



Grid enabled access to rich media content

Building and Operating the GREDIA Media Pilot Application

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1. Media Pilot Application Overview

In the context of the GREDIA project and in order to assess the effectiveness of the GREDIA platform in real life, a media and journalism application has been developed, which enables news content being gathered from geographically spread / deployed journalists to be efficiently managed and distributed, in order to serve everyday activities in a media organization, and news items from individuals, groups of people or (local) communities anywhere in the world to quickly be made available for media professionals and global audiences.

1.1. Objectives

The GREDIA media pilot application aims to showcase the following objectives:

From a business perspective

- Operation over a Grid-enabled platform, which provides clear benefits for the specific workflow of information collection and enables for massive access to media annotated content
- Secure access for journalists or citizen (journalists) working in the field any time and from any place
- Secure transfer of material from the field, even when reporting from regions of the world where the freedom of the press is not provided (by allowing mobile devices to establish secure connections to trusted grid nodes - the grid proxies)
- Selection of incoming material in the newsroom, through efficient data discovery and transfer
- Support situations that evolve suddenly, without planning and with very short time to judge and edit the material
- Help the newsroom to find, select, edit and re-broadcast material from the field, which is of high priority

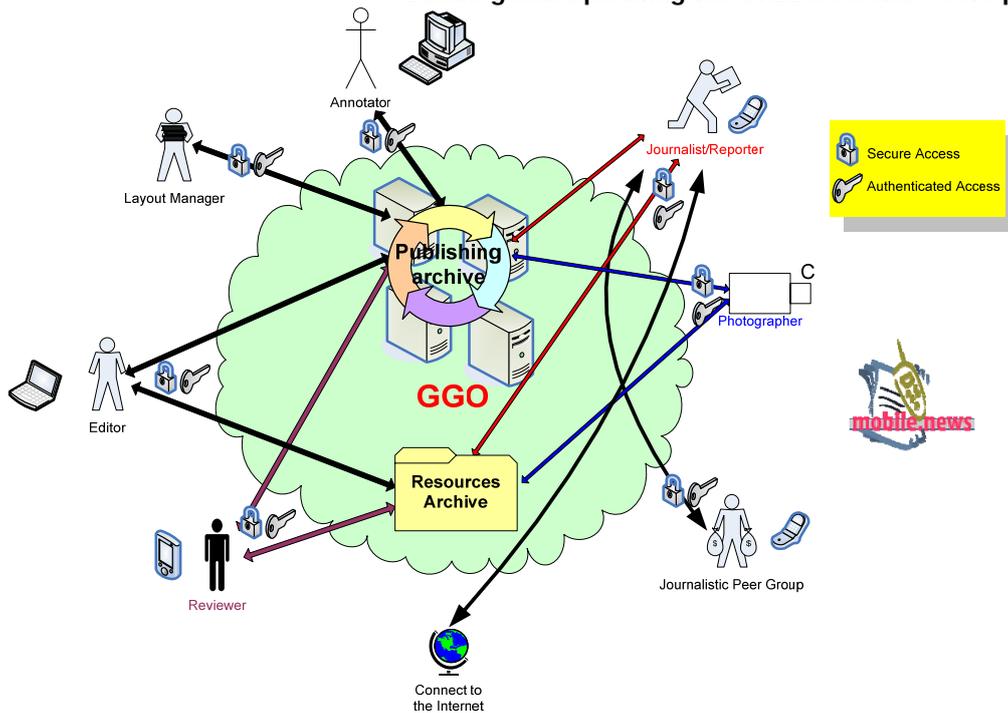
From a technical point of view:

- Measure the performance of the Grid-enabled applications to overcome the limitations of legacy systems
- Compare the field operation with the theoretical performance of the system, through evaluation of the media pilot through user feedback from validation exercises
- Evaluate the effectiveness of the pilot for multimedia information collection / distribution with respect to usability and functionality

1.2. Pilot Scenarios Overview

This section makes an overview of the pilot test scenarios, which were followed to execute the field trials. The media pilot application brings together the market orientation and pervasiveness of mobile communication technology with the promise of a dynamically concerted use of resources and services provided through secure Grid infrastructures and subject to certain contract based policies. This application allows the participating roles in an information gathering scenario making their work available to a trusted network of co-workers the instant it is produced, using alternative desktop or mobile devices. A graphical representation of the media pilot application concept is depicted in the following figure:

Building and Operating the GREDIA Media Pilot Application



The objectives set previously are envisaged through two different business application scenarios that address the GREDIA orientations on alternative views, as explained below.

