CALUMMA Web Interface

User Manual

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# 1   Introduction

Calumma is a new and simplified generation of data-management software for complex data with a variety of interfaces and visualizations. Combined with a high usability and a user-friendly design. This manual is designated to enable the user to initially start working with the web interface and explains the interface and how to manage your data. By using the web interface the user is able to quickly set up a database structure within a few minutes and add, edit or delete data. Export options, filter possibilities and a comprehensible overview of the inserted data are one of the main features the web interface provides.

1.1   Start

After the defined url to the Calumma web interface of the new project was called in the browser, the login screen appears. The user now has to login with the credentials the RISC Software GmbH provided and click the "Log in"-button. If problems with your credentials occur, please contact the RISC Software GmbH.
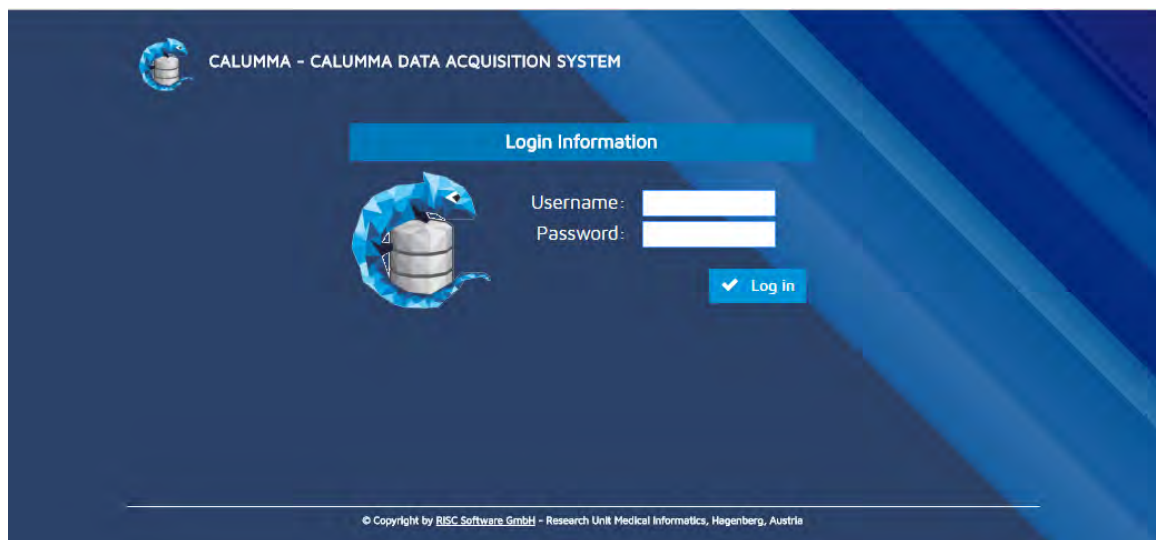
2 Manage Data

For adding new data through the web interface, the ontological structure has to be defined before and set up. This is possible to accomplish either in the Calumma Management Tool or in the web interface itself (In most cases, this is done by the RISC Software GmbH). If no structure is provided, the following message is showing after login: "There are no entities available". If the structure has already been set up, the following screen is displayed.
In the white bar on the left hand side, the created entities are displayed. In this example an entity with the name "patient" was created. The list of existing patients is empty because no data was added till now. Go to the next step to find out how data can be added to the ontology.
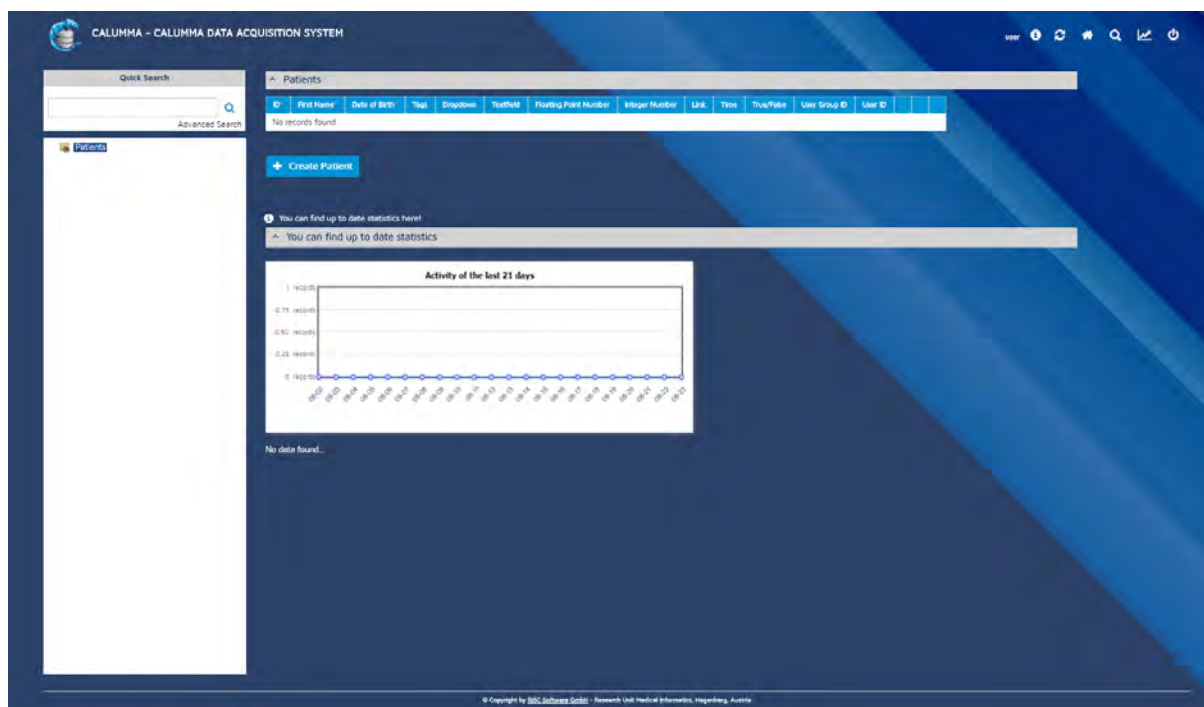
2.1 Add Data

