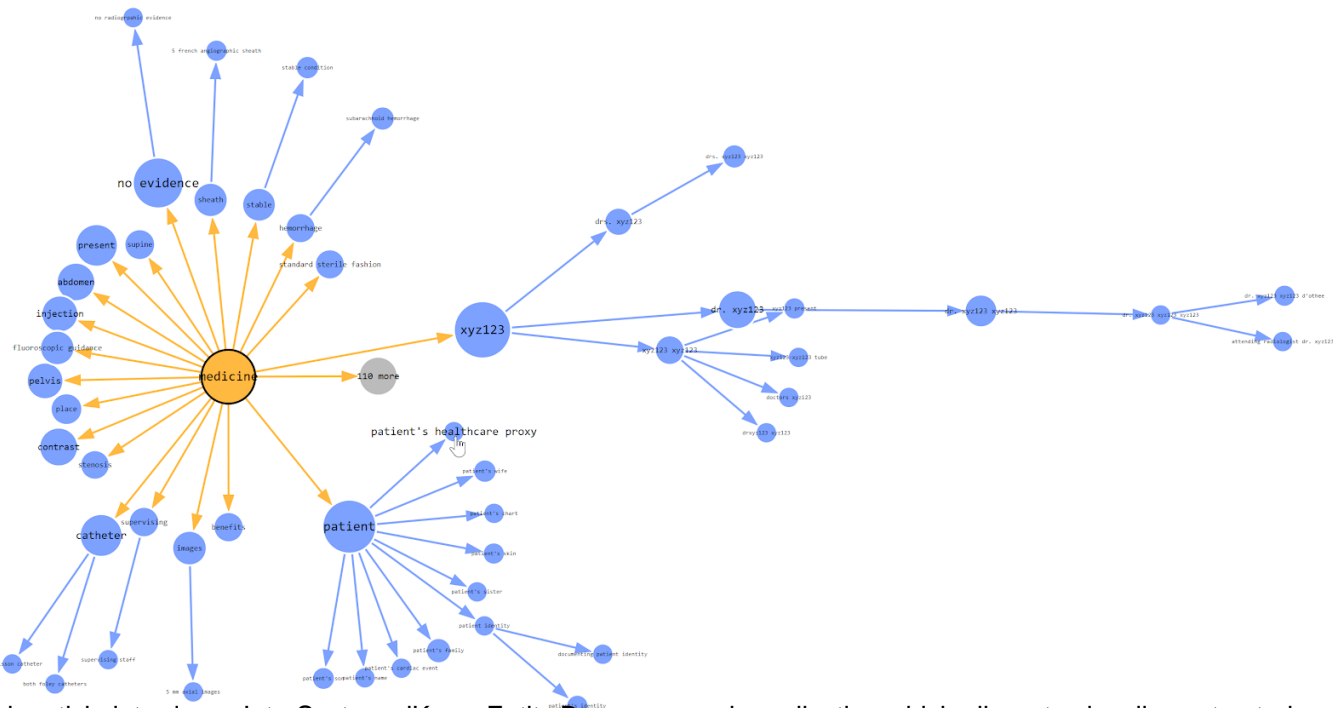


[Nikita Savchenko](#) · Jan 5, 2019 6m read

Explore Text Data with InterSystems iKnow Entity Browser



This article introduces InterSystems iKnow Entity Browser, a web application which allows to visualize extracted and organized text data mined from a large number of texts, powered by InterSystems iKnow technology, which is also known as InterSystems Text Analytics in InterSystems IRIS. Feel free to [play with the demo](#) of this tool or learn more about it on [InterSystems Open Exchange](#).

I started the development of this project in late 2016. From now on, [my](#) iKnow Entity Browser is used around the world by those who use InterSystems technology in their stack and those who do text mining. This article should have appeared earlier, however, it's never late to tell something about the useful stuff!

What InterSystems Text Analytics is About

[InterSystems iKnow](#) (or InterSystems Text Analytics) is an embeddable NLP technology which allows to extract meaningful data from texts. Well, not only just to extract this data, but also to gather it, link, filter and prioritize. As a result, InterSystems iKnow provides a solid ground for building data applications for data mining.

