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QVIZ

Query and context based visualization of time-spatial cultural dynamics

Specific Targeted Research Project

Information Society Technologies

Prototype 2b, User Manual D6.4.2b

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Umeå University Final

Abstract

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Abstract	User manual for the time-spatial and collaborative environments, Prototype 2b (final).

Keywords List	Prototype, user, time-spatial, collaborative, knowledge building, faceted query, map component, annotation

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1. Introduction

This document provides QVIZ users with a detailed description about how to use the QVIZ Query Visualization Environment and Collaborative Environment within the QVIZ platform

This report is based on the D4.1.2 and D4.1.3 System Specification and Requirement Reports, which provide the foundations for the system.

The document is organized into the following sections:

- Global scenario
- Query Visualization Environment
- Archive tools and Bookmarking
- Collaborative Environment

In addition to this document, a multimedia user guide provides complementary assistance on how to interact with the QVIZ platform. The motivation for providing a multimedia manual is that the users are more willing to follow video instructions than reading long text documents. The manual is animated using Flash, which offers a wide range of possibilities to show the users the general QVIZ system capabilities and specific functionalities in a user friendly way.

The video guide consists of the following: a global scenario which shows the different environments integrated in the system as well as additional short detailed video clips of the components that comprise the main portals. Thus, the guide provides the users with the knowledge necessary to successfully use the system and the awareness of the functionalities of the specific components. The user may choose to view the global scenario first and then select the detailed clips that he/she is interested in. These are the video clips that can be found in the tutorial:

- Global overview of QVIZ platform
- Query Visualization Environment
    - Time-spatial client
    - Faceted Query Component
    - Additional Icons
    - Result List and Contextual Area
- Social Bookmarking
- Collaborative Environment
    - Workspace area
    - Create-join communities
    - Navigational area that contains the shortcuts and history
    - Content area with visualization and editing tabs
    - Search and List area

The user can access the multimedia manual in the section “QVIZ video” at the official project website, http://www.qviz.eu/. The figure below depicts the starting sequence within the Flash media player:

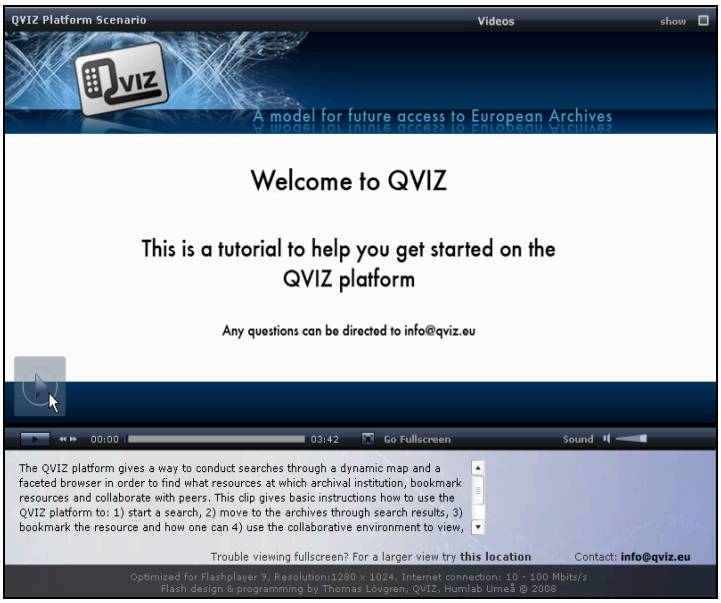


Figure 1: Multimedia User Guide.

Brief explanations are offered in the guide, and a narrated voice is synchronized with the film content to assist the users with more detailed information of the platform in an accessible manner.

1.1 Common Authentication

The user management of the collaborative environment provides an integrated user management solution for all QVIZ components and services. The user needs to login, for example, when he/she wishes to store a social bookmark from an archive portal in the QVIZ collaborative environment, when the user wants to view the social bookmarks of an archive resource for a particular community, or when the user wishes to work directly within the collaborative environment. Normally, when the user is required to log in, he/she will be directed automatically to the common QVIZ login window:

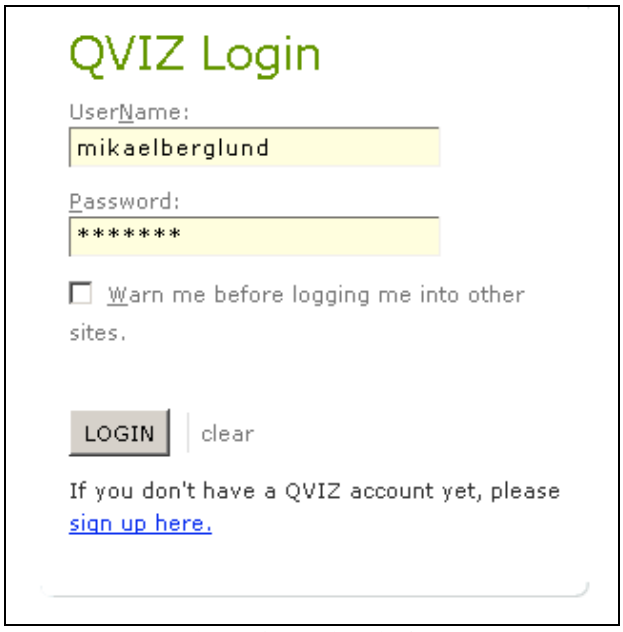


Figure 2: Login window.

The login is required when creating bookmarks and using the collaborative environment, but not for browsing the archival resources in the facetted query component. Login is only necessary once per session.

When the user wishes to log out from the system, this is possible directly from the Collaborative Environment or from the authentication system page https://qviz.salzburgresearch.at/cas/.

The archives' user management systems are separate from the QVIZ system. Please contact the appropriate archive for more information.

To get started with QVIZ, the user has to apply for an account at the main project web page at http://www.qviz.eu/TryQVIZ.php. The user must click on the *Sign up for an account* link and fill in the appropriate information to apply for a QVIZ user account. The account information is sent to the user via email upon approval by the QVIZ management. The figure below shows the instructions that are displayed for this purpose:

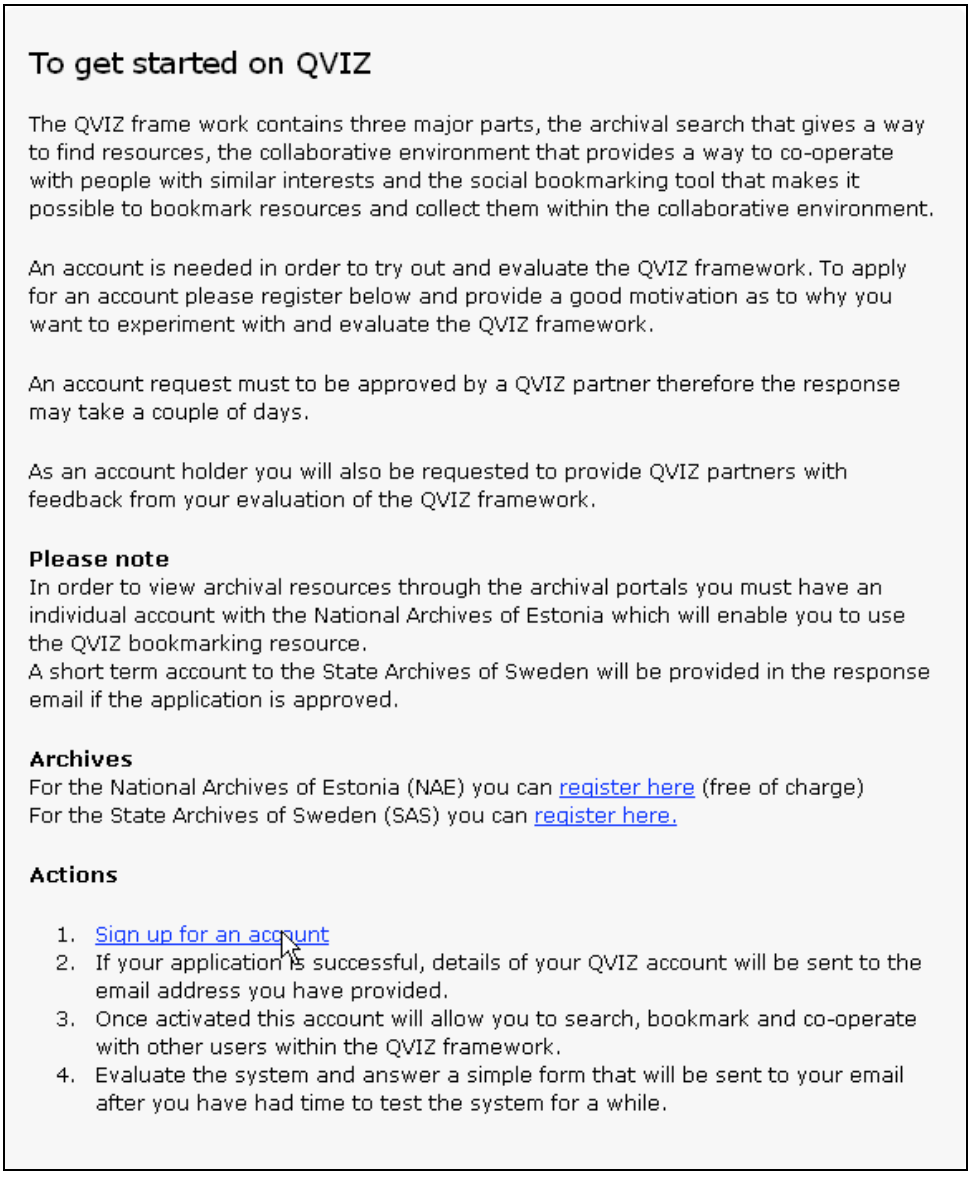


Figure 3: Page Get Started on QVIZ

1.2 Administrative unit ontology

When people talk of geography in everyday conversation, they refer more to bounded *places* than to point locations. For instance the place people think about as London is actually made up of many different administrative units, rather than just one. However, the concept of places does not sufficiently handle the relationship between time, space, settlements and authorities in a consistent and comprehensible way.

In the QVIZ system the administrative unit ontology (AUO) acts as the core, providing a framework through which the diverse sources of data can be displayed together in a single visualization interface. An administrative unit is, for the purposes of this project, a public sector corporate body with an area of operation defined by law. The vast majority of administrative units can be grouped into unit types, such as forms of parish or district. These forms in turn are themselves defined by law and concern the governance of people. Church districts in Sweden are one example of this. These units often had responsibility for keeping track of births, deaths, migration, holy communions, etc. However these administrative units could change their name, geographical area and their relationships to other units over time. These dynamic changes reflect alterations to the structure of governance.

The QVIZ interface provides a unique portal to access similar kinds of digital archival resources from disparate national archives. As European cultural heritage institutions gather ever increasing amounts of digital content the QVIZ user interface offers an opportunity to facilitate access to that content in a single user environment. It incorporates the administrative history of all the detailed units involved, a facetted browser and a mapping interface with the additional benefit of support and discussion between users of the same content through Communities of Practice.

Archival institutions have a long tradition of storing archival collections in conjunction with the identity of the archival creator. If a new organization is created or two existing organizations are merged to form a single organization, this new organization will be seen as a new archival creator and a new index of archival deposits will also be created for this new organization. This is called the provenance principle.

All information about a particular administrative unit within the ontology is linked together by a unit ID number, not by names because these are not unique. These ID numbers are also linked to the index of digital content provided by the National Archives of Sweden and Estonia involved in the QVIZ project. In this way the administrative history of an individual unit and the actual archival documents that relate to the history connected with that unit are clearly associated with one another.

Developed specifically for QVIZ, the administrative unit ontology identifies all European States, which have existed in peacetime Europe since The Congress of Vienna in 1814-15 and covers the administrative history of Estonia, Great Britain and Sweden in greater depth. Where further information is available for individual units beyond the basic data requirements, the ontology can hold any number of additional names, many different relationships with other units including textual information about boundary changes, and boundary polygons. The ontology is also designed to support a range of evolving data standards, including the

Alexandria Digital Library Gazetteer Content Standard ADL GCS) and Encoded Archival Context (EAC).

The ontology is designed to be able to grow into a definitive (place) name authority for Europe. A schema for adding additional data from hypothetical new partner countries has also been developed. This exists in both a minimum requirements format and an extended version where fuller data is available. There is no simple way to insert new data so original partners would have to be involved in the insertion of any new partner data as the process is too complicated to implement as an automated procedure.

This administrative unit ontology is behind the QVIZ facetted browser and time-spatial mapping interface. All the information about the history and relationships for each administrative unit within the ontology is held in a relational database. Each individual unit is identified by a unique ID number, and it must have at least one preferred name, a unit type, at least one 'IsPartOf' relationship to another unit (except for the Root unit which is the World) and an immediate authority identifying the source of the knowledge of the unit's existence.

In addition to this basic information, each unit may have multiple names, although only one preferred name is permitted per language, and a preferred name must exist in a language before alternate names in that same language can be added. There can be multiple relationships to other units, both past and current, unit status information as it changed over time ("status" records the finer details of the legal basis of a unit, and unlike "type" can change over time), and geometric information, giving co-ordinates which allows the borders to be appear on the time-spatial mapping interface. The systematic structure of the Administrative unit ontology allows the relationships to function within the facetted browser.

Figure 4 conceptualizes the actual structure of the ontology below the surface. Starting with the World unit (Root) relationships can be made either directly to State or via a world organization or a continent within which it might also be part of a sub-continent or continental organization. These connections are generic around the world.

The only generic units that have been added at sub-state level are the NUTS units, levels 1 to 3. These were created by the European Union as purely statistical reporting units for comparable geographic areas across Europe. These are visible on the right hand side of Figure 4.

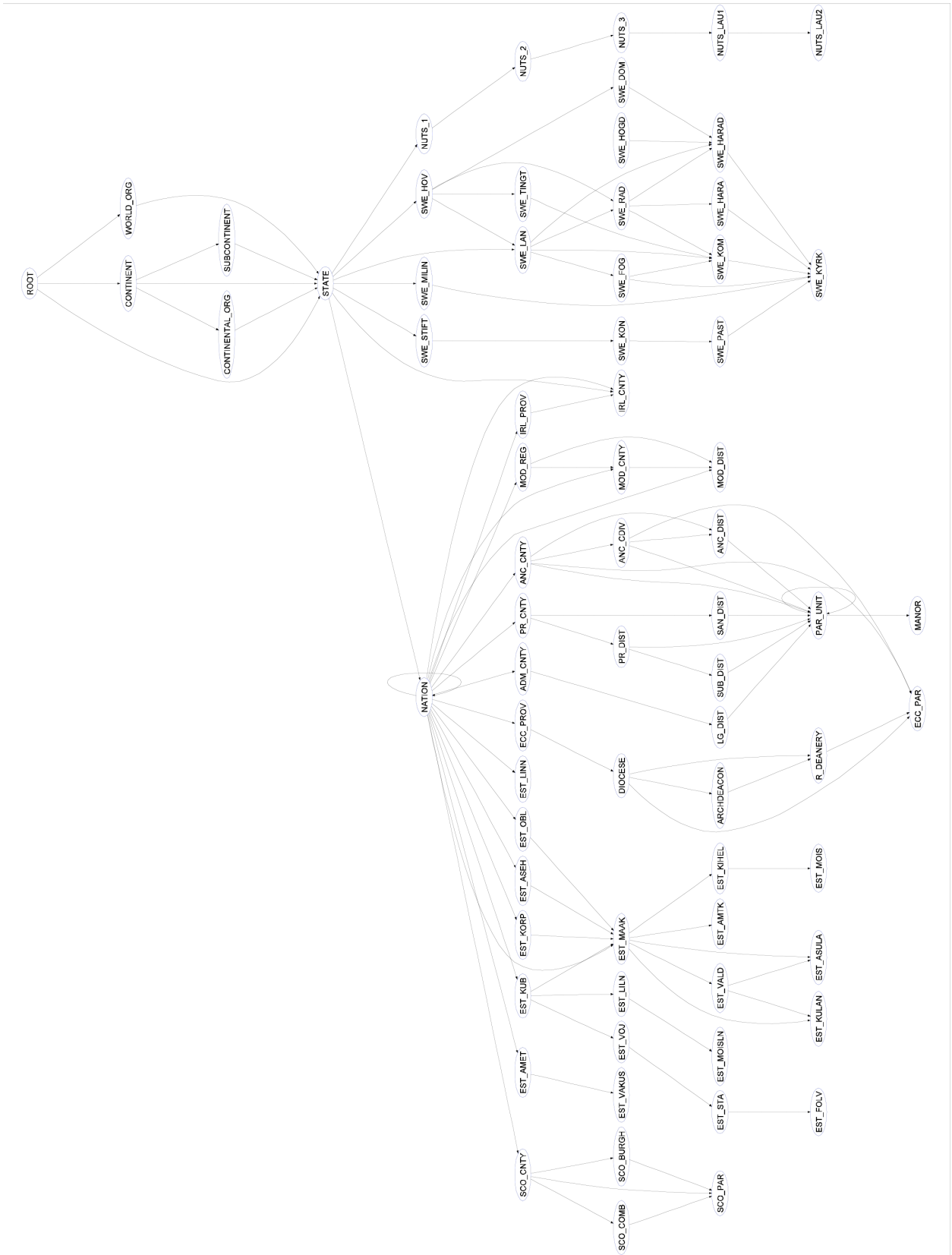


Figure 4: Administrative Unit Type "Is Part Of" relationships diagram.

Below the level of state relationships are much more complicated. There are similarities between countries, each of the three states focused on for QVIZ has both county and parish units, but the definition of those unit types varies between countries. For instance in Great Britain a parish generally covers a reasonably small geographic area and consists of a single village with a church and the immediately surrounding countryside while in Sweden a parish can cover a much greater geographic area and include several villages. This meant that beyond the pre-defined NUTS units generic European sub-state unit types could not be developed. Instead, for each of the three states with detailed information in the QVIZ system, an individual hierarchy of unit types has been created. The comparability between unit types for different countries was made possible within the facetted browser because each unit type is attributed to a unit type level, which helps systematize the data. In this way a parish in Great Britain (PAR_UNIT) is equivalent to a parish or Kyrksocken in Sweden (SWE_KYRK) and a parish or Kihelkond in Estonia (EST_KIHEL). Any number of unit types can be assigned the same unit type level. The following charts illustrate the distribution of administrative units between the unit types at international level and then national level for the three focus states.

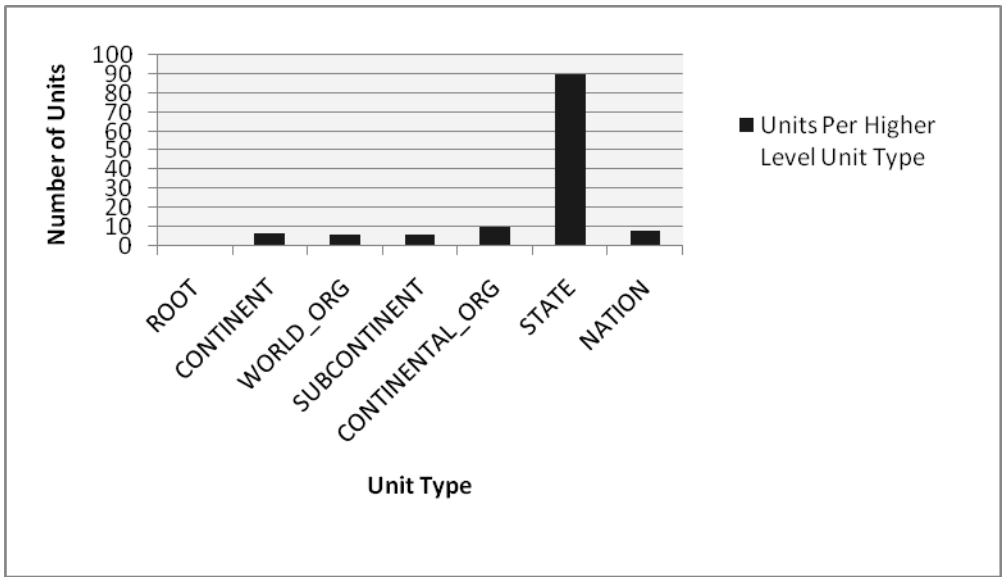


Figure 5: Units per Higher Level Unit Type.