1.2.1. Media Collaboration Scenario

The core idea of the Media Collaboration test scenario is to demonstrate how news content from geographically spread / deployed journalists can be managed and distributed, in order to serve the everyday activities in a media organisation.

The reason for using such a scenario is to address an increasingly pressing problem in media organizations: Managing and steering offerings (e.g. websites) on which content quickly "ages" and needs to be updated with many contributors (authors, journalists etc) in parallel.

To this end, a dashboard was developed based on the GREDIA functionalities, which allows to overview the workflow and monitor completion of associated tasks. An example that shows why this is relevant and a typical task where GREDIA can help is the "Study in Germany" scenario from Deutsche Welle. It offers information on more than 60 locations (university towns) in Germany, including sections about the cities themselves, the quality of the universities, advice on where to live, what to do and so on. Such content needs to be updated frequently. Usually, this is done by assigning one main editor, who works with and manages an additional 15 to 20 journalists who cover individual locations "in the field" (some of the journalists produce content for several cities.) In addition to the text content on the portal, photos and videos are also on offer (and, hence, need to be produced). In the particular case of Deutsche Welle as a multilingual content provider, such content later needs to be translated into at least eight key languages. Thus the number of total items quickly rises – in the case of the Study-in-Germany scenario, it becomes necessary to handle a great amount of data (files) and formats and manage the contributors efficiently and as effectively as possible. That is why the "Study-in-Germany" Scenario was proposed and used in the GREDIA validation process as a test case.

This scenario was commenced by enabling the participating media organisations (DW and DIAS) to start up a project, in which journalists, situated in different cities within a country, are allocated the task to gather and distribute information about these cities with a particular editorial brief. Through a Web-based interface, the users defined as 'editors' are delegating tasks to a variety of journalists and provide review functionality of the released content. The journalists can upload or download content into a shared workspace (Grid).

As soon as journalists are assigned tasks to report about, they automatically receive notifications by email and have the task added to their table. As soon as they upload information this becomes visible on the editor's table and he can immediately download it.

Through this scenario, the workflow in the media organisations can be supported and enhanced, from a business perspective, as:

- editors are assisted in effectively completing projects of efficient information gathering
- dynamically created teams are sharing a policy-based and access-controlled collaboration space (Virtual Organization) to supply their work
- editors are given the task to manage information sources, which means assigning individual journalists with the task to report about a set of items allocated to them
- All users experience a service-based approach to complete their work, meaning that specific actions can be managed subject to the special needs of the certain role

From a technical point of view, the demonstrated scenario achieved to highlight the following GREDIA perspectives:

- Set up of dynamic and contract-based collaboration communities (working teams), subject to specific authorisation policies and access rights to distributed content and services
- Massive and distributed access to unlimited amount of existing content
- Building on new added-value and maintainable applications to support different and dynamically grown business scenarios

1.2.2. Global Village Scenario

The core idea of the Global Village Scenario is to demonstrate how news from individuals, groups of people or (local) communities anywhere in the world can quickly be made available for media professionals and global audiences.

This scenario commences by allowing people to join geographically-defined communities and act as information gatherers/suppliers by using a Web-based application, in order to publish their work about what they regard as relevant news and information from their area, or what they consider worth reporting on. Each community is governed by a specific contract agreement, being formulated by the media organisation controlling the specific community and specifying the rules of cooperation (in terms of defining which types of users can perform certain actions or access protected information).

