Automating Production of Cross Media Content for Multi-channel Distribution

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DE9.6.5

Final report on Demonstration on content production and distribution to kiosks and local PDAs

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Abstract: the present document presents the final report of the development of the experimental test-bed for distribution towards kiosks and PDA

Keyword List: kiosk, PDA, content, production, distribution

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Table of Content

1 Executive Summary and Report Scope

The present document holds the detailed report of the demonstrators focussed on production and distribution of content to kiosks and local PDA. Therefore the demonstrator is focussed on content production, protection, sharing, formatting, distribution considering the market segments and interest of the potential consumers and their needs, it will be validated and tested by using the content produced with WP8 and that will be available in the project digital archives. Final objective of the demonstrator is to validate project results and achievements in a real world application that may lead to the set up of some complete and ready to use AXMEDIS product and service. The document is structured in sections; Section 2 is a brief introduction, Section 3 summarizes the technical note depicting the architecture while Section 4 describes the demonstraor show case. Section 5 illustrates the performed demonstrations and related data are reported into Section 6. Section 7 summarizes the questionnaires results.

2 Introduction

Within AXMEDIS the kiosk demonstrator aims to demonstrate the benefits coming from the combination of several technologies in a new environment. Usually when referring to kiosks (in tourism or museums) people is focused on points of services with the typical aspect of what is called a “totem”. In AXMEDIS a kiosk is much more; it is a basic subset of the overall framework, designed and tailored to provide a fully-fledged set of services to a set of users in parallel exploiting all available tools as a real and new distribution channel.

The Kiosk within AXMEDIS Architecture is divided in two components: the “factory” dealing with content production and catalogue preparation, and the “kiosk”, this one comprising management (catalogue selection & loading, user management…) and content fruition. Distribution from the factory to kiosks is achieved via satellite so to optimise bandwidth and data transfer rate when updating (in broadcast) units that may be geographically dispersed on the territory, while content access, selection, acquisition and fruition at the kiosk is achieved exploiting either local terminals (true points of service) or a WiFi based access via PDA or mobiles.

In the kiosk factory the distributor (or the people preparing content for kiosk distribution) will take care of selecting the contents that will be presented into a catalogue, assign the proper category, rights and costs to each, prepare and distribute the catalogue.
At the POP side the application has been designed taking into account the need to accommodate both terminal and PDA fruition, therefore a web-based interface has been designed and implemented. The user should register (and download the AXMEDIS viewer whenever needed) prior to be granted access to the application. In the registration phase some demographic data and some preferences are collected for subsequent usage (even though only very little data is mandatory). Once registered the user can access to the core application that will present the kiosk catalogue, where available contents are categorised and can be browsed or searched. The user can select content for preview and once the selection is performed the user can purchase the content and, upon process completion, also access to it using the specific player).

3 Technical note

From a technical point of view, the Kiosk integrates different AXMEDIS core modules for realizing a chain from the content production to the distribution, namely these components are:

- AXCS service for users registration
- AXMEDIS Production Tools for contents ad licenses production
- PnP area for satellite transmission
- database, Query Support and Query on Demand services for contents search
- various AXMEDIS Players for content fruition
- CAMART area services for contents usage reporting
- PMS for rights verification

The Kiosk Demonstrator is a .NET Web Application that allows administrators and end-users to manage, search and get AXMEDIS contents via browser. For the complete Kiosk Distribution Technical Note please see [1].

3.1 Overview of the architecture and solution

At a very high level the system components are summed up as follows:

- **Kiosk factory**: this is the part of the system that holds a local instance of AXMEDIS and is interconnected to the P2P infrastructure. Here the Catalogue is produced and contents are aggregated, produced and distributed.
- **Kiosk**: this is the part of the system that is interconnected to the P2P infrastructure and has local terminals (including PDA). It assures management of satellite downstream and modem upstream (can also be used in downstream). It provides security features to the local LAN. The kiosk architecture will enable wireless communication with local mobile devices (PDA…).
- **Terminal**: this is a simple Point Of Presence (POP) for accessing to services provided by the Kiosk (mainly browsing and previewing of content listed into a catalogue for local fruition). With this device only rental is available.
- **PDA** (local): this is a mobile version of the kiosk POP granting the user the kiosk functionalities. It is provided by the kiosk manager and requires cleaning after usage. With this device only rental is available.
- **PDA** (user): this is a user own device that will need to be identified and registered to the Kiosk in order to be used locally. Once registered the user will be provided the needed SW for using own PDA as a POP for the kiosk services.

Figure 1 sketches the Kiosk architecture and its interconnection with the AXMEDIS core.

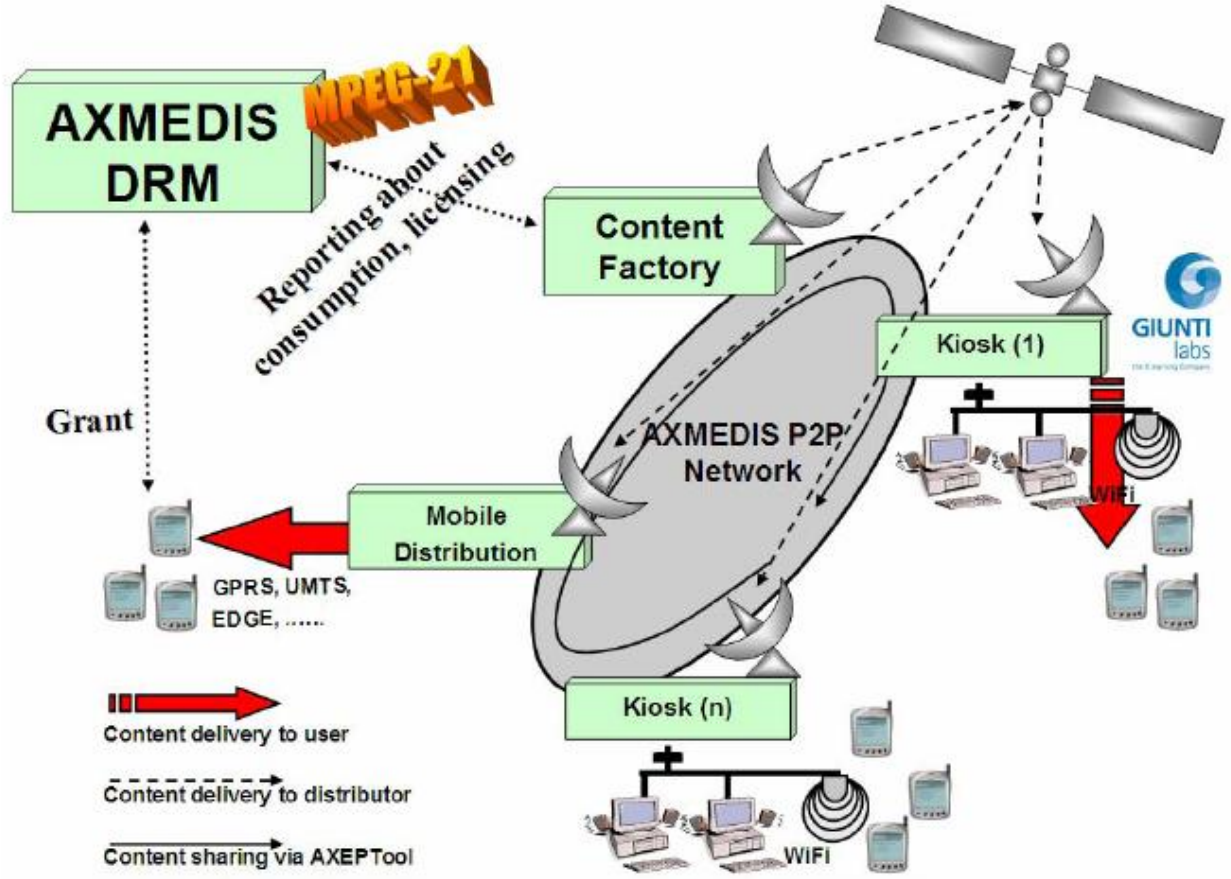


Figure 1. Kiosk architecture

4 Description of the demonstrator show case

Any kiosk could be part of a set of kiosks (distributed on the territory) and devoted to a specific audience with tailored services and applications. Moreover the AXMEDIS Kiosk will enable its user to access to services in a local area (defined by the WiFi support coverage). Having said this let's focus on the operations to be performed that basically are:

