

# Becta Vocabulary Management Tool

Prepared by Mike Collett mike@schemeta.com

Date: 7<sup>th</sup> January 2005 Version 0.3

## Introduction

This document is a summary of the proposed Vocabulary Management Tool being developed by Becta in collaboration with other major stakeholders. The initial scope for the tool is for Curriculum Online but it is expected to be applied in wider UK e-learning contexts. The development of the tool is part of a broader Becta vocabulary and metadata strategy.

The main aims are to build a common spine of concepts (including learning objectives) and to enable machine-readable curricula structures to be exchanged between communities using open specifications.

The proposed tool will manage and identify concepts represented by terms. Information associated with each term may describe the scope of the concept and its usage in different contexts. The identifiers or terms will be able to exist independently of any specific taxonomic structure or curriculum.

Various structures, such as hierarchical taxonomies to navigate portals or tagging tools, can be built using subsets of concepts. Most structures are expected to be determined by a particular curriculum authority.

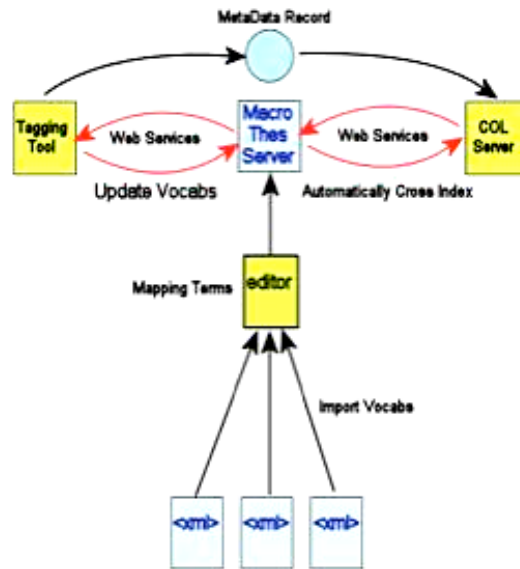
There will be a place for a globally unique identifier to be stored, though management and resolution of these identifiers are not part of the initial tool development. These identifiers, if published, could be uniquely referenced in e-learning vocabularies, taxonomies or metadata schemes.

\*It should be noted that this work is ongoing and that the functional specification is not yet completely agreed. Therefore this document should not be taken as a definitive description at this stage.

## Key requirements

There are currently many taxonomies, ontologies and other controlled vocabularies in use within UK education metadata and these often undergo modification. The vocabulary management tool will enable management and integration, within and between, different controlled vocabularies and thesauri. The main requirements are:

- (i) To map between equivalent terms in different vocabularies.
- (ii) To identify terms as having an equivalent meaning and enable them to be represented uniquely within classification schemes. This should support a tag once, classify many times approach.
- (iii) To be capable of communicating with other applications via web services or other open protocols, for example with the existing Curriculum Online portal and Tagging Tool.
- (iv) To support evolving taxonomies and be capable of integrating new taxonomies or structures with minimum effort.



**Figure 1 Possible Basic Functionality**

## Approach

Following a tender process a consortium of three companies (Schemeta, Knowledge Integration and Metataxis collectively called the Vocabulary Management Group) has been contracted by Becta to provide a vocabulary management tool by April 2005.

In the first stage a proven 'out of the box' solution using SchemaLogic software will be used as the core taxonomy editor engine. Bespoke open source components will be created in the second stage. These will include a user interface designed to match the required workflow and standards based open source adapters to facilitate import and export. Initially, adapters will be written to support ZThes and VDEX.

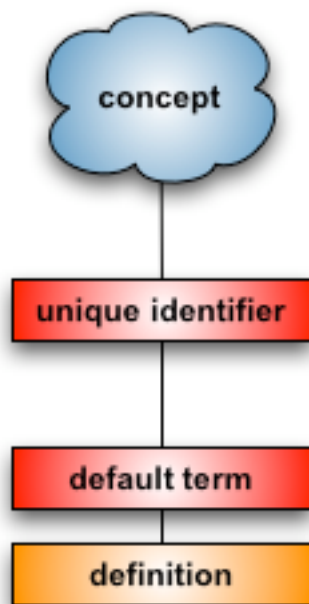
The required custom relationships, vocabulary, thesaurus, term and concept descriptors will be defined. An initial cleansing and import of data will be carried out to enable the system to be tested and used.

The extensible approach adopted will allow introduction of additional standards based access points in the future. The public web services can be tailored to restrict the available functionality to that which is appropriate.