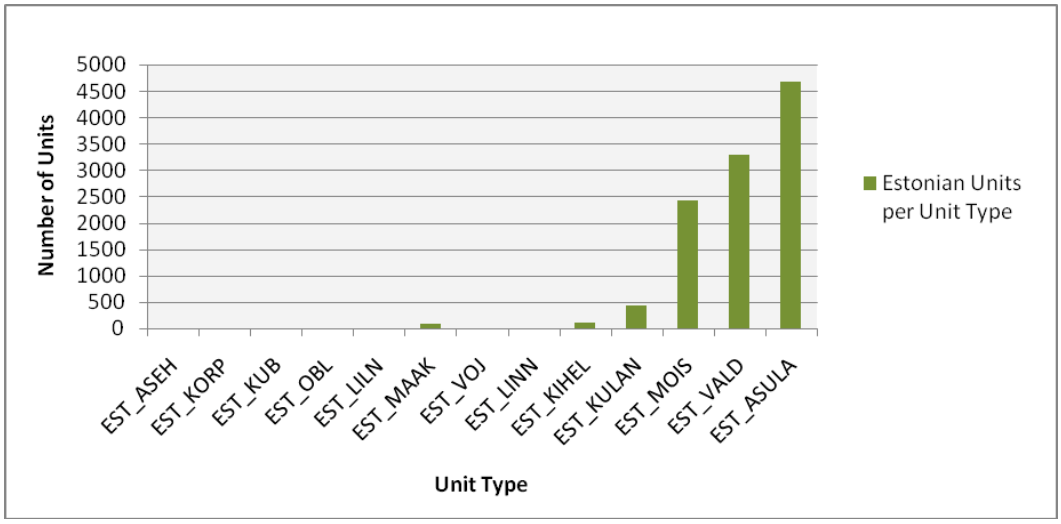


Figure 6: Estonian Units per Unit Type.

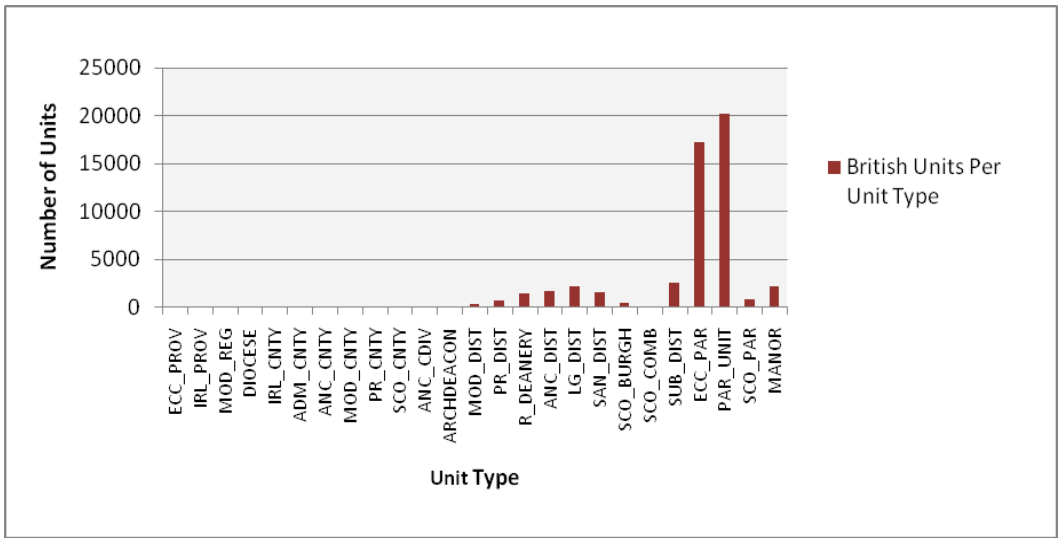


Figure 7: British Units per Unit Type.

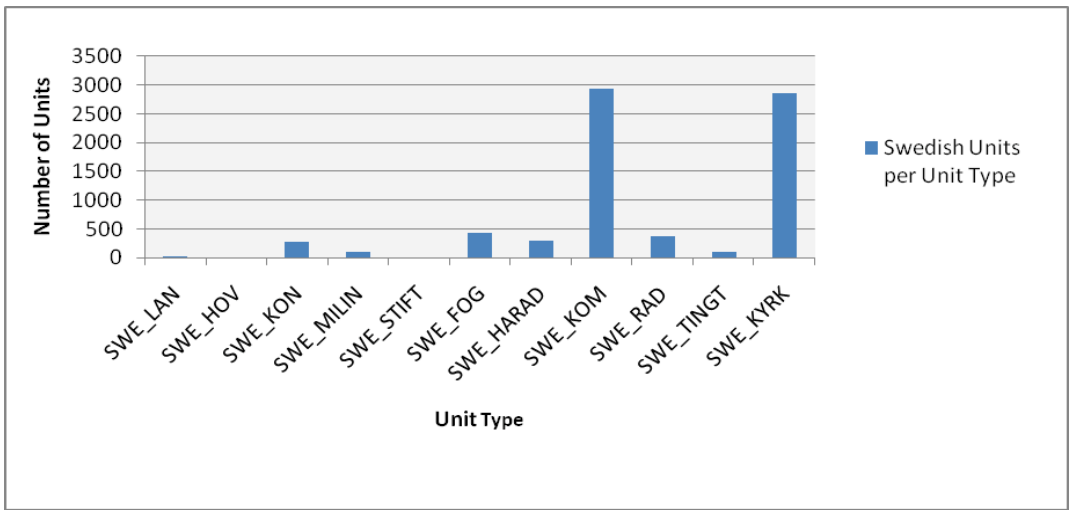


Figure 8: Swedish Units per Unit Type.

Nation has been employed as a mechanism for important relationships. It has been used for an identifiable area that is equivalent to a state but within which the powers of governance have changed over time. For instance Estonia has been an independent republic twice, between 1918 and 1940 and again since 1991. For long periods of time between and before these periods of autonomy some or all of it has been subject to the authority of other states including Sweden, Germany, Russia and the Soviet Union, but was still understood to be 'Estonia' (see Figure 9). Having a Nation of Estonia identified as a single administrative unit also permitted all the lower level units to be connected to a single higher level unit, rather than multiple ones each time the authority of the state changed.

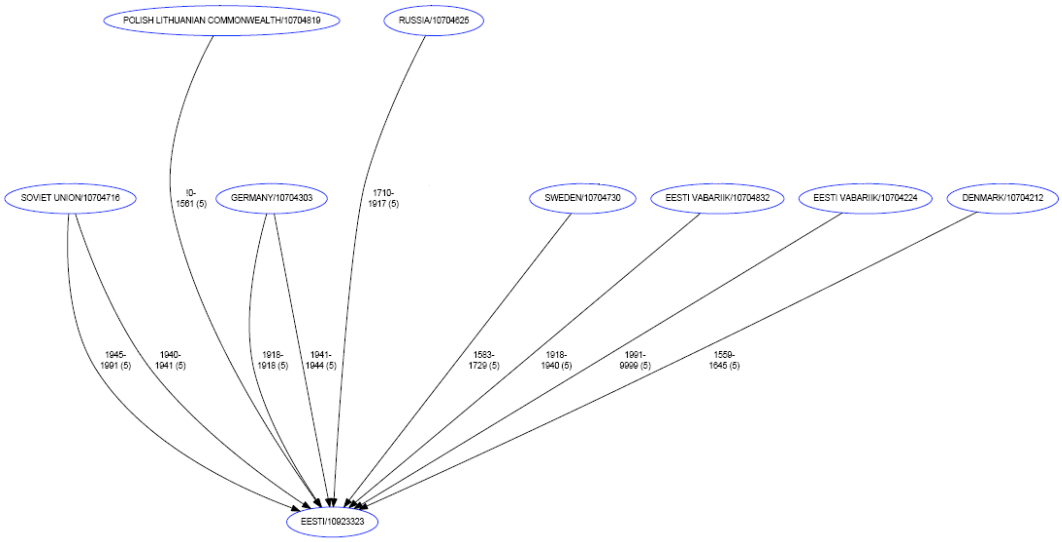


Figure 9: The states with some authority over Estonia showing unit ID number, preferred name, relationship dates, and unit level. Eesti Vabariik is the Republic of Estonia.

2. QVIZ global overview

This section provides a general overview of the main parts of the QVIZ system. The purpose is to give an inexperienced user the ability to interact with all parts of the final prototype of the QVIZ platform. Each QVIZ component will be described in more detail in the following sections of this document.

The QVIZ platform can be accessed from two entry points, namely the Query Visualization Environment and the Collaborative Environment. As both environments are integrated internally, it is possible to use their information simultaneously. The figure below depicts a simplified structure of the QVIZ system from the user's point of view:

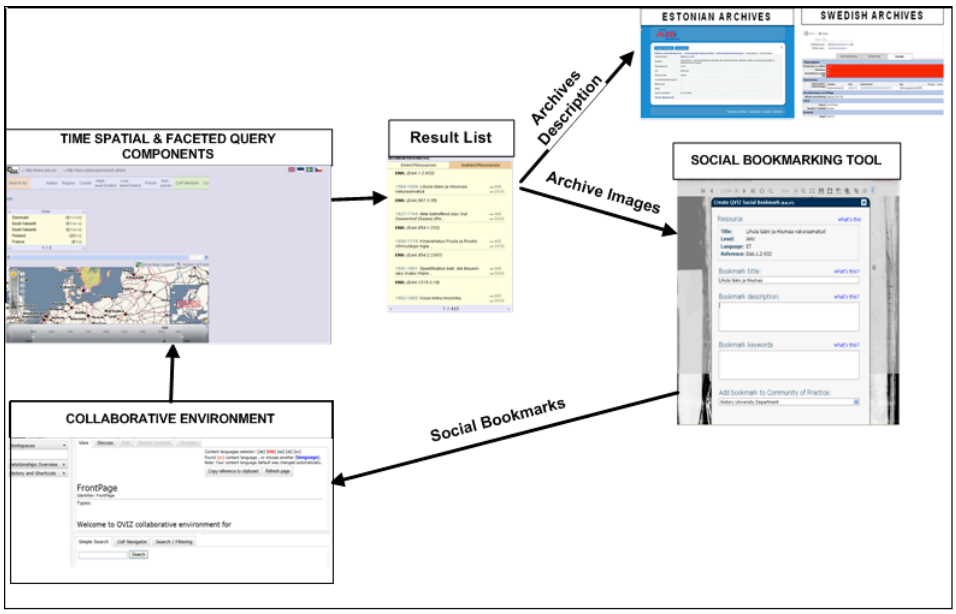


Figure 10: Global view of QVIZ system.

Both the Query Visualization Environment and the Collaborative Environment enhance access to the cultural heritage material from the Swedish National Archives and the National Archives of Estonian. The integration of the social bookmarking tool enables the connection of additional semantic data to resources.

To get started with the QVIZ platform a user has to sign up for a QVIZ account on the main project webpage at http://www.qviz.eu. Once the account has been approved the user can start using the QVIZ platform.

The Query Visualization Environment consists of a faceted browser, with a result list table and contextual information boxes, and a map. By adding, removing and swapping facets users can define their own path of searching for archival resources. By making a selection in the faceted browser or on the map, users can see associated resources displayed in the result list. By changing the time-window or using a result list text filter it is possible to further narrow down the list of resources.

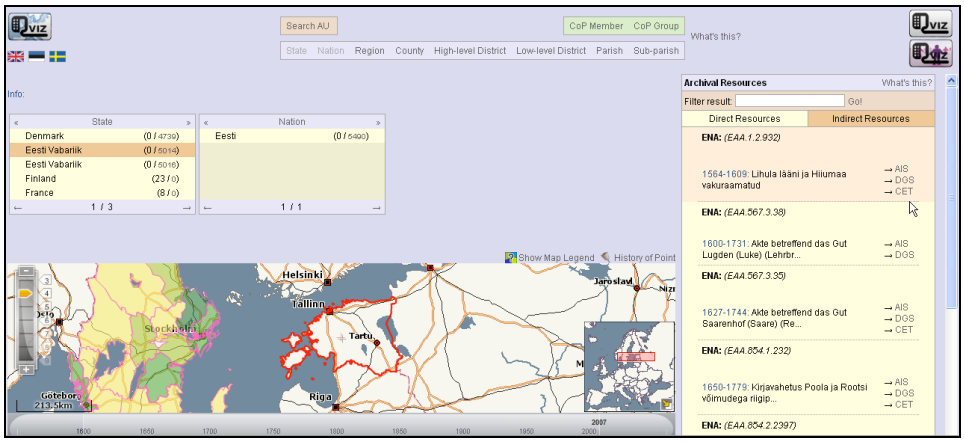


Figure 11: Overview of Query Visualization Environment.

The text filter, which is a convenient way to narrow down the obtained results, searches on all fields of the resource information apart from the resource time period. For an uninitiated user it is, for example, possible to list all resources related to a certain country and search within these results for a particular keyword or phrase appearing in the resource title or resource archive. For a more advanced use, a text search for the archive resource reference can be a direct way to locate a resource. The text filter is shown below as an area with a white text field.

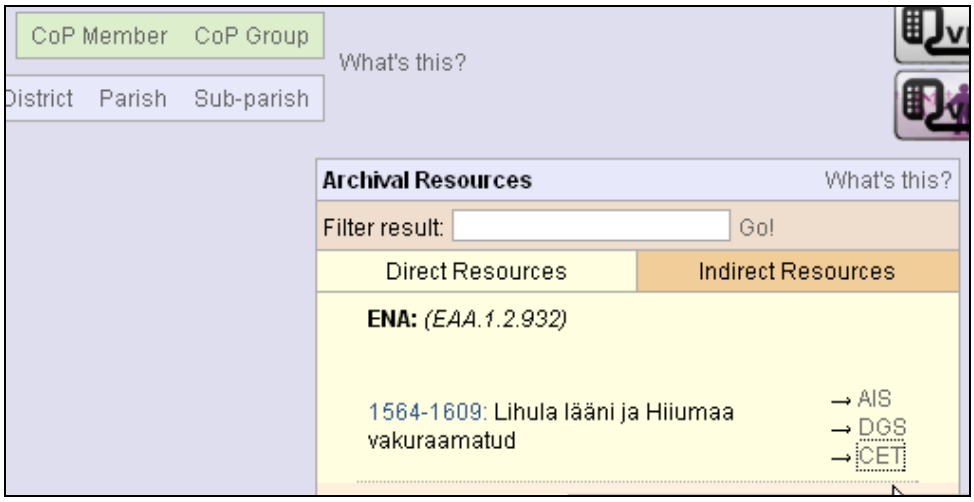


Figure 12: Text Result Filter.

The contextual information boxes show basic Administrative Unit (AU) and AU History information, which is information about the distinct periods of existence and jurisdiction for the selected AU. A user can also search for an AU without the prior knowledge of AU name or time of its existence. The History of Point (HoP) tool facilitates the AU search process by giving users the ability to see the historical borders of all AUs related to a given geographical point. In other words, it is enough for users to know only the approximate spatial information to be able to locate an AU of interest.

By following the links displayed in the result list table, the user can access resources in archive description portals (containing resource descriptions) or archive image portals (containing digitalized materials like scans of images of an archival volume). To access the latter, a QVIZ registration is required as well as a valid user account for the archive in question. Within an archival image portal the

user can select an archival content of interest (usually a specific image) and store a reference to this resource. In QVIZ, this process is called social bookmarking and enables users to add content to the Collaborative Environment (CET). By clicking on the bookmark icon shown below, the social bookmarking window will be displayed where the users can bookmark a resource with its metadata and attach additional information that will be stored in the CET.

Figure 13: Archival Portal – Social Bookmarking access.

After logging out from the archival portal, it is possible to continue to the CET, either by following the link in the social bookmarking window or by clicking an icon displayed in the Query Visualization Environment:

Figure 14: Collaborative Environment Icon.

Furthermore, the link "-> CET" in the result list table of the Query Visualization Environment redirects the user to the CET (see Figure 11), where a list of bookmarks related to the selected resource is displayed.

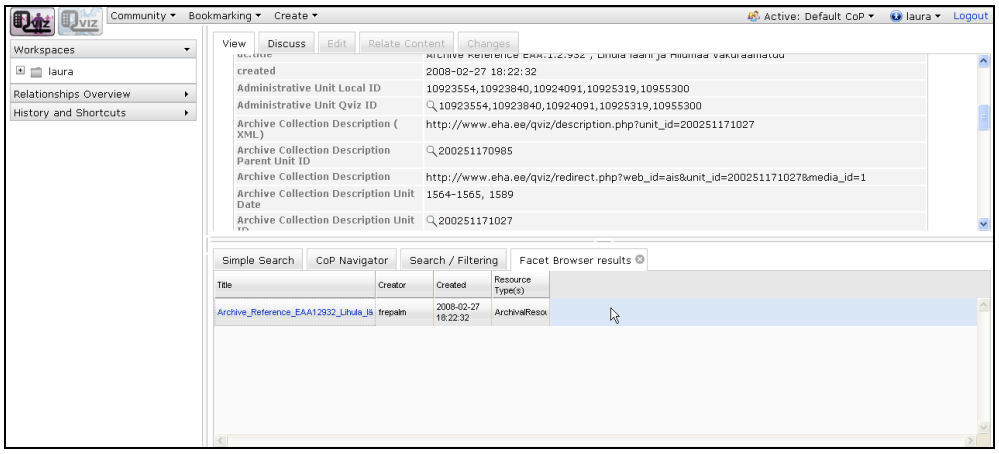


Figure 15: Faceted Browser Results within the Collaborative Environment.

When a user wishes to work directly in the CET, he/she needs to login by entering the valid user name and password. The next figure depicts the CET after the login:

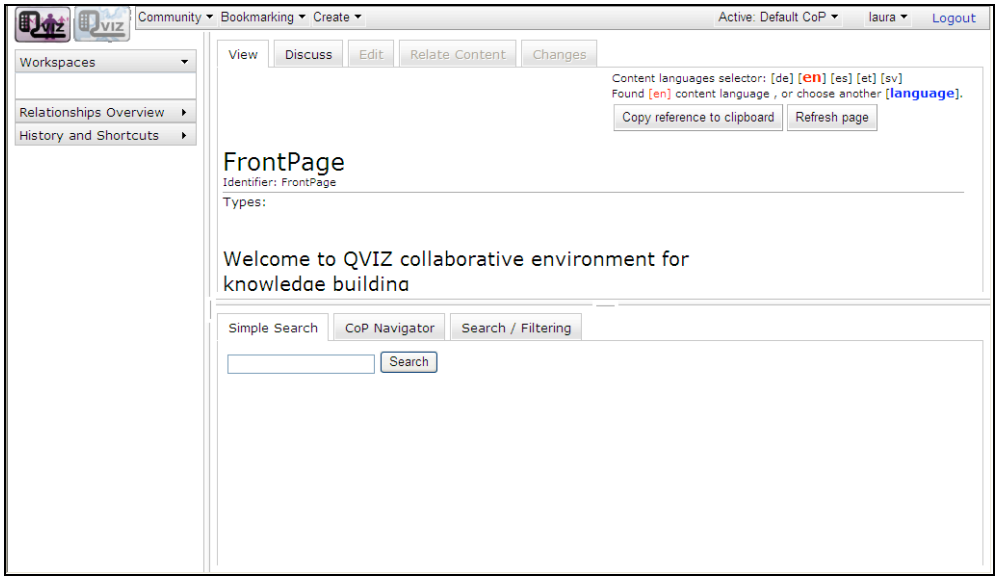


Figure 16: Collaborative Environment Portal.

The CET's main purpose is to provide social knowledge building tools in order to enhance the access to archive resources by using and adding semantic information within a Community of Practice (CoP).

Once the user has been registered as a user of the CET portal and social bookmarking tool, the QVIZ users are managed within CoPs, which are groups that collaborate within this social environment. In the CET, a user can share knowledge and create social content that will be beneficiary for a group of people with similar interests, and assist other users by sharing their experiences or other collected knowledge.

By default the users belong to a Default CoP, which is a community shared by all users. The user can also create new communities or join existing ones. These actions are performed by using the Communities option in the toolbar at the top of the window or the contextual menus within the CoP navigator tab.

The main page of the CET consists of four distinct parts: the workspace, navigational area, the content area and the result list tables.

Following a predefined workflow in the scenario description, once the user has used the social bookmarking tool, users can access their personal workspace area as well as the workspaces of the communities the user belongs to and organize their bookmarks within collections. These collections can be increased further by the CoPs experience, since the bookmarks already stored in the QVIZ system are searchable using the result/list tools. The Contextual menus are implemented to copy and paste the references within the desired folder to be able to take part of the users collections.

Bookmarks are shown in the content area along with the additional metadata associated to the resource. Furthermore, a link to the archival resource is stored in order to enable direct access to the digital material.

Another important aspect to take into account within the CET is how to show resource relationships within the knowledge base. From the drop-down menu a user can select the archival social bookmarks, and then view the bookmark data, the resource description and a list of all bookmarks for this resource description.