- at the Factory side:
  - create content
  - protect content
  - create licenses
  - create catalogue
    - select contents
    - organize contents into catalogue sections
    - allow user operations with contents
  - send catalogue
  - get statistic information about contents usage
- at the POP side:
  - register user
  - login
  - view and browse catalogue

- preview content
- get content metadata
- acquire content
- use content
- personal profile management
- query on demand
- administrative management
    - get users list
    - get user information
    - add user
    - delete user
    - activate catalogue

4.1 How to test the demonstrator

As we already mentioned, the Kiosk allows to put on the scene the complete AXMEDIS chain from the production until the distribution and fruition of the contents. In the following we present a summary of the User Guide to the two Kiosk main blocks, the Factory and the POP. To test the demonstrator lively you can follow the link to a Kiosk Demo instance available from the AXMEDIS Web Portal into the Kiosk specific section.

4.1.1 Kiosk Factory

A publisher prepares content that wants to distribute on a particular target kiosk set (e.g. museums) via satellite. The publisher needs to select a list of objects, a catalogue template, an object template and specify when to deliver each object (including the catalogue) and to whom (i.e. the distribution kiosk). By using the AXMEDIS Query support the publisher searches the desired objects and selects the ones to be used to build the catalogue. By using the AXMEDIS CAMART he can explore the usage statistics for the objects and automatically extract top and bottom ones. By using the P&P Editor the programme manager can create a programme to specify the time and destination channel of the objects to be distributed. On completion, the publisher activates the programme and during the programme life cycle the objects will be distributed until the programme has completed or the programme is removed from being activated.

4.1.1.1 Catalogue creation

On the Factory side contents are arranged into three different categories which aim is to guide users later into their navigation. Contents are extracted from database and classified. Furthermore it is decided which grants users will be able to acquire and the respective price.

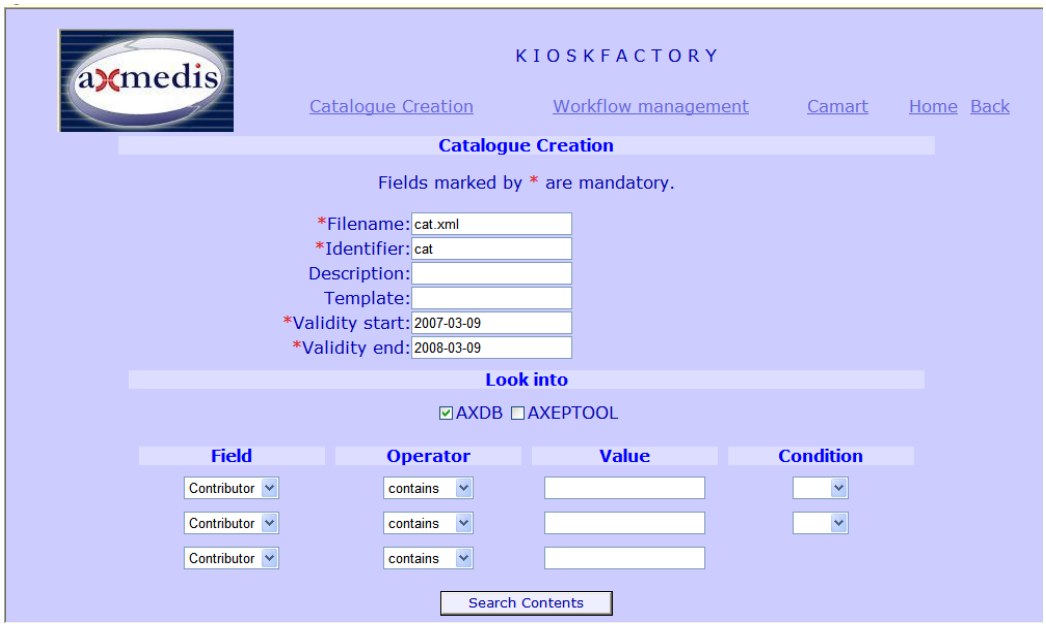


Figure 2. Catalogue creation

Figure 2 is the interface that allows user to insert basic catalogue data (identifier, description, template, validity start date, validity end date) and a query for content retrieval.

Figure 3. Content search and selection for catalogue construction

The user can select among the results of the previous query the ones he wishes to add to the catalogue.

Figure 4. Content details

The user can also view the content metadata before adding to the catalogue, as from Figure 4.

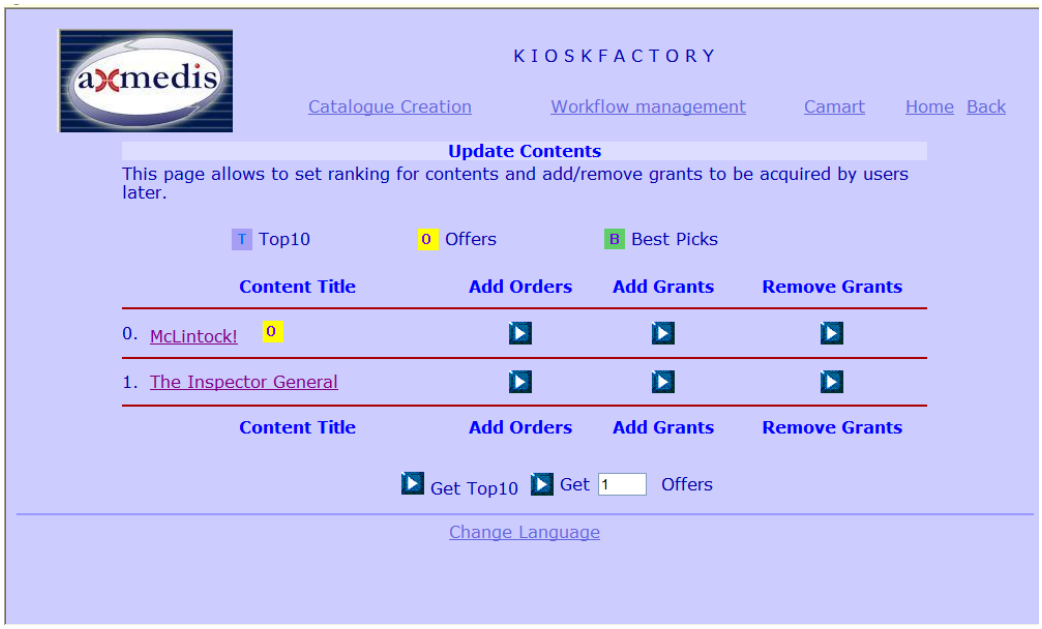
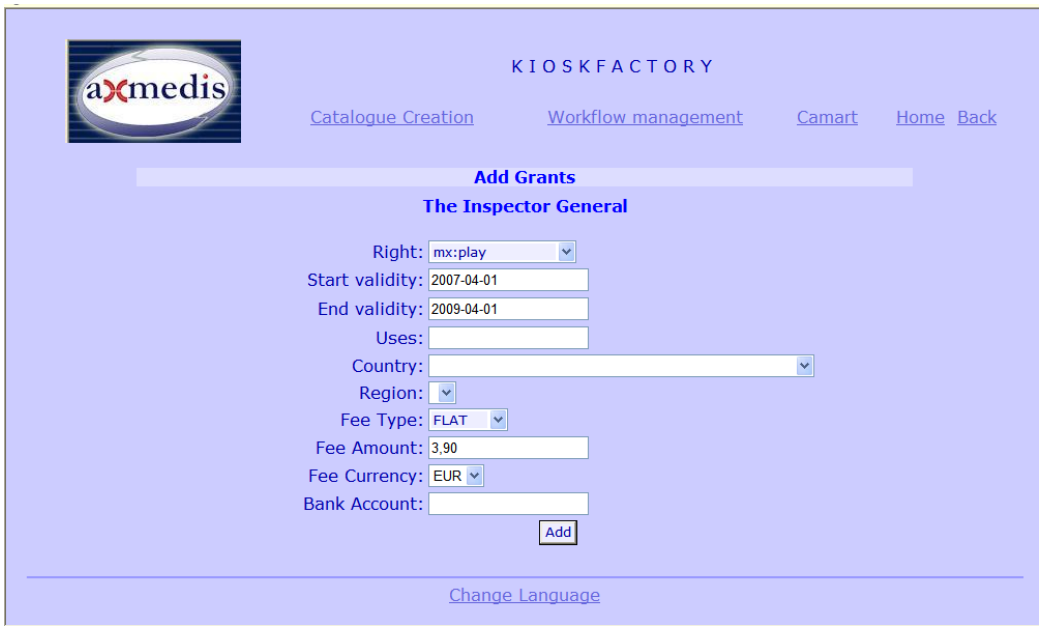


