Demonstration and Report of training modules

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ABSTRACT:

The present deliverable is a report on the first demo of a training module integrated in the ACGT Portal. The training module answers the question **How to register a workflow?**

Part 1 of this document presents the principles of online training on which our modules are built. **Part 2** of this document presents an online training demo module, more exactly a training module answering the question **How to register a workflow?**. **Part 3** of this document presents the integration of the online training modules in the ACGT Portal.

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Executive Summary

ACGT is an Integrated Project (IP) funded in the 6th Framework Program of the European Commission under the Action Line "*Integrated biomedical information for better health*". The high level objective of the Action Line is the development of methods and systems for improved medical knowledge discovery and understanding through integration of biomedical information (e.g. using modelling, visualization, data mining and grid technologies). Biomedical data and information to be considered include not only clinical information relating to tissues, organs or personal health-related information but also information at the level of molecules and cells, such as that acquired from genomics and proteomics research.

The ultimate objective of the ACGT project is the development of European Knowledge Grid infrastructure offering high-level tools and techniques for the distributed mining and extraction of knowledge from data repositories available on the Grid, leveraging semantic descriptions of components and data and offering knowledge discovery services in the domain of Cancer research.

In the architecture of the ACGT Grid infrastructure, the portal is the gate to the services. Structured on several layers of access rights, the ACGT Portal is offering information to all the actors playing in the ACGT project and more general in the domain of Cancer research.

The present document reports on the is structured in four parts.

Part 1 of this document presents the principles of online training on which our modules are built. Part 1 is formed by a section of DON'Ts, where we followed by a section of DOs, where we present the principles that we use in the development of online training modules.

Part 2 of this document presents an online training demo module, more exactly a training module answering the question **How to register a workflow?**.

Part 3 of this document presents the integration of the online training modules in the ACGT Portal.

PART 1

Principles of online training modules

1 Nobody reads

1.1 Nobody reads Help documents

When delivering the online help for using an IT application, users are not willing to frequently switch to a Help section or to frequently open an uitlization manual. Instead, what they really need is to find fast and simple answers to the ordinary problems they encounter when performing specific actions.

Online help was originally thought of as an independent support system. It allows the user to access information easily and immediately, whenever it is needed. As such, it was thought to be the most often used support system on a user's computer.

However, from a number of sources, we have learned that online help is used less frequently than we originally thought. Usability tests, especially on web applications, often show that users do not use the online help; or if they do, they do not find the required information. Field engineers and customer support representatives often report that they need to explain information that is documented in the help because users do not use it. To provide more effective assistance, we must answer the question: "Why is online help not used?"

Is it because of poor user interface design? Poor usability? That is: Are users unaware that there is a help system? Is the term "Help" discouraging to use? Does it take too long to access?

Is it because the help is designed poorly in terms of content and structure? That is: Once users request help, are they getting the information they need, designed in a format they can use? Are users expecting one kind of information and getting something different?

Is it because users are smarter these days and need less online help?

When using traditional Help systems the following usability problems were found to be the most severe:

- Not knowing how to begin interacting with the application.
- Misunderstanding the meaning and implications of pushing certain buttons.
- Not knowing what else can be done with the system.
- Difficulties in finding information using the online help.

First two usability problems can be solved using embedded help that is integrated into the interface. The other two usability problems should be approached through a better organization of and a better access to the information.

Help systems usability include elements like:

- Easy to learn – can people use the help system the first time they open it?
- Easy to remember – can people use the help system more easily the next time?

- Effective – can people easily navigate through the help system, understand the content and put it to the use of solving their problem?
- Efficient – can people find in the help system what they need and accomplish their goals in a reasonable amount of time?
- Satisfying – do people have a good feeling about using the help system? Do they feel it was worth their time to use it? Will they use it again?

1.2 Nobody reads long documents

Many times training materials are long and comprehensive, like usage manuals. These are not well perceived by users that usually have no time to read all the manual, but are rather interested in a specific topics. Then, how to organize a help system in order to avoid the

Embedded Support

For the most critical usability problems, primarily those that are associated with conceptual issues, the help embedded into the user interface itself. Embedded support explains:

- **How to begin interacting:** On the first screen that is displayed when opening the system for the first time, the user is told what they can do and how to proceed.
- **What the buttons mean:** Instead of a one-word definition of each icon, we used tool tips to provide meaningful explanations of what each button would do or mean if pressed.

Most thoughtful usability experts are of two minds when it comes to embedded help systems. On the one hand, it is good to add helpful information about the task at hand right on the page, sometimes in the form of a patch on the screen that reveals the helpful text upon mouse-over.

However, there is something in the soul of the usability professional that believes that if the interface were properly designed, no help would be necessary. But if you cannot build the perfect system, you should at least provide necessary help information without forcing the user to search for it.

Design principles

- Make the information **task-oriented** and highly structured, because the purpose of online help is to get the user back on task as fast as possible
- **Separate information** into distinct information types and include only one information type in each online help topic. Information types can be by content type (task, concept, reference) of user models (beginner, intermediate, advanced).
- Follow **minimalist principles** in designing online help topics. Many online help designers misconstrue minimalism to simply mean brevity; however, minimalist design hinges on being able to make good decisions on what to do, say, or show, and on what not to include.

- **Keep the length of topics short**, perhaps to no more than two screens long. However, there is no infailible length prescription: online help topics need to be "as long as necessary and as short as possible".

1.3 Nobody reads

Written training materials are usually hard to digest. Basically users are not able to relate the information they read with the actions they have to accomplish.

