Work Package Report R7.1: Support and Help Desk

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Deliverable R7.1: Documentation of the activities in the Work Package “Support and Help Desk”

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1. Introduction

The CLARIN help desk is aimed to provide support both for the use of the CLARIN-D infrastructure and the tools and resources made available by the CLARIN-D centres. In providing support not only to CLARIN members but also to the entire German scientific community, it has the opportunity to function as an interface to the outside world, making the work and the importance of the CLARIN-D infrastructure more visible.

2. Conceptional and Implementation Work

A help desk fitting the special demands of a centre-based infrastructure project like CLARIN-D has to be both centralized and decentralized at once. It has to be centralized in the sense of bundling the CLARIN-D-specific issues, optimizing the first level support and providing collective knowledge resources to the user community. At the same time it has to provide maximum flexibility to all centres in the implementation of the 2nd level support for centre-specific tools and resources. This fact puts high requirements on the choice as well as the conception and implementation of the help desk infrastructure.

As in every present-day IT-related help desk (especially in larger organizations), a ticketing system will be used for managing and maintaining any incoming issues like support requests, bug reports, etc. Resulting from the preliminary considerations above it was decided to create a taxonomy of support areas as an integral component of the ticketing system, that allows for the comprehensible and at the same time flexible and scalable management of support requests. Furthermore, a strict separation between first and second level support will be implemented, whereas an essential part of the first level support ideally should be realized with the help of student assistants.

The following section gives an overview about the conceptional and implementation work that has been done in the first project year at the Hamburg Centre of Language Corpora (Hamburger Zentrum für Sprachkorpora - hzsk).

2.1 Taxonomy of Support Areas

The central task in implementing a taxonomy of support areas was to perform an extensive analysis of requests that have been solved so far to get an optimal idea of the requirements to be expected at the help desk. Due to the early state the CLARIN-D initiative is in currently, there are only few requests concerning the CLARIN-D infrastructure itself. However, there is a huge expertise in performing support and help desk tasks at the majority of the CLARIN-D centres. Therefore, in the preparation for the creation of a taxonomy of support areas, a bottom-up approach was chosen:

First of all, based on approximately 300 email threads originating from the hzsk and its predecessor project Z2 at the Hamburg Collaborative Research Centre 538 ("Multilingualism") from 2010 and 2011, a simple classification schema was created by assigning one or more category labels to every email thread. Thereby the following centre-specific categories were elaborated:

- **Training**
  Requests regarding training and teaching of tools and methods.
• **Methods**
Requests regarding methods in compiling and processing language resources.

• **Resources**
Requests for gaining access to resources hosted by the hzsk.

• **Website**
Requests concerning the information given on the centre's website, dead links, download problems etc.

• **FAQ**
Any issue that in principle could have been solved by referring to the documentation or FAQ list given on the website.

• **Tool-related**
Requests concerning common problems with tools like exporting and importing into or from special data formats, the reporting of bugs, feature requests and requests concerning frequent error messages.

• **Tools**
Requests concerning the tools being created at the local site, namely the Partitur Editor (especially problems concerning the use of media files), Coma and EXAKT.

In the following step these categories were structured in a first taxonomy as visualized in Figure 1. It is planned to create similar subtrees that are based on the experience coming from the first test run of the Hamburg Centre (see below) for every CLARIN-D centre and finally merge them into one final structure. Figure 2 gives an idea of how the final taxonomy may look like.

![Figure 1: Taxonomy of support areas at the hzsk](image)

Figure 3 shows the quantitative distribution of the support categories. As expected the majority of all requests is represented by queries concerning tools and tool related issues. It also shows that more than 15 percent of all requests are "FAQ" issues, that in practice could have been answered easily by first level support agents with the help of a well-structured knowledge base.
Of course the distribution as well as the category schema will vary from centre to centre. Anyhow, the analysis has shown that it is possible to elaborate a taxonomy of support areas that will ease and optimize the support workflow and that furthermore allows to make prognoses for the support queries to be expected.

Figure 2: Draft of a final CLARIN-D taxonomy of support tools

Figure 3: Quantitative distribution of support categories at the hzsk
2.2 Further Preliminary Tasks

Generating an overview of expertise for the second level support

In a CLARIN-D-wide survey, an inquiry of existing expertise has been conducted. All participating centres were asked to give an overview about centre-specific expertise in special resource types, methods and tools and a possibly existing help desk.

The survey shows that not only the entirety of all centres covers a wide range of competences in language resource creation, but also that at the majority of project sites there are profound experiences in performing user support.

Conception of a Knowledge Base

The idea of implementing at least one part of the first level support with the help of student assistants requires the creation of a comprehensive knowledge base consisting of how-tos, FAQs, etc. Such resources, which are part of a vital help desk system, cannot be seen as static or closed since they always have to adapt to changes in the tools and resources being supported, as well as possible changes in the project infrastructure. Furthermore, the help desk system itself produces knowledge in form of requests and responses coming from users and agents. These facts determine an “on the fly” creation and modification of the knowledge resource that is based on the current help desk work. To gain experience, therefore – synchronous to the above-mentioned categorization work of existing support requests – a first version of an FAQ was created.