Figure 5. Content management for catalogue construction

Once the user has selected some contents, he can insert them into the three catalogue categories: Top10, Offers, Best Picks. He can also retrieve automatically The Top 10 and the Offers contents (last ones are the “bottom” contents) querying the CAMART service through the buttons at the end of the page.

This is how a contents list is updated after automatic extraction of Top10 contents. A little box appears near contents that have already been inserted into one or more categories: a violet T for Top10, a yellow O for Offers, a green B for Best Picks.

Figure 6. Contents arranging into categories



This is the interface for adding and removing grants that will be for sale to catalogue users. These grants are the ones that have been acquired by the KioskFactory from the contents' creators and for which a distributor license has been acquired.

Figure 7. Catalogue completion via grant attribution to content

4.1.1.2 Catalogue Sending

Distribution from the factory to kiosks is achieved via satellite so to optimise bandwidth and data transfer rate when updating (in broadcast) units that may be geographically dispersed on the territory, while content access, selection, acquisition and fruition at the kiosk is achieved exploiting either local terminals (true points of service) or a WiFi based access via PDA or mobiles. Once the user decides that he has finished creating the catalogue he needs, he can send it to Kiosk POPs through the Satellite Channel.

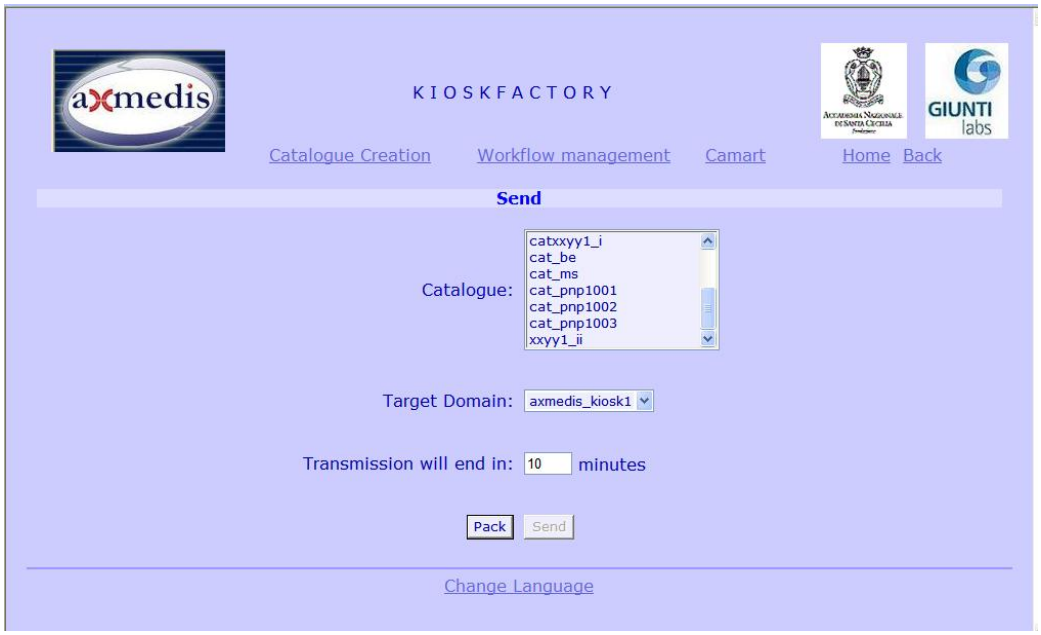


Figure 8 shows the interface for activating the satellite distribution.

Figure 8. Catalogue sending

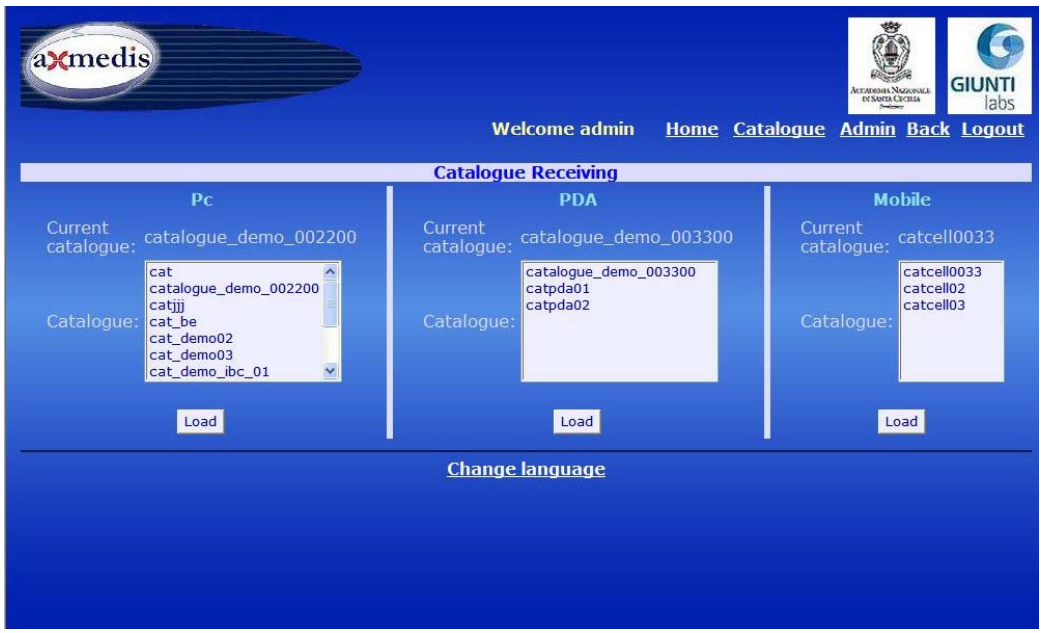
4.1.2 Kiosk distribution

At the Kiosk POP there are two sets of interfaces, one related to kiosk management (encompassing, catalogue user management from an "administrative" point of view) and one related to user content fruition.

4.1.2.1 Kiosk administration

The Kiosk administrator can manage contents and get information about contents usage and registered users.

From the Administration section, an enabled user (the Administrator) can set up the current catalogue for the Kiosk and manage users' data.