A citizen news reporter can securely submit multimedia content (any file together with associated metadata) by logging into the portal. Registered users of the Global Village can access the web application to search the latest content and view public news items. They can also rate a news item selecting from a range of 'not interesting' to 'extremely interesting'. Moreover, registered community members can additionally rate news items as 'corroborate' or 'disputed'. All these popularity and accuracy measurements are recorded and constantly averaged. Popularity is measured by the number of positive ratings (i.e., 'interesting' or 'very interesting') it receives upon exceeding a certain threshold of views. Accuracy is measured by the number of 'corroborate' tags normalized by the size of the community (as news items from larger communities are likely to receive more ratings).

From a business perspective, deploying such a scenario allows for the following:

- Media organisations can expand their newsgathering process to a mobile and citizen-based community, governed by contract-based access to generated content
- Media organisations gain a database with user-generated content and material as seen from the citizens' perspective
- Potential users can use rating and popularity mechanisms to prioritise the available user-generated content
- Editors can select hot topics to be further reviewed from a professional point of view

From a technical perspective, the demonstrated scenario highlights the following GREDIA perspectives:



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- Set up of policy-controlled citizens' communities to jointly work with professionals¹
- The unique ability of the GREDIA platform to handle massive parallel data for upload and download, disseminated in a fully distributed manner
- Efficient management of mobile enablers to create content and perform workflow-based processes and tasks

¹ In order to test this situation, offerings, such as Flickr and YouTube, were tested and used in conjunction with trials for media transfer through the GREDIA platform. The key idea was to simulate a full workflow – from content gathering in the field to content transmission via GREDIA to content publication on a platform.

2. Pilot Manuals

2.1. Building the pilot

2.1.1. Running the Application Scenario

In order to be able to interface with the media pilot application (and any APPEA application scenario), the following conditions need to be met:

- The user must have an operational Web browser with javascript supports and cookies turned on.
- The user must be registered with the FiVO framework as a member of a relevant Virtual Organization (this can be done by contacting bkryza@agh.edu.pl).

Once these steps are complete, the user may log into the GREDIA portal and execute any application scenarios available to him/her, including the media pilot scenarios.

ATC	11/02/2009	Politics	video	Srebrenica massacre	65%	☆☆☆☆☆	☆	
George	16/06/2009	Entertainment	video	alla dallon 2	40%	☆☆☆☆☆	☆	
Jens Meinrenken	30/06/2009	Entertainment	audio		20%	☆☆☆☆☆	☆	
Nikos Sarris	01/07/2009	Science&Tech	photo	GREDIA sketch 6	20%	☆☆☆☆☆	☆	
kostas	18/06/2009	Entertainment	audio		20%	☆☆☆☆☆	☆	
Piotr Nowakowski	30/06/2009	Entertainment	audio			☆☆☆☆☆	☆	
kokos	01/11/2001	Travel	audio			☆☆☆☆☆	☆	
Dr. Nikos Sarris	18/05/2009	Travel	photo	Dressman Shades Seine	100%	☆☆☆☆☆	☆	
George	15/06/2009	Entertainment	audio		100%	☆☆☆☆☆	☆	
Ina Meyer	04/05/2009	Health	photo	Flower Health Depression	50%	☆☆☆☆☆	☆	
Jochen Spangenberg	19/06/2009	Entertainment	audio	cyprus, meeting, work	100%	☆☆☆☆☆	☆	
Martin Maass	20/07/2008	Travel	video	Norway Hiking Mountains	76%	☆☆☆☆☆	☆	
Tim Koch	01/09/2008	Travel	photo	Octopus	96%	☆☆☆☆☆	☆	

Figure 1: Executing APPEA prepared application scenarios using a Web portal

2.1.2. Modifying and Committing the Application Scenario

If the user wishes to modify the application scenario or deploy new application scenarios, then he/she must set up the Application Execution Planning Tool, which is available for download from the <http://gredia.cyfronet.pl> website. The AEPT is based on the Eclipse framework and requires the user to have an operational version of the Java Development Toolkit 1.6.0_10 (or later). Specific manuals are provided on the <http://gredia.cyfronet.pl> website (please consult the Installation section). AEPT is available both for Linux and Windows systems.