When pushing the "Create Patient"-button, an interface for filling in data concerning the patient is displayed. "Patient" is representative for the name of the entity which was defined when setting up the ontology. The form fields displayed in the "Create Patient"-form were also defined when setting up the ontology and are attributes of the entity.
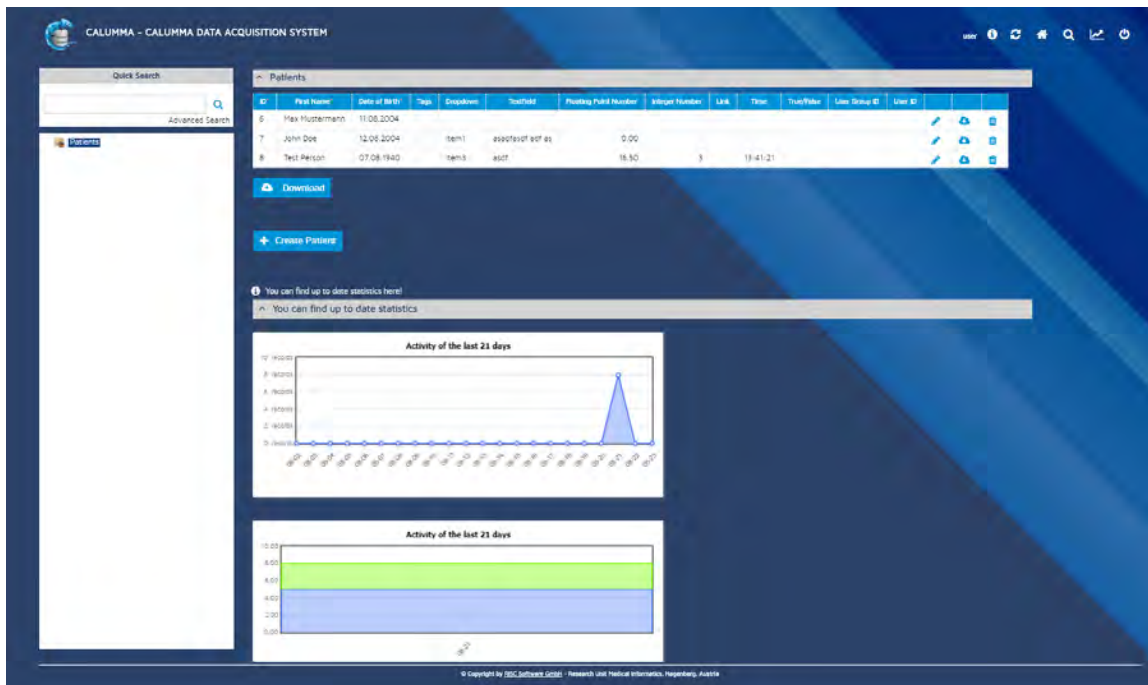
Through clicking on the "Create"-button the entity (patient) is created and automatically appears in the home-display. All mandatory fields with * needs to be filled out . After creation, a summary of the patient's data is shown:

By clicking on the "house" in the menu bar, the user returns to the home display and sees all inserted data (see next screenshot).

2.2   Edit Data

By selecting a record in the data table on the homepage, the user returns to the patient's interface where an "Edit"-button is provided (also see screenshot in section 2.1). The user defined attributes of the entity (patient) can be changed each and saved afterward. The fields in the top of the window are the defined attributes. The greyish information in the bottom of the window is meta information concerning the saved record itself. There, information for example who created the record, when and which relations to other records do exist and much more can be found.

When pushing the "Save"-Button all changes are immediately stored in the database. Via the "Delete"-Button, a patient-entity can be removed and the user is returned to the home screen.

2.3   Entites

Add Entities

In this demo scheme a patient is defined as root entity and can have one or more diagnoses. A diagnosis can be added when the user selects a patient on the homepage, comes to the "Edit"-View where the user can then push the button "Add Diagnosis".
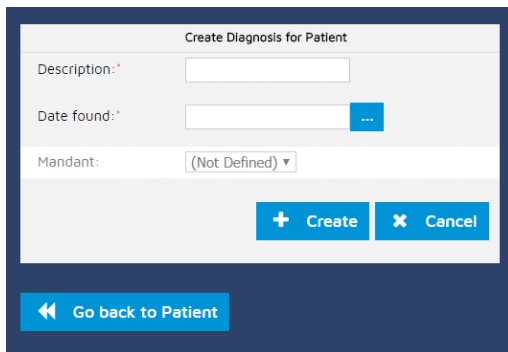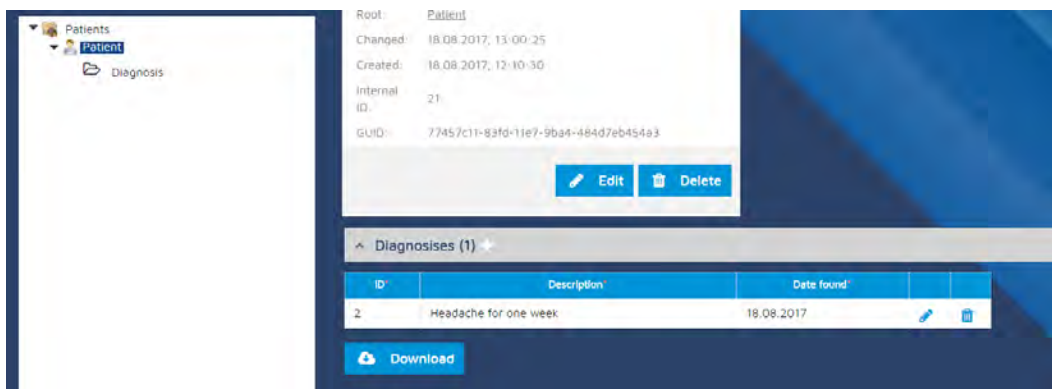

In the next step, the user can complete the fields required for a the diagnosis and click on "Create" when all required data are filled in.

