.

Deployment Options

In order to have the powerful and quick ECL implementation, we have seen some users deploy the Query Service to get the results of ECL queries and then use the Snapshot Browser API to retrieve the full details of concepts on demand.

SNOMED International Software



SNOMED International Software

Browsing

SNOMED CT Browser - http://browser.ihtsdotools.org

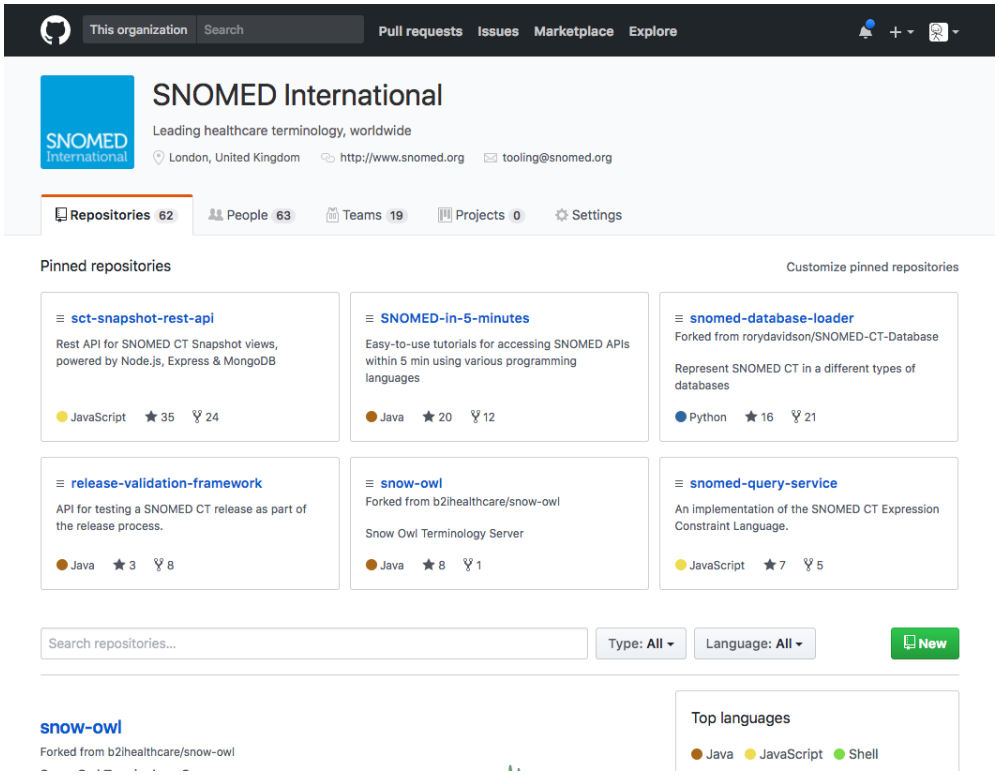
Authoring

Content Request Service - https://request.ihtsdotools.org
Authoring platform – (International & Managed Service)
Reference Set Management Tool - https://refset.ihtsdotools.org
Mapping tool - https://mapping.ihtsdotools.org

Releasing

Release Validation Framework–
https://github.com/IHTSDO/release-validation-framework
SNOMED CT Quality Analysis - http://qa.snomed.org

SNOMED International Software Development



https://github.com/IHTSDO

All SNOMED International software is available under an Apache v2 open source license, and in the SNOMED International GitHub repositories and includes:

SNOMED Boot
A Java framework for loading SNOMED CT
https://github.com/IHTSDO/snomed-boot

SNOMED In 5 Minutes
Some short examples on how to code to use the SNOMED CT Browser REST interface
http://snomedin5minutes.org/

SNOMED Browser API
An open REST API to be used for development or reference
http://docs.snomedctsnapshotapi.apiary.io/

Vendor Toolkit – Ongoing Development

Phase 2 – Spring/Summer 2018

- Improve based on feedback
- Requirements: core SNOMED Requirements set
- Tooling: SNOMED CT adapter, post-coordinated expression editor

QUESTIONS?