If the user wishes to execute application scenarios locally, a GSEngine server package needs to be downloaded and installed. This package is also available at gredia.cyfronet.pl. Otherwise, a GSEngine client needs to be installed and connected to a running instance of the remote Execution Service, such as those deployed on virolab.cyfronet.pl and gredia.cyfronet.pl (port 6900). The AEPT includes a user-friendly wizard devoted to configuring the GSEngine software.

Once the AEPT is configured, the user may log into the system using his/her FiVO handle (same as for end users) and check out any scenario from the GREDIA scenario repository, which is located at <http://gredia.cyfronet.pl/trac/gredia/wiki/installation>. Upon checkout, the application scenario script can be modified and new files attached as required. The overall sequence of actions is as follows:

- Start AEPT
- Log in using your FiVO credentials

- Click the “Check out Application Scenario” button and import the selected scenario into your local workspace
- Introduce any modifications you wish
- Commit the scenario by right-clicking its name and selecting Team > Commit.
- Optionally, you may also release the scenario for execution by the Portal by right-clicking the scenario name and selecting Team > New Release.

The same procedure applies to any other application scenario. If the user wishes to create a new scenario, he/she should click the “New Application Scenario” button. A new scenario can be committed to the Application Scenario Repository by right-clicking its name and selecting Team > Share Project.

2.2. Pilot User Manuals

2.2.1. ‘Media Collaboration’ user manual

This section provides the “getting started guide” for the Media Collaboration Scenario of the media pilot application which outlines the steps that a user needs to go through in order to take advantage of all provided functionalities.

In summary there were two main user roles: **editor** (in charge of planning, assignments etc) and **journalist** (performing assigned tasks). The editor's primary task was to organise and manage the whole information gathering process. To this end the editor was able to assign tasks to journalists, who would then be responsible to provide content. A dashboard built with the help of the GREDIA platform provided information which of the tasks were completed and which were still pending.

The following are the steps that the two individual roles can go through:

STEP 1: Access the application

Connect to <http://hestia.atc.gr/gredia>. You will be redirected to the portal location. You may want to bookmark this address for future direct access.

STEP 2: Login

In order to log in, write your username and password. Make sure that you don't change the Virtual Organisation (VO) from Media Collaboration.



Figure 2: The GREDIA portal login screen

EDITOR ROLE:

STEP E3: Home page for logged in Editors

After logging in, with the credentials of an editor you will see the following page:

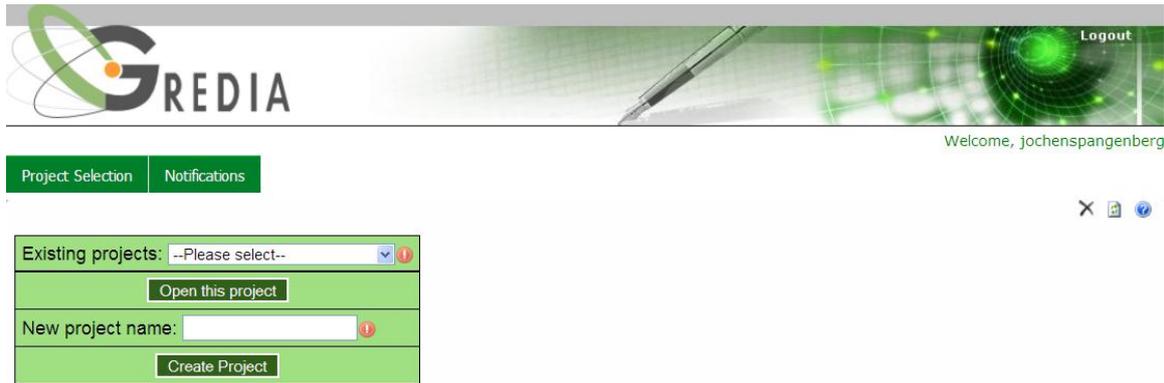


Figure 3: The editor home page

The three icons on the upper right are always there and are used to:

- ✕ - Restart the application scenario
- 🔄 - Refresh the page
- 📘 - Bring up the help window

The editor can select a project to monitor, create a new project or view his/her notifications.