The help system of computer applications attempts to provide useful and usable information on their usage. While standardization and innovations in user interfaces have made computer application easier to use, it is clear that getting started with unfamiliar interfaces, learning advanced features and understanding application domain concepts remains a challenge for many users. Although the help system is typically used only when users cannot proceed with their task and most of the help information is never consulted at all, there is no doubt about the necessity of providing help. Different applications will benefit from different style of help: for example a complex CAD system to be used daily by an engineer will require elaborate tutorials and detailed online reference manuals. On the other hand a web application used once or twice by novice users may benefit from a video demonstration or a one-page set of “get started” directions. Such web applications are even likely to be abandoned by users who can’t accomplish their goal within a few seconds or minutes. Therefore, the challenge is often to choose the best method of providing help for a given application.

In the context of building an infrastructure for non computer specialists, we have to explore what help system might be best suited to improve the learnability of tools available to the general audience, which is formed by clinicians and medical researchers. General access information systems imply that many of the users will be first time users of the interface, and that they will have limited time and interest in learning the system. Users will want an answer to their question, not necessarily learn all that a tool can do for them.

2 Online training delivery

Following the critiques presented in the previous section, we have established a series of principles to be followed in the ACGT online training modules.

2.1 When?

The online training materials should be available when the user needs them. This means that the most effective training is the one that happens when the user effectively attempts to use the service. Thus, the training should be available in the same time with the usage of the service.

2.2 Where?

The online training materials should be available where the user needs them. This means that the training materials should be available in the same page with the usage of the service.

2.3 What?

The online training materials should contain exactly the information that the user looks for. This means that a specific training material should describe the usage of specific service and nothing more.

2.4 How?

Graphical training materials, simulating the usage of services are more suitable for this online approach than text materials or other related forms. In other words, the training for using a service should be delivered as the service itself is delivered.

PART 2

Online training module demo

3 Use Case

3.1 Definition

This training module answer the question **"How to register a workflow?"** This training module does not refer to the Workflow editor. It is supposed that the workflow that is registered was already edited using the ACGT Workflow Editor or other similar tool.

3.2 Module codification

ACGT-SRT-SIV-v1

3.3 Restrictions

This training module is restricted to those users (groups) that are entitled to perform the specific action.

3.4 Prerequisites

Users performing this action may want to learn about other actions preceding this one:

- How to register a functional category?
- How to register a service?
- How to edit an workflow?

3.5 Actors

The registration of a new workflow is an operation restricted to the users affiliated to the group RESEARCHER.

3.6 Flow

The flow of this action starts in the frontpage of the ACGT Portal that can be accessed from any browser at the address http://www.siveco.ro:8000/acgt/portal.

1. Log in the portal

Fill-in the Login window your ACGT *User Name* and the current ACGT portal *Password*.

Figure 1: ACGT Portal – Log in

2. Select the **Workflows** tab

Click on the *Workflows* tab, which appears on the horizontal bar, under the header of the page.

Figure 2: ACGT Portal – Select the *Workflow* tab

3. Select the **Register** subtab

Click on the *Register* subtab, which appears in the horizontal bar, under the *Workflow* tab.

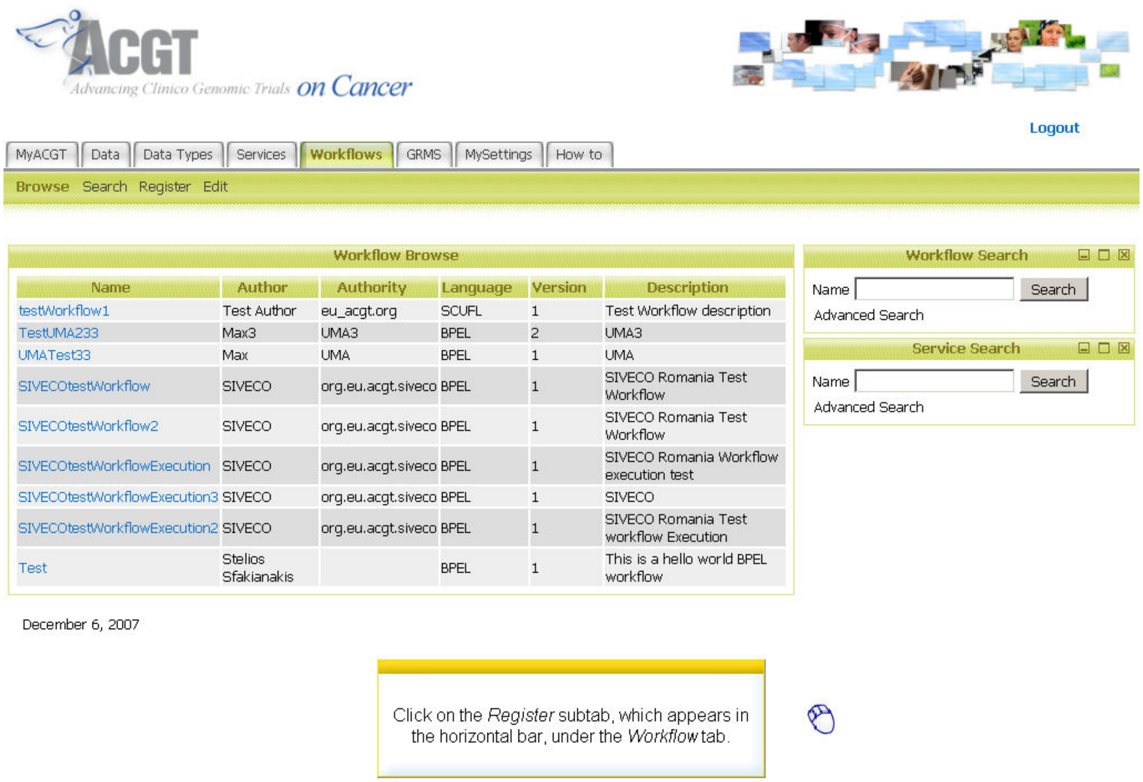

Figure 3: ACGT Portal – Select the *Register* subtab

4. Fill-in the **Workflow Registration** form

Each field of the form should be completed with the corresponding information.