Figure 17: Social Bookmark description.

The same information can be displayed by selecting a bookmark in the search list table.

The social bookmark information also includes archive resource description metadata, which is collected from the archives. These data include collection Ids, reference codes and administrative unit IDs - information that can be useful to users who are more familiar with the archive systems.

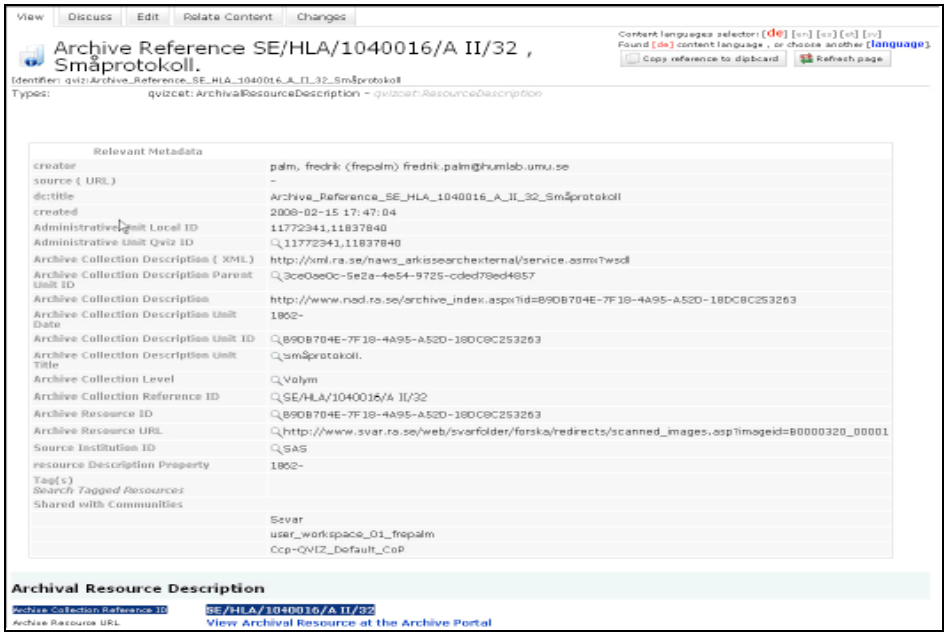


Figure 18: Archival Reference Description.

By simply clicking on the link to the archival portal, the user can view the digitalized pages that have been bookmarked previously.

There is also a possibility for the users to create their own "semantics" for a particular resource. To do this, the users have to open the archive resource portal link and make their own bookmark, where the users can edit and add relation descriptions for that resource.

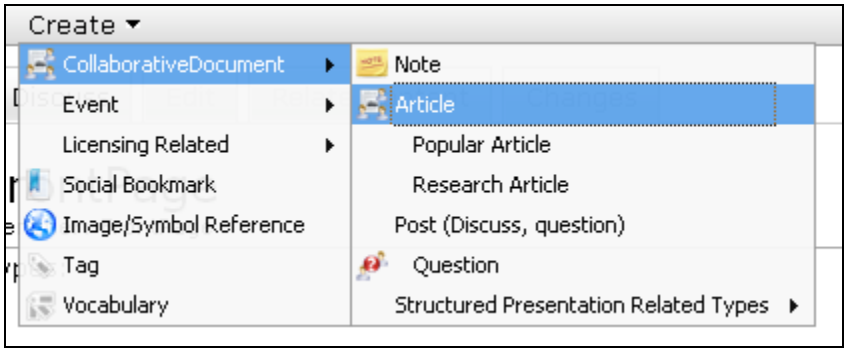


Figure 19: Create content.

Finally, the user can create content by selecting one of the items shown in Figure 19 above. This action is performed in a WYSIWYG (What you see Is What You Get) Wiki Link Builder editor. This editor also supports the insertion of Wiki Links to other resources within the CET.

If users want to go back to the Query Visualization Environment to continue with new searches using the faceted browser or the map, they can use the icon in the upper left corner of the CET.

The QVIZ platform provides the users with an added value over the current portals by integrating innovative services with the time-spatial based resource searching and by encouraging collaborative work amongst users.

3. User Manual for the Time-Spatial Component

The QVIZ time-spatial interface is a map service where the user can view and search historical administrative units and archival documents related to these units. The time-spatial interface consists of a set of interrelated tools including a faceted query component (FQC), a map, a time-bar, a result list and a contextual area (Fig. 23). This section will explain in further detail how to use the time spatial component and its different components. The guide is intended to help users understand how to search within the archival resources in an efficient way by using a faceted browser.

3.1 Faceted Query Component (FQC)

3.1.1 Introduction

This User Guide describes the main features and functionalities of Prototype 2b of the Faceted Query Component from the users perspective. It should help users understand how to search for archival resources using the faceted browser.

3.1.2 Faceted Browsing

The FQC is an integral part of the QVIZ environment. It is meant to be a convenient starting point for users searching for archive resources and/or their volumes. The FQC consolidates different types of data associated with archive resources into logical groups or topics. It comprises a set of so called facets each containing a list of terms related to a particular topic. For example, a facet called *Countries* would have individual countries listed as its facet terms because it is natural to search for archive resources by country of origin. Identification of common characteristics of data objects of interest, in our case references to archive volumes, is called faceted classification. Many mutually exclusive characteristics correspond to many different views, or facets, of the data objects at hand. Browsing a faceted classification system using facets provides the users with a tool to choose the order in which the archive data are explored and presented.

3.1.3 Facet Types

As mentioned before, the QVIZ system stores only the *archive volume references*, i.e. the references to specific volumes of documents found in archives, but for the purpose of this manual we will refer to them more generally as archive resources or simply resources. For a resource to be stored in QVIZ, information about both place and time of origin (i.e. time-spatial information) must be available. In other words, resources found in QVIZ should always belong to a specific Administrative Unit (AU) and also cover a specific time period. AUs therefore form a natural set of facets suitable for browsing the Administrative Unit Ontology (AUO) hierarchy. In QVIZ, these facets are called *AUO facets* as opposed to *non-AUO facets*, which allow browsing of resource characteristics not related to the AUO hierarchy (e.g. information about who bookmarked a certain resource). Moreover, the time aspect of archive resources is browsable using Time window slider in the Time-Spatial component. It is possible to think of the Time

window as the highest priority facet filtering both AUs and resources. Finally, a special purpose facet for searching AU names called *Search AU* is also available.

Here is a short list of the currently available facet types:

- AUO facets: The AUO facets allow users to browse the AUO hierarchy. Selections in the AUO facets always filter facet terms only (e.g. a list of AUs), not the resource counts shown in parenthesis. In QVIZ there exist 13 levels of AUO facets. Only some levels are applicable for each country. For more information regarding individual countries please refer to the section "QVIZ Data Content".
- Non-AUO facets: The non-AUO facets allow users to browse over classifications that are not related to AUO hierarchy data. Usually these are additional information about archive resources, social objects or any data added in the CET. Selections in the non-AUO facets filter both the facet terms (e.g. a list of AUs) and the resource counts (see figure below).

  For P2b the following non-AUO facets exist:

  - CoP Member: Facet containing CoP members that made a bookmark of a specific archive resource (usually a scanned image) in a given archive volume;
  - CoP Group: Facet containing CoP groups that made a bookmark of a specific archive resource (usually a scanned image) in a given archive volume.
- Search AU facet: The Search AU facet allow users to search all available AU names in different languages. The functionality in terms of filtering is the same as for the AUO facets.

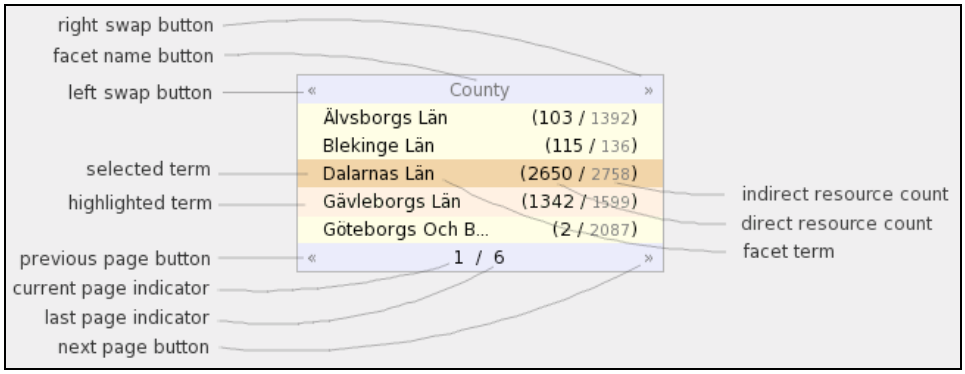


Figure 20: County facet.

Please note that the indirect resource counts are currently static and represent the maximum number of available indirectly related resources.

3.1.4 Result List

Result List is a table where a list of archive resources (more specifically archive volume reference) is displayed based on selections made in the faceted browser. The list of resources can be narrowed down further by using a *text filter*, which is

displayed as an input line on top of the Result List box. The filter searches all data fields apart from the resource period (i.e. resource archive, resource reference, resource title) related to a given resource for a substring supplied by the user. Right below the text filter tool is a Result List switch bar allowing users to switch between directly and indirectly related resources. In the body of the Result List the following information is displayed (see also Figure 21 below):

- Resource archive: Consisting of a national archive abbreviation (e.g. SAS for State Archive of Sweden, or ENA for Estonian National Archive) and archive of origin;
- Resource reference: Consisting of a reference code specific to a given archive;
- Resource period and title;
- Links to archive portals or the CET: Consisting of web references to specific places in archive portals or the Collaborative Environment (CET) related to a given archive volume.

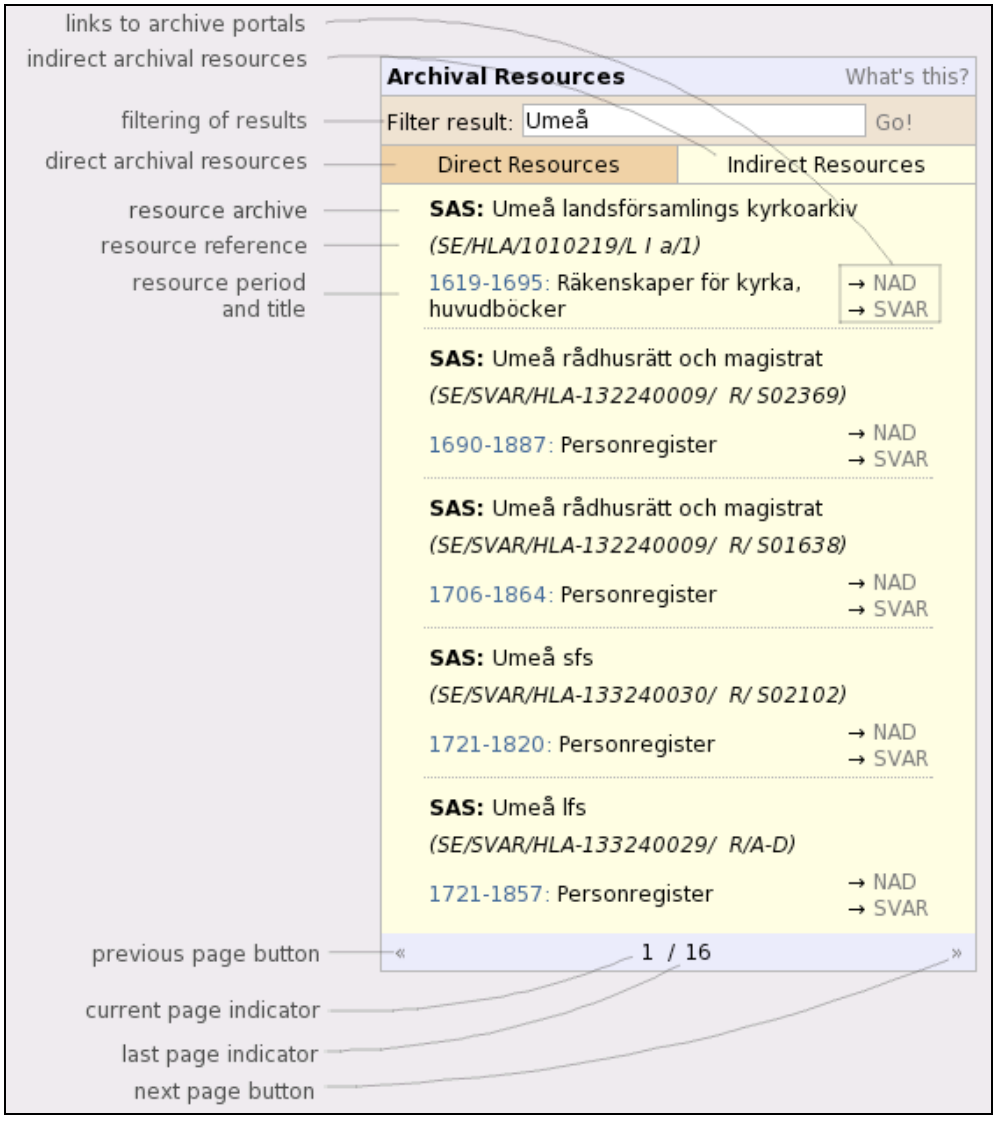


Figure 21: Result list.

3.1.5 Contextual Information

The Contextual Area helps users see additional information related to the currently selected term in a facet. If an AU in an AUO facet was selected, the Contextual Area displays the following information (see also Figure 22 below):

- AU information: Consisting of AU names (in multiple languages if available), AU type and AU existence period. If the start year is missing, it is an indication that the beginning of the AU existence is unspecified. Missing end year indicates that the AU existence continues until the present date.
- AU History: Consisting of a list of AU hierarchies for distinct historical periods of an AU existence.

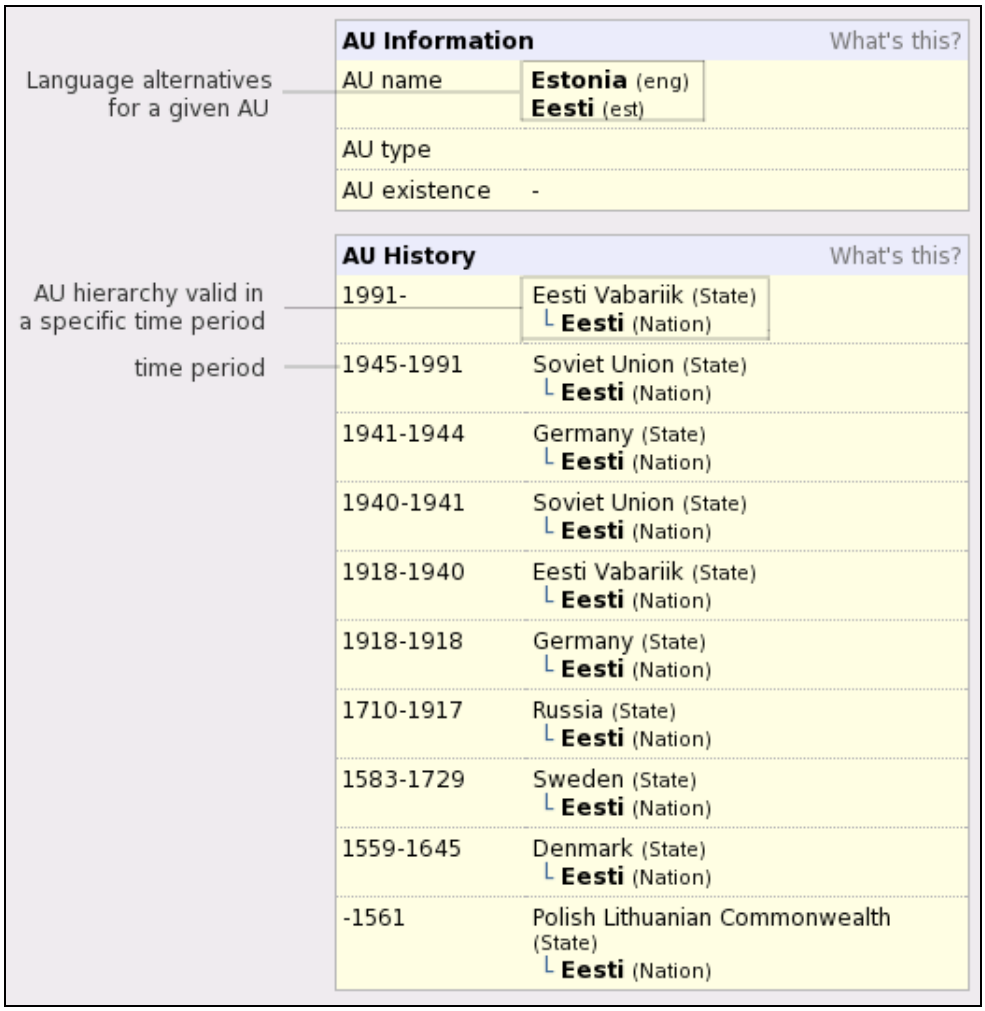


Figure 22: AU Contextual window.

3.1.6 Page layout

The following figure gives an overview of the QVIZ user interface layout and describes its main user interface areas.

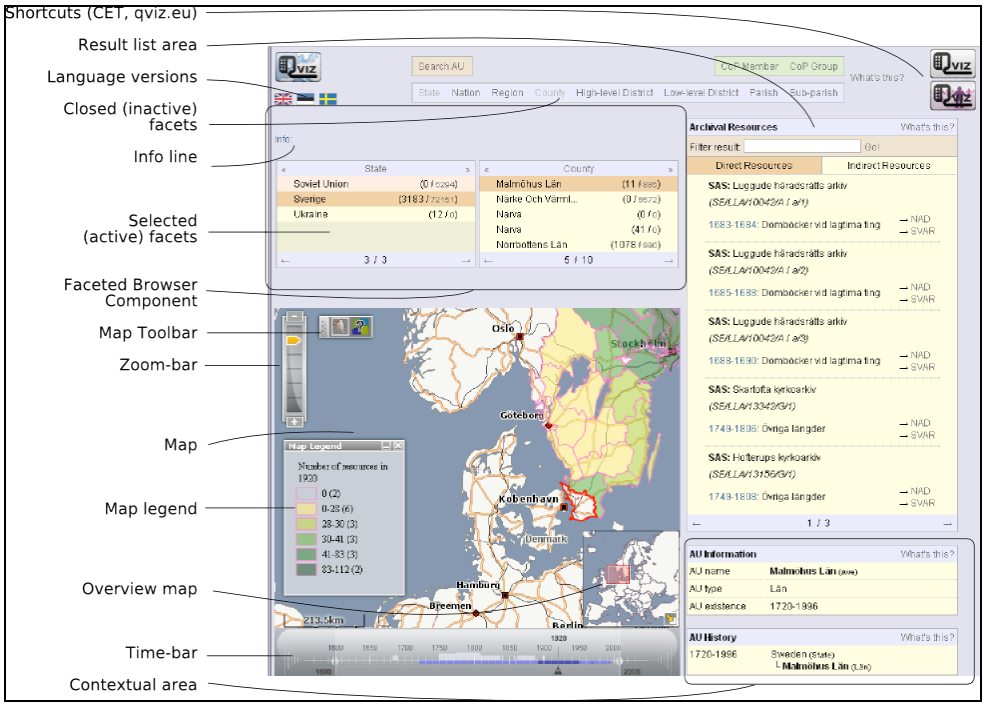


Figure 23: Layout of the time-spatial interface.

- Inactive Facets: Located on the top of the page, the Inactive Facets list displays all facets available for browsing of archive resources.
- Active Facets: Located between the Time-Spatial component (Map and Time bar) and the Inactive Facets list, the Active Facets allow the actual browsing of the archive resources.
- Result List Area: Located in the upper right part of the QVIZ user interface. Its purpose is to present users with a list of archive resources related to the selections made in the faceted browser.
- Contextual Area: Located in the lower right part of the QVIZ user interface. Its purpose is to present users with additional information about selections made in the faceted browser.
- Language versions: Located in the upper left corner of the QVIZ user interface. A user can choose among several language versions of the webpage interface by clicking on the appropriate national flag. Note that changing the language version does not have any effect on the data content shown in facets, the Result List and the Contextual Area.
- Info line: Located right above Active Facets in the FQC. It provides the users with various status information related to their actions made in the QVIZ user interface.
- Map: The map, showing spatial information.
- Time-bar: The time-bar can filter information based on time period.
- Zoom-bar: Its purpose is to change the map's scale factor
- Overview map: Its purpose is to show a wider geographical context. The overview map is also a navigation tool.