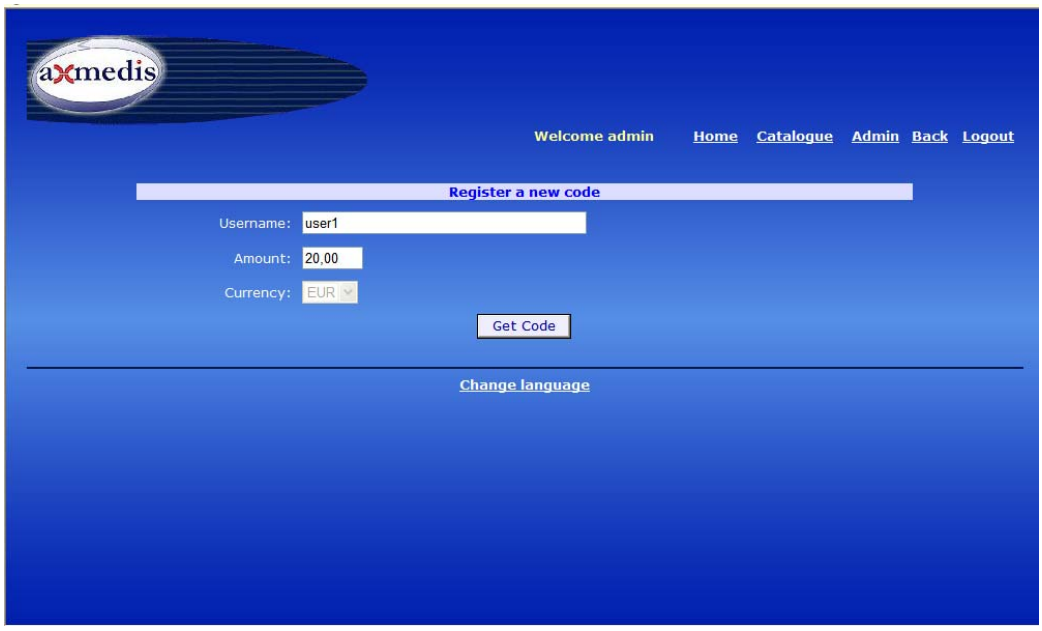


The Administrator can set up which catalogue can be browse by the users, choosing among the ones received through the Satellite channel.

Figure 9. Catalogue Loading

The Administrator can get the list of all the users of the Kiosk, view and modify their data and remove their account.

Figure 10. Users management



The Kiosk Administrator can also generate codes for the users, after payment. These codes will be used later in order to allow the users to acquire the grants over contents to which they are interested.

Figure 11. Codes generation

Further information about contents usage and users accesses are reported into Section 5.

4.1.2.2 Kiosk POP

The user shall register or log onto the kiosk infrastructure to be recognized and authorized to access to provided services. The user will be able to browse the catalogue and select content for delivery and fruition. In this latter phase the user will be able to select also the fruition model (acquisition, rental, pay per use…) and experiment what it looks like a DRM empowered system specifically designed to cover the whole value-chain from production to fruition. As a matter of facts the system will show how only allowed operation can be performed while all others are inhibited.

The first time an user accesses to the kiosk, s/he has to register, both on the AXMEDIS system and locally to the kiosk. Only a few data are mandatory, as from Figure 12.

Figure 12. User registration

Once the user is registered (or, if it is not her/his first time at the kiosk, after s/he has logged in) the kiosk catalogue will appear. As already seen for the catalogue creation, there are three main sections: Top10, Best Picks and Offers. There are some more functionalities accessible from the menu on the right: list of all the contents of the catalogue, current chart, contents for which some rights have already been acquired, personal data, access to Query on Demand.

Figure 13. Catalogue

Figure 14. Preview

The user can have a preview of the *contents*…

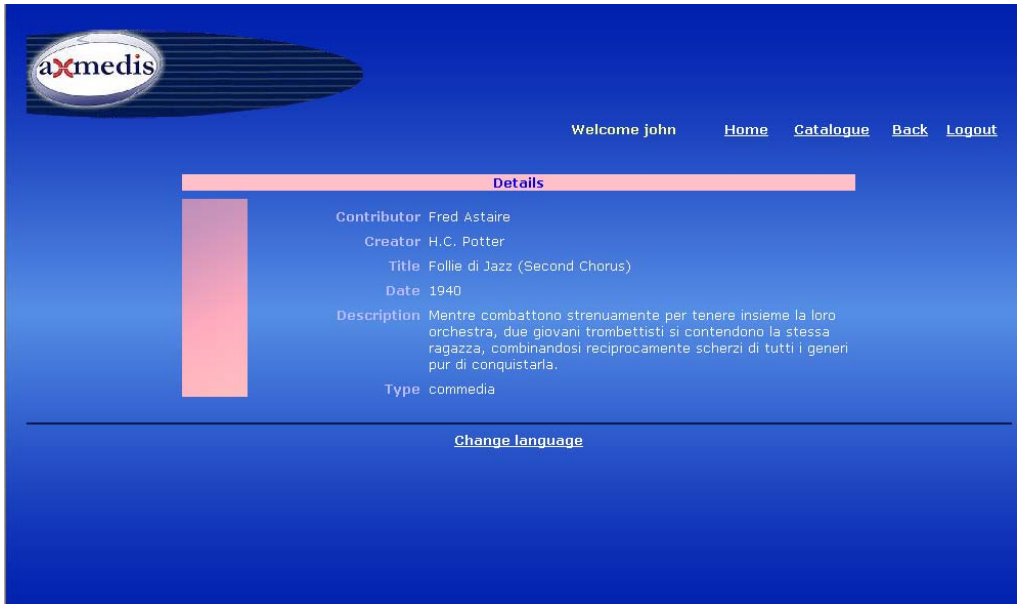
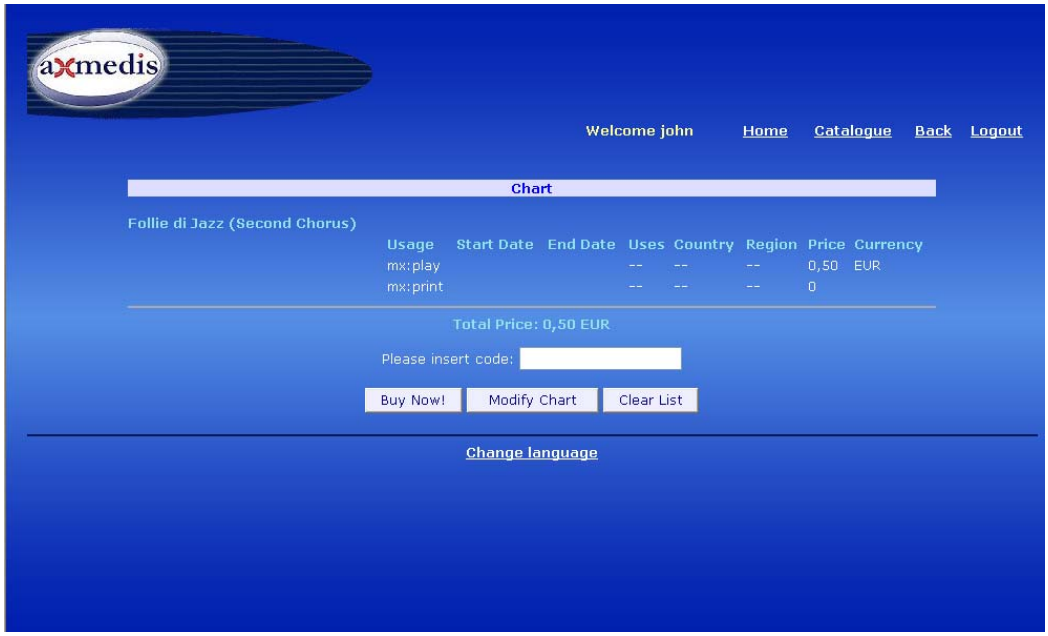


Figure 15. View content metadata

… take a look at their metadata…

..and also decide to acquire some of the available grants for the object, adding to his personal chart…

Figure 16. Adding to chart



… and confirming by inserting the code previously acquired.

