Hints to help preparing for the pre-procurement demo

To help you highlight to us how your tools/platforms can be used to perform some tasks in form/application building, we provide some content attached to this email – an openEHR template file, archetypes, an Excel spreadsheet, and an AQL query. Some suggestions of things to show are provided below.

These demo ingredients and the below suggested usage of them also serve as a partial test of possible ways to evaluate alternatives in the upcoming procurement, so please give us feedback regarding what is good and what could be improved regarding ingredients and suggestions.

Ingredients

The attached **openEHR template** "pre-procurement-demo" is based on an over-simplified selection of parameters regarding an injury, and some vital parameters and a partial NEWS score. The operational template (.OPT) is bilingual, containing English and Swedish.

The template does not contain the selection of SNOMED CT bindings/values that we mention in section 2 below. If you have tooling or terminology services, you can show them to make the codes selectable in the user interface. Another alternative is to modify the template or form by manually adding the SNOMED CT coded terms before the demo so that they become selectable for the demo end-user. We attach the template in several formats and all the archetypes used, in order to make such modifications easier.

An **Excel spreadsheet** with example patient data is supplied. Please note that only the rows containing "Yes" in column G (labeled "Included") are used in the template. We have applied a filter to that column in order to make it easier to overview the example patient data, for the four patients that you find in columns K-N.

A simple **AQL query** is also supplied. Feel free to prepare other queries or show tools for preparing or executing AQL queries.

1 Creating and configuring forms/GUI

The things below are just hints and not mandatory to show, but they still represent things we are interested in. Feel free to show off other features of your product too. The only limitation is the total time of one hour for your combined demo and presentation session.

The following functionality would be interesting if you either demonstrate or explain in other ways:

- Auto-generation of forms or from parts from openEHR templates.
- Basic formatting possibilities like headings, style, layout, drop down menus, check boxes, radio buttons, single and multiple choice lists.
- Conditional expressions changing what fields to show based on previous input, for example in the "Pulse" archetype: if "Regularity" is "irregular" then show the "Irregular type" choices.
- Scripting, including form-internal or external (e.g. GDL based) calculations of a partial NEWS score, just using the NEWS-related fields actually available in the demo template.

- Terminology content browsing, lookup, filtering and selection, in this scenario using Snomed CT. The field "Traumatic injury" in the template is renamed from "Problem/Diagnosis name in the "Problem/Diagnosis" archetype); it should, if possible, let the end user of an input form select any SNOMED CT concepts that are descendants of "417746004 | Traumatic injury|traumatisk skada", excluding the subtree with descendants of "735912006 | Injury due to procedure |skada orsakad av åtgärd". (The part after the last | is the Swedish translation of the SNOMED CT description.)
- The "Inspired oxygen" cluster archetype is included twice in the template, both in the "Respiration" and the "Pulse oximetry" observations. If populated with data it should, if possible in this use case, be recorded in both the "Respiration" and the "Pulse oximetry" observations when stored, but not be duplicated in the end users' input form on screen. It would be interesting to see how this is possible to configure using your tools/approaches.
- Using images/sketches to enter structured information, for instance pointing out the location of an injury on an image/sketch of a body when selecting "Body site" in the "Problem/Diagnosis" archetype. In the demo a coarse grained model is sufficient, for example containing the following alternatives (and possibly some descendant concepts):
  - 80768000 |Structure of left upper limb (body structure)|vänster arm, struktur|
  - 6921000 |Structure of right upper limb (body structure)|höger arm, struktur|
  - 32153003 |Structure of left lower limb (body structure)|vänster ben, struktur|
  - 62175007 |Structure of right lower limb (body structure)|höger ben, struktur|
- Multilingual support, for example switching the template based parts of the GUI between English and Swedish. Please also show if your terminology support functionalities switch language.
- Support for including data imported from sensors into forms, for example pulse oximetry devices.

2 Using the form/GUI to enter information about patients

Use the provided patient data and show how to use the form to enter the last (fourth) patient (column N in the spreadsheet). To save time, the first three can be entered before the demo.

- Show the above described features while entering data.
- If your tool supports formatting in free text fields, demonstrate the formatting possibilities by entering and formatting some text, e.g. in the "Clinical Description" field. (Also make sure you remember some of the words entered into the field if you want to show free text search in part 3 later.)
- Multimedia support: If your system supports uploading multimedia content, then use the "Specific Details" slot of the "Problem/Diagnosis" archetype to include multimedia. In the supplied template the "Multimedia Resource" archetype in this slot has not been constrained since we do not know what capabilities you want to show. Also, no multimedia is included, feel free to use your own.

3 Using queries to fetch information about patients

- Use the query that is attached to this email and show how to use AQL to fetch results. You can also create or modify AQL queries live during the session if your tools support this.
- Query patient data (with AQL or similar) using the hierarchical structure of SNOMED CT:
  a. First find all compositions where the "Body site" contains a descendant of "31156008 |Structure of left half of body |vänster kroppshalva, struktur|"
  b. Then instead find the descendants of "61685007 | Lower limb structure (body structure) | nedre extremitet, struktur |
- Show how free text search is used (if available).