- Map toolbar: There are two buttons for activating the History of Point tool or opening/closing the Map Legend window.
- Map legend: The Map legend explains the thematic coloring of the map – each color corresponds to a specific range of resources related to the administrative units.
- Shortcuts: Clicking on the images will direct the user to the CET or to the QVIZ official homepage (www.qviz.eu).

3.1.7 Features and functionalities

This section describes features and functionalities of facets and the Result List and all available actions a user can perform.

Facets

- Add an arbitrary facet from the list of Inactive Facets by clicking on the facet name button. The selected facet is moved to the first free position in a list of Active Facets. If the facet is the only one in the list of Active Facets, it is automatically populated with all the available data related to that facet. Facet terms are sorted in English alphabetical order.
- Remove an arbitrary facet from the list of Active Facets by clicking on the facet name button. The selected facet is moved back to the list of Inactive Facets. If the removed facet contained a selection, the content of all facets to the right of the removed one is erased. If the removed facet is the first one, the list of facets shifts to the left and the new first facet is automatically populated with data.
- Swap two adjacent facets by clicking on left or right swap buttons (« and ») in the upper corners of active facets. This operation allows users to alter the order in which facets are displayed. The content of all facets to the right of the swapped ones is erased. If the swap includes the first facet, the data are automatically loaded into the new first facet.
- Page through the facet content by clicking on previous page or next page buttons (← and →) in the lower corners of active facets. This operation loads the previous or the next page of a facet. If the previous page button is used on the first page, the current page wraps around to the last page. If the next page button is used on the last page, the current page wraps around to the first page. Any previous selections and content of all facets to the right of the one where the paging occurs are erased. For consistency reasons, The Result List and Contextual Area are removed. The information about the current page and the last page are displayed in the middle of the page bar.
- Browse information in facets by clicking on individual facet terms. A click in the current facet initiates a series of actions:
    a. New content of all facets to the right of the current facet is loaded. If the current facet was an AUO facet, then the newly loaded facet terms are filtered based on this selection and the resource counts do not change. If the current facet was a non-AUO facet, then both the facet term and the resource count filters will be applied. If a selection in a non-AUO facet occurred, all facets to the right of this non-AUO facet will display a) both direct and indirect AUs

of bookmarks related to the selected term, and b) only one *mixed* resource count for each term. This count specifies the number of result list resources (i.e. archive volumes) with at least one bookmarked archive resource (usually a scanned image) both directly and indirectly connected to the current AUO level (for AUO-facets) or the current non-AUO facet term (for non-AUO facets). Facet terms in all facets are sorted in English alphabetical order.

b. AU Information and AU History data related to the selected facet term are displayed in the Contextual Area.
c. A list of resources related to the currently selected facet term is displayed in the Result List Area. Since resources can either be directly or indirectly (through one or more lower-level AUs) related to the selected AU, we display the directly and indirectly related resources in separate result list tabs (see "Direct Resources" and "Indirect Resources" tabbing buttons). Both types are sorted in English alphabetical order. For *mixed* resource counts (see section a) above) the "Indirect Resources" tabbing button is disabled.
d. If the current facet was an AUO facet, the map zooms in or out onto the selected AU and highlights its border using a red color.

- Search AU names using *Search AU* facet. The Search AU facet can be browsed using paging or searched for a name using a text input field next to the facet's heading. Pressing "Enter" key or "Go!" initiates the search. The other functionalities are the same as for the AUO facets (see Browse above).

Result List

- Visit an archive web portal or the Collaborative Environment (CET) by clicking on one of the resource reference links. A new window opens for the selected archive portal or the CET and the user is redirected to a place relevant for the selected resource reference link.
- Page through the result list content by clicking on previous page or next page buttons (← and →) in the lower corners of the result list. This operation loads the previous or the next page of result list. If the previous page button is used on the first page, the current page wraps around to the last page. If the next page button is used on the last page, the current page wraps around to the first page. The information about the current page and the last page are displayed in the middle of the page bar.
- Filter resources using a text filter tool. Users can search for the resource archive, resource reference and resource title.
- Switch between directly and indirectly connected resources using tabbing buttons "Direct Resources" and "Indirect Resources". The number of resources for both resource types is shown in the selected facet term.

3.1.8 QVIZ Data Content

The following table summarizes numbers of resources for the different national archives.

Table 1: Number of resources for the AUO.

Archive	Resources
Estonian National Archive (ENA)	5.490
State Archive of Sweden (SAS)	70.156

Administrative Units create a natural hierarchy of relations. In QVIZ each level of the hierarchy has assigned a code and the corresponding level. There are 13 possible levels in a general Administrative Unit Ontology (AUO) covering the whole world. However, in each country only certain levels are used and of those only some have AUs with associated archive volumes. The following table gives an up-to-date overview of the AU types and their representation in the current content of the QVIZ system.

Table 2: AU Types for the current QVIZ content.

AU type code	AU type level	AU type name	Number of AUs
STATE	4		13
NATION	5		1
EST_ASEH	6	Asehaldurkond	2
EST_KORP	6	Korpuse Distrikt	2
EST_KUB	6	Kubermang	10
EST_OBL	6	Oblast	3
EST_LILN	7	Linnuselään	7
EST_MAAK	7	Maakond	83
EST_VOJ	7	Vojevoodkond	4
SWE_LAN	7	Län	30
SWE_HOV	8	Hovrätt	6
SWE_KON	8	Kontrakt	269
SWE_MILIN	8	Militär Indelning	107
SWE_STIFT	8	Stift	13
EST_LINN	9	Linn	7
SWE_FOG	10	Fögderi	442
SWE_HARAD	10	Härad	292

SWE_KOM	10	Kommun	2934
SWE_RAD	10	Rådhusrätt	345
SWE_TINGT	10	Tingsrätt	110
EST_KIHEL	11	Kihelkond	114
EST_VALD	11	Vald	878
SWE_KYRK	11	Kyrksocken	2853
EST_ASULA	12	Asula	4673
EST_KULAN	12	Külanõukogu	428
EST_MOIS	12	Mõis	2425

3.2 Map related tools and time-bar

3.2.1 Introduction

The map related tools consist of two core components – the map and the time-bar. The map legend is considered as a subcomponent of the map. The purpose of the Time-Spatial Client (TSC) includes visualizing and filtering query results made in the system and to provide other Internet GIS capabilities.

Map related tools are:

1. Map component
2. Time-bar
3. Map legend
4. History of point tool

3.2.2 Map component

The aims of the map component are:

1) Visualization and navigation of administrative ontology
2) Visualization of query results as thematic maps

The Map component is based on the *Macromedia Flash 7.0* software that is a widespread platform for creating web applications. The Map component can handle both raster and vector graphics. Raster images in the background are normally used as a base map while the vector graphics in the foreground present the thematic information such as points of interests etc. The Flash map client loads raster images from the map server and vector data in XML format from a database server. Vector and raster data are combined in the end user's browser.

3.2.3 Navigating in map

To zoom in or out, do one of the following:

- Click on the zoom-bar steps or drag its slider.
- Press the "+", "PgUp" keys or simultaneously the up and down arrows on the keyboard to zoom in. Press the "-", PgDn" keys or the left and right arrows simultaneously on the keyboard to zoom out.
- Scroll the mouse wheel forwards to zoom in or scroll it backwards to zoom out.
- Double-click on the map to zoom in one step.

Note: Different administrative unit types are displayed at different zoom ranges. If you zoom in on the map, the lower level units will be appear, higher level units disappear and vice versa. There are always 2 levels presented on the map: the thematic layer units (colored areas) and its parent units (thicker borders). For example: manors and counties, or counties and states are displayed at the same time on the map.

To pan (move the map), do one of the following:

- Click and drag the map.
- Drag and drop the current map box or location marker on the overview map

- Press the up arrow on your keyboard to move north
- Press the down arrow on your keyboard to move south
- Press the right arrow on your keyboard to move east
- Press the left arrow on your keyboard to move west
- Press the up and the right arrow simultaneously to move northeast etc.

3.2.4 Select an administrative unit from map

To select an administrative unit from the map, click on the thematically colored areas in the map window. The result list and context area will be updated with relevant information about the selected unit. The map centers on the selected unit and highlights the unit with red borders. The period of existence of the selected unit is also reflected in the time-bar.

3.2.5 View the map legend

The number of archival documents related to the administrative units is expressed by thematic coloring on the map. The map legend window shows which range of resources each color corresponds to (Fig. 24). The number in brackets shows the count of administrative units on the map, which belong to certain class.

- To view the explanation of the thematic coloring, click on the map legend button  on the map toolbar.

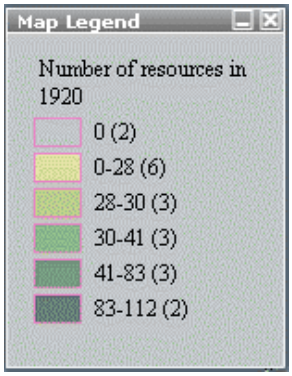


Figure 24: Map legend.

3.2.6 Changing map time and selecting period of interest using time-bar

The time-bar lets the user choose the period of interest (time window) and change the time frame of the map. The period of interest helps the user filter the values in the faceted browser and in different result lists.

- To define a period of interest, drag the time window sliders to the start and the end year of the period.
- To define the current map time, drag the map time slider. The border situation and thematic coloring changes accordingly.

Information given by time-bar:
The time-bar gives the user additional information about the selected administrative unit (Fig. 25):

- An amplitude chart shows the temporal distribution of the archival resources related to that unit.
- The border change bar gives the user an overview about the border changes of the selected unit – each change in color reflects a border change.

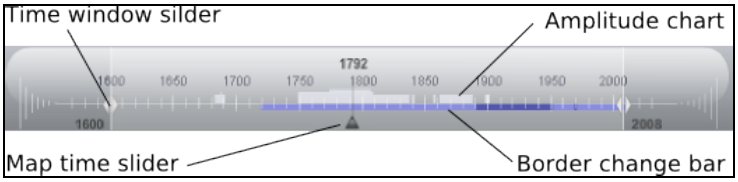


Figure 25: Time-bar chart and border change bar.

3.2.7 View the administrative history of a location (point)

To view the administrative history of a location, choose the History of Point tool  on the map tool-bar and click on the map. The red marker is drawn on the map and the list of the administrative unit history for the location is displayed in the right section of the page.

The History of Point tool lists (Fig. 26) the administrative units and their respective border changes, which intersect with the selected location and fit in the selected time window.

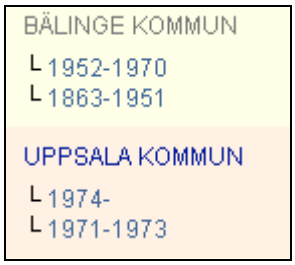


Figure 26: History of the point list.

- Click on the year numbers to center the map to the polygon.
- Click on the name of the administrative unit to close the history of the point list and select the administrative unit.

4. User Manual for the Archive Tools and Bookmarking Form

4.1 Introduction

This section contains a detailed description of how to use the social bookmarking tool within the archive portals. The social bookmarking software is a client tool loaded from the QVIZ platform that enables bookmarking of the archive resources selected by the user, facilitating the linking of archival resources in the QVIZ collaborative environment. These bookmarks are based on re-using the experiences of the users, and will collect the context associated to the resources to further the descriptions and annotations from the user.

The social bookmarking tool is displayed from the archives portals. In order to integrate this QVIZ tool into the archival environment the following software needs to be running internally within the archives' portal:

- Services that support the social bookmarking tool in order to perform meta-data lookup function.
- Integrated access to the tool within the portals.

The changes made to the social bookmarking user interface during the development of the final prototype were mainly aesthetical. (e.g. the icon for accessing the tool). Even though additional features have been included to access the created bookmarks in several manners (e.g. bookmarks used as facets), the system procedure for creating the bookmarks has been maintained.

On the whole, the bookmarking tool has been designed to be used in an easy and intuitive way. Basically the procedure to create social bookmarks consists of filling out a form with the assistance of the archival information retrieved. The next section provides an overview of the general bookmarking tool and the user interface operations required to handle this bookmarking functionality.

4.2 Social Bookmarking

This section describes the workflow to reach the social bookmarking tool from one of the entry points of the QVIZ platform (Query Visualization Environment), and then, how the QVIZ user can access the bookmarks already created.

The users access the Query Visualization Environment portal with the main purpose of finding archives resources. They use the faceted query and dynamic map component within the Query Visualization Environment portal to filter and display the results of the searches towards the selection of one archival resource. As a result of the time and spatial selection the result list table will be displayed.

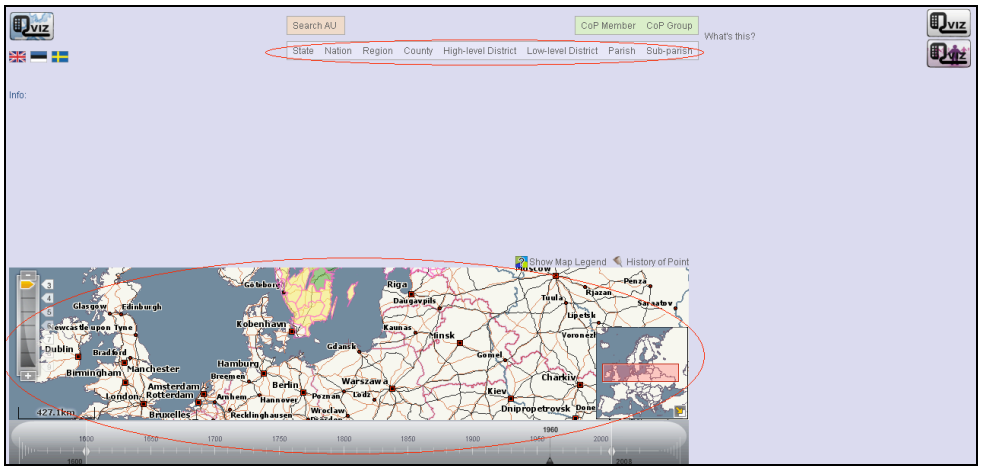


Figure 27: Query Visualization Environment towards the Result List display

The result list displays the list of resources associated to the time spatial context filtered by the user. To enter in the archive portals in order to view the digital material, the links “SVAR” or “DGS” have to be selected to access the Swedish or Estonian Archives respectively. The archive portals support the viewing of the digitalized documents and provide several functions, such as zoom in and out, save etc.

The archives accessibility depends on the final selection of the user. To view the descriptive information about the resource, by selecting the links “NAD” or “AIS”, the user is not required to login to the archives portal, whereas the access to digitalized document requires registration and in some cases a paid subscription. The figures below shows the result lists where the links to the archives are displayed:

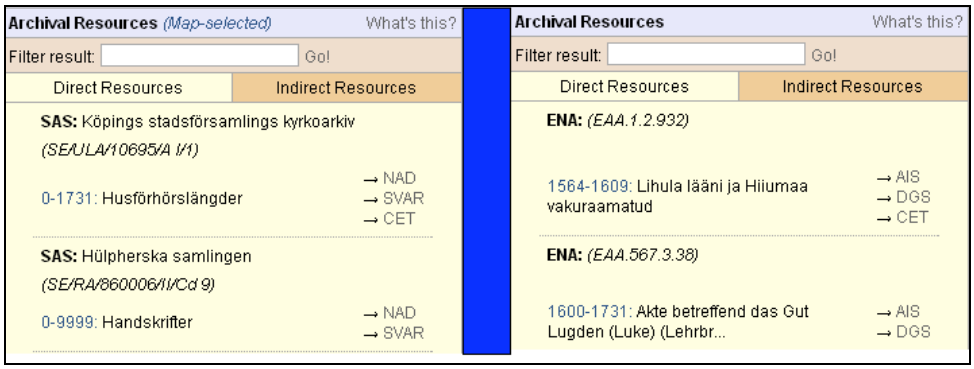


Figure 28: Result lists with links to the Archive Portals

More tools related to the document manipulation are available in the archive portals top bar, the QVIZ bookmarking tool is one of them. When the user clicks on the bookmarking icon the bookmarking client component is displayed.

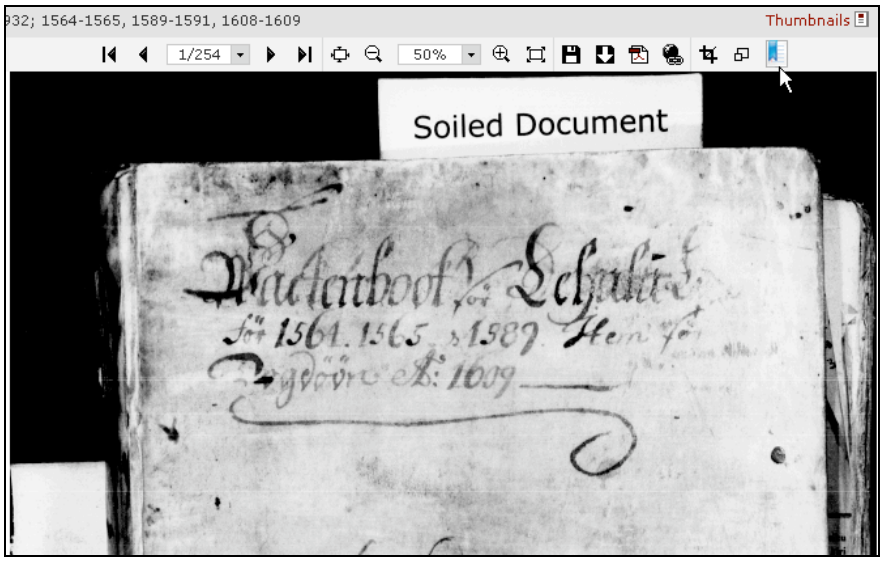


Figure 29: Social Bookmarking icon (by the cursor)

Note that the available the top menu bar, which is depicted in the previous figure, will allow the user to move through different pages and then to bookmark not only the whole volume, but also, specific pages. To accomplish this task, the user first has to select the page desired and then click on the bookmarking icon.

To open the bookmarking form, the user has to login using the collaborative environment authentication, user and password.

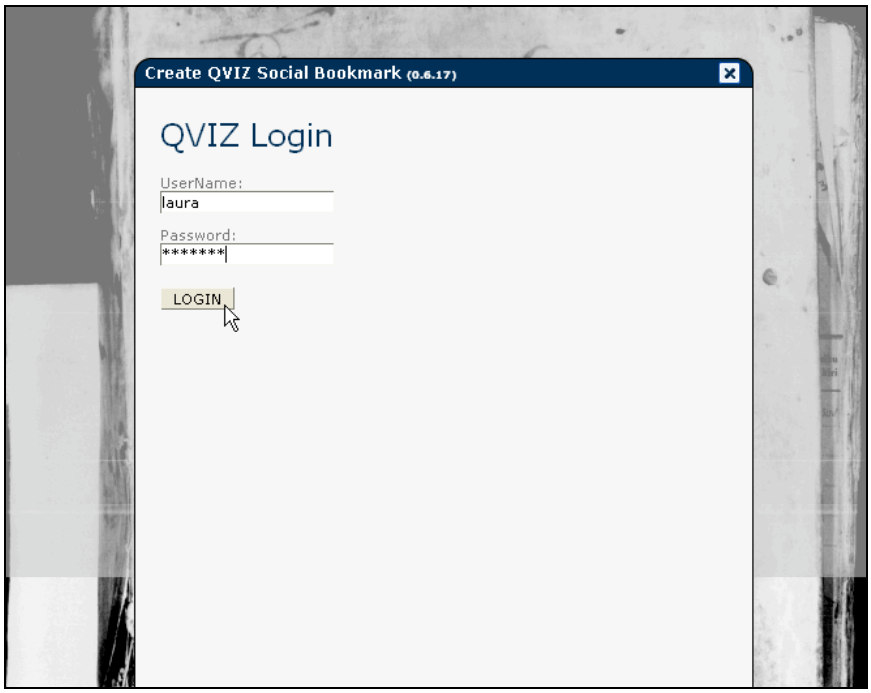


Figure 30: Collaborative Environment login window within Social Bookmarking process

The next figure depicts the social bookmarking window, which is mainly divided into two parts, one informative chart displaying the archival information, and a part with text boxes for adding further semantic annotations to the resource data already stored in QVIZ system.

The services implemented by the archives connect and synchronize with the QVIZ servers, thus the data related to the archival resource is displayed to the users.

This automated recovery of the archival data facilitates the bookmarking process, by displaying the most important information about the resource selected. Here is a short description of the parameters displayed in the top chart of the social bookmarking window:

- Title: The title is one of the most relevant information provided to the user; and corresponds to the title stored within the archive's systems.
- Language: This text corresponds to the language of the resources, it is based on the ISO 639-1 standard (2-letter code for each language).
- Level: This level corresponds to the level stored in the QVIZ system. Later on, the system might also provide a mapping with the archive level.
- Reference: This id represents the reference archival code used for the archive's internal organization. This parameter can be useful to users who are familiar with the archives system organization, besides providing indirect information about the archive institution and the archival level, which it belongs to.