## A Basic Model

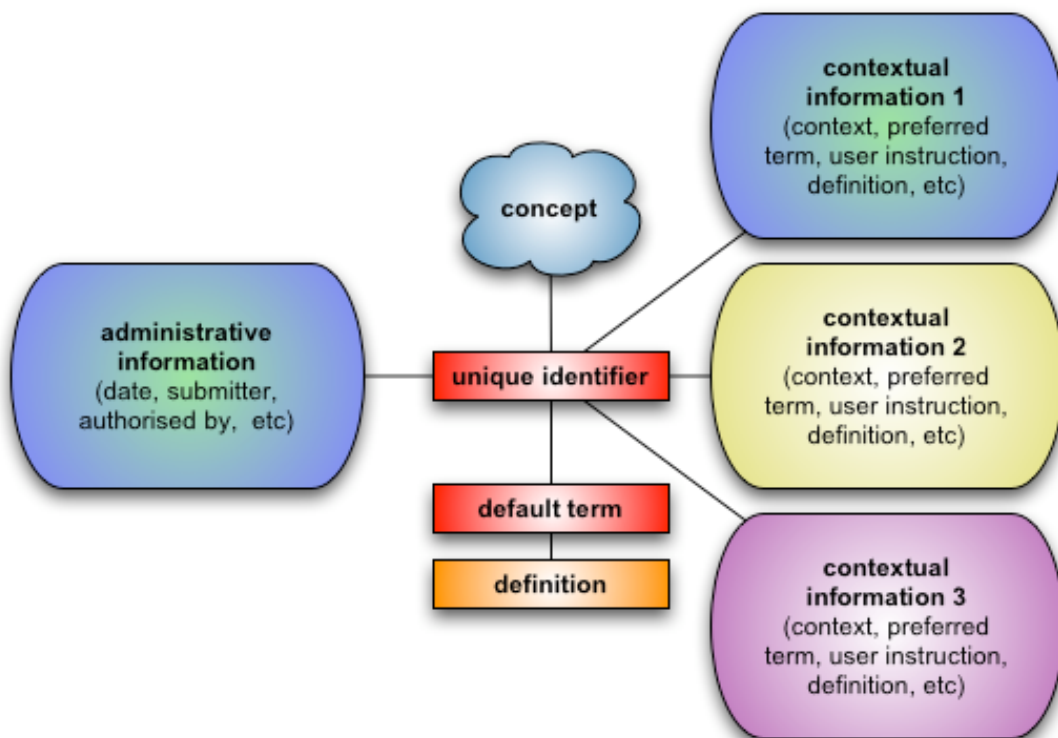
Vocabulary terms often act as local identifiers and it is often assumed that the term and context are sufficient to be understood without further definition or explanation. Attaching an identifier may provide great benefits for cross-sector interoperability, localisation and internationalisation. A concise, accurate description of the associated concept would also be helpful.

Not all metadata is intended to be purely machine-readable and users may be exposed to some values directly, especially if there is no way to resolve identifiers automatically. So it is expected that there will be default term associated with each a unique identifier-concept pairing and possibly be a definition.



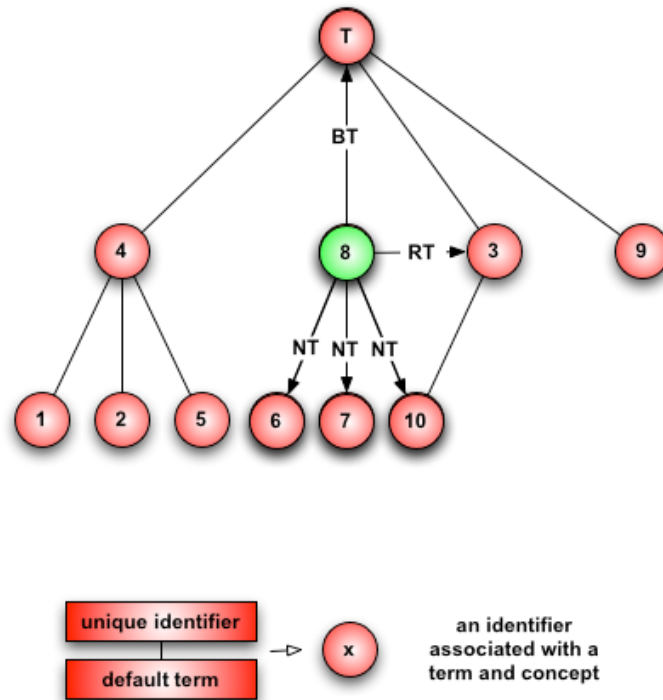
**Figure 2 Possible Basic Term Identification**

The governance and maintenance of the relationships between identifiers and terms is an important aspect of a trusted service. There will therefore be well-defined administrative processes and associated information. This information will be based on Z39-19 and adapted for Becta's needs.



**Figure 3 Identifiers with Administrative and Contextual Information**

# Structures



**Figure 4 A simple taxonomy showing relationships for item 8**

Narrow curriculum items are viewed using different structures such as the National Curriculum Schemes of Work or Programmes of Study. These structures can usually be described using simple thesaural relationships between terms such as *Narrower Term (NT)*, *Broader Term (BT)* and *Related Term (RT)*.

By separating the management of the terms from the over-riding structures it is easier to provide several alternative, contextualised views onto curriculum items without the need to create new metadata instances. These structural views can be used by portals, tagging tools and learning platforms.

Separating the structure from the vocabulary will also enable alternative structures such as Topic Maps or other relationships to be built using the vocabulary spine.

## Contact

For more information about Becta vocabulary management contact:

Barry Kruger  
+44 247 641 6994  
barry.kruger@becta.org.uk

For more information about the Vocabulary Management Group contact:

Mike Collett  
+44 7798 728 747  
mike@schemeta.com