From the programming perspective, iKnow provides a rich API which allows to embed this technology to any application, regardless of its programming language. iKnow Entity Browser uses this API to visualize the processed data in a form of a tree of concepts and relations.

Before InterSystems iKnow Entity Browser was released, the only out-of-the-box solution available for data exploration was the embedded iKnow viewer, which is shipped together with InterSystems' Cache-based and IRIS products. This viewer features many useful tools primarily for searching something in the processed text (in iKnow it is called domain), while iKnow Entity Browser is created also to visualize and organize concepts in a text.

Top Concepts		frequency	dominance
28 июля		7162	299
сегодня		4748	3142
люди		3555	2242
11:00		3503	86
жизнь		3247	1995
россии		3194	1822
человек		3095	1805
деньги		2776	1636
помощь		2682	1801
жизни		2628	1624

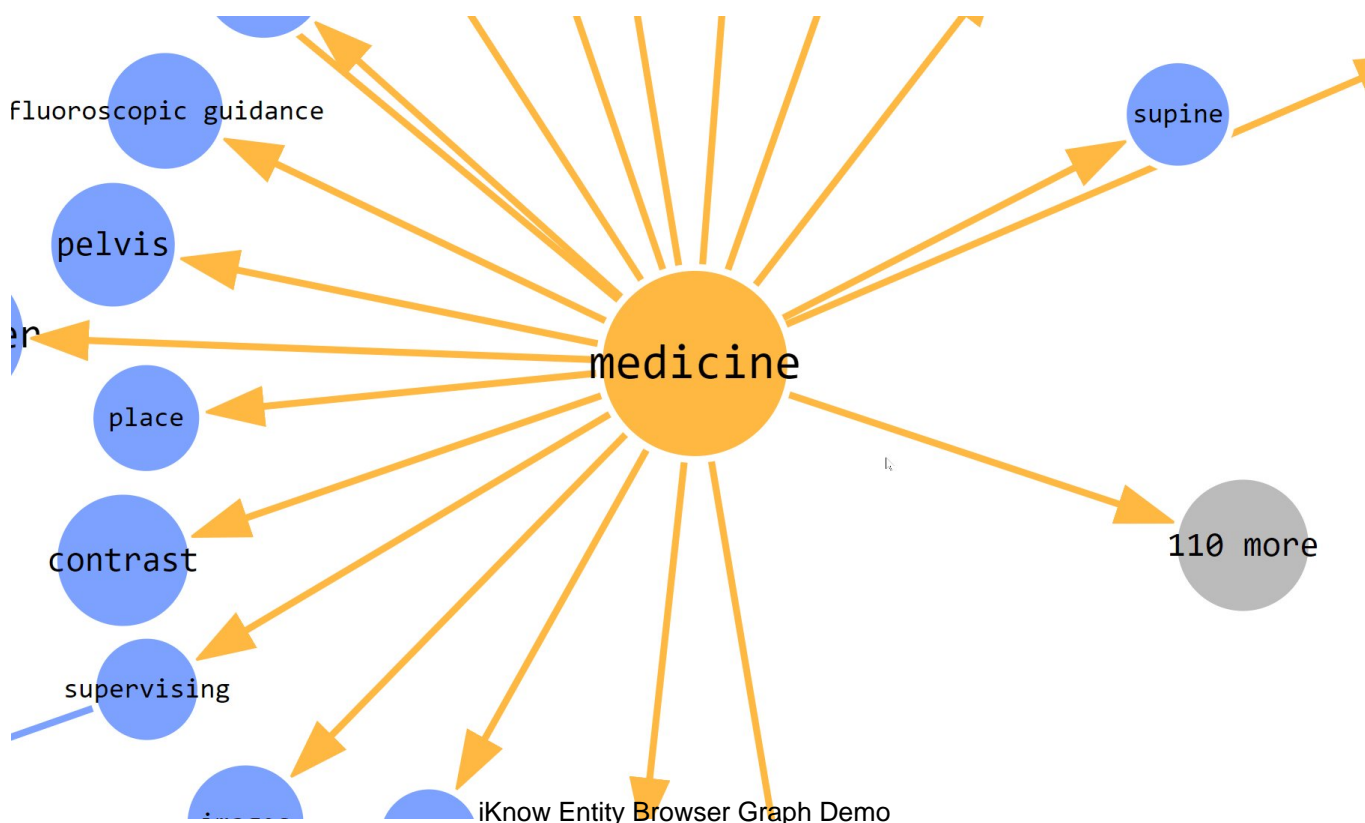
Similar Entities			
сегодня		4748	3142
сегодняшний день		283	266
не сегодня		39	32
сегодняшняя пресс-конференция		38	21
сегодняшнем ролике		32	32
сегодня утром		30	29
сегодня 2010 год		25	25
сегодня-завтра		25	25
сегодня ночью		22	21
день сегодняшний		21	21