Here is a short description of the additional information entered by the user that increases the relation properties of the resources:

- Bookmark title: This text will be used as the bookmarks' identifier.
- Bookmark description: These additional annotations will be useful to the user to provide a higher level of detail of the resource context.
- Bookmark keywords: The keywords will be used to make better associations between the bookmarks and the resources.
- Selection of Community of Practice: In this menu, the user can select between the communities of practices that the user is a member of.

To submit the social bookmark, the user presses the Create button.

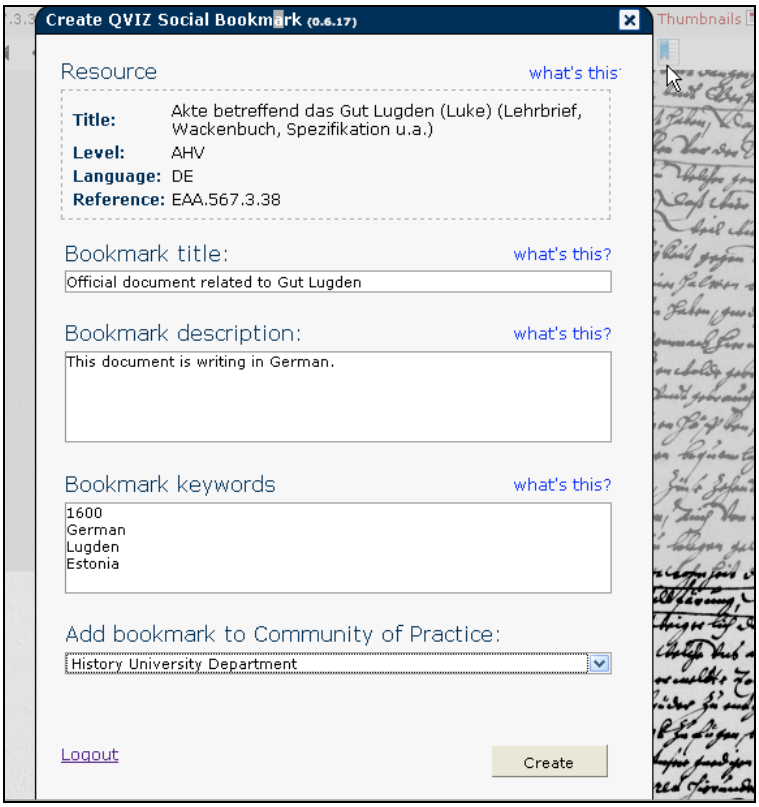


Figure 31: Social Bookmarking Window

To exit the bookmarking function, the user clicks on the *Logout* link. The user is then directed to a logout confirmation window with a link to the Collaborative Environment. (See Figure 32 below)

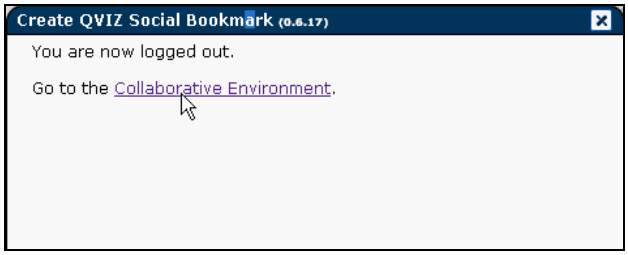


Figure 32: Exit bookmarking tool

The QVIZ platform is based on the connection of all the components, which integrate the system. The bookmarks are accessible from several points of the system. The following paragraphs describes how the created social bookmarks can be accessed from the different parts of the system:

From the Query Visualization Environment, the user can access the resources that have been bookmarked by CoP member or CoP group, using the non-AU facets. These facets yields result list that displays the resources bookmarked by a selected CoP member or CoP group. The bookmarks displayed using the non-AU facets corresponds to the whole volume and always redirects the user to the first page instead of the bookmarked pages as is the case within the collaborative environment.

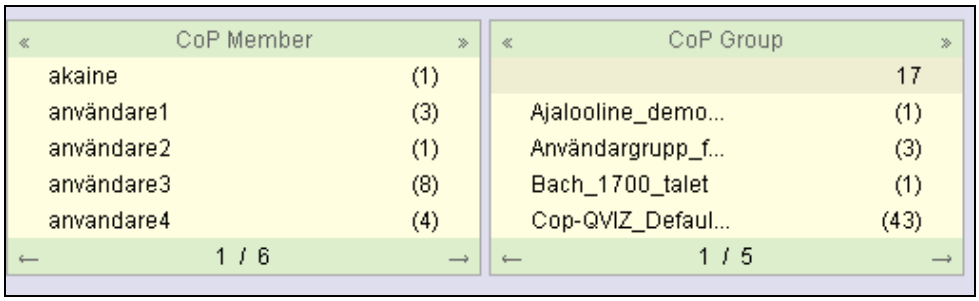


Figure 33: Non-AU facets

The result list sometimes also contains a CET link (see Figure 28). This link enables the users to access all the bookmarks to this resource from within the collaborative environment (see Figure 34 below). The CET link appears only in the cases where bookmarks are available.

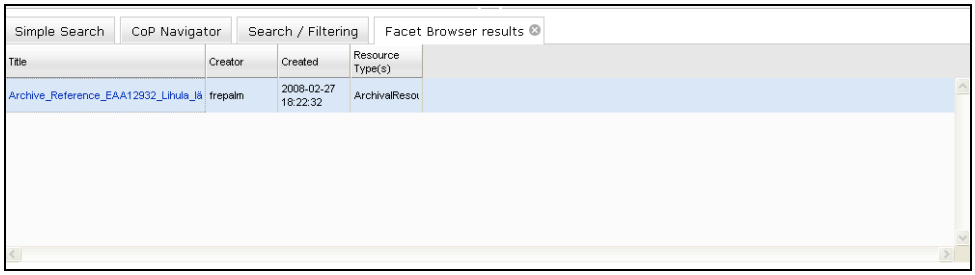


Figure 34: Facet Browser Results

Within the collaborative environment the user can access the bookmarks created in the search /list tables or through the bookmark option in the top toolbar. The purpose of adding the semantic additional data to resources is to create more contextual information for the resource. These relationships can be visualized by clicking on the social bookmark in the result list. Further information about the visualization of the relationships is available in the collaborative environment section.

5. Collaborative Environment for Social Knowledge Building (CET)

5.1 Introduction

Current requirements: Firefox Web browser and allowing JavaScript and popups (at least for the sites requested). During the login procedure, the users will be asked to accept a security certificate from Salzburg Research, please accept.

There is no one collaborative environment to satisfy all users. Therefore, a "proof of concept" environment without browser plug-in support was made available. Although the user interfaces are motivated by browser plug-in concepts with the intention of later offering plug-ins in a future toolkit.

The goal of providing social knowledge building tools is to enhance the access to archival resources by providing the means for interrelating resources in new contexts and discover these resources in new or different contexts than one might find in archive portals. This is beyond what traditional bookmarking and collaborative tools do; they fail to help users comprehend how resources relate in new contexts. Applying the concept of Communities of Practice (CoP) is one means of creating a context for interrelating resources, although the whole site of communities itself is one larger community, the QVIZ "default or common" site community.

The collaborative environment requires input from archives obtained by the process of archival social bookmarking. It is therefore recommended for new users to start by exploring the *Query Visualization Environment* that includes the administrative unit map and ontology coupled with the faceted query tool. Once the user has found interesting archival resources and bookmarked the resources within the *Archival Portal* it is time to start using the CET. The bookmarks the user created are stored in the CET and associated with the users personal workspace and available for use by the QVIZ community the user selected, and retrievable by other QVIZ communities. The users can then use the collaborative environment to add new knowledge to archival resources and to create their own articles and publications within their Communities.

The knowledge and content created in this environment are accessible in many ways, via full text search, search/filter by resource type (based on an ontology), relationships overview for each page, metadata and their searchable properties, as well as the content itself. The Relationships Overview panel is dynamically generated and a part of the visualization supported by the domain ontology; it helps users understand how the resources are interconnected. The relationships overview was intended to be flexible and customizable for a site, and they can be further augmented to meet the requirements of the users as they understand what is most important to visualize on their site.

Most resources created by users are available for viewing and relating by all users. The exceptions are most types of *Collaborative Documents*, which might initially have content viewing rights with shared communities, although all site users can view the metadata, discussions, and relationship overviews of all resources.

5.2 A simple scenario for using the application

Preconditions for the usage scenario described below are already bookmarked archival resources from an archive's portal via the QVIZ system by the user and several other users registered to the system, having already bookmarked resources and created articles.

1. Login to the system
2. Explore the environment
3. Organize selected bookmarks just created within the user or shared Community workspace folders; or selected bookmarks, perhaps, from other users. The user must add folders to any top level of any workspace, then paste references or add more subfolders.
4. Create a new community or join an existing one; and then switch to the active community for further work; resources created are automatically associated and shared with the active community, although that can be modified later. This can also affect how the members and site users search and visualize resources and their relationships to other resources
5. Write a simple article referencing more than one of these and others' bookmarks and include the new article in a new workspace folder. Relationships can be made directly with or without including the link in the content.
6. Searching/filtering for and collecting additional 'material' within the system and organizing it into the user workspace.
7. Observe Relationships overview (side panel) periodically to visualize the network of references relating the resource to the community resources, for example.
8. Change the active community and share the collaborative document with another community.
9. Create archival social bookmarks using the external bookmarking application at the archive portal. Find the users archival resource bookmarks in the CET and visualize them, they display the associations to other bookmarks about the same archive resource and they describe the archive resource description, which can also be opened and visualized. All social bookmarks are available for viewing and reuse. If the user wishes to make his/her own semantic context for that resource, then open the archive resource portal link and make a bookmark where the user has editing and relation rights for that resource. For further bookmarking or to reuse an existing archival social bookmarking to make an own context, please follow the bookmark to the archival portal and evaluate what one finds, then make another archival bookmark if desired; simple replication of existing bookmarks is not supported. Alternatively, one might collect bookmarks in a particular folder and tag the folder if desired – and use that folder as a reference in the content for example.

Alternatively from the QVIZ Map and Facetted Browser:

1. List archive results from the facetted browser
2. Select the CET or collaborative environment symbol if visible
3. View the archive resources that have been bookmarked in the CET.

5.3 Overview of the user interface

The user interface of the environment has the following main areas:

The top tool bar for activities relating to communities, bookmarking, and resource creation allows:

- The user's currently active community is indicated, with menu options available;
- User page access;
- User preferences and logout.

The content or resource area for editing, relating or special activities relevant to particular resource types such as community resources.

A navigational panel with the workspace - the navigational and visualization area with shortcuts, history and references panes includes:

- Workspaces area for the user and the user's communities;
- Navigational /history;
- Visualization or content relationships to other resources.

A search and result listings area

- Simple search, Community navigator, search/filter by resource types
- Note: Resources offer search or navigational opportunities also in metadata views (content view) and in the relationships overview panel.

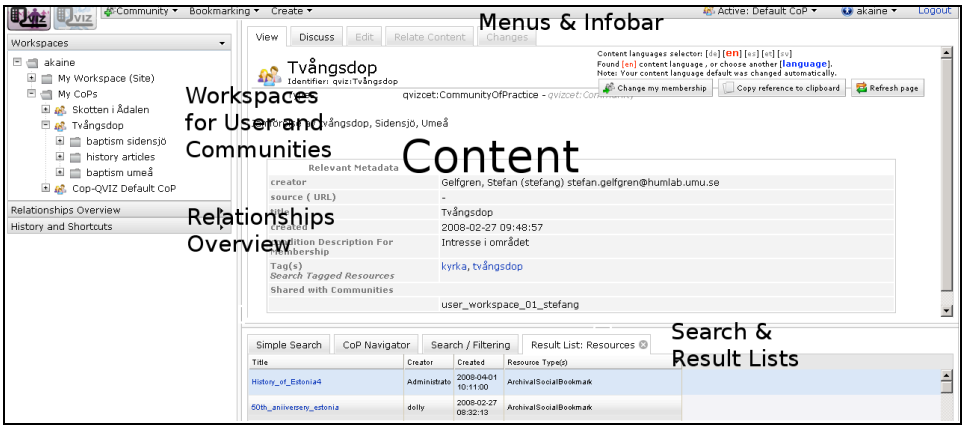


Figure 35: User Interface Overview.

5.3.1 Top toolbar and its menus

The **Top toolbar** provides an overview of high-level activities:

Figure 36: Top toolbar (Alternative Tool bar).

The **Community Menu** highlights relevant community and site related activities.

Creating a Community can be initiated here or in the workspaces.
In case of a malfunctioning User Interface, the CET client can be reloaded in the web browser.

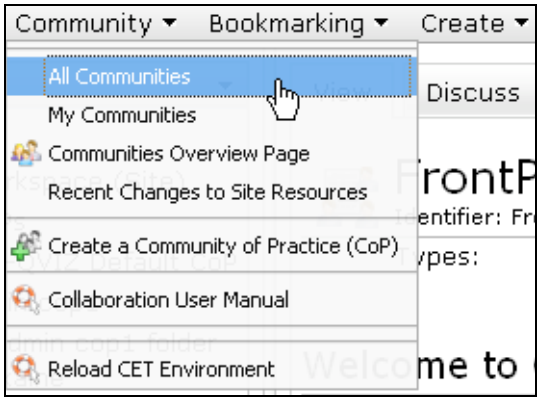


Figure 37: Top toolbar – Community.

The **Bookmarking menu** highlights relevant activities for User Archival Social Bookmarks and the Archival Resource Description that directly describes the archival resource.

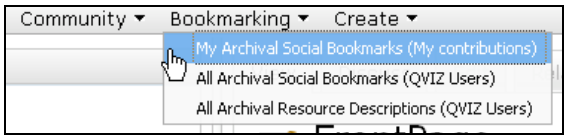


Figure 38: Top toolbar – Bookmarking.

The **Create menu** is supports the creation of typed resources. More is explained later in this manual.

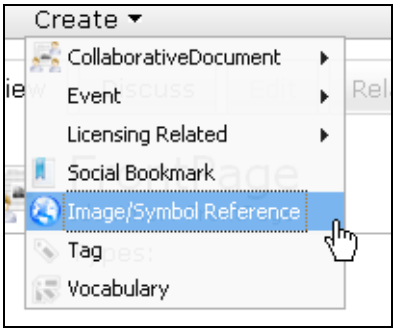


Figure 39: Top toolbar – Create Resources.

Authenticated User menu, with an option to go to the users home page.

Logout option - logout from the single sign-on to the QVIZ portal.

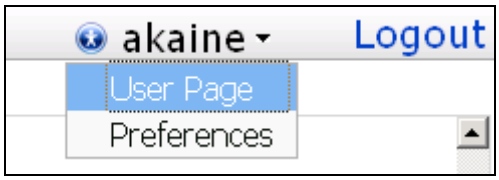


Figure 40: Top toolbar - User options.

Active Community: This is initially set to the default site community, but it can be switched in either the CoP workspace (contextual menu) or in the My CoPs result list. When creating resources, the content is automatically shared with the active Community, providing only viewing rights for collaborative documents to members of the community, but not editing rights.

5.3.2 Content area and the different perspectives (tabs)

Figure 41: Content Perspective (Tabs) Overview.

The content perspective provides content related activities represented by the tabs: View, Discuss, Edit, Relate Content, and Changes. The content perspective is also synchronized with other User Interface (UI) panels (or portlets), such as the **Relationship Overview** panel and the History panel.

View tab: Some content views are complex, showing detailed metadata and relationships between other resources, but most display the main content and a metadata section that might include query links based on the metadata properties.

Edit tab: This includes a metadata editor and a content editor.

A WYSIWYG (What you See Is What You Get) content editor has been enhanced for the QVIZ system and provides both Wiki and HTML based authoring. A select set of editor features are provided, many more are available. This type of WYSIWYG editing is not common among Wiki tools, QVIZ use it to provide special tools to facilitate the editing process. Users may write their own Wiki style links using this Wiki notation to either link to an existing resource or to apply an open reference to a resource that has not yet been created (Wiki concept). Unique to QVIZ is a Wiki Link Builder that uses either a copied reference from the clipboard or a reference typed by the user.

One goal of the collaborative environment is to enable the user to work on content without leaving their working area. When viewing or editing content, one can also search or list, copy/paste and organize etc. without leaving the content being viewed or edited. Some result lists are written to dynamic areas, which can be preserved during the working session, without being written over by other search results - this will facilitate the process of content creation when users wish to embed references in their content.

Discuss tab: One may create a threaded discussion on resources via this discuss feature. For example, one might note discussions associated in the visualization tab surrounding certain resources under discussion. Consider where the discussion should take place, add a discussion to the CoP of interest for CoP related discussions or to a user's membership user profile when seeking a discussion of the user in the context of a particular Community.
The default CoP for the site, where all users belong, might be best place for site wide discussions.

Relate Content tab: This is an advanced tool for sharing the resource communities, making explicit semantic relationships to other resources, changing a resource type (if this is allowed).

Changes tab: Version history of main content

5.3.3 Navigational panel and workspace

Workspaces to organize content: Users can organize their resources or resources of interest from others within folders. See where a contextual menu on an item or hyperlink offers a *copy* option and where a folder offers a *paste reference* option, to complete add items to your personal workspace. Future releases will provide

this for community members too. They may organize materials in the workspace of a Community (CoP).

Contextual menus: Contextual menus within the workspaces and search area are activated by the *right click* on the mouse over most hyperlinks, including folders and items within folders.

5.3.3.1 Organizing content within the users' and communities' workspaces

Organization of materials is also a means of categorization, or even contextualizing materials by their association to a collection folder, to a person, to a CoP, etc. Folder titles can serve as topics or keywords, and folders can be further annotated.

In the left panel, the users will find their personal workspace and the workspaces of the communities they are member of. To get an overview what actions are possible on folders and items, please review the Contextual Menu Overview. The default behavior of clicking on a folder is a simple list of items of the folder; clicking on an item will display the item in the Content Area, the main center panel.

A workspace has the following sub-containers:

My Workspace (Site): The users personal directory where he/she can create subfolders and organize the work

My CoPs: All communities, where the user is member or moderator. Use the contextual menu to perform actions on each community.

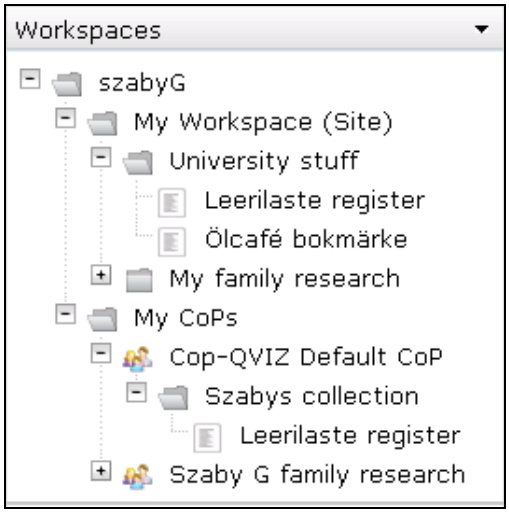


Figure 42: Workspace Overview. User & Communities.

My Workspace (restricted to the user) is the staging area for future collaboration with one or more Communities and it is actually a restricted CoP. In this way a user can view and organize their entire work within the site.

My CoPs Folder: For each Community workspace (My CoPs), members may create folders and also cut or paste referenced items. Please note that the user should refresh the Community subfolders to see the latest changes from other members, as they are not automatically refreshed. However, when creating or joining a community, the users My CoPs list will refresh automatically.

In general: A user can create a new subfolder and add references to each folder. The folders themselves are resources that can be opened and edited, where users can provide texts, share, or be included as references in other content and further annotated. Right click on the **My workspace** (site) to open the contextual menu. At this level a user may add a new subfolder to associate bookmarks or any other

content, or add additional subfolders. Users should create folders first before trying to paste any references.

The act of pasting a reference in a folder or organizing folders is similar to assigning tags to content, there is some significance to this organization that can be further reused as references in content or queried. The following workspace images describe a user's workspace (a kind of CoP) and the communities to which the user belongs. Everyone belongs to the Default CoP, although there is no community user profile for the users in the Default CoP.