In case one or more diagnoses are added, an additional tree branch on the Entity Explorer on the left side of the page appears. Below the patient's data, a new drop down menu is visible which displays all the diagnoses which are related to the patient.

Edit Diagnosis

If the user wants to edit a diagnosis, simply click on the selected diagnosis below the patient's info box and the "Edit"-Interface appears. The data can again be edited in the interface and through a click on the "Save"-Button the diagnosis-record is updated. The user is back to the diagnosis overview. When pushing the "Delete"-Button, the selected diagnosis can be deleted and removed from the database.

2.4 Form Field Types

When the user wants to add data to the database, the Calumma Web Interface provides different input methods of data for the different data types. These are described in this section of the manual and are needed when the user adds or edits data in the web interface.
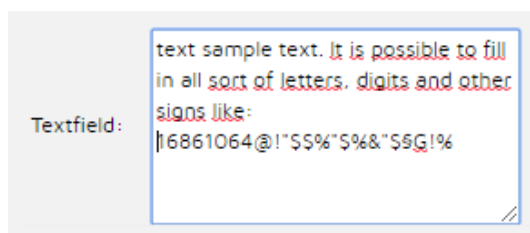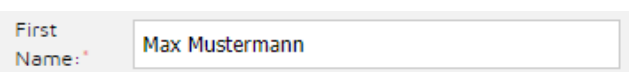
Text Input and Text Area
Simple text input, including letters, digits and other signs which are valid as input.

Date Input Field

In a date input field, a specific date can be selected in a calender which appears when the user clicks on the button marked with three points next to the input field. Alternatively, the user can insert the date manually in the input field next to the button. Note: Manually inserted dates should satisfy the following format: dd.mm.yyyy
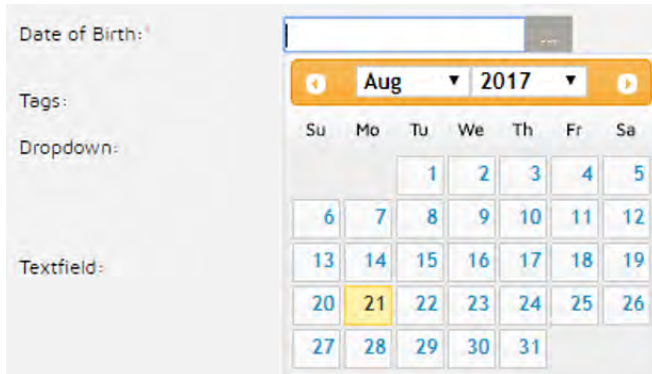

Tags

In a Tag input field, tags can be attached, comprising one or more words. To create a tag, the user has to type in the word(s) which should be in the tag and press ENTER if the tag should be generated. On enter, the typical tag display is shown. Type again and press ENTER again to generate more tags.

Dropdown Field
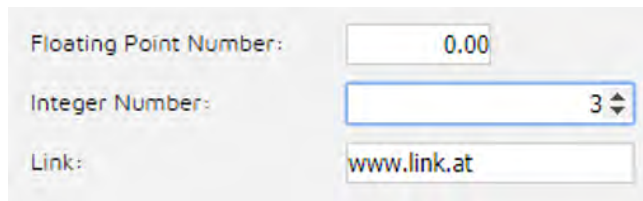
In a dropdown field, a list of predefined items is displayed when the user clicks on the small bottom-arrow on the right. Multiple selection is also possible, but needs to be initiated in the Calumma Management Tool. The names of the items need to be defined in the Calumma Management Tool.
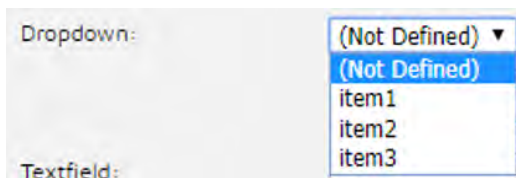
Number Input Fields and Link Input

For inserting numbers in different formats, two different methods are provided in the Calumma Web Interface. First, there is the "Floating Point Number", storing numbers with a comma. Second, there is the "Integer Number"-Input field which saves whole numbers in the database.

The third input field below (link) is used for providing web links.
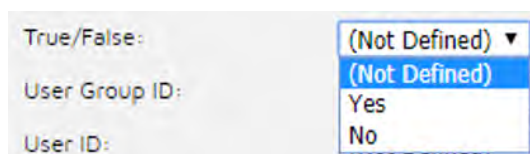
Time Input

For inserting time values a separate input editor appears when clicking on the button marked by three points next to the 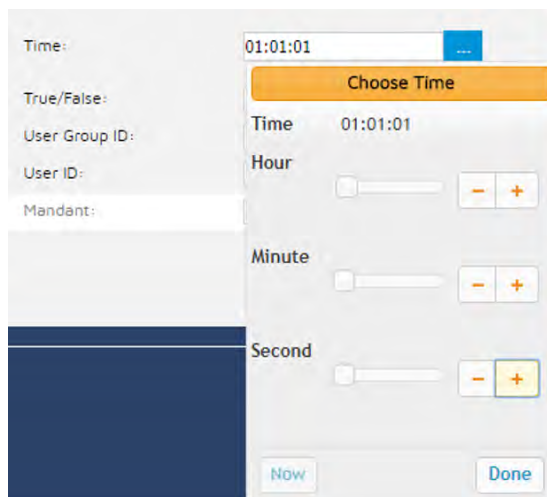input field. The editor appearing is shown in the following screenshot. Alternatively, the user can type in the time value manually which is required to be in the format: 00:00:00.

True/False Input Field

If the user wants to set the value of a field to YES or NO, another dropdown menu comprising those two values is provided.

User ID and User Group ID Input Fields

For selecting a user group or a specific user who is registered in the Calumma Management Tool, two dropdown menus where a User Group ID or the name of a user, already registered, is provided.

File Drag 'n' Drop Field

If the user wants to upload a file, this can be done either by

- clicking on the "Datei auswählen"-button,
- just drag and drop the file into the dashed rectangle or
- click on the rectangle and select the file to upload.


After the upload was successful, the name of the uploaded image is displayed instead of "Keine ausgewählt".