The creation of a new project involves the declaration of a number of cities and the assignment of journalists to these cities.

STEP E4: The project dashboard

When an existing project is selected a page like the following will appear:



Cities	Journalists	Portrait	Text reports	Video reports	Radio Reports	Pictures
Add City	Assign Task					
Aachen ✕	Pia Gram ✕	gredia_l... ✕	CB066593... ✕	barbie.bmp ✕	57.mp4 ✕	
Bad Muender ✕	Stephan Lamm ✕	hoppenma... ✕ Erste Di... ✕ gradierw... ✕	Kurbadmu... ✕ Infosbad... ✕	00_0905_... ✕	Beethove... ✕	
Berlin ✕	Martin Maass ✕	Global V... ✕ 2008-07-... ✕		Unbenann... ✕		Bild231.... ✕ Bild232.... ✕
Berlin-Wedding ✕	Tim Koch ✕					Bild001.... ✕ Bild008.... ✕ Bild031.... ✕ Bild034.... ✕
Bochum ✕						
Brandenburg ✕	Lydia Heller ✕					
Chemnitz ✕	Will Journalist ✕		test ✕			
Dortmund ✕	Suzanne Cords ✕					
Dresden ✕	Will Journalist ✕					
Duisburg ✕	Svenja Uing ✕					
Erfurt ✕	Will Journalist ✕					
Essen ✕	Svenja Uing ✕					
Frankfurt (Oder) ✕	Will Journalist ✕					
Freiburg ✕	Pia Gram ✕					

Figure 4: The editor project dashboard

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The editor can press the “Add City” button to create a new city. Then he/she can press the “Assign Task” button to assign a journalist to this city. Currently only one journalist can be assigned to each city. When a journalist is assigned to a city he is also sent a notification by email.

The green ‘x’ buttons can be used to delete a city, a journalist assignment, or uploaded content items.

Clicking on a content item this will be downloaded to the client device.

When journalists start uploading files, these will appear on this table. The editor can use the “Refresh” button at the upper right to refresh the view.

JOURNALIST ROLE:

STEP J3: Home page for logged in Journalists

After logging in, with the credentials of a journalist you will see the following page:



Figure 5: The journalists home page

The three icons on the upper right are always there and are used to:

- ✕ - Restart the application scenario
- 🔄 - Refresh the page
- 📘 - Bring up the help window

STEP J4: The tasks dashboard

The journalist needs then to select a project and click the “Show Tasks” button. Then a page like the following will appear:



Figure 6: The journalist task dashboard

STEP J5: Uploading content

When the journalist clicks any of the ‘Upload’ buttons, the upload form will appear. The journalist must press the ‘Browse’ button to select a file from the local system to upload. Up to 4 files can be simultaneously uploaded. If more files need to be uploaded in a single go, the journalist can press the “More Files” button to expand the form.

Files

The image shows a content upload form with a green border. It contains four text input fields, each followed by a 'Browse...' button. At the bottom of the form, there are two buttons: 'Upload' and 'More Files'.

Figure 7: The content upload form

Pressing 'Upload' will complete the uploading and will return the journalist to the previous form.

2.2.2. 'Global Village' user manual**STEP 1: Access the application**

Connect to <http://hestia.atc.gr/gredia>. You will be redirected to the portal location. You may want to bookmark this address for future direct access.

STEP 2: Login

In order to log in, write your username and password. Make sure that you change the Virtual Organisation (VO) to Global Village.



