



LarKC

*The Large Knowledge Collider:  
a platform for large scale integrated reasoning and Web-search*

FP7 – 215535

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## **D5.6.1 LarKC Development Environment Available**

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Document Identifier:	LarKC/2008/D5.6.1 /v0.2
Class Deliverable:	LarKC EU-IST-2008-215535
Version:	1.0
Date:	30.06.2008
State:	Final
Distribution:	Public



## EXECUTIVE SUMMARY

The LarKC Development Environment (LDE) is a shared resource that allows software engineers that develop LarKC components to:

- store their source code, documentation and other files in a version control system
- communicate using forums and email lists
- report issues and co-ordinate their responses using trackers
- publish versioned releases of components for download
- and perform other functions needed for the development and release of the LarKC software deliverables.

The possibility of opening elements of the LDE to the public will be considered, for example to allow people outside the consortium to report bugs, make feature requests and comment on other issues concerning platform development.

The LarKC Development Environment is implemented using GForge and is hosted by HLRS. It can be accessed through: <https://gforge.hlrs.de/projects/larkc/>

A common directory structure will be defined for all LarKC components, in order to promote standardisation and encourage collaboration within the project.

Other GForge features will be analysed to determine whether they are helpful to the software development process within LarKC.



## DOCUMENT INFORMATION

<b>IST Project Number</b>	FP7 - 215535	<b>Acronym</b>	LarKC
<b>Full Title</b>	The Large Knowledge Collider: a platform for large scale integrated reasoning and Web-search		
<b>Project URL</b>	http://www.larkc.eu/		
<b>Document URL</b>			
<b>EU Project Officer</b>	Stefano Bertolo		

<b>Deliverable</b>	<b>Number</b>	5.6.1	<b>Title</b>	LarKC Development Environment Available
<b>Work Package</b>	<b>Number</b>	5	<b>Title</b>	The Collider Platform

<b>Date of Delivery</b>	<b>Contractual</b>	M 03	<b>Actual</b>	30.06.2008 (M 03)
<b>Status</b>	version 1.0		final x	
<b>Nature</b>	prototype <input type="checkbox"/> report <input type="checkbox"/> dissemination <input type="checkbox"/> other x			
<b>Dissemination level</b>	public x consortium <input type="checkbox"/>			

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<b>Abstract (for dissemination)</b>	The LarKC Development Environment (LDE) is intended to be the common place where the LarKC component developers will upload their software modules and documentation, maintain discussions related to software issues, manage their releases and perform other functions needed for the development and release of the LarKC software deliverables. The possibility of opening the LDE to the public will be considered, for example to allow people outside the consortium to report bugs, make feature requests and comment on other issues concerning platform development.
<b>Keywords</b>	development, gforge, software repository, version control, software release

<b>Version Log</b>			
<b>Issue Date</b>	<b>Rev. No.</b>	<b>Author</b>	<b>Change</b>
04.06.2008	0.1	Georgina Gallizo (HLRS)	First draft
12.06.2008	0.2	Barry Bishop (UIBK), Eyal Oren (VUA)	English language check, general sanity check
16.06.2008	0.9	Georgina Gallizo (HLRS)	Document ready for internal quality assessment
23.06.2008	0.95	Michael Witbrock (CycEur)	Overlapping English check, clarifications
30.06.2008	1.0	Georgina Gallizo (HLRS)	General feedback from WP9






			partners.	Final	version	for
			submission			

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## Acronyms

Acronym	Definition
IPR	Intellectual Property Rights
GPL	GNU General Public License
LarKC	Large Knowledge Collider
WP	Work Package





## 1. Introduction

This document constitutes the written report for deliverable D5.6.1 “LarKC Development Environment Available”, of nature “Other”. It describes the LarKC Development Environment and provides some guidelines for its intended use.

This document will be distributed to the LarKC partners through the general project mailing list, [ict-larkc@lists.sti2.at](mailto:ict-larkc@lists.sti2.at), in order to make them aware of the Development Environment and to invite them to register and use it.

## 2. Objectives

The LarKC Development Environment is a shared resource that allows software engineers that develop LarKC components to:

- store their source code, documentation and other files in a version control system
- communicate using forums and email lists
- report issues and co-ordinate their responses using trackers
- publish versioned releases of components for download

The possibility of allowing the public to access some of this resource will be considered, for example, to report bugs, make feature requests and comment on other issues.

This will provide a mechanism to notify software engineers of problems and allow them to respond in a timely manner.

## 3. The LarKC Development Environment

The LarKC Development Environment is implemented using GForge and is hosted by HLRS. It can be accessed through: <https://gforge.hlrs.de/projects/larkc/>

A version control system software repository is to be utilized for storing and versioning source code, documentation, third party software and other file-based resources. The chosen repository manager for LDE is SubVersion (SVN), since it can be used within and managed by the GForge installation.