Next to images, pdfs, word files and several other formats can be uploaded with this data input field. If a certain file format is not working, please contact the RISC Software GmbH.

3   Search Function

On the homepage of the Calumma Web Interface, a quick-search field is provided above the explorer (tree) on the top left corner of the page.
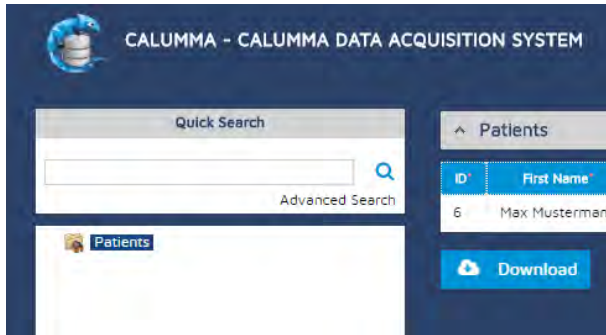
The user can either fill in the word he/she wants to search for directly into the input field, or can click "Advanced Search" below the input field to reach an advanced search interface. If merely a type in one word is searched for, e.g. "Max" and the user presses ENTER (or on the magnifier symbol next to the input field) the search result looks like this:
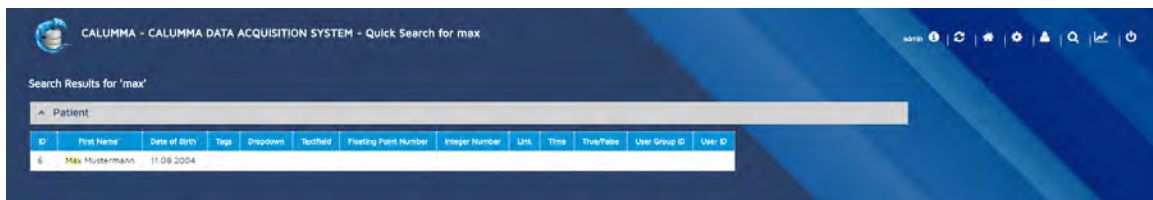
When the user clicks on the entry, the patient's information is displayed and can be edited or deleted or a diagnosis added.

Advanced Search

If an advanced search is desired, click on the "Advanced search" below the Quick Search Input field or on the magnifier symbol in the main-menu. The magnifier symbol is the third symbol from right in the main-menu of the web interface (see the following screenshot).

After clicking on the magnifier or on the advanced search, the following form is displayed:

In the advanced search form, values can be specifically searched for in to different ways: The user can search either for the attribute name and which value it should match, or search for values where the value of the attribute, e.g. Link is NULL (as the screenshot shows). The outcome of the advanced search form looks like this:
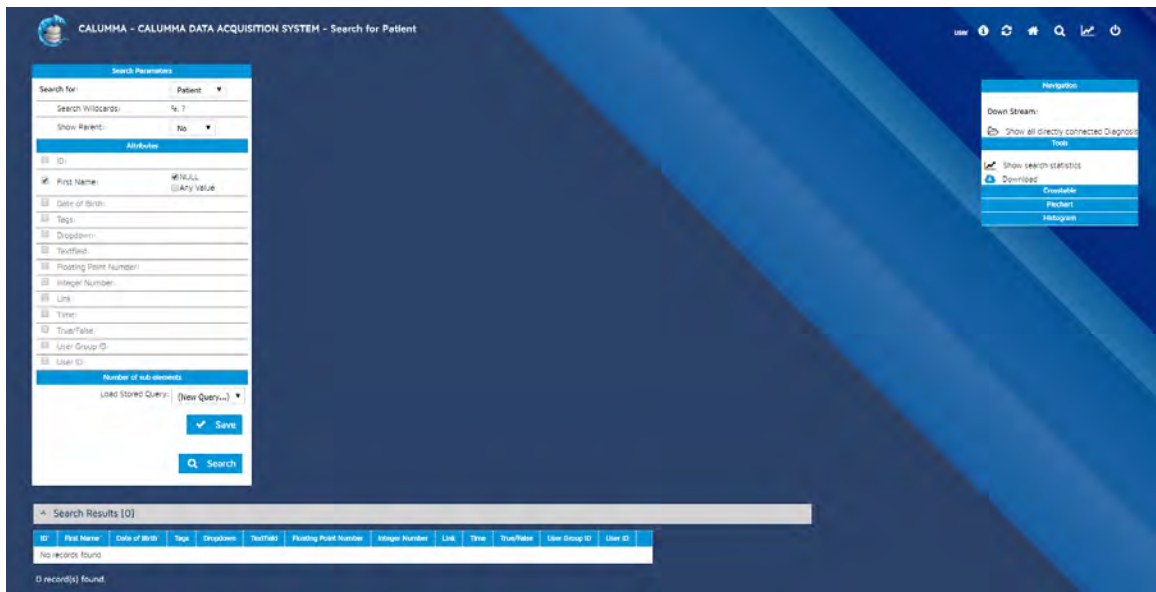
The box on the right hand side displays some further relation-analysis methods or analysis methods which the user can select. Especially useful in this context is the "Show all directly connected Diagnosis" link which summarizes all diagnoses which are linked to the searched for patient (in this case Max Mustermann"). Furthermore crosstables, search statistics, piecharts or a histograms can as well be created and downloaded on the advanced search result page.
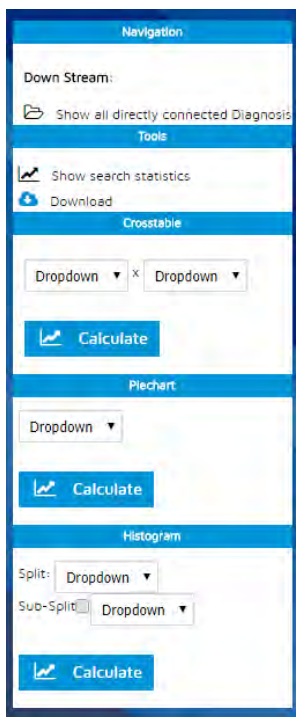
4 Statistics

At the bottom of the homepage the user can find a dropdown area which is called "You can find up to date statistics" with two diagrams below. The first diagram depicts a chart showing activities of the last 21 days. The blue line represents overall number of newly created records in this time period.