iKnow Knowledge Portal Look

iKnow Entity Browser

iKnow Entity Browser is [an open-source project](#), meaning that anyone can contribute to its core. Here's the list of features that have been developed:

- visualization of similar and related concepts as a tree (snowflake diagram), zoom in and out support;
- graph editing tools: selection, deletion, undo & redo operations;
- data source customization, which also enables exploring the graph on remote servers;
- customizable tabular view of all entities presented on a graph, which can also be exported as a *.csv spreadsheet;
- mobile-friendly, touch-compatible, responsive user interface.



Installation

iKnow Entity Browser installation is pretty straightforward. Download the [latest release \(XML file\)](#) of the application and import it into iKnow-enabled namespace (for example, SAMPLES). This works with all latest InterSystems product releases, including InterSystems IRIS data platform. To import XML file, you can drag & drop the file onto the Studio (Atelier) window. Alternatively, you can import the file using the system management portal, in system explorer — classes. Then, open your browser at <http://localhost:57772/EntityBrowser/> web page (change the host/port respectively to your server's setup and mind to append the trailing slash / at the end of the URL).

To delete the application, simply delete the EntityBrowser package from Studio/Atelier. The installed web application will be deleted automatically if it wasn't modified since installation, the same way as it gets created during the installation.

Currently, to use iKnow Entity Browser in different namespaces, you need to import it to each iKnow-enabled namespace, and manually set up web application (for example, you can clone /EntityBrowser application and rename it). Change the settings inside the web application to corresponding ones in this case (read the customization guide below).

If you installed iKnow Entity Browser on the server and made the web application public, you can connect to this server from any front end, for example, even from [this demo application](#).

Customization

Application's setting menu, located in the top right corner of the user interface allows to customize the appearance and data source. In the settings menu, you can specify the following (see the image below):

1. Data source URL, which identifies the server with installed iKnow entity browser (/EntityBrowser web application).
2. Domain name. When you create a new domain in InterSystems iKnow, you specify the name of the domain. This name goes into domain name input.
3. A seed concept name which builds the graph. By default, iKnow Entity Browser builds the graph starting from related concepts to the seed concept you specify, however, you can change it to be similar concepts, using the drop-down menu on the left side from the seed concept input or the drop-down menu in the main view if enabled.
4. Whether or not to place the seed concept input in the main view.
5. Whether or not to place the query type drop-down menu in the main view.
6. Whether or not to show hidden nodes in the tabular view. Hidden nodes are those which are not expanded in a view but present in a query result.
7. Columns that are displayed in a tabular view. Here you can customize the column name and select a value it displays (ID, inbound edge type, label, score, spread, frequency, parent concept's label, parent concept's id).
8. Reset all settings to defaults.

General Settings

Changing any settings will refresh all the data.

