

# A portal interface to <sup>my</sup>Grid workflow technology

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# Introduction 1

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- 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

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- 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

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- 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

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- 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

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- 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

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- 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

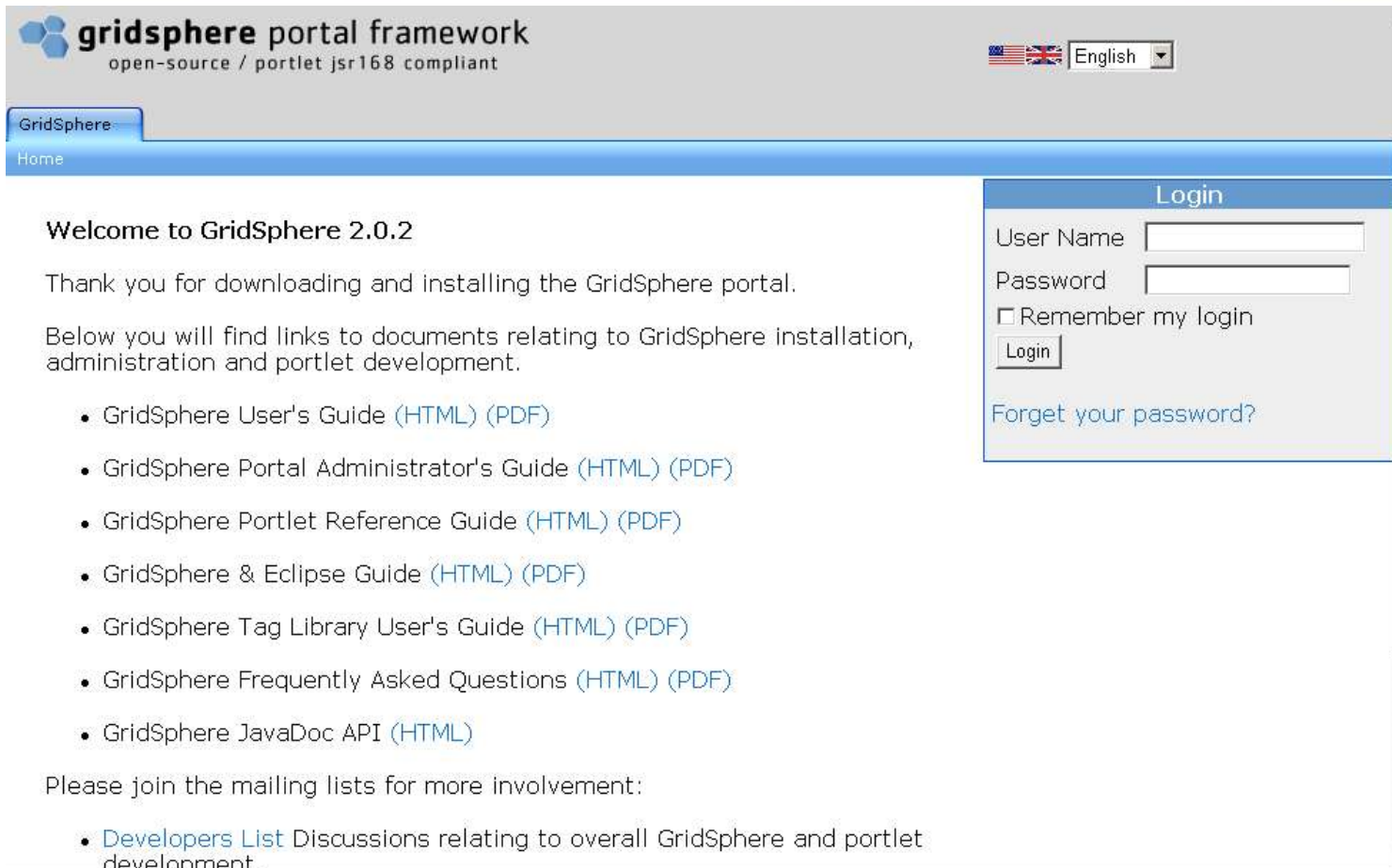
- Portal frameworks provide us with generic login-systems and content management functionality
- JSR-168 defines standard for content specification
- Portal frameworks supporting JSR-168 – Gridsphere, uPortal, Jetspeed-2
- If your content is compliant with JSR-168, it should work with any portal framework

# Technical details

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- have developed the <sup>my</sup>Grid Portal Interface to support this scenario
- Browsable using any standard web-browser
- Compliant with JSR-168 portlet spec
- Uses <sup>my</sup>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

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Workflow collection name	Links
WBS workflows	<a href="#">view</a> <a href="#">delete</a>
Other workflows	<a href="#">view</a> <a href="#">delete</a>

# Step 3 – workflow upload

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Workflow name

Workflow file

# Step 4 – start workflow enactment

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DNA\_sequence

enact cancel

# Step 5 – monitor enactment progress

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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	<a href="#">view</a> <a href="#">delete</a>
Wed, 17 Aug 2005 11:14:18	Wed, 17 Aug 2005 11:14:19	AAOZKEKUAY1	<a href="#">view</a> <a href="#">delete</a>



# Step 7 – browse summary for enactment

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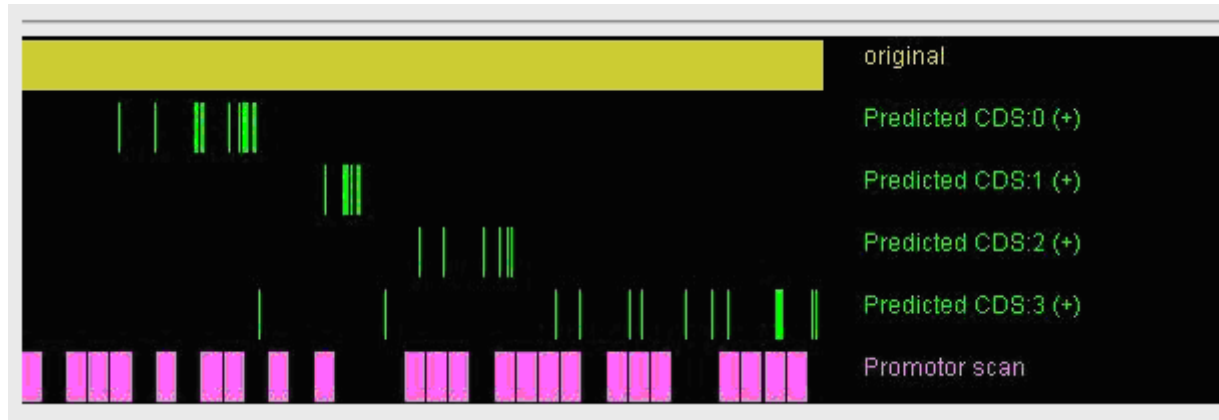
Input parameters provided by user

[DNA\\_sequence](#)

Output parameters

[results](#)

# Step 8 – browse individual enactment result



# Software status

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- Code freely available from <sup>my</sup>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

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- 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

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- Me – [sre@cs.nott.ac.uk](mailto: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