The second graph reveals the number of records of one entity (one color for each type of entity) added in the last 21 days. In contrast to that, the first graph only shows the overall number of records.
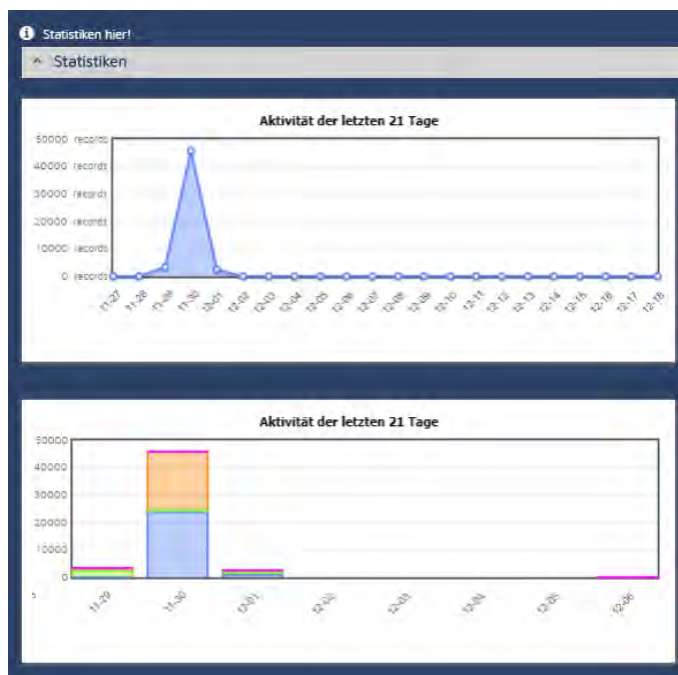
When the user clicks on the second menu item from the right side -- the statistics sign -- the user is forwarded to another evaluation of the inserted data.

These statistics describe the attributes of the records in detail and the assorted characteristics e.g. with dropdown menus. The example statistic in the following screenshot shows for example that item 2 has never be selected. This can be seen by the (0) behind the numbers. Another information the user can perceive is for example that the average floating number inserted was 8.25.

In the last row of the patients statistic another key figure is displayed: it describes the

"Average of Diagnosis" which is in this case 1.667. This means that there are on average 1.6 diagnoses added to each patient. A csv-download of all three inserted patients is provided at the bottom.

In the screenshot below, no statistics about diagnoses are displayed because no form field with fixed values is provided in relation with the diagnosis. Only date and textfields are used with diagnosis, whereas no comparison can take place with those types of fields.

5   Admin-Menu

The admin-menu is only available for users with admin status. The admin status can be assigned to a user in the Calumma Management Tool or the admin can assign this status directly in the admin-menu of the Calumma Web Interface .
A normal user without permission sees the menu like this:
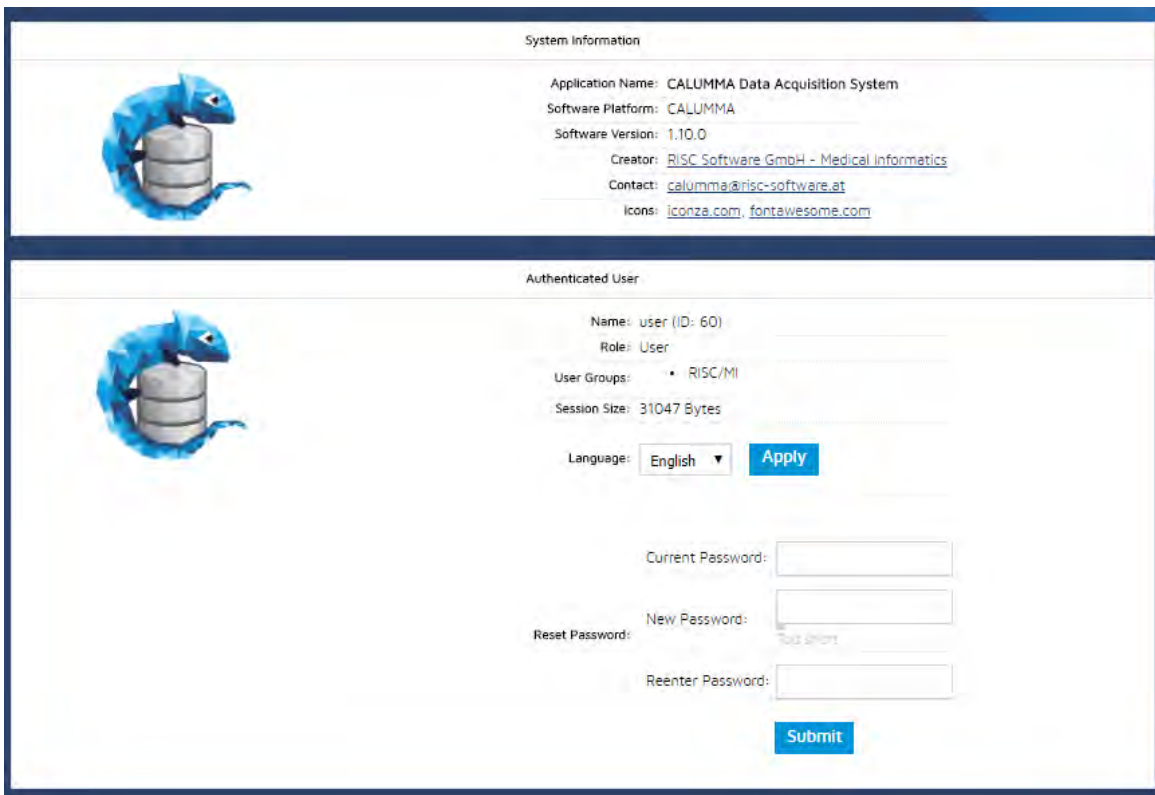

 The admin view provides some more icons:

In the following, all icons will be discussed and described in detail.

Information Sign
When the user clicks on the information sign, the system information and user information is shown. In this window, the language of the Calumma Web Interface can be set and the password can be changed.