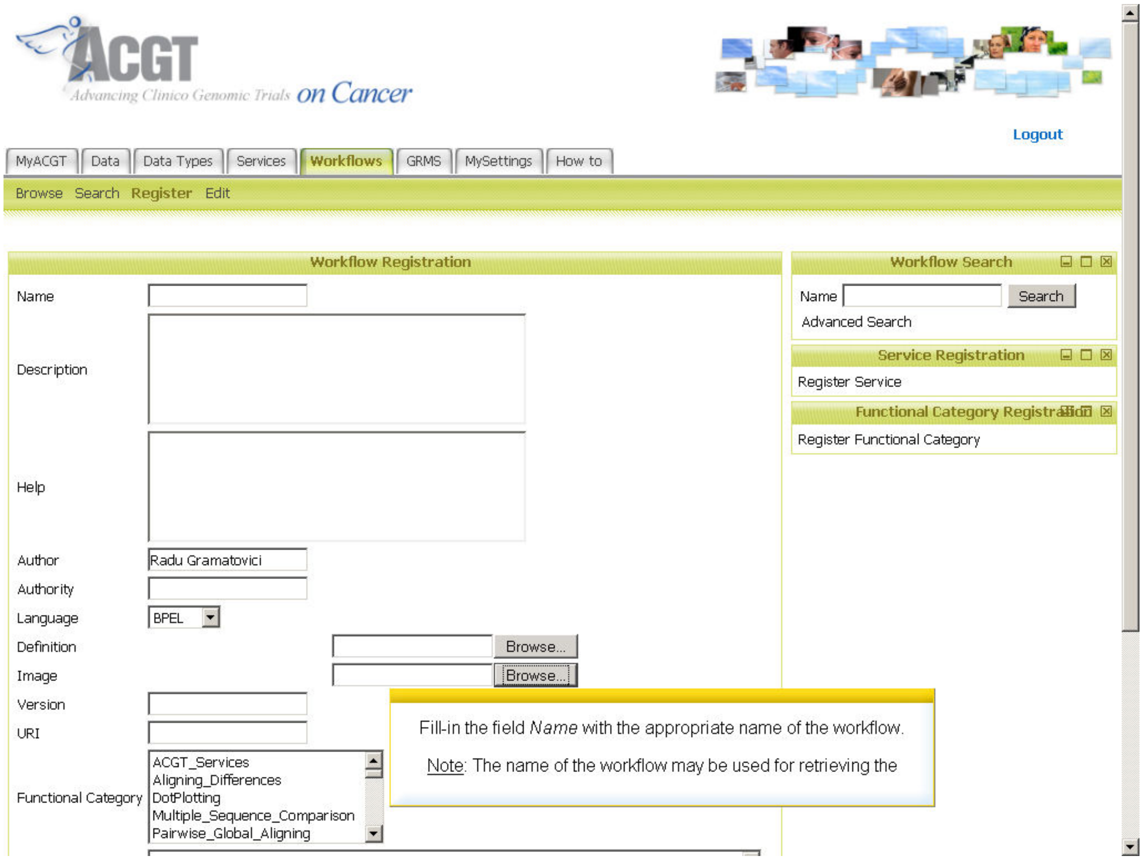

Figure 4: ACGT Portal – Fill-in the workflow registration form

4.1. Fill-in the *Name* of the workflow

Fill-in the field *Name* with the appropriate name of the workflow.

<u>Note</u>: The name of the workflow may be used for retrieving the workflow.

4.2. Fill-in the *Description* of the workflow

Fill-in the field *Description* of the workflow as an appropriate descriptive concise text.

<u>Note</u>: The description of the workflow may be used for retrieving the workflow.

4.3. Fill-in the *Help* reference of the workflow

Fill-in the *Help* reference with a link to the *How to use the <workflow>* tutorial in the *How to* section.

4.4. Fill-in the *Author* of the workflow

Fill-in the *Author* field with the name of the author of the workflow.

Note: This field has an implicit value equal to the name of the user that performs the operations. The implicit value can be overwritten. For correct filtering purposes, it is recommended to keep the implicit value.

4.5. Fill-in the *Authority* of the workflow

Fill-in the *Authority* field with the name of the organization that has generated the workflow.

4.6. Select the *Language* of the workflow

Select the value of the *Language* field from the list. The value indicates the language in which the formal description of the workflow is written. The actual values can be BPEL, SCUFL or Other.

4.7. Upload the *Definition* of the workflow

Upload the definition of the workflow in the *Definition* field. To accomplish this task, use the button *Browse* displayed on the *Definition* row.

Note: The file to be attached to this field should contain the definition of the workflow in the language indicated in the previous field.

4.8. Attach the *Image* of the workflow

Upload the diagram representing the workflow as an image in the *Image* field. To accomplish this task, use the button *Browse* displayed on the *Image* row.

4.9. Fill-in the *Version* of the workflow

Fill-in the *Version* field with a corresponding (possibly dotted) number.

Note: The version field should distinguish different versions of the same workflow.

4.10. Fill-in the *URI* of the workflow

Fill-in the *URI* field with a corresponding URI, where the operation execute of the workflow is located.

4.11. Select the *Functional Category* of the workflow

Select the value of the *Functional Category* field from the list. The selected functional category should be the one in which the new workflow fits.

Note: If the workflow doesn't fit in any of the registered functional categories, than a new functional category can be registered using the portlet *Functional Category Registration*, which is present on the page, in the right column. This operation is restricted to selected users.

4.12. Select the component *Service Operations* of the workflow

Select the values of the *Service Operations* field from the list. The selected service operations should be the ones from which the workflow is made.

Note: If some service or some service operation does not exist in the list of registered service operations, than a new service can be registered or a new operation can be added to a registered service using the portlet *Service Registration*, which is present on the page, in the right column.