Figure 17. Acquiring

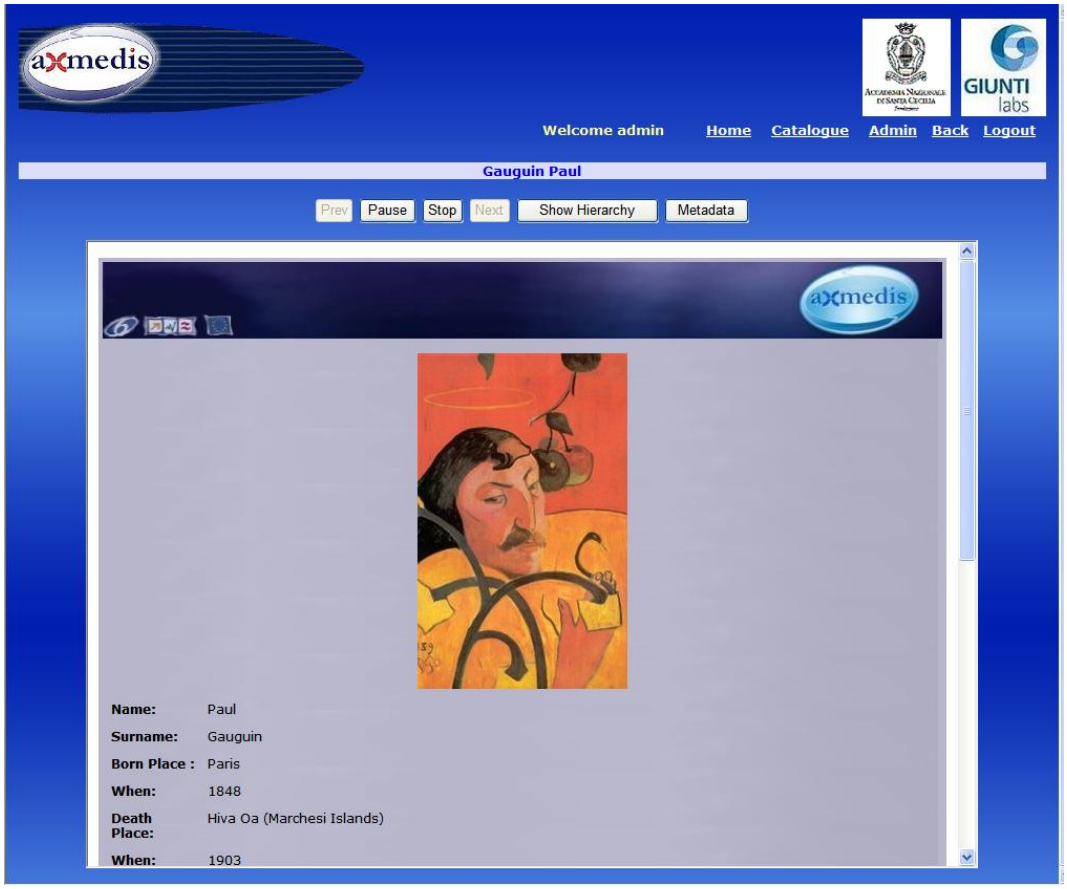


Figure 18. Content fruition from the Kiosk

The user can play a content according to the rights s/he as gained, using the AXMEDIS ActiveX Player, as from Figure 18, or choosing to download the content on his machine and/or opening it via the AXMEDIS PC Player.

4.1.2.3 Kiosk PDA

The Kiosk Demonstrator is accessible from PDA devices as well. Once the user enters the Kiosk by his PDA device, the application automatically detects his device type and redirects the user to the most suitable pages. In this way he can walk the same path as the one proposed via PC but via proper pages adn contents. In the following a summary of the description of the PDA experience is presented.

Figure 19. PDA Kiosk home page

From the home page it already appears clear the customization operated for the reduced screen szie of the PDA, as from Figure 19.

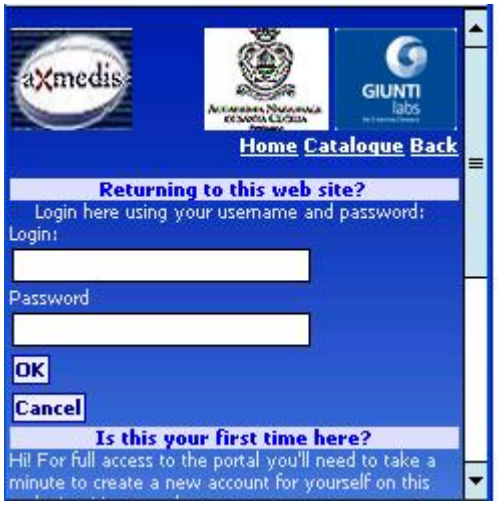


Figure 20. Login from PDA

For the PDA, the process is very similar to the one already illustrated for the PC: the user is requested to login...

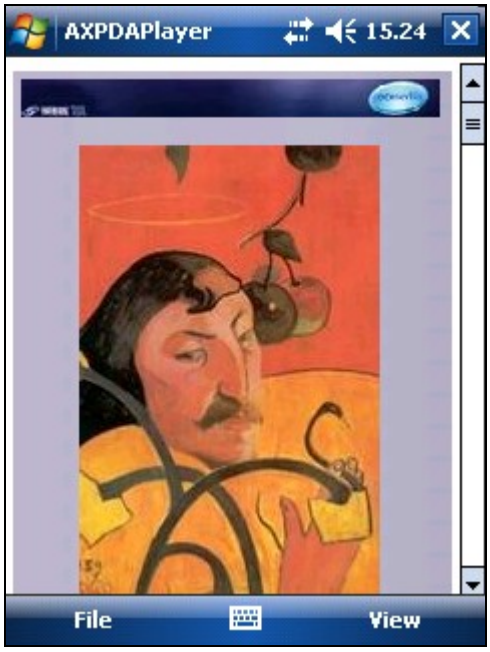
Figure 21. PDA catalogue

... then he can see the list of the available categories.

Once s/he selects a category...

Figure 22. Contents list on PDA

... s/he can see the list of the available contents for that category and...



... play the content for which s/he has permissions via the AXMEDIS PDA Player.

Figure 23. Content Fruition from PDA

5 Demonstrations done

5.1 Number of people accessed to the demonstrator

Currently we have 41 users registered on the site for a total of 156 accesses. The preferred device type has been the PC, while few users have indicated PDA and Smartphone, as reported by Figure 24.

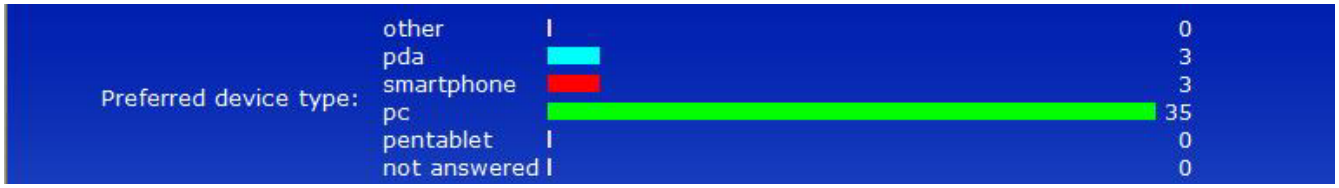


Figure 24. Kiosk users preferred device types.

5.2 Which strategy has been applied to attract them

As a strategy to attempt involving a large number of users in the demonstration and assessment process Giunti Labs has decided to ask for support partners in other EU research and development projects where the company is involved. To this end a suitable invitation e-mail has been prepared, which briefly explains the AXMEDIS project, what ILABS' role in the project is and what the invitation is aiming at. Links to the project portal, to ILABS' demonstrators and to a questionnaire have been included as well. The complete text of the invitation is reported in the box below.

Dear Colleagues,

within the context of the EU-funded AXMEDIS project (please have a look at http://www.axmedis.org/com/) Giunti Labs has developed a set of demonstrators suitable for the multi-channel delivery of multi/cross-media contents on different output devices, including kiosks, PDAs and smart phones.

The demonstrators are now publicly available and we are currently performing an extended survey with the involvement of external users. We would be therefore really grateful if you can dedicate some of your valuable time to access the demonstrators at: http://axmedis-xp.giuntilabs.com/kiosk and play with the application. A short explanation and guide can be found on the Kiosk specific section is at http://www.axmedis.org/com/index.php?option=com_content&task=view&id=76&Itemid=49.

