

A portal interface to ^{my}Grid workflow technology

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Introduction 1

- myGrid project has previously developed the Taverna workflow workbench
- Taverna is being used by a growing number of users to construct and enact bioinformatics workflows
- We can use this to our advantage by observing how people use Taverna

Introduction 2

- In a common scenario, expert users construct and use workflows
- Also distribute to non-expert users who also use them
- Development of Taverna has focussed on support for workflow construction
- Can we provide tools to support the management of constructed workflows

Structure of talk

- Describe the context for portal work and the decisions we have made about our web-portal design.
- Screenshots to demonstrate use of myGrid portal.
- Describe status of software and future problems that must be solved.
- Can demonstrate portal to anyone who is interested.



Current usage scenario 1

- Users use local file systems to store workflows and results of workflow enactments
- Users distribute the workflow to other users via email or other electronic means
- May also distribute results in the same way

Current usage scenario 2

- Some problems with this approach
 - Versioning
 - Security
 - Non-expert users are exposed to the complexity of the workflows
 - Also requires some effort to maintain many desktop software installation (although upgrading Taverna is not difficult)

Solution

- A prototype of a workflow management system has been developed
- This system is portal-based – install it onto a web-server, and any scientists in your organization can access it from a standard web-browser
- Fully compliant with JSR-168 portlet standard (more about this later)

Portal interface usage scenario

- A user who constructs a workflow logs in to a web-page, and uploads a workflow, along with meta-info about the workflow.
- Other users log in to the system, view lists of available workflows, choose one to enact, supply input values, start enactment and later browse results.
- Inputs and outputs of enactment archived for later browsing

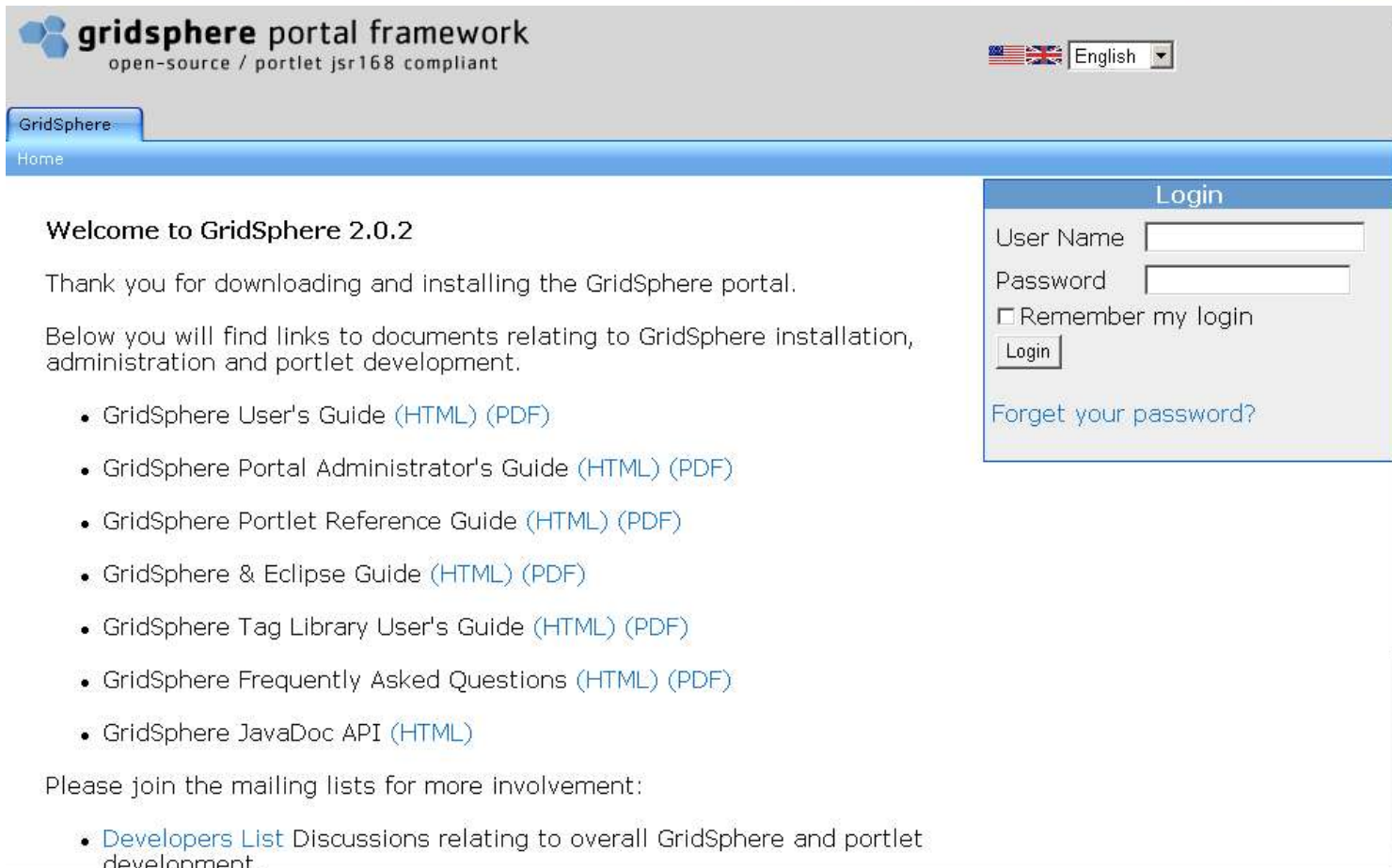
Technology choice

- Portal frameworks provide us with generic login-systems and content management functionality
- JSR-168 defines standard for content specification
- Portal frameworks supporting JSR-168 – Gridsphere, uPortal, Jetspeed-2
- If your content is compliant with JSR-168, it should work with any portal framework