4.13. Select the *Nested Workflows* of the workflow

Select the values of the *Nested Workflows* field from the list. The selected nested workflows should be the ones from which the workflow is made.

Note: All the workflows nested in the new workflow should be registered prior to the new one, following the same procedure. It is possible for a workflow to have no nested workflows.

5. Conclude the **Workflow Registration** form

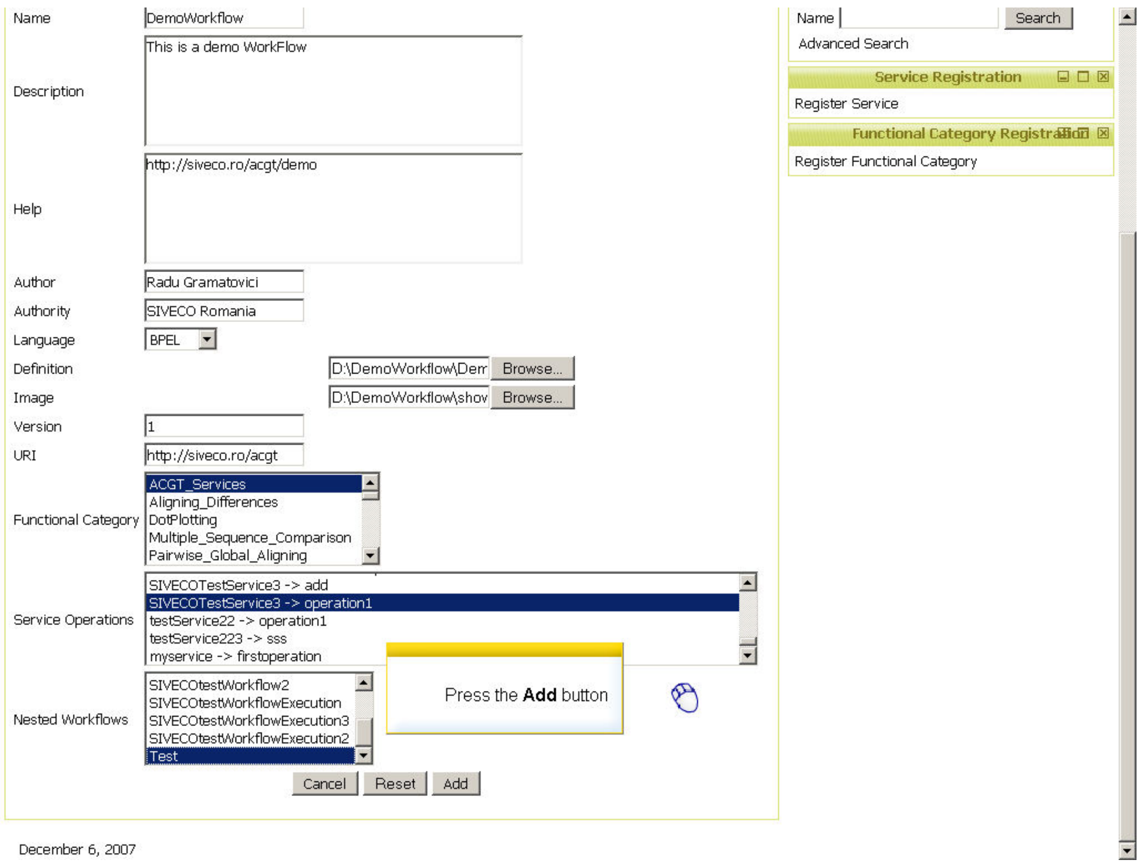

Figure 5: ACGT Portal – Conclude the workflow registration form

The *Workflow Registration* form can be concluded in three ways, by using the corresponding buttons displayed in the bottom of the form:

- Cancel – aborts the current registration and returns to an empty *Workflow Registration* form
- Reset – cleans all the information filled in the fields of the current form

- Add – registers a new workflow with the specific description in the Workflows table of the Metadata Repository database. After this operation the portal switches to the Workflow Browse portlet displaying the new workflow as it was registered in the database.