At the end, please don't forget to fill in the questionnaire you can find at http://www.questionpro.com/akira/TakeSurvey?id=1011073 : your feedback will be processed in an aggregated way in order to assess the actual appreciation of the project achievements. Please feel free to forward this message to anybody who might be interested in the AXMEDIS technologies and the survey.

Thanks in advance for your kind support and enjoy the AXMEDIS solutions!

The previous invitation has been sent to the mailing lists of the following EU projects:

- WearIT@Work
- TENCompetence
- Key2Nature
- IRMOS
- PROTAGE
- GRAPPLE
- ELU
- PROLIX
- LUISA
- CONTSENS

Taking into account the size of the respective consortia, it can be considered that approximately more than 400 potential users have been reached by the invitation.

As a drawback, it has to be highlighted that this massive survey took place throughout Summer 2008 and therefore the holiday breaks in the different countries have affected negatively to overall amount of collected data and feedbacks.

It has to be noted too that Giunti Labs developed two different demonstrators (kiosk/PDA and mobile phones) but, in order to simplify the users' access and reduce the time spent with demo and survey, it has been decided to provide a single access to both demonstrators through a specific page in the AXMEDIS portal. Consistently with this choice also the questionnaire (see dedicated section in this document) is the same for both demonstrator: this means that the survey offers and aggregated feedback about the AMXEDIS solutions within the context of mobility but without explicit distinction amongst different categories of users' mobile devices.

5.3 Who they are

Besides the involvement of a large and statistically significant number of users, the aim of the aforementioned strategy was also that of collecting feedbacks from a very heterogeneous and international group of persons coming both from the academic world and from the industry, including SMEs.

In terms of gender it can be said that approximately 20% women and 80% men have been contacted, while from the instruction perspective the minimum level is undergraduate students. Trying to categorise the potential users, without the aim of being exhaustive, we have:

- Academic world
    - Full professors
    - Associate professors
    - PhD students
    - Researchers
    - Contractors
    - Consultants
    - Undergraduate students

- Industry and SMEs
    - CEOs
    - General directors
    - Project managers
    - Production managers
    - Research and development responsible
    - Researchers
    - Field operators in productions plants
    - Field operators in maintenance
    - Software developers
    - Software designers
    - Hardware designers
    - Hardware developers
    - External consultants

In terms of fields where the potential users are involved, we have:

- Academic world
    - Computer science
    - Engineering (electronic, civil, space)
    - Linguistic
    - Literature
    - Pedagogy
    - Mathematics
    - Economic science
    - Philosophy
    - Physics

- Industry and SMEs
    - Aeronautic
    - Automotive
    - Healthcare
    - Fire fighting
    - E-learning solutions
    - Software production
    - Hardware production
    - Solutions integration

  - Web design
  - Consultancy
- Other categories
  - Consultancy in change management
  - Consultancy in project management
  - Consultancy in social, human and organizational aspects
  - Hospitals and doctors
  - Human computer interaction design
  - Industrial design

The previous lists can give an idea of the high degree of potential heterogeneity that has been reached by Giunti Labs through its survey strategy. In the next section some statistics about the users who actually accessed and used the demonstrators are provided.

5.4 Which profile they have

Registered users are mainly Italian males, employees, between 20 and 40 years old, and over 60, indicating the PC as preferred device. a diagram of the users preferences is reported by Figure 25.

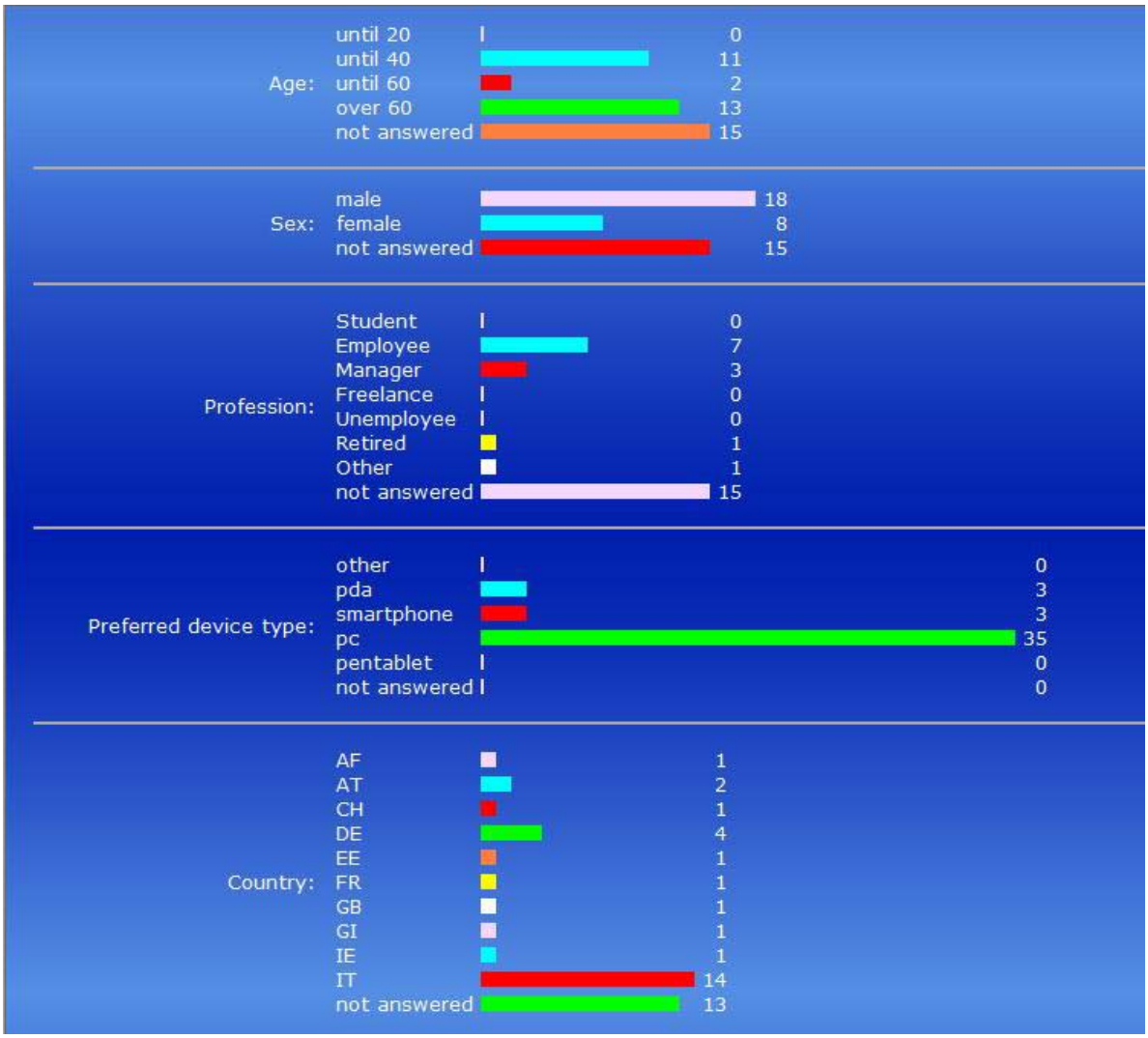


Figure 25. Kiosk users preferences.

As from Figure 26, most ages are between 20 and 40, and over 60, but most users did not reply to this request. Most are males, but almost half of the users preferred to not specify their sex. Most did not specify their profession either, but the most recurrent profession is employee. The preferred device type is PC. About the users geographical distribution, the prevalent country is Italy.