5.3.4 Search and result listings

Various activities create results lists that are sortable and whose links have contextual menu options. The activities of Communities, bookmarking, workspaces, and filter/search produce results displayed in this area. Two common activities in the result area:

- Sorting a result list
    - All search result tables (except for the Simple search) are sortable by clicking on the column headings in the table.
- Acting upon a resource in a result row
    - A contextual menu (right mouse click) is associated with the hyperlink on the leftmost side of the result row in all result lists (except the Simple Search)
    - For clarity, some result columns include specific actions, such as for making relations or activating a community.

The following is an overview of the result area panels (tabs)

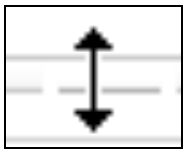
Simple Search Tab: Full text search over indexed texts and titles. Basic search expressions can be entered based on the Lucene search engine. Wildcard is supported (archi*). One can query for persons as well. The query results are paginated.

CoP Navigator Tab: A listing of all CoPs at this site is provided. The user can open this tab directly or open it from the Short Cuts panel. Each CoP hyperlink includes an item menu (right mouse click), where the user can list CoP members, view the CoP and properties, join the CoP, or review other information relating to the CoP.

Search/filter Tab: This feature provides a means to filter over one or more facets: resource type, CoP, and collaborator users (all or only yourself). The resource type includes a list of the most relevant resource types currently, although we are not restricted to only these resource types in the future; requests are welcome.

Results Tabs: Some result tabs are created dynamically from actions involving List (contextual menu) or other search actions. These lists are sortable by the user, simply click on the particular column title, such as the creation date or the title. The user may clean up and remove the results by clicking on the tabs close icon (the red X)

Note – adjusting the vertical adjustment of the panel

To make more space for the content panel or the search/result area, move this icon up or down.	 *Figure 43: Vertical adjustment.*
Search and Results List The lower area is adjustable by moving the adjustment found in the middle of the bar	 *Figure 44: Vertical adjustment - Search/result area.*

5.4 Main activities

5.4.1 Creating a new account and signing into the QVIZ system

The user management of the collaborative environment provides an integrated user management solution for all QVIZ components or services. The Central Authentication Service (CAS) server provides a common access point for all components. The users needs to login, for example, when they wish to store a social bookmark from an archive portal into the QVIZ collaborative environment, when the users wish to view a community's archival social bookmarks, or when they wish to work directly within the collaborative environment. Normally, when users try to perform an activity they will be directed automatically to the QVIZ login page, for example when trying to save a bookmark from an archive portal.

Currently, access to the general public is restricted. If the user wishes to obtain a user account, please contact the main QVIZ site or their contact person in QVIZ for a login and password. Those with login and password can login in at: http://qviz.salzburgresearch.at/qviz/

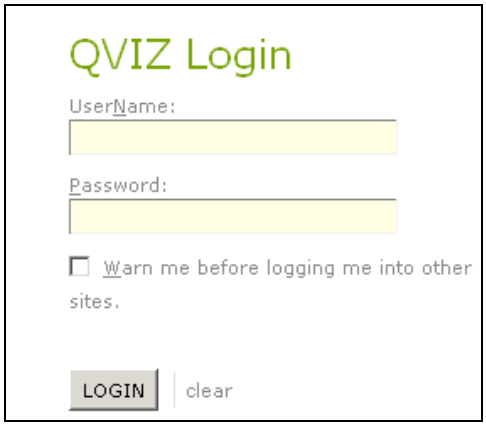


Figure 45: Login page

What's happening? When the users try to access the indicated URL, they will be redirected to the QVIZ authentication system where they can login in. Often the user will be asked first to accept a certificate, before the authentication page opens, please accept the certificate. The user might have seen the authentication page already while performing social bookmarking activities. After successful login, the users are either redirected to their last activity (social bookmarking, query visualization) or directed to the collaborative environment; that can depend how the users came to this login page.

Logging out is good practice. If they user wishes to log out, either logout from the Collaborative Environment or from the authentication system page: https://qviz.salzburgresearch.at/cas/

If the browser remains open, normally the authentication system remembers the user unless a long period of time has elapsed. By using other QVIZ tools, such as social bookmarking of archive resources, the users are able to sign in. QVIZ asks that the users logout when ready, this way the central authentication system can track the users status for other components as well as to release resources.

5.4.2 Create/Join communities and set active community for further work

Communities are central concepts of QVIZ in order to enable collaboration with peers. The users may create communities based on their professional interest such as regional history communities, a problem area in general like a discipline or a specific task they want to perform. Communities are open for everyone to join, but in some cases the users may want to create a restricted community.

Create a new Community of Practice (CoP) using the shortcut *Create CoP* or the contextual menu item from the My CoP folder within the workspaces area. The users will be asked for a community title, some descriptive texts, the membership condition type and keywords to describe the Community. The form is used to gather initial data, which can be updated as other resources are updated using the Content edit mode or Relate mode.

As the initiator of the community, the user will be its first member and its moderator. The Moderator's tasks are to edit the community description and perhaps manage users if the Community is restricted. Other users can easily join unrestricted Communities, otherwise they must wait until the moderator of the restricted Community approves them.

Once a user belongs to a community, they might make the community active in their User Interface and share their resources with the community if desired; granting view or edit rights.

Basic metadata for a new Community is required, choose either to create a restricted or unrestricted community. A moderator must accept membership user profiles for each member who requests membership to a restricted community.

Note that the description of the community can be further developed using the WYSIWYG editor later, initially the moderator may provide a short description.

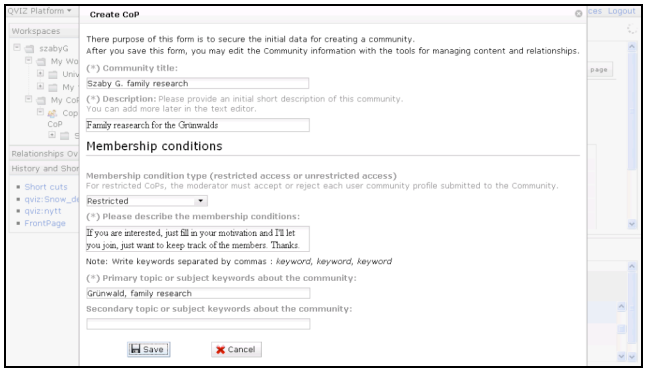


Figure 46: Community Input Form.

View the Community from either the CoP workspace or CoP navigator
(context menu option)

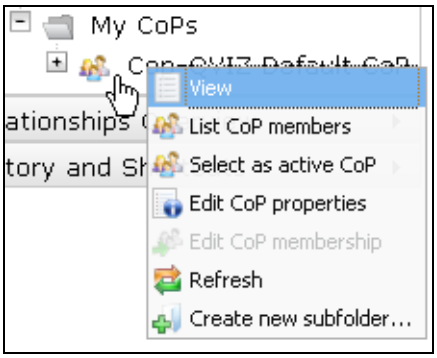


Figure 47: View community

- As a result, the new community appears in the *MyCoPs* folder and in the Content area. The CoP Navigator (bottom panel) becomes updated.
- The user is now the moderator of this CoP.
- Every moderator or member has a membership "motivation" profile that is generated automatically.
- The user may now update their profile by selecting "Edit CoP membership" on the CoPs link (right mouse click)

As the moderator, the user is required to fill out most data as the first step. Please update the description of the CoP using the WYSIWYG Editor by clicking on the CoP reference listed in the workspace named *My CoPs*.

Creating a restricted CoP means that users cannot join the CoP automatically, instead, the moderator must access their submitted profile and reject the application or allow them to join the community.

When creating resources, the content is automatically shared with the active Community designated in the User Interface displayed in the top toolbar. Switching the active Community is done manually from either the workspace CoPs or the *MyCoPs* results list. Creating collaborative documents in the active Community grants only viewing rights for members of the community, but not

editing rights. It is possible to change the sharing rights in the content **Relate tab**, and manage sharing rights with the users communities.

Unlike other resources, the access to the discussion feature at the Community level is restricted to members; one must join the community in order gain access to the discussion mode. However, all posts are viewable by all site users because this provides potential value for enhancing access to archival resources. Please correspond privately if more privacy is desired.

5.4.2.1 Creating a restricted community

A restricted community requires that a user apply to a CoP for membership and a moderator to accept the user. The applicant fills out a user profile for the CoP and submits it. A moderator then acts upon it by first reviewing a list of all CoP members and applicants, selecting the applicant's membership user profile, "Edit CoP membership", and either accepting or rejecting the application. After accepting the applicant, the user becomes member. The user can view My CoPs or the CoP membership list of the CoP to determine if they have been included as a member in the CoP.
If the moderator accepted an applicant, the user will see this CoP in their list of CoPs. If the user goes to the CoP navigator to list all CoPs, he/she can select the appropriate CoP using the right click of the mouse and choose the List CoP members menu item. From this list, the user can view members and applicants to the CoP. The moderator should act upon the submitted profiles. Other members might also read the users profile.

5.4.2.2 List my communities

List the CoPs of which the user is a member – choose the contextual menu option from the CoP workspace or select this option from the Top toolbar Communities menu

5.4.2.3 List members of a community

This function displays a list of all members and applicants – it is used by moderators to manage CoP members or applicants of CoPs, but also by members or applicants to manage themselves. One might also go to the user profile of a user in the CoP and start a discussion for example. Otherwise it might be more appropriate to make a discussion directly on a resource such as an article involving a particular user.

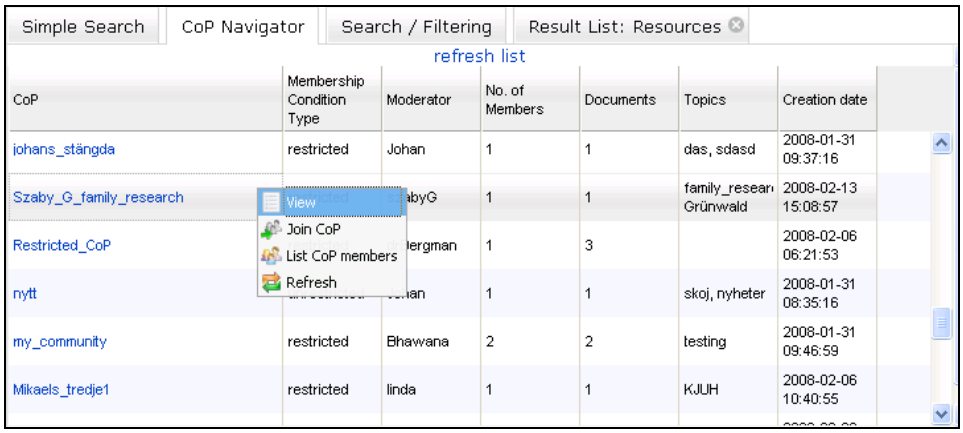
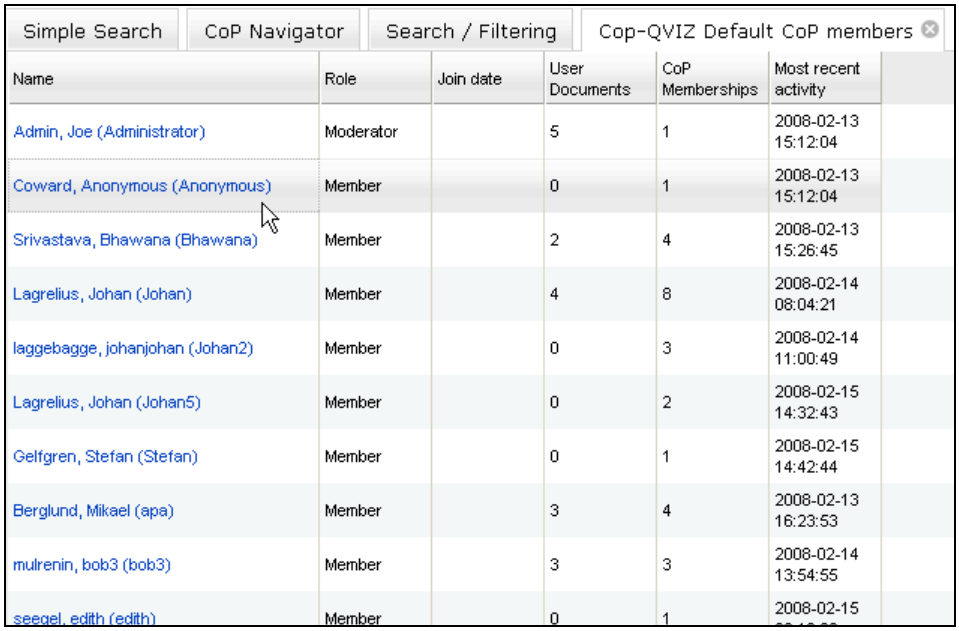


Figure 48: CoP Navigator. Join CoP, List CoP members.



Name	Role	Join date	User Documents	CoP Memberships	Most recent activity
Admin, Joe (Administrator)	Moderator		5	1	2008-02-13 15:12:04
Coward, Anonymous (Anonymous)	Member		0	1	2008-02-13 15:12:04
Srivastava, Bhawana (Bhawana)	Member		2	4	2008-02-13 15:26:45
Lagrelius, Johan (Johan)	Member		4	8	2008-02-14 08:04:21
laggebagge, johanjohan (Johan2)	Member		0	3	2008-02-14 11:00:49
Lagrelius, Johan (Johan5)	Member		0	2	2008-02-15 14:32:43
Gelfgren, Stefan (Stefan)	Member		0	1	2008-02-15 14:42:44
Berglund, Mikael (apa)	Member		3	4	2008-02-13 16:23:53
mulrenin, bob3 (bob3)	Member		3	3	2008-02-14 13:54:55
seegel, edith (edith)	Member		0	1	2008-02-15

Figure 49: List CoP Members (from CoP Navigator or CoP workspace).

When joining Communities, the users must provide a community user profile, which should include a brief description of their motivation for joining. For restricted communities, moderators have the right to accept or reject the user for whatever reason.

Selecting an active community from your list of Communities
In order to work within a community, the user should select a community as the active community. Otherwise, all the contents will be referenced only with the user and the entire site. The user can do this with a contextual menu item on the short list of My CoPs within the workspaces area or on the extended list within the search and result listing area.

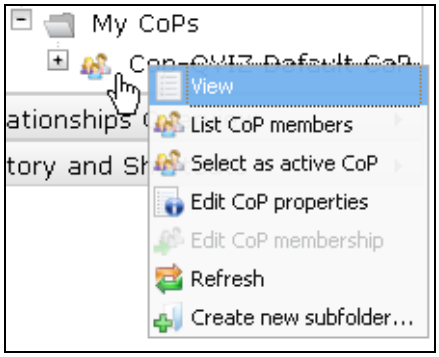


Figure 50: Activating a community.

The active community status is indicated in the top toolbar, together with a link to the community home.

Figure 51: Active Community Indicator

5.4.3 Creating new content related to archival resources

Users might create new resources directly or indirectly via some common activity such as Archival Social Bookmarking.

When a user engages in archive social bookmarking activities, he/she creates new "typed" resources within the collaborative environment. These can be considered as the primary resources, which become the foundation for growing the knowledge base. For example, the following typed resources are created when a user performs "archival social bookmarking" from the archive portal.

- **Archival Social bookmark**
  - Tag(s) associated with the bookmark that the user submitted (skos:primarySubject relates the tag to a social bookmark)
  - Note: the user may create a Social Bookmark using the CET create menu, but it is not an "Archival Social Bookmark" – which requires an association to an Archival Resource Description.
- **Archival Resource Description**
  - The users social bookmark and other user bookmarks are related to the same resource description.
  - Tag(s) associated with the archival resource description - these are extracted from a variety of archival resource properties.

From these primary resources, one might make relationships to them from other resources or refer to them in the content, etc. Using a visualization feature called "Relationships Overview" (side panel) or the searchable metadata section, the user might comprehend how these primary resources relate to other resources.

The use of the create menu is addressed in the next section.

5.4.3.1 Choosing a particular "type" from the Create menu

Before the users create a new resource, they should choose an active community, where they perform your work. As the collaborative environment is based on a Wiki, the common approach is to make a Wiki link in existing content using traditional Wiki syntax *[[resource identifier | text label]]*. It might make more sense, to instead first create a "typed" resource, such as a Tag or collaborative article (subtypes), Event, etc. and then make a link to it.

A possible workflow to create resources

a. Create menu – select a resource type
b. At the prompt, enter a describing title so that users can find the resource. The user can add nicer labels later in particular languages.
c. The system displays the resource
d. Edit the resource. Choose the language
   Write some text using the WYSIWYG content editor.
   Search and copy a reference for some other resource. Add the reference to the text using the *Wiki Link Builder* form.
e. Save the text
f. Edit metadata.
   Perhaps add dc:source - a URL to a source reference (A Social Bookmark reference or a Tag's simple Symbol reference)

g. Make relationships to other resources

h. Share the resource with other Communities

i. Explore Relationship Overview or searchable metadata.

The user may create content and titles in different languages, please choose the appropriate language. Note that the chosen language changed whenever the select languages to view articles; it is sometimes reset if the user views articles that are not available in the desired language.

A resource type might dictate the possible relationships it can have with other resource types. Also, there might be some differences in the metadata properties – although for Collaborative document subtypes, QVIZ uses a core set of textual metadata Dublin Core (prefix dc:) properties to provide basic descriptions. The reason is that it is best to use properties that might be common or can be mapped to metadata schemas. Potentially, many resources could be described using one or more metadata schemas such as bibliographic scheme (BibTeX). However, to describe resources in different metadata contexts QVIZ has considered a future feature using a COinS based plugin.

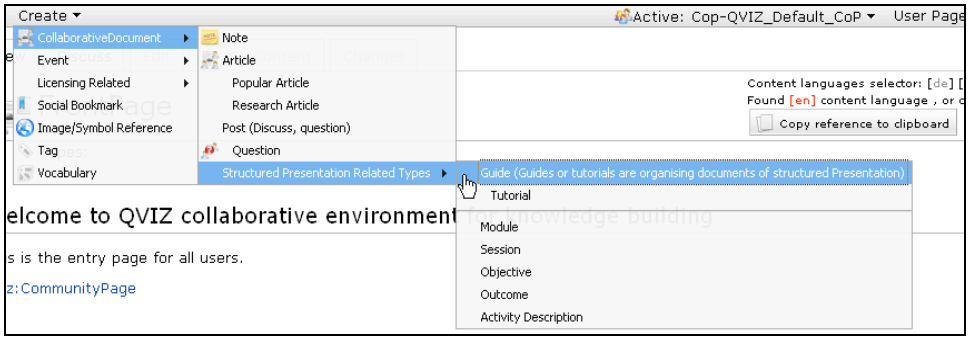


Figure 52: Create Menu. Collaborative Document subtypes.

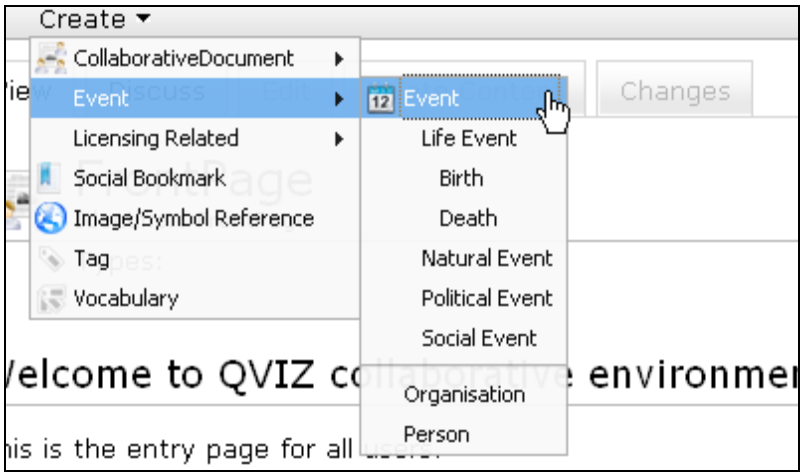


Figure 53: Create Menu. Examples of subtypes.

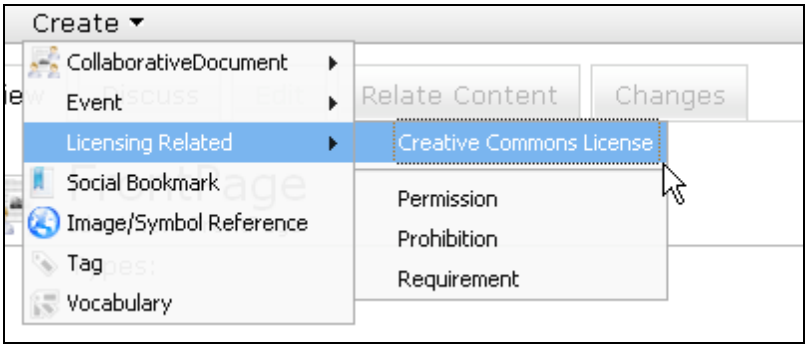


Figure 54: Create Menu. Licensing related. A License should be related to permissions, requirements, and prohibitions.