Data source: <http://localhost:57772/EntityBrowser/api/domain/1/related> ▾ medicine

☐ Keep seed option in view ☒ Keep query type option in view

Tabular View Settings

☐ Show hidden nodes in table

Columns:

ID : id	Type : edgeType
Label : label	Score : entities.0.score
Spread : entities.0.spread	Frequency : entities.0.frequency
Parent : parent.label	

Reset Settings

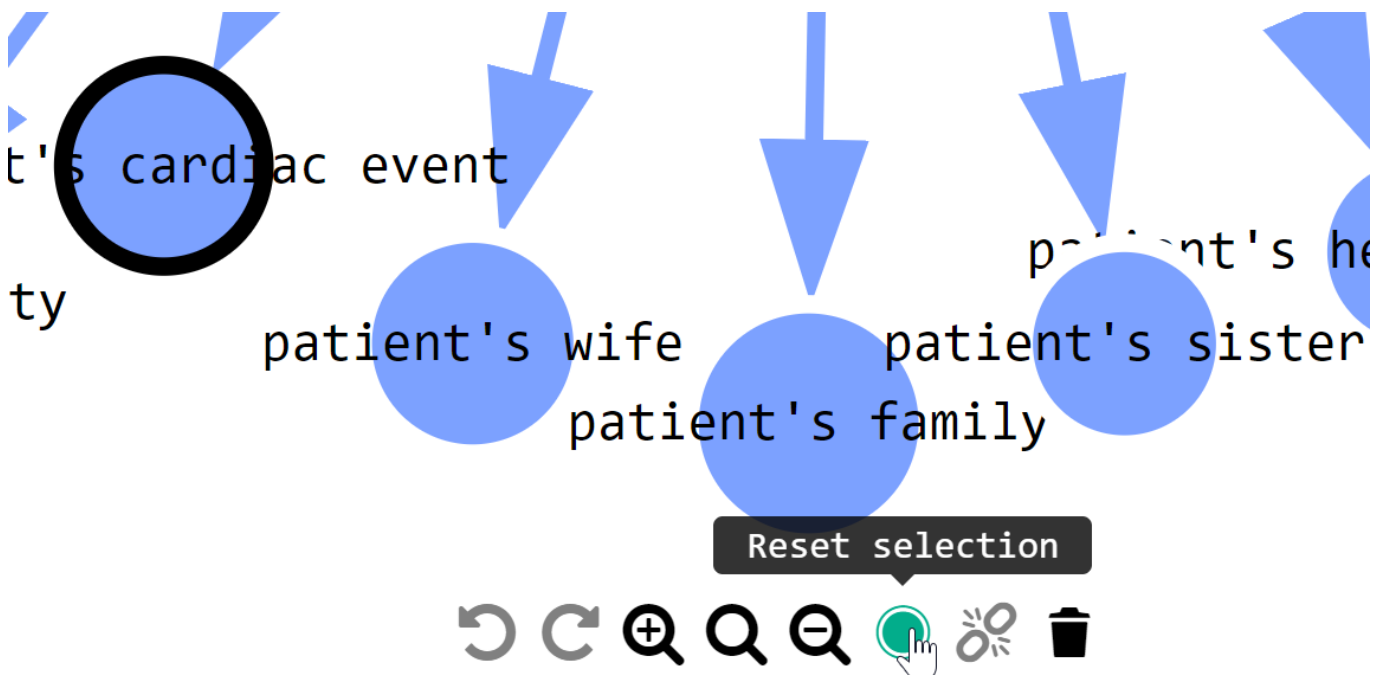
iKnow Entity Browser v1.1.5 by Nikita

iKnow Entity Browser Settings

The Graph

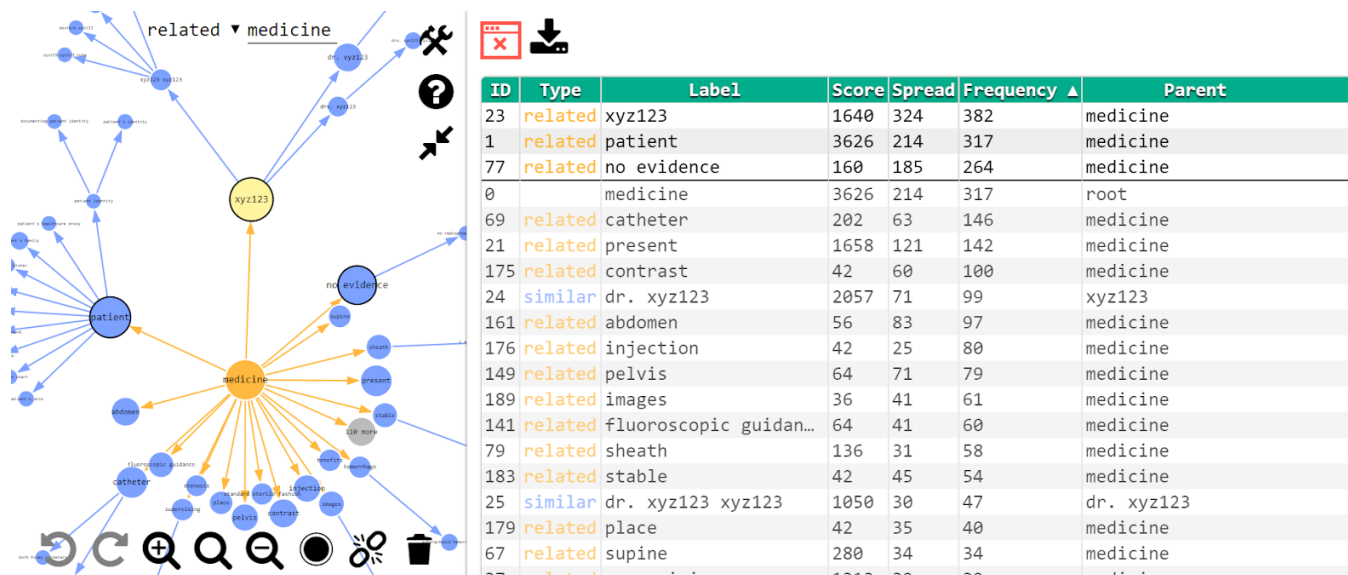
Once the seed concept is specified in settings, iKnow Entity Browser builds a graph of similar or related concepts to the seed concept. You can play with this graph by dragging its nodes, however, the physical force will always try to organize it in a form of the snowflake diagram.

The graph can be edited using the controls in the bottom of the screen. This includes undo/redo buttons, zoom in/out and reset zoom buttons, reset selection button, unlink and delete selection buttons. Hovering over any of these buttons displays a tooltip.



In case you need a list of selected concepts, you can toggle a tabular view by pressing on the corresponding button in the top right corner. Everything you do on the graph stays in sync with the tabular view and vice versa.

In the tabular view, once you hover over one of the rows, the corresponding node is highlighted on the graph. If you click the row, the graph view automatically focuses on the corresponding node. As well as on the graph, you can click buttons in table rows to select/deselect nodes.