Technical details

- have developed the ^{my}Grid Portal Interface to support this scenario
- Browsable using any standard web-browser
- Compliant with JSR-168 portlet spec
- Uses ^{my}Grid Information Repository for storage

Step 1 – user logon



The screenshot shows the GridSphere portal framework interface. At the top left is the logo and text "gridsphere portal framework open-source / portlet jsr168 compliant". At the top right is a language selector showing "English" with a dropdown arrow. Below the header is a blue navigation bar with "GridSphere" and "Home" links. The main content area on the left contains a welcome message and a list of links to guides and documentation. On the right is a "Login" form with input fields for "User Name" and "Password", a "Remember my login" checkbox, a "Login" button, and a "Forgot your password?" link.

gridsphere portal framework
open-source / portlet jsr168 compliant

English

GridSphere
Home

Welcome to GridSphere 2.0.2

Thank you for downloading and installing the GridSphere portal.

Below you will find links to documents relating to GridSphere installation, administration and portlet development.

- [GridSphere User's Guide \(HTML\) \(PDF\)](#)
- [GridSphere Portal Administrator's Guide \(HTML\) \(PDF\)](#)
- [GridSphere Portlet Reference Guide \(HTML\) \(PDF\)](#)
- [GridSphere & Eclipse Guide \(HTML\) \(PDF\)](#)
- [GridSphere Tag Library User's Guide \(HTML\) \(PDF\)](#)
- [GridSphere Frequently Asked Questions \(HTML\) \(PDF\)](#)
- [GridSphere JavaDoc API \(HTML\)](#)

Please join the mailing lists for more involvement:

- [Developers List](#) Discussions relating to overall GridSphere and portlet development.

Login

User Name

Password

Remember my login

Login

[Forgot your password?](#)

Step 2 – collection management

Workflow collection name	Links
WBS workflows	view delete
Other workflows	view delete

Step 3 – workflow upload

Workflow name

Workflow file

Step 4 – start workflow enactment

DNA_sequence

enact cancel

Step 5 – monitor enactment progress

Submission ID	Enactment status	Results storage status
AAOZKEKUAYO	COMPLETE	FINISHED WRITING DATA TO STORAGE

Step 6 – browse completed enactments

Workflow start	Workflow end	Submission ID	Link
Wed, 17 Aug 2005 10:57:04	Wed, 17 Aug 2005 10:57:05	AAOZKEKUAY0	view delete
Wed, 17 Aug 2005 11:14:18	Wed, 17 Aug 2005 11:14:19	AAOZKEKUAY1	view delete

Step 7 – browse summary for enactment

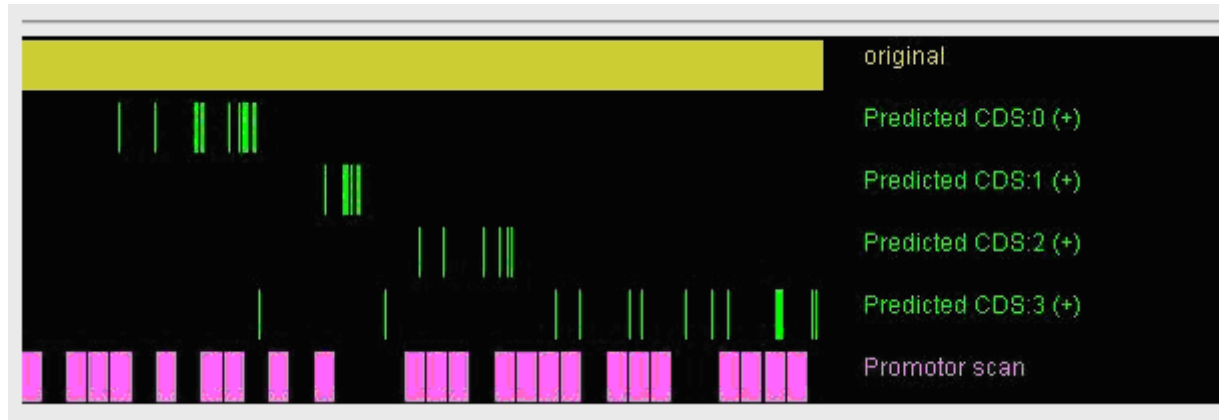
Input parameters provided by user

[DNA_sequence](#)

Output parameters

[results](#)

Step 8 – browse individual enactment result



Software status

- Code freely available from ^{my}Grid CVS (but no release yet).
- Interface design stable.
- Some bugs in code that stores workflow results means MPI not yet ready for release.
- Hopefully it will be soon!

Interesting problems to solve

- How do we cache data fetched from remote storage?
- Should we provide more sophisticated data sharing facilities?
- Workflow data can be complex – is a web-interface the right way of presenting it?

Further information

- Me – sre@cs.nott.ac.uk (but I don't work on the project anymore)
- <http://www.mygrid.org.uk>
- <http://twiki.mygrid.org.uk>
- myGrid mailing lists