Refresh and Home Symbols

The refresh symbol, marked characteristically by two arrows entangled to a circle, is placed next to the information sign and updates the current window and records. When the user clicks on the house symbol, the user is returned to the start page of the Calumma Web Interface.

Settings

The third icon from the left is a gear-symbol which forwards the user to the overall settings page of the Calumma Web Interface. A submenu on the left side appears, providing the following menu points:
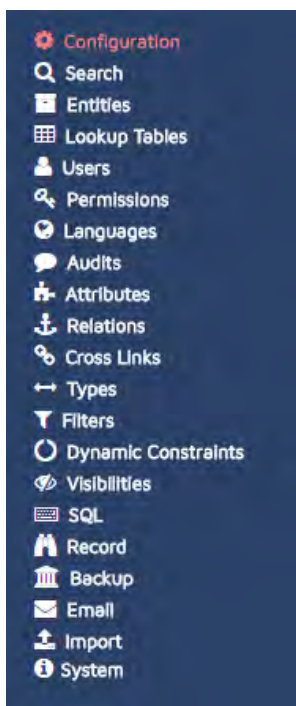
Configuration

When the user clicks on the first item (Configuration), a dropdown menu with the following items appears in the main section:

- **Basic Configuration** (here the user can set preferences such as title of the Calumma instance, logout time, date format and much more)
- **Display Configuration** (here the user can set e.g. the number of displayed records on one page or if the search field should be displayed on the homepage)
- **AJAX Support** (defines the way queries are handled e.g. after a form is sent)
- **Filter and Search Assistents** (sets the minimum number of records and lookup records to be displayed after search)
- **Activity Log** (this handles weather the log should be shown or not and how many articles should be displayed in the log. In addition width and height of statistic diagrams can be

set)
- **LDAP Support** (if the user's company has installed LDAP users, it is possible to enable a login with these accounts in this configuration setting)
- **Maintenance** (here the admin user can set the Calumma Web Interface to maintenance mode, if for example an update needs to be uploaded. All records can be unlocked in this option, too.)
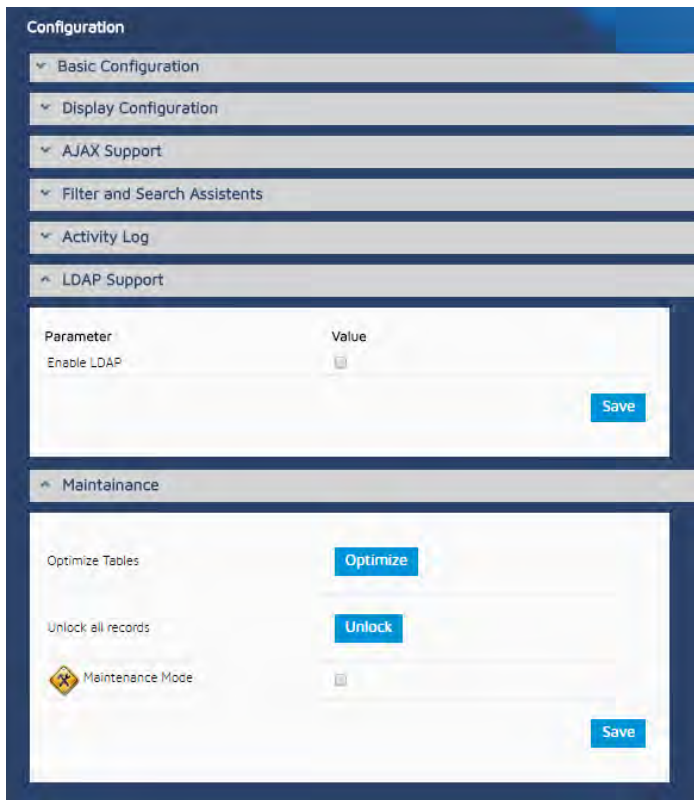
Search

Selecting the search submenu item is another way to reach the advanced search options already described in section "Search Function" in this chapter.

Entities

In the menu point "Entities" a list of the already created entities and their type is displayed. With the delete, check, edit and recreation buttons the admin user can edit the entities. Changing fields in this table affects already inserted data and should be handled with care.
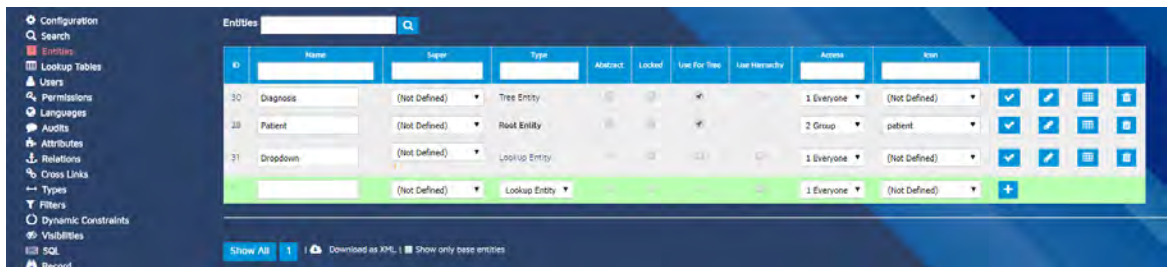
Lookup Tables