5.4.3.2 Creating a resource (e.g. an article)

After selecting a resource Type, the users are asked for a title. Be aware that additional labels can be assigned in other languages, but this title is a common simple title for creating an identifier also used later in the result lists. After selecting "OK", the new resource is displayed and the user may then edit it

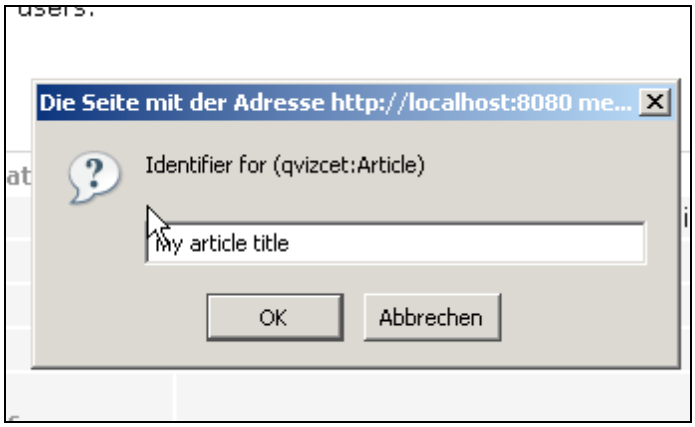


Figure 55: Create a resource. Prompt for common title.

5.4.3.3 Writing content

To write “content” for a resource, one might choose either the Discuss tab or the Edit tab in the content perspective. The discuss option is not that detailed, one can only contribute *posts* to a discussion.

To create the main body of the resource content, choose the **Edit** tab.

There are two main areas:

- A metadata editor
- A content editor (WYSIWYG - What You See Is What You Get) – A combination of Wiki style and WYSIWYG editing is possible. The Wiki Link builder supports the insertion of Wiki Links to other resources.

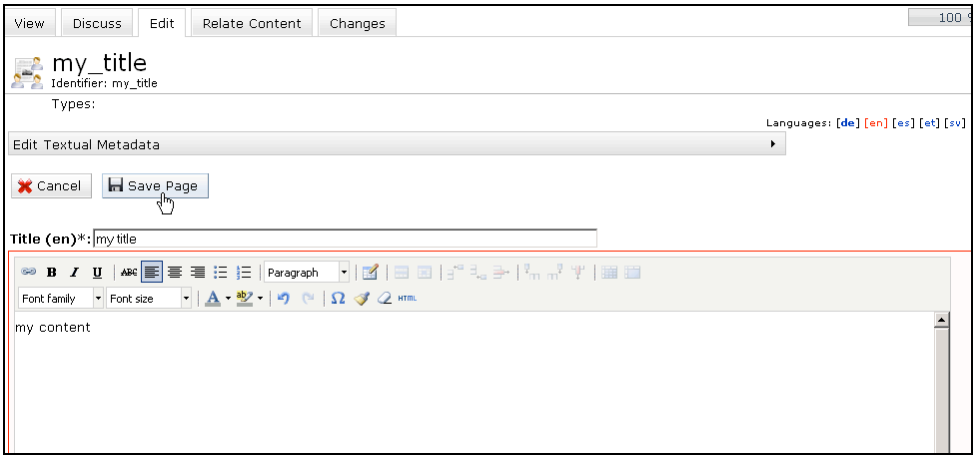


Figure 56: Content Editor – WYSIWYG Editor.

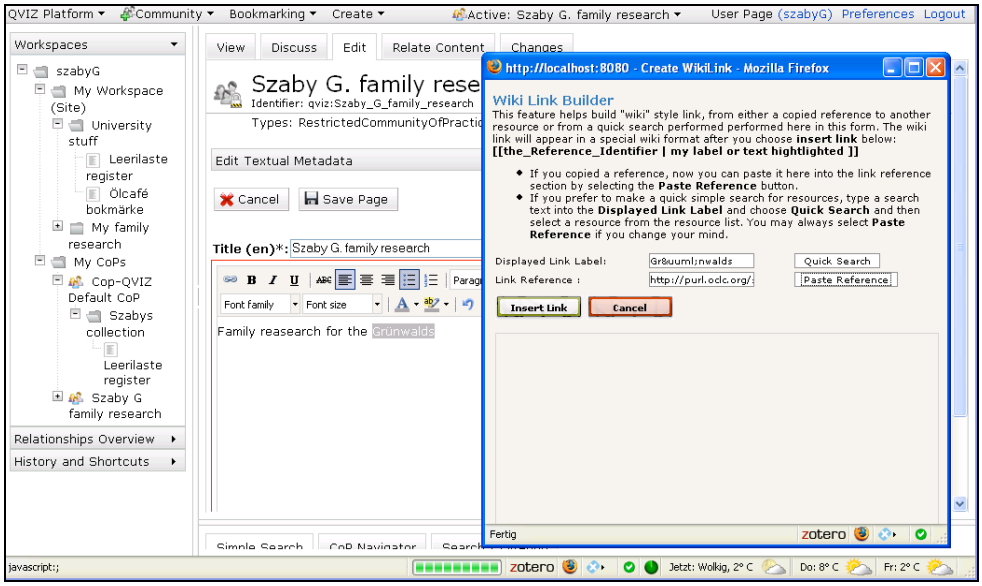


Figure 57: Wiki Link Builder.

When creating a new article, the users are asked for a title and get redirected to the content area, where the article is presented in the editing-mode. In order to **create links within an article** - change from view to the edit perspective and use the traditional wiki syntax or

1. Copy an item reference from the user workspace or a search result list,
2. Highlight the text, where the link is to be inserted and click on the Wiki Link icon:

3. Paste the link to the item (here called URI) into the window and press insert.

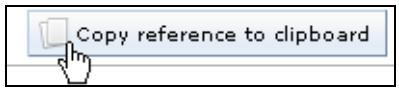
5.4.3.4 Copy Paste References Activity

Copy and paste of references enables users

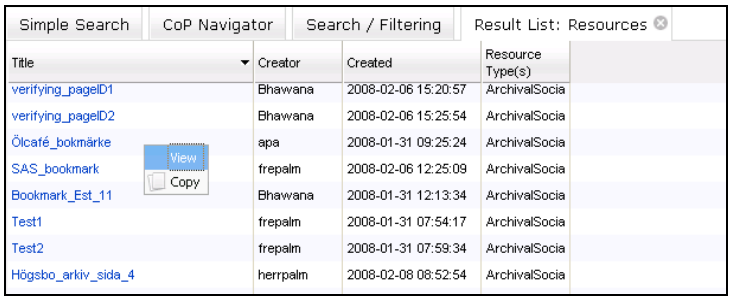
- To associate resources to collections (workspace folders)
- To insert references into content.

The following screenshots provide an overview of the copy and paste activities:

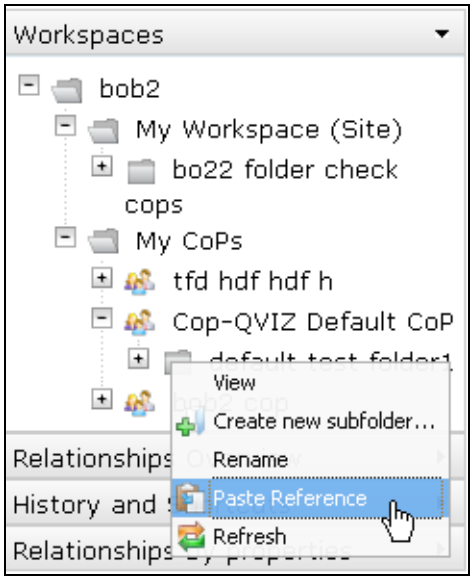
Copy a reference of a displayed resource (Content view)



Copy a reference from a result list or view it first.



Paste Reference into a folder



Paste reference into the content.	Use the **Paste reference** button of the Wiki Link builder (Editor) to paste a Reference into the content. This creates a wiki link. Please highlight the text for creating the link label. It is possible to change the label in the link builder or quickly search for another resource by using the label as a search parameter. (see Figure 57: Wiki Link Builder)

Example Activity

1. Create a subfolder within the “My workspace” or Community folder. Right mouse click on the workspace, choose "create new subfolder".

2. List resources from the Search/Filter area.

3. Right mouse click on a result link, and from the contextual menu item select menu item "copy" or view an article and press the Copy button.

4. Paste into a folder

5. Alternatively, click on an article’s *Copy reference* button and paste into the folder

5.4.3.5 Sharing resources

The creator normally has rights to view and edit anything, except Archive resource descriptions that are created in the process of social bookmarking from other sites.

Collaborative documents are normally restricted to the members of communities that you share the resources with. The active Community automatically gets viewing rights. Editing rights are determined by the creator of the resource. A list of collaborative document types are available from the create menu hierarchy. Resources such as tags, events, persons and the *Community of Practice* home page are viewable by all QVIZ users. Any resource can be referenced and all material for metadata and the relationship overview portlet are visible - this is to enhance access to all resources and archival materials such as their archival bookmarks and resource descriptions. Only the collaborative resource content is not completely visible to users who are not members of a shared community.

Normally, anyone can write add discussions on any resource except for the Community home page, which is possible only for members.

To share collaborative documents, select the Relate Content tab in the Content area, and select the Manage community sharing feature. (see create menu for the list, although "posts" and questions" are visible to the whole site)

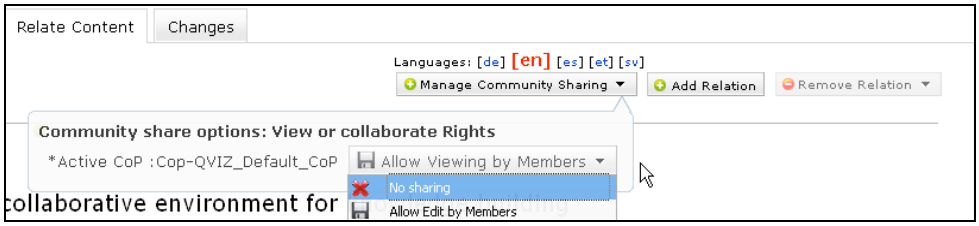


Figure 58: Community Sharing Options.

Many resources are automatically shared with the default site community; some resources are always available for reuse even if they are created in a particular community, such as Tags and Events. Searching over the whole site is one means to find these resources in the **Search/Filter panel**.

5.4.3.6 Access rights to resources created by users and by the system

The primary goal is to enhance access to archival resources; therefore, strict restrictions for accessing user resources are not desirable. However, the open editing and viewing found in traditional Wiki systems is also not desirable. Belonging to Communities should have certain advantages, even if the Community has no membership restrictions.

The creator of a resource has full rights: view, edit, relate, and share. The creator might share with others and allow Community members to edit, relate, and share. One exception is the Archival Resource Description – no one has the right to modify these resources as they are contributed by the Archive.

Users can view a resource's metadata, title, relationship overview; although for some resource types, mostly Collaborative Document subtypes, the full content is not viewable unless the user is a member of a community that shares this resource.

Access rights with regard to making relationships might have more restrictions, as discussed in the next section. In most cases, the site users can reference resources in their content links or make explicit relationships to other resources.

5.4.4 Relating resources to other resources

Relating resources depends on the resource type of the subject and target resource. Who can make relations from one resource to the other depends also on who has rights to make the relation, which is often complicated when one user does not "own" one or both resources; or if one resource is a restricted. This means that only the system should make the relationship with some other user tool or by some other automated process.

From these different ways of relating resources, either by users or automatically by the system, visualizations can be generated such as found in the Relationships Overview panel (left) side.

Some types of relationships can only be assigned by moderators or creators of the resource. For example, tagging involves assigning either a subject or primary subject to a resource - only the creator can tag their resource. However, all users are free to use tags created by other users to tag their resources. Alternatively, a user might create a Social Bookmark and make a reference to the resource he/she cannot tag directly.

Making explicit relationships to a *Community of Practice* is also relatively restricted, except for relating vocabularies or by indirect automatic processes e.g. the user shares a resource with a community, membership relationships.

Often the creator of the resource has most rights for making certain kinds of relationships. To overcome restrictions, a user might create a social bookmark, relate it to another user's resource, then treat the social bookmarks as their own and tag it, for example.

5.4.4.1 Overview of relationships

Hyperlinks in content text

Hyperlinks to other QVIZ resources within the content of a resource are automatically assigned a relation to the linked resource and reported in the relationships overview. This can be included in the content as Wiki links or by using the Wiki Link Builder to help formulate the Wiki link.

The use of hyperlinked content also gives emphasis to these resources, however, as with hyperlinks in general, one does not know if the connection is important or not. These links can be "upgraded" to associate additional relationships if needed.

Workspace Folders: User or Community folders

The simple act of organizing references has significance - someone has given emphasis to a "folder" identifier, similar to a "tag" or category, and to the contents of the folder such as references to bookmarks, articles, and archival resource descriptions.

Users can search for this type of resource just to discover what users and Communities are organizing.

References to folders can be copied and pasted in content via the Wiki Link builder. Currently due to a restriction, folder references cannot be pasted into a folder - *this restriction might be removed in the future.*

Assigned relations between resources

In the **Relate** tab, the Add Relation button opens the relation mode in the search/filter area. The user might make a relation between the current resource displayed and some other resource.

(The preview option is currently deactivated in the result list to view a target resource, this option will be activated at a later time when a 3rd party tool is upgraded)

All resources are "typed" based on the ontology. These resource types are useful for understanding the role of the resource, for performing queries, for assigning relations to other resources and for visualization generated by ontology aware queries in the relationship overview panel.

Shared resources

Resources shared with Communities specify a particular relationship to the community regarding how the resource is shared among members; either view rights or full rights.

5.4.4.2 Making relationships between other resources

It is possible to add Wiki Links to content using the Wiki Link Builder; this assigns a general default relationship to the resource.

Making more specific relationships between resources helps to grow the semantic network involving archival materials, new resources involving community and archival materials. The system automatically makes relationships when creating resources such as assigning a community using the active Community. To manage

sharing of the resource to a community, use the **Manage Community Sharing** button, otherwise use the **Add Relation** Button

Figure 59: Relate Content Tab.

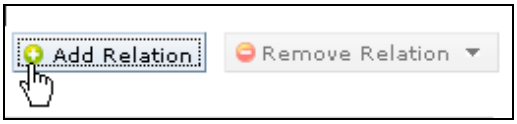


Figure 60: Relate Content Tab - Add or remove Relationships.

Pressing the Add button opens the Search/Filtering section where the author can make relationships with listed resource types.

Figure 61: Relate Content Search.

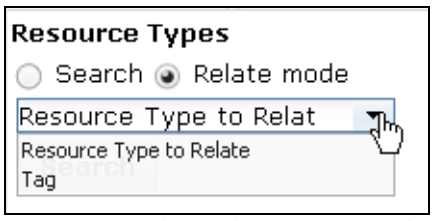


Figure 62: Find Typed Resource to relate.

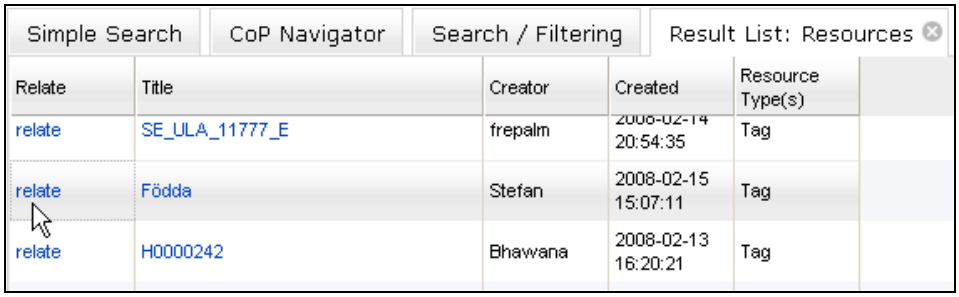


Figure 63: List of possible resources to relate.

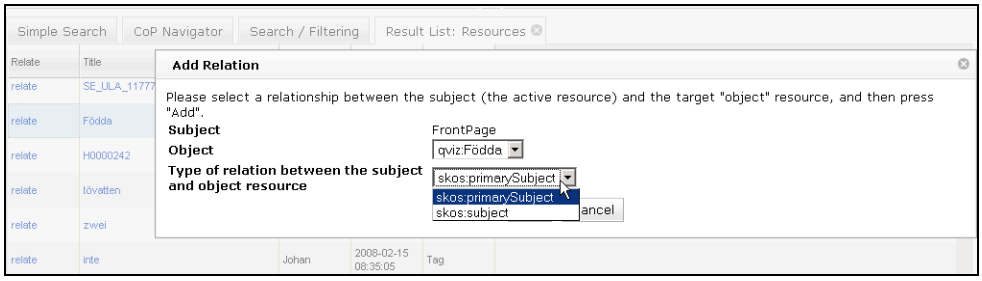


Figure 64: State relation to assign between the two resources.

5.4.5 Search and Resource discovery from the QVIZ query visualization component/ Facetted Browser into the CET

List archive results from the facetted browser and select the CET or collaborative environment symbol if visible. Another web browser window will be activated; an alert dialog signals the user in the other window. The CET will try to open in one browser window; it might first request the user login information. The archive resources that have been bookmarked for a facet browser archive **collection** in the CET will appear in the CET result area in a special tab section; it will not disturb the current content view or edit or any other result tab. Note that the facet browser result list provides a list of collections – the users might have bookmarked one or more images in the collection. In the CET facet browser list, those bookmarked images belonging to the collection are listed.

This feature requires the browser to use a pop-up, please make sure that is allowed in the web browser.

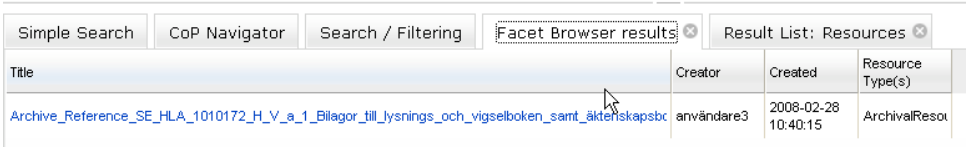


Figure 65: Facet Browser Results.

5.4.6 Search and Resource discovery within the CET

The search and result listings are currently found in the search area. This area is organized by fixed tabs and results tabs. The most important one are the following:

Simple Search Tab

This search mode provides a full text search over indexed texts. Basic search expressions can be entered based on the Lucene search engine. Wildcard is supported (archi*). One can query for persons as well. The query results are paginated.

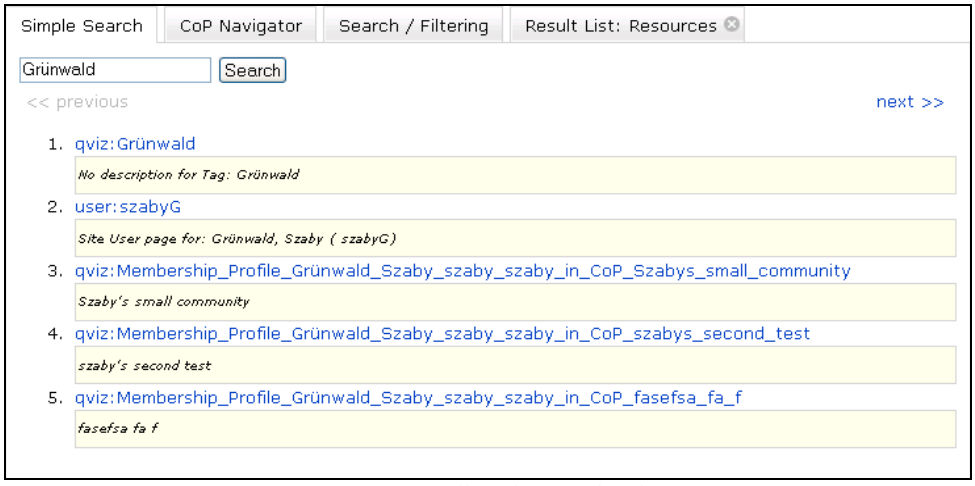


Figure 66: Simple search tab.

Search/ Filtering by resource types

This feature provides a means to search over one or more facets: resource type, Communities and collaborator users (all or only yourself). The resource type includes a list of the most relevant resource types currently implemented.