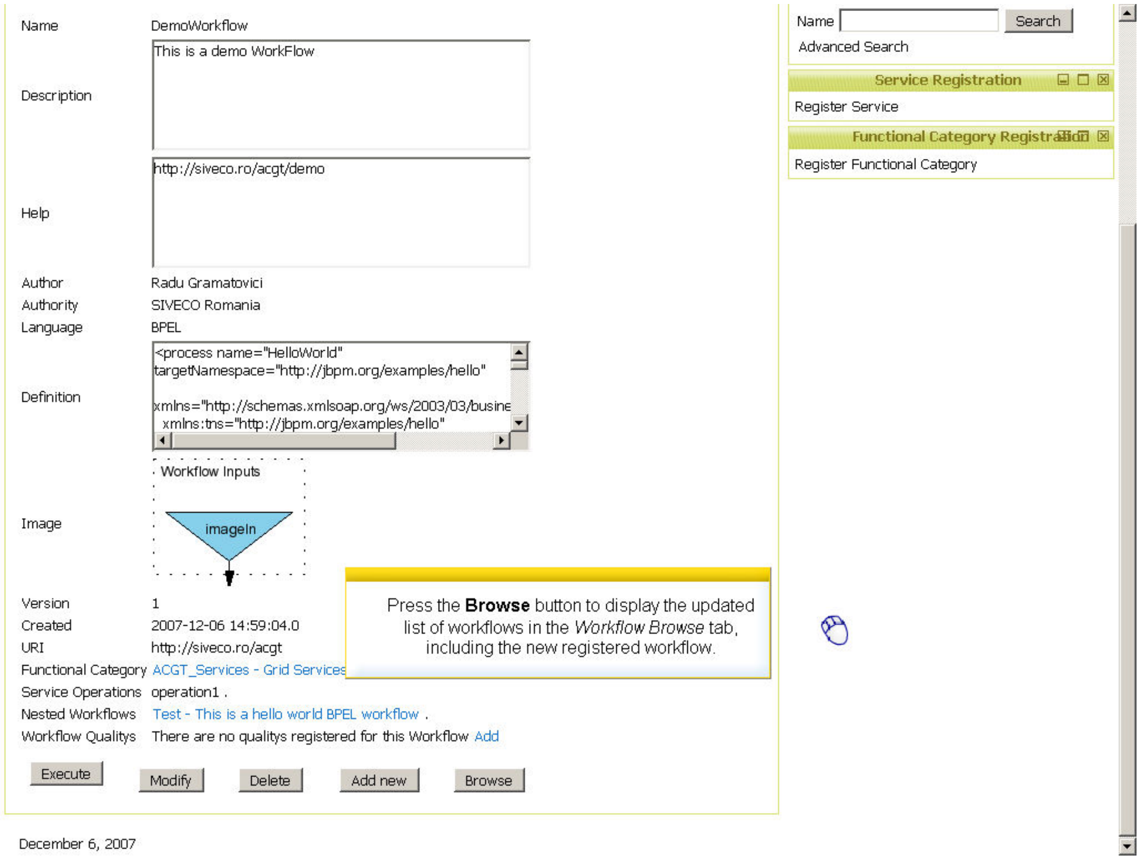

Figure 6: ACGT Portal – The visualization of the workflow metadata after registration

6. Conclude the action in the **Workflow Browse** view

After registering the new workflow, the action can be continued in five ways, by using the corresponding buttons displayed in the bottom of the view:

- Execute – executes the workflow (this action is not part of the Workflow Registration form)

- Modify – reenters the *Workflow Registration* form in order to modify the current values of the workflows

- Delete – deletes the current wokflow from the Workflows table, returning the updated list of workflows in the *Workflow Browse* tab

- Add new – opens a new empty *Workflow Registration* form in order to register a new workflow

- Browse – displays the updated list of workflows in the *Workflow Browse* tab, including the new registered workflow.

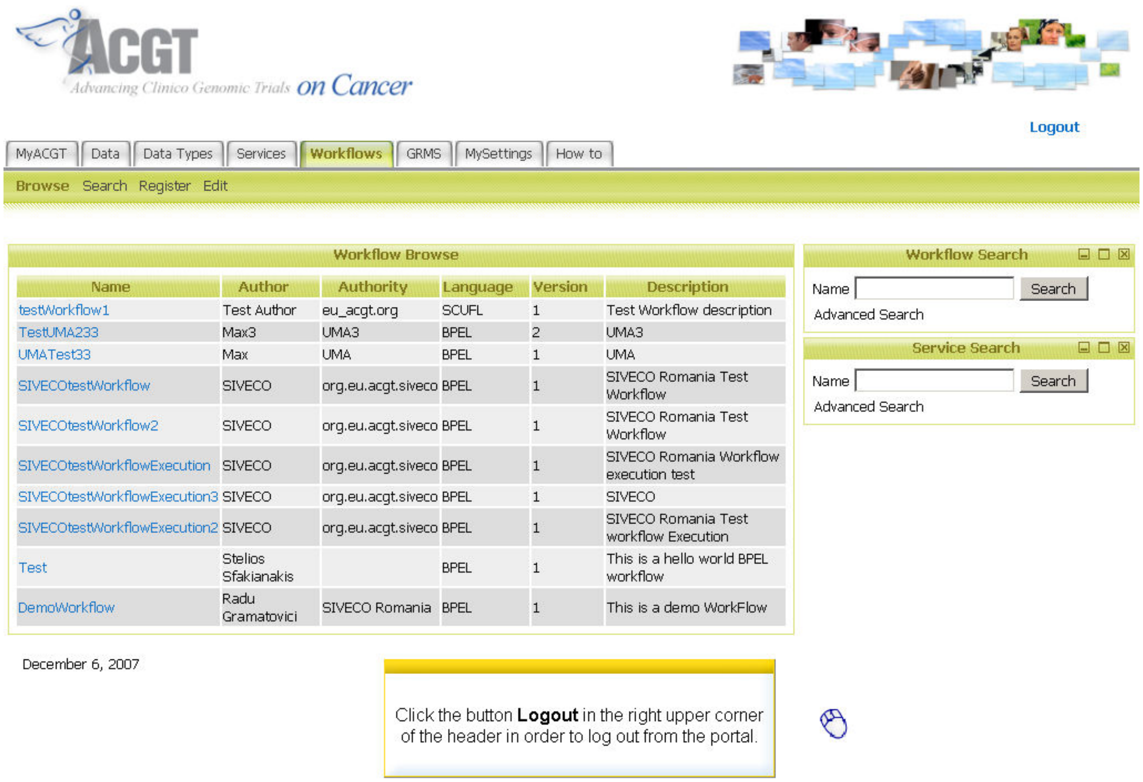

Figure 7: ACGT Portal – The visualization of the workflow in the list after registration

7. Log out from the portal

   Click the button Logout in the right upper corner of the header in order to log out from the portal.