The menu point "Lookup Tables" handles the dropdown items which are called lookups. In the first table in the main section of the page, a dropdown input field is provided on the top where the user can select the dropdown field he/she wants to edit.
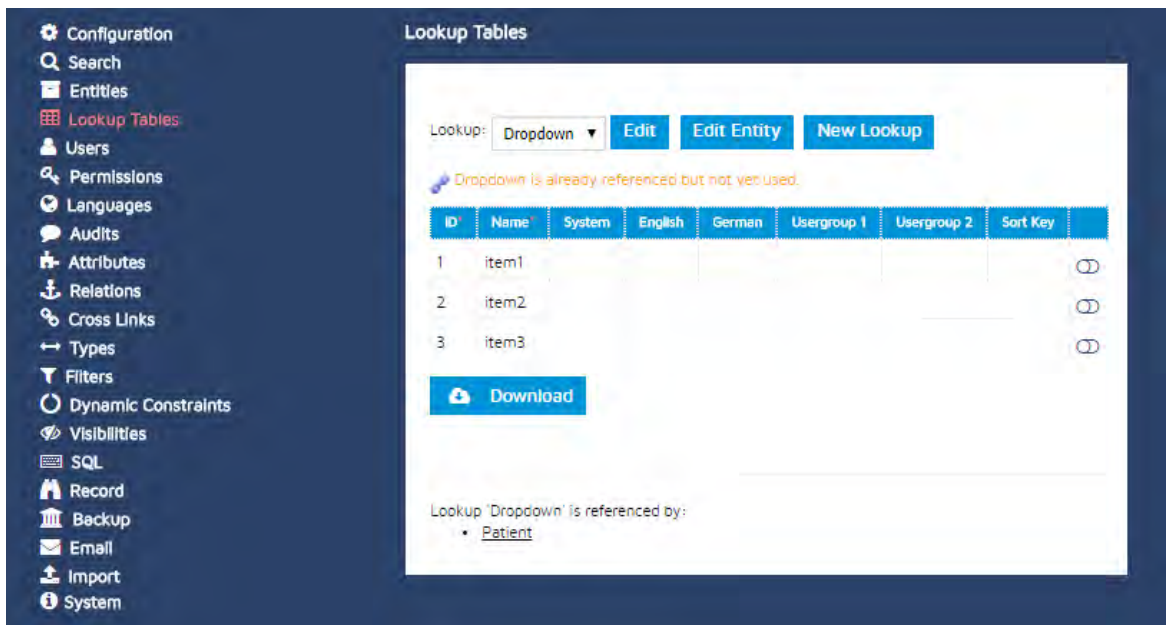
When the user has selected the ones he/she wants to edit, the user has to click "edit" next to the dropdown. A new page is displayed where the user can click into the fields and edit the values respectively. After the new name, for example, is inserted, the user should not forget to click the "check"-Symbol on the right side and press "Finish" in the end after all changes are completed.

In the last row in the edit view it is possible to add another item. With '+' a new item can be added to the lookup.

With the option at the bottom "Add lookup relation to:" it is possible to create another dropdown menu, for example to the "diagnosis" entity.

Users

In the User-menu, the admin has the possibility to manage the users which have access to the Calumma Web Interface and also to the Calumma Management Tool. The users displayed under this menu point have access on the one hand to the Calumma Web Interface and on the other hand to the Calumma Management Tool. If data of a certain user is changed, the admin has to click the "check" symbol to save the data into the database. Further, the language of the Calumma Web Interface can be set in this menu (separately for each user, either to German or English).

In the other dropdown (User Groups), user groups can be created to which users can be assigned respectively.

Permissions

In the permissions-menu the admin user can set the permission for each user group. The screenshot shows an example where the RISC/MI user group was selected and where permissions were assigned. In this example the user of this user group can create and read a diagnosis but is not allowed to update or delete a diagnosis.

Language

In the language-menu the user can set special translations for certain fields in Calumma. For example he/she can add a German translation to "Patient". In case the German language is selected, all patients are called "PatientInnen". With a click on the save-symbol at the end of the row the user saves the translations into the database.

Audits

An overview of all interactions performed, can be found in the audits-menu in the general settings of the Calumma Web Interface. If the user want to search for a special Record ID or an action a user performed, the id of the searched item can be inserted in the input fields and all corresponding audits are sorted after the input.

Attributes

The attribute's table is in most cases slightly broader than the screen allows. In order to

view all columns the user has to move the horizontal scroll bar at the bottom of the window. Especially if the user wants to add another attribute to an entity, the input needs to be saved with a click on the plus-button on the right margin of the row. When an entry needs to be edited or changed, the "Save"-Buttons are also shown at the end of the row and not visible initially (due to the width of the user's monitor and the number of setting-columns each attribute has).

Relations

In the relations-menu of the admin-menu, the relations between the entities can be set. In the screenshot below it is shown, that there is a relation between a "patient" and the "diagnosis". In the field below, lookup tables can be added to entities. Lookup tables can be created under the lookup-menu point in the admin-menu (also described in this section). Furthermore, possible database issues concerning relations are listed below, e.g. missing parent references.

Cross Links

Crosslinks are needed if many entities should be linked to many other entities (e.g. when a m:n-relation should be implemented). Such a relation can be set and edited in this part of the admin-menu. In this example, one patient can have more than one diagnosis, which results in a 1:n-relation. No crosslink is needed in such a construct.

Types

In the types-menu, an overview of all types and their html attributes, which are used in the Calumma project, is given.

ID	Name	ValueField	HTMLType
1	String	ValueString	type="text" size="20" maxlength="200"
2	Int	ValueInt	type="number" class="input_number" step="1" size="8" maxlength="8"
3	Float	ValueFloat	type="text" class="input_number" step="any" size="8" maxlength="12"

Filters

If the user wants to set filters, e.g. to display only patients who are older than a specified date, the filters-menu is the right place to do that. Through a click on the "Create Filter"-button, the user needs to go through 5 steps in which he/she can set the specifications of the filter.

1. step: Set the type - "Filter" or "Logical Operator".
2. step: Choose the master attribute for the new filter.
3. step: Choose the slave attribute.
4. step: Set up configurations for the filter.
5. step: Set up the position to the new filter.

Dynamic Constraints

A dynamic constraint can only be set with numerical values and defines e.g. which value should be greater or smaller than another one. Creating a dynamic constraint works in the same way as the "Creating a Filter" does. In 5 steps the slave and master attribute has to be set and the constraint (which value should be greater or less or equal) has to be selected.

Visibilities

With the visibilities-filter the user can define which slave element should not be visible when the master element meets certain requirements (greater than, less than, equal than, ...).

SQL

In the SQL-menu SQL statments can be sent to the database or a SQL-script can be uploaded. Recall that changes on the database can affect the data and the data model substantially and potentially prevent Calumma from working properly. Therefore the user should only use this option if he/she is familiar with the Calumma data structure and the SQL language.