A common directory structure will be defined for all LarKC components. As well as promoting standardisation, this will allow all partners to easily locate files and resources from each component and thus encourage collaboration.

At the time of writing this report, the LarKC project is in a preliminary state and concrete software components have not yet been defined. The structure and features of the environment will, therefore, be continuously updated according to the progress of the project and the demands and requirements of the developers.

### 3.1. Content, Structure, Naming

In order to simplify the retrieval of source code and related resources, and to assure the availability and completeness of source code and related resources (both for current and previous versions), a uniform approach for file naming and folder structuring must be agreed upon within the project, both within and across inside WPs.

A SubVersion repository typically contains the directories: trunk, branches, and tags. The LarKC repository will contain the following major subdirectories (subject to change should the architecture definition require it):



- trunk (code and material of the ongoing development)
  - modules (LarKC components)
    - anyModule
      - src (source code)
      - bin (binaries)
        - conf (configuration files)
          - e.g. properties
          - e.g. schema
          - e.g. wsdl
          - ...
      - script (build & run scripts)
      - test (unit tests)
      - doc (documentation, incl. release, installation notes)
      - lib (third party libraries)
- branches (alternatives, i.e. code and material divergent from the main route of realisation when the software developed is forked e.g. to try specific ideas; this directory might be empty)
- tags (frozen versions, i.e. releases that are e.g. deemed stable or that were demonstrated at a specific event)

In order to ease the integration, deployment and usage of the various LarKC software components, special attention should be paid to proper component documentation. Developers are strongly encouraged to maintain the following files in the named subdirectories:

- doc: documentation/metadata to facilitate the comprehensibility of the code:  
Each subsystem must be described with one readme.txt file with the following content:
  - organisation
  - contacts (names, e-mails, phones)
  - list of dependencies on non-LarKC libraries/tools
  - list of included non-LarKC 3<sup>rd</sup> party libraries/tools including their licence information; this information should be included even for tools provided by consortium members, but not intended for delivery and release as part of the LarKC platform or another public deliverable.
  - license/IPR conditions (Intellectual Property Rights, important if licenses such as GPL are used as this recursively forces all using subsystems to be GPL as well; for this reason, and the commercial risk to consortium members that it entails, GPL licences should not be applied to software deposited into the repository, or otherwise integrated with the LarKC platform without the explicit prior agreement of the consortium management board. )
  - short description (recommended limit 2000 words)
  - list of other required or dependant LarKC components
  - list of external/public interfaces provided (or pointer to JavaDoc or other equivalent documentation)
- script: build/run automation to ease installation and execution of the code:
  - build instructions (to create binaries)
  - run instructions (to start, stop, register, deregister code)

As the project developments progress and the different modules need to be integrated we will probably need some top level directory structure for system-wide resources, such as user documentation, system design documentation, functional tests, scripts etc. It could be placed in a directory called “general” under the “trunk” one, looking like the following (again, subject to changes):

- trunk (code and material of the ongoing development)
  - modules (LarKC components)



- anyModule
  - ...
- general
  - user documentation
  - system design documentation
  - functional tests
  - scripts
- ...
- branches
- tags

### 3.2. Access

The following steps should be followed to obtain a user account for the LarKC Development Environment:

- go to <https://gforge.hlrs.de> in a web browser. Click 'New Account', and fill in the form (please, be aware of the lower-case only user name requirement)
- wait for an automatic confirmation e-mail, click on the included link. The access to account for gforge is then activated, but the user still has to register for the LarKC project as follows:
  - send an e-mail to the gforge LarKC project administrators (Georgina Gallizo, [gallizo@hlrs.de](mailto:gallizo@hlrs.de); Axel Tenschert, [Tenschert@hlrs.de](mailto:Tenschert@hlrs.de)) with the chosen user name, asking to be registered for the LarKC Development Environment
  - the administrators will activate access to the LarKC repository for that user name

There are several options to upload or download files. Here are some relevant addresses:

- The LarKC SubVersion repository URL is: <https://svn.gforge.hlrs.de/svn/larkc>
- SubVersion access:
  - either:
    - obtain a SubVersion-client-GUI, e.g. <http://prdownloads.sourceforge.net/tortoisetsvn> (Windows), <http://subclipse.tigris.org/>
    - or use a command line interface
  - SubVersion documentation: <http://svnbook.red-bean.com/> or 'svn help'

### 3.3. Other features

GForge offers additional functionality to supporting the software development process. Some of these are listed below and will be considered for use within LDE for the consortium or external users:

- Forums: for discussion among developers and/or the external audience
- Tracker: Tracking system for bugs, patches, feature requests, etc
- Mailing lists
- Tasks: Functionality to manage tasks (status, responsibility, duration,...)
- News: interface to publish news