Tabular View

Once you have a selection of nodes, you can export them as a table in *.csv format. Press the tabular view button in the top right corner for the table to appear and then you'll find the "Export" button. This will export all selected nodes in a form of a table, the same table as you have in a tabular view.

There's More

[iKnow Entity Browser](#) is just one of the numerous projects I did for InterSystems corporation. Here are some if you haven't seen these projects yet: [WebTerminal](#), [Visual Editor](#), [Class Explorer](#), [Light Pivot Table](#), [GlobalsDB Admin](#). Find these and other InterSystems-related projects on InterSystems Marketplace.

All of my projects are open sourced, allowing others to contribute. The code of these projects is [available on GitHub](#). You can also use their code as an example to build your own application on top of InterSystems' products. If you take a closer look, you'll find out that most of them are installable packages, shipped in a single XML file. If you are curious about using the same strategy for your packages, check [this article](#).

Hope you'll find iKnow Entity Browser and other projects useful! Enjoy!

[#Analytics](#) [#API](#) [#Frontend](#) [#Graph](#) [#Open Source](#) [#Visualization](#) [#InterSystems Natural Language Processing \(NLP, iKnow\)](#) [#InterSystems IRIS](#) [#Open Exchange](#)

Source URL: <https://community.intersystems.com/post/explore-text-data-intersystems-iknow-entity-browser>