The image shows the GREDIA portal login screen. At the top left is the GREDIA logo. To the right of the logo is a 'Home' link. Below the logo is the date '07 July 2009'. The main content area features a login form with the following fields: 'VO:' with a dropdown menu showing 'GlobalVillage', 'Username:', and 'Password:'. Below these fields is a green 'Login' button.

Figure 8: The GREDIA portal login screen**STEP 3: Home Page for logged in users: *the Top 20 list***

After logging in, the user is presented with a table with the highest rated items according to Credibility or Popularity. Clicking on the arrow icon in the Credibility or the Popularity column header, will change the criterion for the ordering.

The three icons on the upper left are always there and are used to:

- ✕ - Restart the application scenario
- 🔄 - Refresh the page

☰ - Bring up the help window



Top 20 items uploaded by citizens/journalists

Author	Created	Category	Type	Keywords	Credibility	Popularity	Rate	Download
kokos	01/11/2001	Travel	audio	ela pane gyrna	100%	☆☆☆☆☆	★	
Dr. Nikos Sarris	18/05/2009	Travel	photo	Paris Dressman Shades Seine	100%	☆☆☆☆☆	★	
George	15/06/2009	Entertainment	audio		100%	☆☆☆☆☆	★	
Jochen Spangenberg	19/06/2009	Entertainment	audio	cyprus, meeting, work	100%	☆☆☆☆☆	★	
kgiannakakis	03/07/2009	Entertainment	text	test book	100%	☆☆☆☆☆	★	
Tim Koch	01/09/2008	Travel	photo	Octopus Greece	95%	☆☆☆☆☆	★	

Figure 9: The Global Village home page

At any time the user can click on the “Star” icon (in the ‘Rate’ column) to vote for an item. Users can vote on how credible they think the item is as well as how much they like the item. Based on these two ratings two average scores are calculated and presented for each item in the ‘Credibility’ and ‘Popularity’ columns.

Rate Item ✕

I like it this much: ▾

Is it true? ▾

Figure 10: The rating item form

Any item can be downloaded by clicking on the “Disk” icon (in the ‘Download’ column).

STEP 4: Searching for items

The user can search all items by clicking at the search (binoculars) icon. The results of the search can be narrowed down by filling in the fields of the following form.

Keywords:

Author:

Created from:

to:

Category: ▾

Type: ▾

Figure 11: The search form

The results appear in a table similar to the previous one. When more than 15 items are available, they are split in pages. The user can sort the results using the arrow icons in any of the column headers.



List of media items uploaded by citizens/journalists

« Displaying items from 16 to 30 out of 82 »

Author	Created	Category	Type	Keywords	Credibility	Popularity	Rate	Download
Dr. Nikos Sarris	18/05/2009	Travel	photo	Paris Dressman Shades Seine	100%	Not rated	★	
Dr. Nikos Sarris	01/05/2009	Business	photo	Paris DW Bridge	100%	Not rated	★	
George	15/06/2009	Entertainment	audio		100%	Not rated	★	
George	16/06/2009	Entertainment	video	alla dallon 2	40%	★★★★★	★	
Irina Meyer	04/05/2009	Health	photo	Flower Health Depression	50%	Not rated	★	
Irina Meyer	04/05/2009	Health	photo	Flower Health Depression	Not rated	★★★★★	★	
Jens Meinrenken	30/06/2009	Entertainment	audio		Not rated	Not rated	★	

Figure 12: The search results

STEP 4: Uploading items

To upload a content item the user must click on the green '+' icon. The following form will appear.

File:	<input type="text"/> <input type="button" value="Browse..."/>
Author:	<input type="text"/>
Date Created:	<input type="text" value="07/07/2009"/>
Date Modified:	<input type="text" value="07/07/2009"/>
Category:	<input type="text" value="Entertainment"/>
Type:	<input type="text" value="audio"/>
Status:	<input type="text" value="assigned"/>
Keywords:	<input type="text"/>
<input type="button" value="Store"/>	

Figure 13: The upload item form

The user must select a file and fill in the author name. The keywords field is optional, but carefully tagging a file will help users searching for it.