2.3 Evaluation and First Test Implementation of a Ticketing System

With respect to sustainability issues and the need for a complex structure of support areas, a ticketing system that can be used within the CLARIN-D infrastructure has to meet most of the following criteria (see Table 1):

- The license has to be freeware – ideally published under GNU General Public license.
- The focus of the system should be exclusively on issue tracking. (Many existing workflow management and bug tracking systems also contain an issue tracker that is not their central component.)
- It should be well approved and widespread to ensure persistence, sustainability and community support.
- It should contain a flexible and configurable knowledge base component, ideally an FAQ module.
- It should be well documented and supported by its developers.
- Due to the international orientation of the CLARIN-D infrastructure the system has to support multiple languages.
- The system has to provide structures for comprehensive user and rights management as well as the opportunity to implement the above-mentioned taxonomic structure of support areas.
To figure out which of the numerous existing ticketing systems would fit most of these demands, the following pre-selection of ticketing systems was made:

- **BEST PRACTICAL Request Tracker (RT)**  

- **Jira**  

- **Open Technology Real Services (OTRS)**  

- **Trac**  
  [http://trac.edgewall.org/](http://trac.edgewall.org/)

- **Redmine**  

<table>
<thead>
<tr>
<th>System</th>
<th>License</th>
<th>Focus</th>
<th>Widespread</th>
<th>Knowledge Base</th>
<th>Documented</th>
<th>Language</th>
<th>Structure</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RT</strong></td>
<td>GPL</td>
<td>issue tracking</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>EN (DE)</td>
<td>+</td>
<td>problems installing and configuring</td>
</tr>
<tr>
<td><strong>Jira</strong></td>
<td>com. m.</td>
<td>project management</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>multi</td>
<td>+</td>
<td>complex, wide range of functions</td>
</tr>
<tr>
<td><strong>OTRS</strong></td>
<td>AGPL</td>
<td>issue tracking</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>multi</td>
<td>+</td>
<td>easy installation, scalable, easy to configure</td>
</tr>
<tr>
<td><strong>Trac</strong></td>
<td>mod. BSD</td>
<td>project management</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>multi</td>
<td>+</td>
<td>scalable, wide range of features</td>
</tr>
<tr>
<td><strong>Redmine</strong></td>
<td>GPL</td>
<td>project management</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>multi</td>
<td>-</td>
<td>issue tracking module with reduced features</td>
</tr>
</tbody>
</table>

*Table 1: Overview on the ticketing systems and desired features*
It turns out that only two systems of the pre-selection, namely RT and OTRS are pure issue tracking systems. A test run of both systems has shown that in the case of RT both the installation and the configuration procedure appear to be very unintuitive and cause a lot of technical problems. Furthermore the system is poorly documented (most of the existing documentation is out-dated) and there seems to be almost no vital community support. The OTRS ticketing system, however, turns out not only to provide all desired features out of the box (including an FAQ module), but is also easy to install and to configure, even by student assistants with minor technical knowledge. The detailed multilingual online documentation and the number of 100,000 installations worldwide finally make it the first choice.

**Implementation and Test Run**

In establishing an implementation of the OTRS ticketing system in the CLARIN-D framework, again a bottom-up approach was chosen. The idea was, first to build a productive trial ticketing system at the local project site at the hzsk to gain experience for the final implementation. For this purpose two instances of the OTRS ticketing systems were installed, one “sandbox instance” at the local server platform, and one “trial instance” at the research centre *Forschungszentrum Jülich* which will also host the final implementation of the ticketing system.

The test implementation is currently work in progress. Summarizing the first steps, it can be noted that the OTRS ticketing system turns out to be an adequate choice. The taxonomic structure of support areas could be implemented by means of so called *queues* that are hierarchically ordered, *ticket types* and free attribute value pairs that can be predefined and added to incoming requests. A comprehensive user and rights management allows for a decentralized organization of expertise and functional responsibilities. Beyond this, the above-mentioned strict separation of a first and second level support could easily be fulfilled, as it is already part of the OTRS system. From the very beginning all installation and configuration steps were documented.
3. Cooperations

The preliminary work on the CLARIN-D help desk in several areas approaches the tasks of other project sites in the entire joint initiative and thus provides numerous opportunities for the generation of synergy effects. The following section gives a brief overview of the cooperation that has been established so far.

3.1 CLARIN-NL

Within the groundwork for the CLARIN-NL infrastructure project, a help desk was already implemented. A first exchange between CLARIN-D and CLARIN-NL showed a number of overlaps, especially in the area of the creation of knowledge resources.

As a first step it was decided to collect and document CLARIN-specific user requests collaboratively to get a better overview of the requirements for the CLARIN-D help desk and possible future synergies.

3.2 CLARIN-D Work Package 8: Training and Education (Saarland University)

As mentioned above, well-structured knowledge bases in the form of FAQs, how-tos and further documentation form a solid base for every help desk. Here an important overlap with the work of WP8 arises. In both work packages expertise and knowledge resources are collected and processed to create either training materials (WP8) or a knowledge base to be used with the help desk system (WP7). For the period between M12 and M24 cooperation between both centres was established to prevent both sites from doing redundant work and possibly generate a joint knowledge resource.

3.3 CLARIN-D Work Package 6: Legal and Ethical Issues (IDS Mannheim)

The need for legal advice in the area of infrastructure initiatives that provide access to large amounts of legally protected data is rising continuously. It appears to be a promising approach to make it also a central part of the CLARIN-D help desk. As a first step, the bilingual (German/English) draft of a guide that addresses frequent legal issues concerning research data (see http://de.clarin.eu/images/ketzan_rechtliches_v2.doc), that has been made available by the WP6 members, will be transferred to the knowledge base.

Prospectively a separate support queue on "legal issues" will be implemented in the ticketing system.
4. Conclusion and Outlook

In the first project year all necessary steps towards a CLARIN-D help desk were made as formulated in the M12 (milestone 12) goals. It has been shown that for the conceptual as well as the implementation work the decentralized infrastructure of the CLARIN-D initiative is rather an advantage than an obstacle since it not only provides great expertise but also cooperation potential for this task. As a next step the trial instance (cf. section 2.3) will be made available to the participating centres in autumn 2012 to give all CLARIN-D members the opportunity to get an idea of its functionality and gain more concrete input for the final implementation of the system.