PART 3

Integration in the ACGT Portal

4 Integration in the ACGT Portal

4.1 The "How to" section

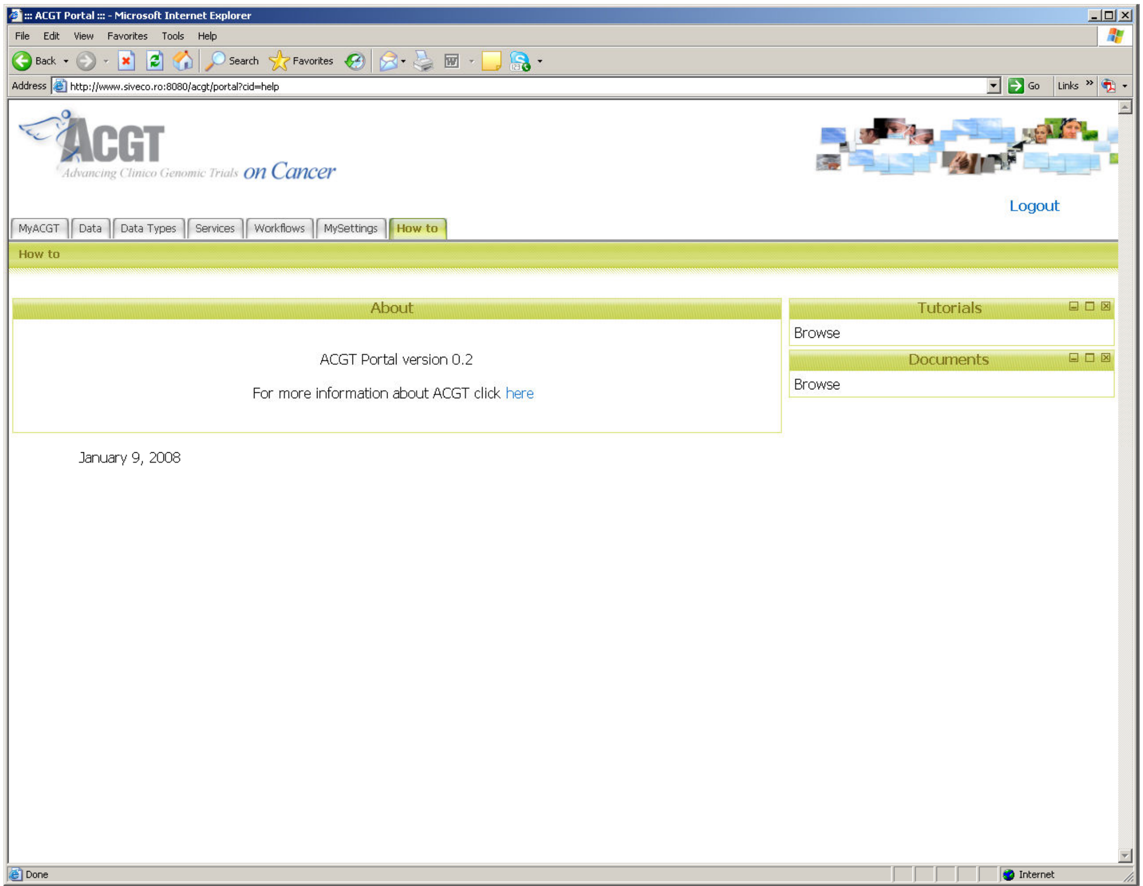

Figure 8: ACGT Portal – The *How to* section

All the electronic training materials are stored in the *How to* section. The training materials are split in two subsections:

- *Documents*

  This section contains the documents that are associated to the services exposed by the ACGT platform. Documents can be manuals, regulations, scientific papers, etc.

- *Tutorials*

  This section contains the tutorials that are associated to the services exposed by the ACGT platform. The online training demo module *How to register a workflow?* is listed in the *Tutorials* subsection.