5.5 Other demonstrations

Further to the structured feedback collection campaign described in the previous sections, other demonstrations have been performed throughout the last 6-9 months by Giunti Labs' personnel. These have been mainly of four specific kinds:

- internal demos to selected colleagues – mainly software developers and interaction designers – to collect informal feedbacks about usability and navigability of the proposed solutions. In total, around 10 of these demos have been performed. No structured feedback is reported.
- internal demos to members of the company management board, namely CEO, general director, president, operational director, marketing director. These demos were mainly aimed at creating a common understanding at high level and within the company about the project achievements, in order to start discussing exploitation opportunities and potential cooperation with selected partners in the consortium, specifically with DSI.
- external demos to selected Giunti Labs' customer. The aim in this case was twofold: presenting outcomes coming from the R&D department, which are not commercial yet but could become part of Giunti Labs' offer, and assessing the actual interest from potentially interested customers with respect to the innovative solutions proposed by the AXMEDIS project. Around 10 of such demos were performed. No structured feedback is available.
- external demos to potential Giunti Labs' customer. Here the purpose was mainly to show what kind of advanced and innovative activities are carried on in Giunti Labs besides the production of the well known existing commercial offer. In this case there was no aim at all to collect feedbacks but in general it can be said that a positive reaction has been observed and sometimes also a good appreciation was expressed. Around 5-6 of such demos have been performed.

6 Data analysis

6.1 Description and number of content accessible from the demonstrator

At the moment the contents accessible via the current on-line catalogues are:

- 23 contents accessible from PC catalogue grouped into the following categories :
    - Art: cards about the following artists:
        1. Gauguin Paul
        2. Monet Claude
        3. Cezanne Paul
        4. Renoir Pierre-Auguste
        5. van Gogh Vincent
        6. Toulouse-Lautrec Henri de
        7. Klimt Gustav
        8. Pissarro Jacob Camille
        9. Rodin Francois-Auguste-René
        10. Courbet Gustave

        These contents have been automatically generated by ILABS via AXCP rules, so the all have a common structure:
        - title at the top
        - a portrait of the artist
        - information about born and death date
        - a summary of his life and works

- a citation

A sample art content was already reported by Figure 18.

- Music: cards about the following instruments:
  1. Akkordzither
  2. Campanelli a tastiera
  3. Chitarra battente
  4. chitarra Lapi
  5. Ciaramella
  6. Launeddas
  7. Mandolino Napoletano Porto
  8. Organetto bitonale
  9. Spinetta ottavina
  10. Zampogna

  These contents have been automatically generated by ANSC via AXCP as well. They are SMIL contents presenting text, images and audio in some cases. A sample Music content is reported into Figure 26.

Figure 26. Musical instrument sample content..

- Games: three flash games:
  1. Moses and the tablets of stone game
  2. Little Vampire Flash Game
  3. Christmas Angel Lander

  These contents have been generated by XIM and they offer interactive funny games. A sample screenshot is reported into Figure 27.

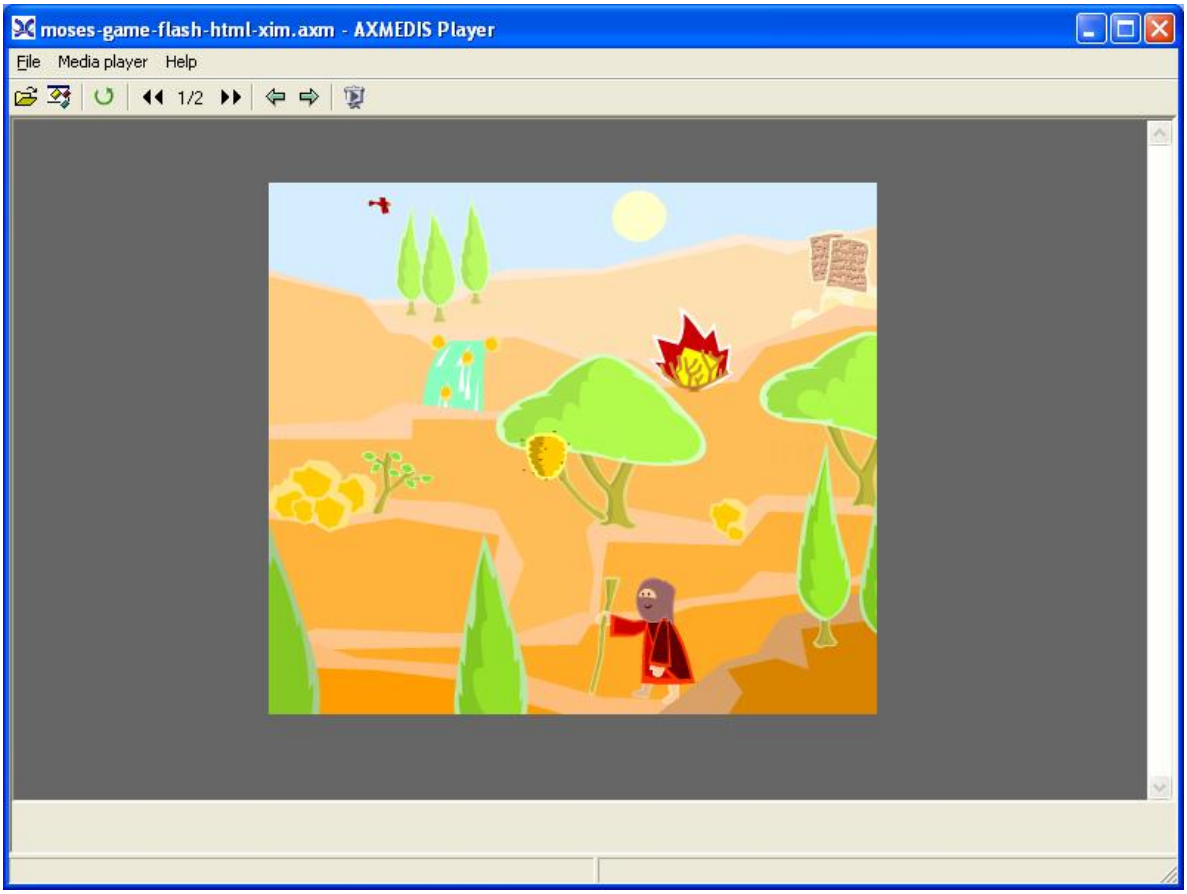


Figure 27.Game sample content.

- 20 contents accessible by PDA grouped into the following categories:
  - Art: cards about the following artists:
    1. Gauguin Paul
    2. Monet Claude
    3. Cezanne Paul
    4. Renoir Pierre-Auguste
    5. van Gogh Vincent
    6. Toulouse-Lautrec Henri de
    7. Klimt Gustav
    8. Pissarro Jacob Camille
    9. Rodin Francois-Auguste-René
    10. Courbet Gustave

    These contents have been automatically generated by ILABS via AXCP rules in a suitable format for PDA, so the all have a common structure:
    - title at the top
    - a portrait of the artist
    - information about born and death date
    - a summary of his life and works
    - a citation

    A sample content was already reported below by Figure 23.

  - Music: cards about the following instruments:
    11. Akkordzither
    12. Campanelli a tastiera

13. Chitarra battente
14. chitarra Lapi
15. Ciaramella
16. Launeddas
17. Mandolino Napoletano Porto
18. Organetto bitonale
19. Spinetta ottavina
20. Zampogna

These contents have been automatically generated by ANSC via AXCP in a suitable format for PDA. They are SMIL contents presenting text, images and audio in some cases. A sample Music content is reported into Figure 28.

Figure 28. Sample content for PDA with musical instrument.

6.2 Number of transactions and distribution of content accessed

Since the public availability of the Kiosk Demonstrator, six catalogues have been put on line, as from Figure 29.

Figure 29. Kiosk catalogues over period.

While the first catalogues had just a few number of contents (under ten each), last catalogues have around 20 contents each.

Currently registered users have performed a total of 67 transactions. Transaction per content are reported by Table 1.