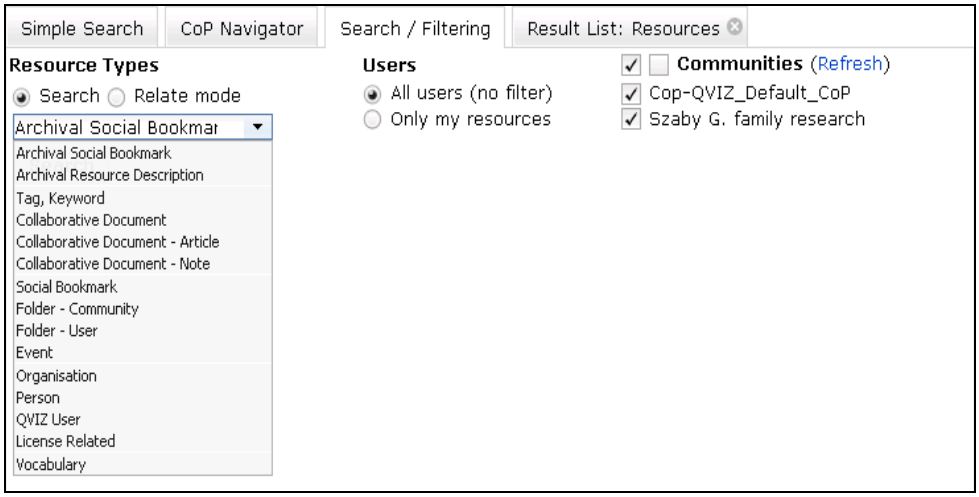
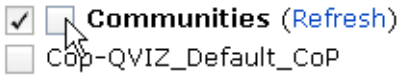


Figure 67: Filtering by resource types.

Tip: To **unselect** the community choices or **search over the whole site**, please click on the empty box as shown:



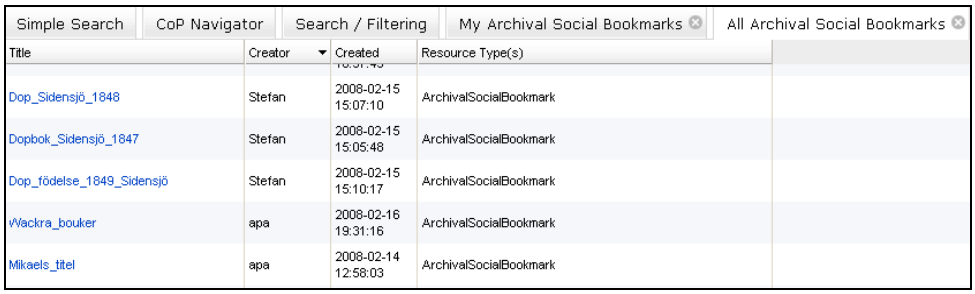


Figure 68: A result list example.

 Search for resources icon

- Special search buttons in content area or metadata overview of content area.
    - Archive Resource Descriptions have the most search options embedded in the metadata properties.

- The resource itself (if search icon is available on the page)

Content View

Resources might have the search symbol or tag links to query over resources. Those results are generated in the results list area.

Alternatively, also within the Content View, the tag hyperlinks make resource queries that use this tag either as subject or primary subject.

Figure 69: Query link example in metadata properties

The most searchable metadata is found in the archival resource description metadata view. This resource is generated during archival social bookmarking and contains the most metadata from archives of any resource in the system. The metadata, such as the source institution identifier, can be used to search for other resources using this in their metadata. Furthermore, one might use the tag entry created for some of these properties, some property values were automatically saved as tags in the system to enhance the semantic net for tagging using archival concepts. - a relation was made via skos:primarySubject from the archival resource to the tag. Mostly likely, the tag results will be other archival resource descriptions, although anyone can make relations to this tag (*skos:subject or skos:primarySubject*)

Quick full text search to support linking besides using the option to "paste reference"

Wiki Link Builder from the Editor

A simple search might be performed by typing a search text in the label field. Selecting a result fills in the form with the appropriate link.

Figure 70: Simple search in the Wiki-link builder

Hyperlinks bring the user to that resource. If the search icon is available, then it provides a query to other resources that are directly associated, unless otherwise indicated.

Each resource has a type and each type is part of a hierarchy of types. Each resource type will execute specific queries using the SPARQL query language that queries the knowledge base and relate the current resource to other resources. Consequently, one resource might cause many sets of queries to execute depending on its resource type classification and the inherited types from the ontology

Examples of interesting resources

- Communities of Practice
- Archival Resource Descriptions
- Archival Social Bookmarks
- User Home page
- Collaborative documents

Relationship overview Panel (Left side)

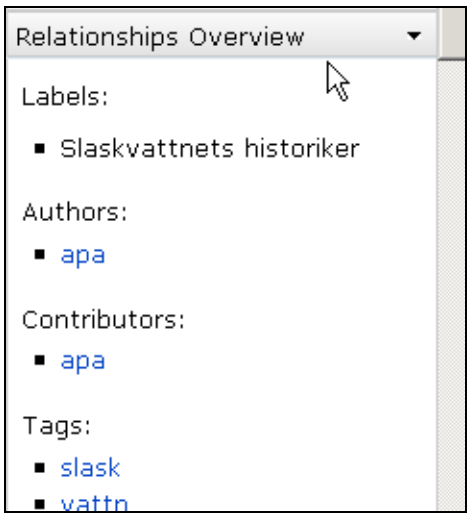


Figure 71: Relationships overview panel

5.4.6.1 Discussion Activity (Content area: Discuss Tab)

On the appropriate resource, one may create a new post or reply to a post. The context of the discussion can depend on the resource type of that resource; a CoP, an article, a social bookmark, or a CoP member profile. Asking a user a question? Most likely it is best to add a post to the user's member profile in that context of a CoP.

Only members of a CoP can enter the top level discussion area of the CoP, however, there is no restriction in the site for QVIZ users to read discussion posts found in search results - this is a policy to enhance access to archival resources. Please use private communication between members if more privacy is desired - contact information is provided on the user's home page.

5.4.7 Viewing primary resources: archival social bookmarks and archival resource descriptions

From within the Collaborative environment, the user can find a bookmark from a workspace folder, a "bookmark" folder, a content visualization, or by querying for bookmarks in the "Search by Resource" tab of the search area. The social bookmark presentation currently provides:

Main content area

- Descriptive text of the bookmark
- Bookmark metadata derived from a user,
- Archive resource description metadata received from the archive
- Additional bookmarks for the same archive resource.

Relationships Overview

- Summary of relationships to resources, tags, communities, etc

The following screenshots provide an overview of the archive resource description and social bookmark views.

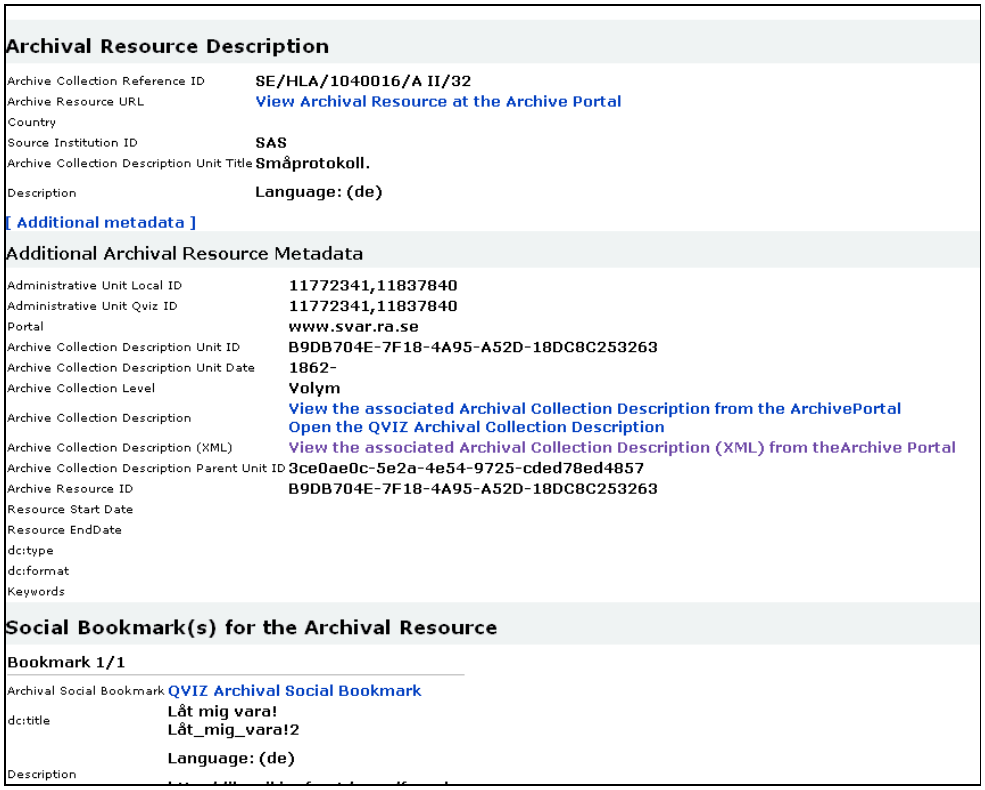


Figure 72: Archive Resource Description with detail list of the Site's Archival Social Bookmarks.

Additional parts of the visualization, that summarize metadata whether it exists or not; and all archival social bookmarks.

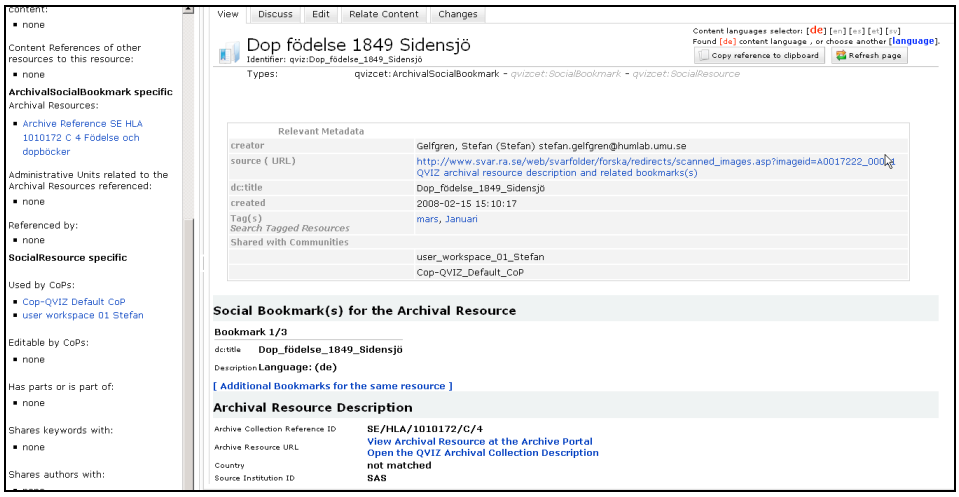


Figure 73: Archival Social Bookmark.

The archive social bookmark view showing the bookmark data, resource description and a list of all other bookmarks for this resource description.
A brief list is also displayed in the **Relationships Overview** panel

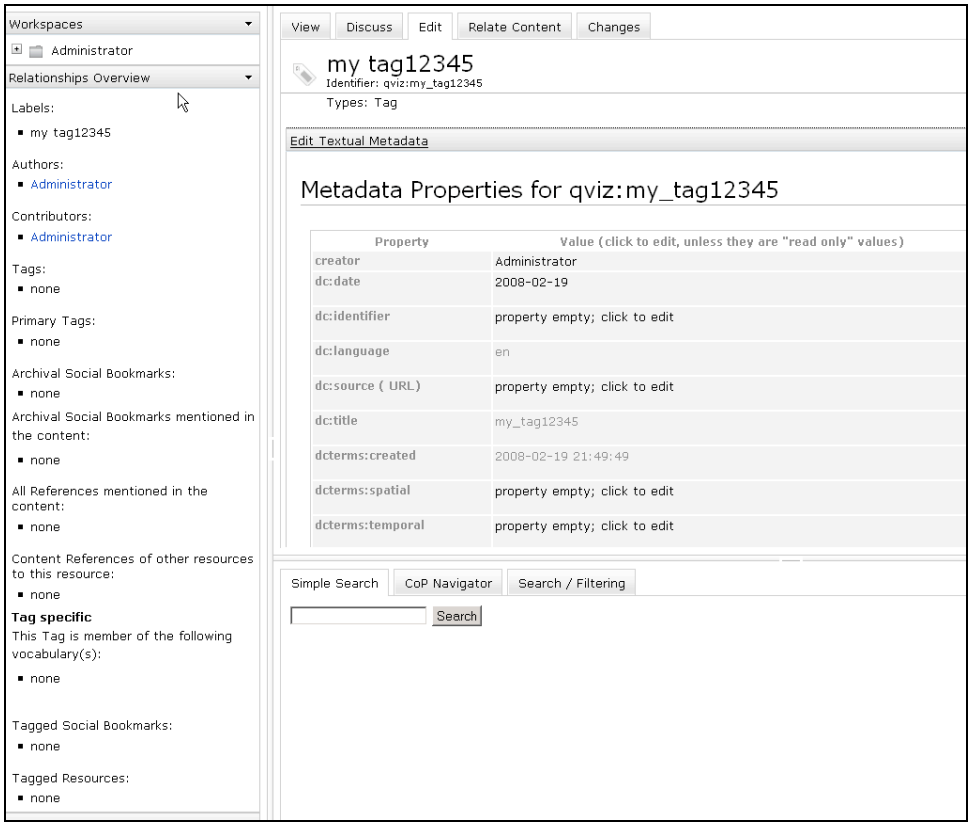
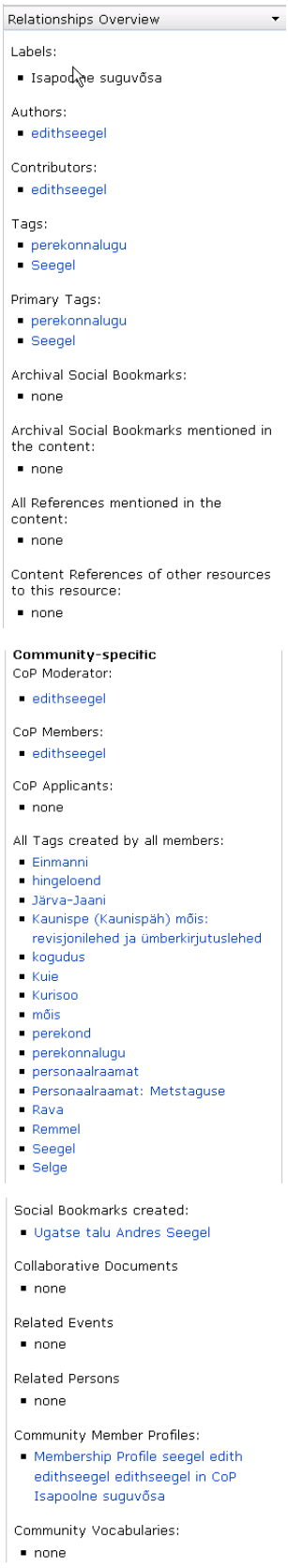


Figure 74: Metadata and Relationships overview for Tag resource.

5.4.8 View Relationships Overview

The relationships overview is a visualization of the resource relationships within the knowledge base. The template and queries can be modified by the Administrator to suit the needs of the communities. Each query set is associated with the resource's type and all inherited types. For example, there are certain queries shared among all resources because they all share the same type of "Entity", however, in the following example, the resource type is "Community of Practice" and these queries are specific only for resources of this type.

Figure 75: Relationships Overview (CoP).



Annex

A1. Contextual Menu Actions

The QVIZ context menu items are activated on supported hyperlinks by applying the right mouse click over a hyperlink within the workspace and the search and result listings areas

Menu Item	***What does it do?***
Default behavior on hyperlinks	For folders: List items within the workspace folder For items: View item
Copy Reference and Paste	Items from workspace folders or result lists can be linked to workspace folders or included in content (e.g. article) via the WYSIWYG editors link icon.
Workspace	
Create New Subfolder	Creates a new subfolder in a folder collection, the user must chose a name for it.
Rename	Rename folder in workspace
Copy	Follow-up by selecting a Paste reference from a context menu (right mouse click)
Paste Reference	Paste reference to either: 1. Workspace user managed folder (create a folder or subfolders first) 2. To the WYSIWYG editor by using its link icon. A dialog box will help the user paste the reference into the content
Cut	Remove reference to a resource from folder
Refresh	Refreshes the workspace folder children or refreshes any folder or table contents.
List	From workspace folders, the user can list a sortable detailed result lists in the search result area.
View	View the resource in the content perspective
Communities	
Create CoP	A user may create a new community. This option opens a CoP form for supplying required properties.
List Cop Members	Lists all members of a selected community
Edit CoP membership	A user may edit his/her community membership profile and state his/her motivation.
Edit CoP properties	The moderator may edit properties and save them. Alternatively, any user can open this form, but only the moderator can save changes.

Edit CoP member properties	When a user joins or applies to a CoP, a CoP membership user profile is created. Any user might open this form, but only the user (owner) of the profile can save it or remove themselves from the CoP. The moderator, cannot save the form, however they can act on the user via this form (remove or if the CoP is unrestricted, accept or reject the applicant if the CoP is restricted)
Join CoP	A user may join a CoP, however, if it is a restricted CoP, then the moderator should either reject or accept the user. By joining or applying to the CoP, a special User profile is created for the user which other users or moderator might view.
Select As Active CoP	Any content created is associated with the active CoP. By default, the default site CoP is selected if the user does not specifically set an active CoP.
General	
	New workspaces. Create a folder first before trying to paste anything to the workspace. The goal is to provide the first level of organization. Be sure to refresh the Community workspace or subfolders to see work from other members. For a new community, be sure to create at least one subfolder in the Community folder in order to paste references.

A2. Terminology

Term	Description
Archive Social Bookmark	A specialized or "typed" social bookmark, that associates a social bookmark a semantic description of the archive resource derived from the archive, called the **Archive Resource Description.** Is also called the QVIZ archive social bookmark. It uses contributed title, description, keywords and a "first" CoP with which the creator wishes to share. The archive social bookmark is an important object in QVIZ, especially the CET because it provides a user's context or perspective about an archive resource. Because it can be associated with particular communities and a new collaborative resources (such as articles, and discussions, tags), a semantic net forms that can enhances the access to archive resources and the contexts with which they are used.
Archive Social bookmarking	An activity that described as a user saving an archive social bookmark from an archive portal into the collaborative environment.
Archive Resource Description	The description contains metadata extracted from the archive systems, it includes, such metadata as administrative unit, archive collection description metadata, service references to obtain further HTML or XML collection metadata, reference to the archive resource. Compared to the Archive social bookmark, the archive resource description should not necessarily reflect a user context. It is available for reuse by all users in potentially new bookmarks (if they can make new social bookmarks or copy an existing archive social bookmark based on this archive resource description). QVIZ only considers that archive social bookmarks are inserted or associated to new content (articles or discussions, otherwise the user or community context is lost)
Browser	A web browser, currently, the 3rd party supporting tools have some issues with Internet Explorer (IE) browser. QVIZ is dependent on those tools. Archive resource URL references can be copied and opened in Internet Explorer if needed. Configuring a Firefox plug-in such as http://ieview.mozdev.org/ might also be possible to open particular archive sites using IE

Content perspective, Content Tabs	The main central part of the tool, which includes a number of activities. Currently most relevant are the View and Edit tabs with the WYSIWYG editor.
CoP	Community of Practice http://en.wikipedia.org/wiki/Community_of_practice
CoP, Restricted Community Of Practice	A restricted CoP requires that a user apply to a CoP for membership and for a Moderator to accept the user into the CoP. The applicant fills out a user profile for the CoP and submits it. A moderator then acts upon it by first reviewing a list of all CoP members and Applicants, selecting an applicant request, and either accepting or rejecting the application. After accepting the applicant, the user becomes member. The user can view My CoPs or the CoP membership list of the CoP to determine if they have been included as a member in the CoP.
SKOS	Simple Knowledge Organization Systems http://www.w3.org/2004/02/skos/ A format for describing controlled vocabularies as taxonomies, glossaries, classification lists, thesauri, etc.
UI, UIs	User Interface(s)
Workspace area	A panel in the workspace devoted to workspace views
User workspace	A workspace shared by users where they can organize materials in folders, each folder is also a resource that can be potentially included in content as a reference or associated semantically by explicit relationships available in the RELATE tab of the content perspective
CoP workspace	Similar to a CoP workspace, however, within the CoP
WYSIWYG Editor	What You See Is What You Get (WYSIWYG). While you edit, the presentation is "close" to what you expect, without having to actually edit the underlying HTML. "Close" is, of course, relative. http://en.wikipedia.org/wiki/WYSIWYG

A3. Abbreviations

AU	Administrative Unit
AUO	Administrative Unit Ontology
CET	Collaborative Environment Tools
CoP	Communities of Practice
FQC	Faceted Query Component
HoP	History of Point (tool)
TSC	Time-Spatial Component