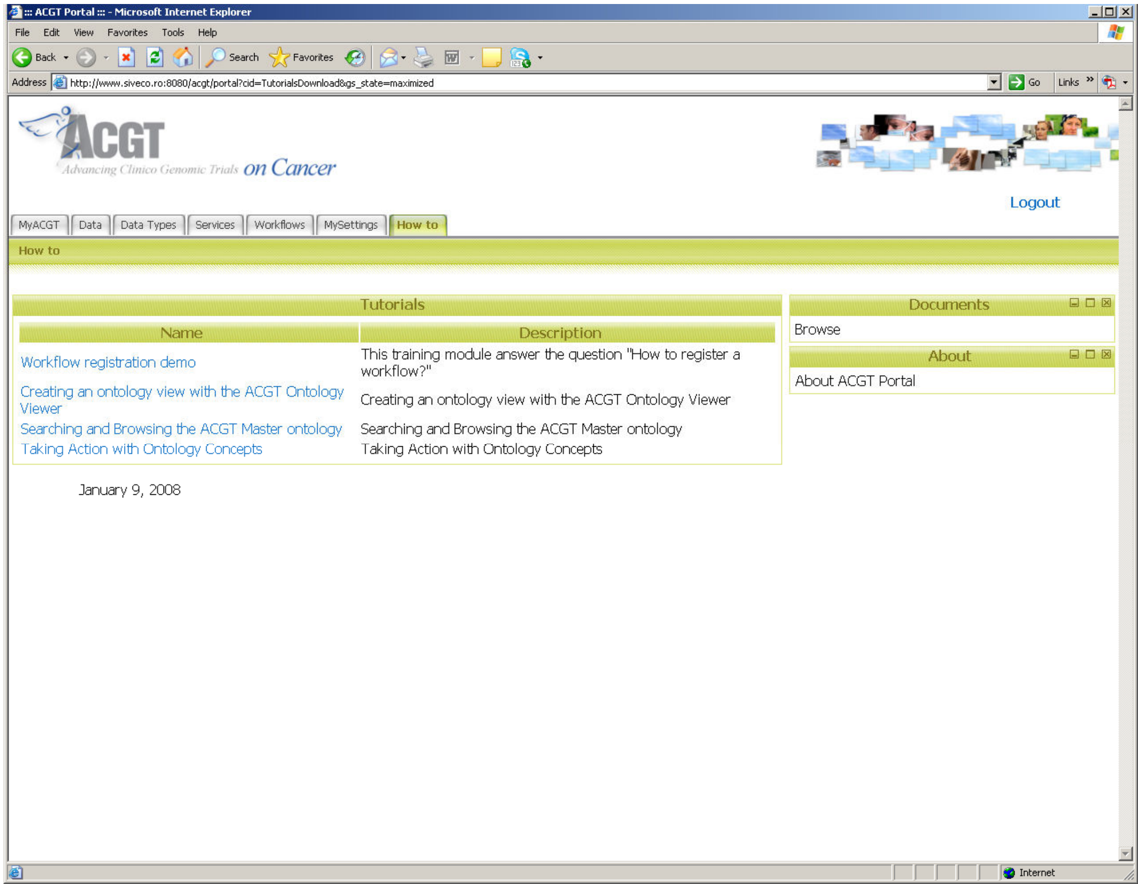

Figure 9: ACGT Portal – The *Tutorials* section

4.2 Section filtering

All the tutorials that corresponds to a specific section of the portal are filtered by the section name and can be directly accessed from the section, without being necessary to switch to the *How to* section. The list of tutorials referring a specific section of the portal can be accessed through a minimized portlet, which is displayed in every page of the section on the right column.

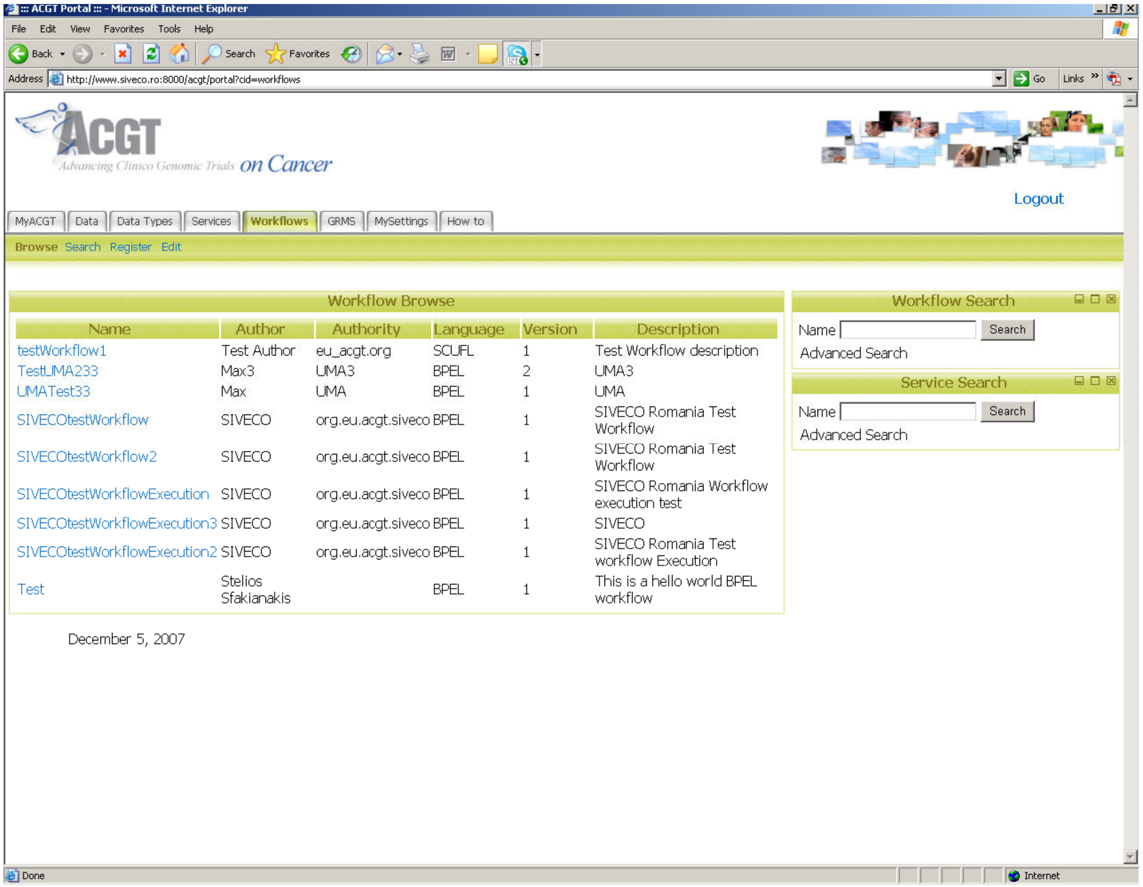

Figure 10: ACGT Portal – Publication of tutorials related to a specific section

4.3 Service/Workflow linking

The tutorial associated to specific service or workflow is also displayed as a link in the metadescription of the service, respectively workflow. When visualizing the corresponding item from the Metadata Repository

