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## Applications Database

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### Overview

The EGI Applications Database (AppDB) stores information about tailor-made computing tools for scientists to use, and about the programmers and scientists who developed them. The applications and tools filed in AppDB are finished products, ready to be used on the European Grid Infrastructure. It's main mission is to provide all the necessary information about the applications running on the EGI Grid infrastructure, thus enabling people to search for applications matching a pattern (such as a scientific domain) and also contact the corresponding authors for guidance on application usage or further development. Storing pre-made applications means that scientists don't have to spend research time developing their own software. Hence, by storing pre-made applications and tools, AppDB aims to avoid duplication of effort across the EGI user community, and to inspire scientists less familiar with programming into using the European Grid Infrastructure.

### Impact

At the time of this writing, the AppDB counts 272 application and tool entries, and 505 people profiles. Since the public release of the latest major version in mid-November 2010, there has been interest from various countries such as Switzerland, Ireland, and Norway for testing and addition of entries. The site's traffic has been monitored through the use of Google Analytics, and during this one-month period, there have been 182 visits and 1151 page views in total, from 25 countries. Additionally, the GISELA project has declared its intention to share 52 of its applications with the EGI AppDB, an intention which may bring further collaboration between initiatives in the future.

It should be noted that the AppDB is unique as a service in the EGI infrastructure, and through its web API, which is under development, new localized instances are expected to spring out. This is in turn expected to help promote scientific work more efficiently by targeting specific niches, while the AppDB remains the master instance.

### Description of the work

Activities since the beginning of the project have been primarily focused on migrating existing data from the EGEE era. Support for all EGI endorsed middleware was added and the concept of tools was introduced, by porting the entries of the existing RESPECT program into the database. The storing of personal profiles for each application developer was introduced, aiming at simplifying the search for experts. In order to provide the user with a consistent and responsive end result, such architectural design patterns and techniques as MVC and AJAX have been employed. Finally, another important feature of AppDB, around which much of the development effort was concentrated, was providing write-enabled access to registered users, by linking AppDB to the EGI SSO system, thus giving them control and responsibility over the data.

For the next version of the AppDB, there are several enhancements planned related to the information provided, such as adding an "experience" section to people's profiles, and keywords and a tagging mechanism to

applications. Another important planned feature is integration with GOCDB/CIC through their web APIs, in order to provide detailed NGI and VO information, which will require architectural changes and careful planning. Integration with the EGI Community Software Repository is also a feature planned which will enable developers to register and submit software releases through the AppDB interface.

Apart from enhancements, another key aspect planned for the next release is the further development of an XML-based web API. This requirement has stemmed from the need for NGIs and VOs to be able to provide their own localized, custom interfaces to the service, which could, for example, display entries relevant to their county or discipline only, or in their own native language. Upon successful deployment of such a web API, the possibility of developing an alternate REST API on a dedicated FQDN will be considered, depending on feedback and impact.

## URL

<http://appdb.egi.eu/>

## Conclusions

The AppDB subtask has used the first six month of the project to migrate and transform existing data from the EGEE era, to initially provide a new read-only portal to the community, with subsequent write-enabled authenticated access. For the next six months, there exist plans for additions to the data and object model, additions to the portal's functionality, mainly in order to integrate with other services such as the GOCDB, the CIC portal, and localized versions of the portal itself, and integration with the EGI Community Software Repository.

Further requirements have been laid out for later development, such as integration with monitoring and information services of the various supported middlewares, in order to provide information about application availability and resources in sites across NGIs. However, due to the lack of a uniform manner for information retrieval, such requirement have been put on hold, until there arises a way to overcome the technical difficulties.

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