For executing an SQL statement, type in a statement into the white text area and press the "execute"-button at the bottom. In the query table an overview of the available tables is displayed. After selecting, a table with the results of the query opens at the bottom of the page.
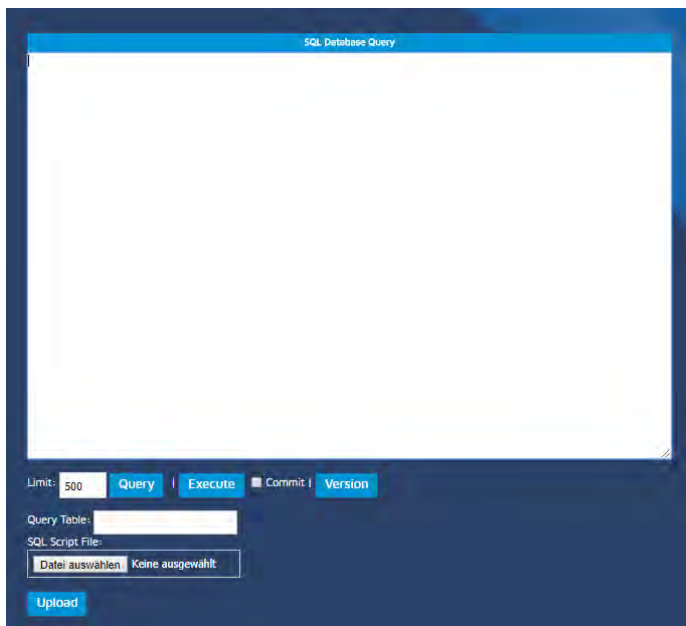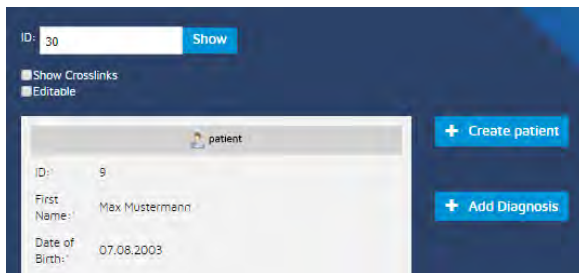

Record

When the user is searching for a specific record and it's internal record ID is known, then the records-menu to search for this specific record can be used. The internal record ID of an

element can be found at the bottom of the entitie's (patient's) info in the field with the white background under "Internal ID" (see screenshot below). This id needs to be inserted into the input field and the searched for record is shown.

The search result looks like this:
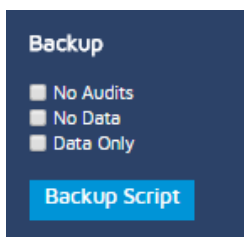
Backup

In the backup-menu the user can download a SQL dump of all data stored by Calumma. With the checkboxes displayed the user can filter the included data and for example don't download the audits.
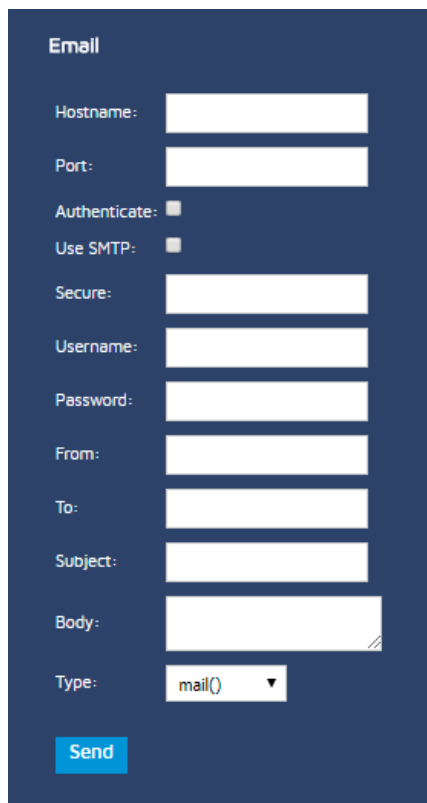

Email

In the email configurations the email server settings can be defined. This is needed if the Calumma Web Interface should be able to send emails to recipients.
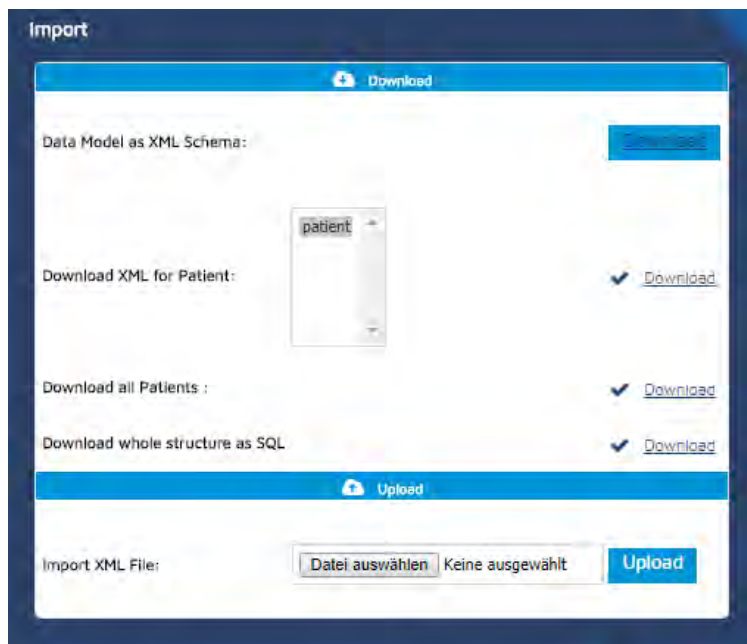
Import

The import-menu makes it possible to upload or download XML files from and to the server.

The following download options are available (also see screenshot):

- Datamodel as XML Schema
- XML for Patient
- All Patients
- Whole structure as SQL

For the upload, the option of importing an XML File is available.

System

The system window displays the same information the user gets when he/she clicks on the information sign in the top-menu, e.g. application name, version, creator, name of startpage etc. The password as well as the language can be set in this window too.