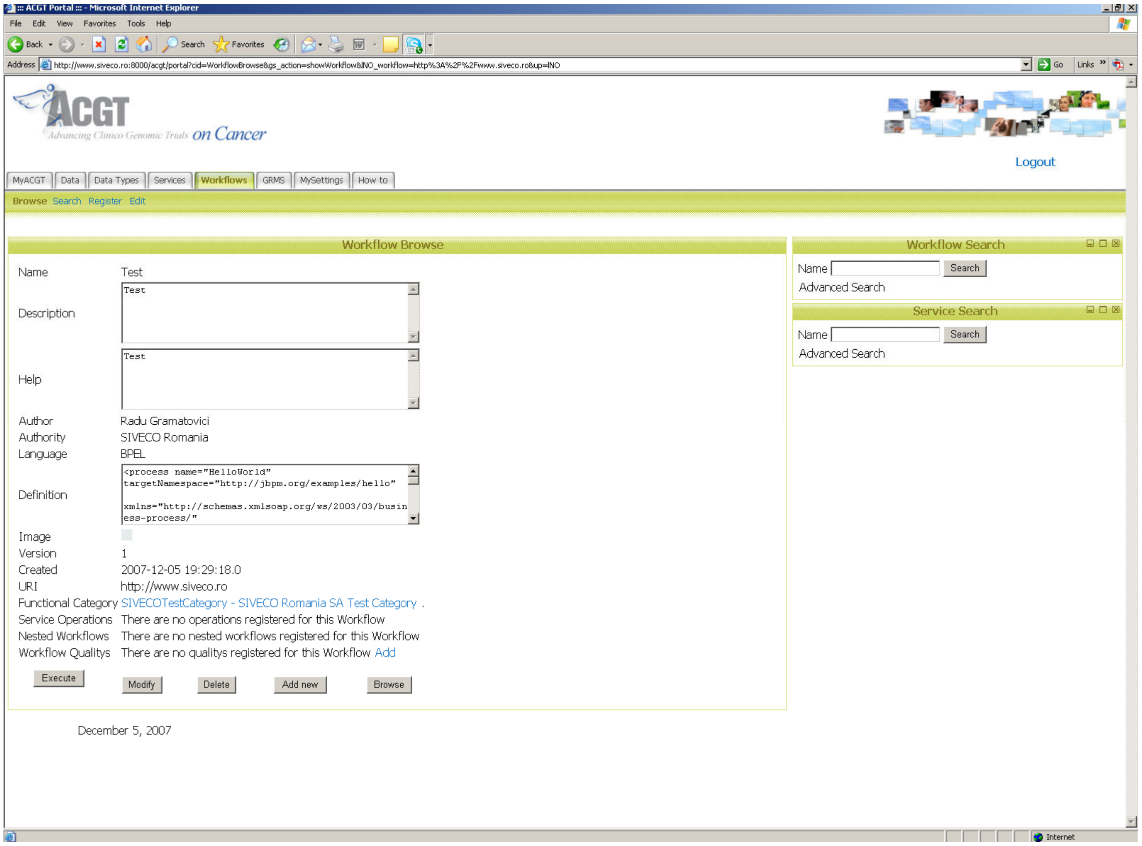

Figure 11: ACGT Portal – Linking the tutorial related to a specific service

5 The training module demo

The demo realised for the Workflow registration training module is publicly available through the ACGT Portal.

In order to access the demo, one has to connect to the portal following the link:

http://www.siveco.ro:8080/acgt/

Once in the welcome page of the portal a guest user is necessary to log in. Use:

User: *acgt_guest*
Password: *guest*

From the guest homepage the tab *HowTo* has to be selected.

From the *HowTo* portlet, the option *Browse* from the Tutorials box has to be selected.

From the list of tutorials, the *Workflow registration demo* has to be selected.

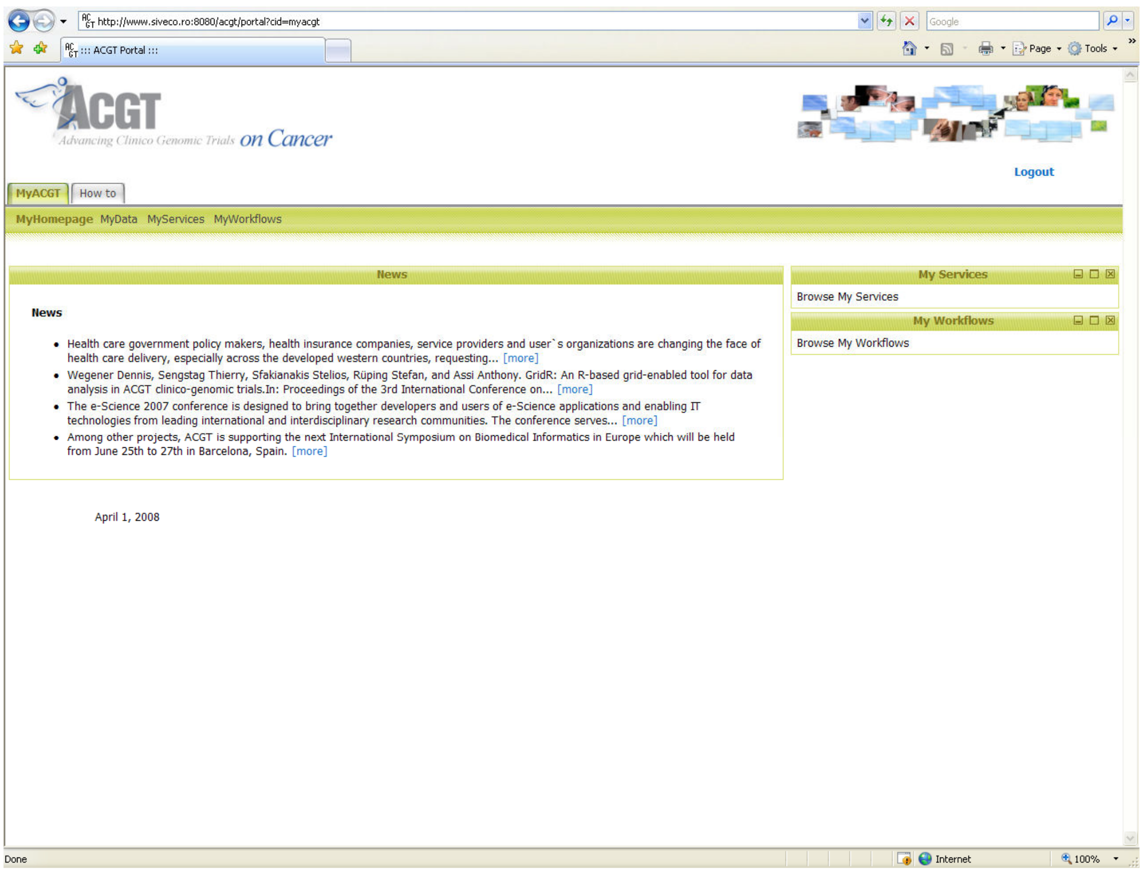

Figure 12: ACGT Portal – The acgt_guest homepage