	Content Title	Content identifier	# of transactions
1	Campanelli a tastiera – PDA version	URN:AXMEDIS:00002:OBJ:E92A7EF9-C031-340E-B7FF-42EAF95A2FD8	1
2	Courbet Gustave	URN:AXMEDIS:00002:OBJ:FCBE4298-915B-332D-9681-402°69FC79E9	1
3	Cezanne Paul	URN:AXMEDIS:00002:OBJ:19986191-E5F7-31AF-B71D-47CF947EFE62	1
4	Mandolino napoletano Porto – PDA version 1	URN:AXMEDIS:00002:OBJ:B8944685-65EB-3701-8F3F-87F4B310EE76	1
5	Paul Cezanne – PDA version	URN:AXMEDIS:00002:OBJ:AEC96A7B-BC56-3B44-9672-6C71BCBDD976	1
6	Chitarra battente – PDA version	URN:AXMEDIS:00002:OBJ:EE8EE9DA-E7C9-3DF5-B81F-943D973D13B7	1
7	Henri de Toulouse-Lautrec – PDA version	URN :AXMEDIS :00002 :OBJ :31CAC255-3D6F-3661-9CD1-0CCA0F37523E	1
8	REVIEW2007 16 Oct PDA AUDIO pre_review Organetto bitonale	urn :axmedis :00000 :obj :114cef24-b8e7-461a-81fc-75494782301b	1
9	Mandolino napoletano Porto	urn:axmedis:00000:obj:973098d7-5185-4427-abd9-8b9c4e9fc04a	1
10	Chitarra Lapi – PDA version	URN:AXMEDIS:00002:OBJ:30C56A2D-CFDA-3D74-80F3-7DE7EDEE6406	1
11	REVIEW2007 18 Oct AUDIO ANSC Zampogna	urn:axmedis:00000:obj:f60f3344-d05a-4c23-bb38-f8b0f2780abc	1
12	Organetto bitonale	urn:axmedis:00000:obj:f3797a42-e4f3-4289-a530-361ca936ef11	1
13	Zampogna – PDA version	URN:AXMEDIS:00002:OBJ:A2A7B91A-AF88-3712-B2E8-E9227D6C6E72	1
14	Toulouse-Lautrec Henri de	URN:AXMEDIS:00002:OBJ:E2BAB182-BB44-3882-8°48-17E776B14A5D	1
15	Klimt Gustav	URN:AXMEDIS:00002:OBJ:A5FD1977-DBD6-389C-9375-7841DE80963A	1
16	REVIEW2007 18 Oct ANSC Spinetta ottavina	urn:axmedis:00000:obj:202c3b6e-85be-4d72-b688-58ª577e7c9d3	1
17	Launeddas	urn:axmedis:00000:obj:0ba798c4-876e-4784-8e22-14bcd2fc393a	1
18	Claude Monet – PDA version	URN:AXMEDIS:00002:OBJ:698100BC-3545-3CB9-B476-55D0A0E8C91B	1
19	Renoir Pierre-Auguste	URN:AXMEDIS:00002:OBJ:6774396E-7D29-392B-80C2-514BB1038E85	1
20	Ciaramella	urn:axmedis:00000:obj:1238d56e-d43d-4eec-9d9a-3144781c9bba	1
21	Spinetta ottavina – PDA version	URN:AXMEDIS:00002:OBJ:0431B58D-21D9-3D31-B657-C01076DA87FE	1
22	Spinetta ottavina	urn:axmedis:00000:obj:1bfafc61-f863-4dc6-b26b-7eaf255a53cb	1
23	Akkordzither – PDA version	URN:AXMEDIS:00002:OBJ:898DD685-A1EB-3620-AEBB-D244B54546A6	1
24	Rodin Francois-Auguste-	URN:AXMEDIS:00002:OBJ:DDCEBC3B-0302-3905-	1

	René	9F15-F3C96DCE6E56	
25	Launeddas – PDA version	URN:AXMEDIS:00002:OBJ:1383B2F6-068A-3A8C-966C-45C49FB29DED	1
26	van Gogh Vincent	URN:AXMEDIS:00002:OBJ:51EB8D94-FA7C-33B5-8947-9FDC8DA85CDE	1
27	Chitarra battente	urn:axmedis:00000:obj:af9d56c1-8e63-4d24-b373-17edb052b8c4	1
28	chitarra Lapi	urn:axmedis:00000:obj:cf7842d0-0bff-4f39-a0a7-44fafbce7fa4	1
29	Zampogna	urn:axmedis:00000:obj:76399e89-6973-487e-a23d-6c8cf04d0563	1
30	REVIEW2007 16 Oct PDA AUDIO pre_review Launeddas	urn:axmedis:00000:obj:b3564106-4dba-434a-b1eb-3dcb0003874d	1
31	Organetto bitonale – PDA version	URN:AXMEDIS:00002:OBJ:B63D0726-A2D4-3C26-AA33-E6BEC4834708	1
32	Angelico Beato	urn:axmedis:00000:obj:6e3f8188-ae96-4°29-a1c3-d2e774a33db6	1
33	Pierre-Auguste Renoir – PDA version	URN:AXMEDIS:00002:OBJ:A51D3FA5-AB61-3°1B-B1D2-E0B88B65EBC0	1
34	Paul Gauguin – PDA version	URN:AXMEDIS:00002:OBJ:27C22E92-BB08-3C3E-B77B-DE4BC151FEA8	1
35	Gauguin Paul	URN:AXMEDIS:00002:OBJ:47ACB07A-50D6-3EC6-B2C3-0E85A32E44DC	2
36	Akkordzither	urn:axmedis:00000:obj:4af05a08-f29e-4b77-8e66-7df71eb36e6b	2
37	Campanelli a tastiera	urn:axmedis:00000:obj:5b3098c9-2220-4025-a5b4-c9515ad9933a	2
38	Christmas Angel Lander	urn:axmedis:00000:obj:0f16f6cb-c943-4e2f-a7ba-7d75eaf81655	2
39	Ciaramella – PDA version	URN:AXMEDIS:00002:OBJ:A013F46D-93FB-3C59-BB88-8382D377AB2F	2
40	Little Vampire Flash Game	urn:axmedis:00000:obj:4dded3c3-7768-4eed-9783-0b84062fa1ae	2
41	Moses and the tablets of stone game	URN:AXMEDIS:00002:OBJ:BF4A5E46-BC86-3B56-A548-845048B6D00F	2
42	REVIEW2007 16 Oct PDA AUDIO pre_review Zampogna	urn:axmedis:00000:obj:8f616790-a075-4d7d-b7b9-3d10c1493edc	3
43	REVIEW2007 18 Oct ANSC Campanelli a tastiera	urn:axmedis:00000:obj:0a644b4c-316f-4c77-81f3-367e7628df0e	3
44	Monet Claude	URN:AXMEDIS:00002:OBJ:895F0559-D69D-3ECC-B330-A4A08FD24260	3
45	REVIEW2007 18 Oct AUDIO ANSC Launeddas	urn:axmedis:00000:obj:6dc8f6e5-ce8e-43e8-8f18-6bb16814a01d	4
46	REVIEW2007 18 Oct ANSC Akkordzither	urn:axmedis:00000:obj:10347d63-799e-4253-afd3-05ba36515867	6
		TOTAL:	67

Table1.Transactions per content.

From the users transactions reported in Table 1, the most required content is the PC version of the card of an instrument. Other contents often required are the games and the PDA musical instruments cards, together with the first artists cards into the Art category.

6.3 Availability over the period

The demonstrator is publicly accessible since April 2007. The availability has been granted 24/24, 7/7 except for a few short time maintenance (around once a month for a day). In a real museum scenario, it can be hypothesized to update the catalogue during the closing time.

7 Response from the questionnaire of the show case web pages

In order to collect users feedbacks about the Kiosk Demonstrator, we have asked them to complete a questionnaire with multiple-answers questions. The size of the questionnaire has been kept quite small (10 questions) with the aim to give users a not too-long task, that could have cause them to stop before finishing.
In the following we report the full questionnaire.

1. Access to demonstrator and user registration processes
    - o Very easy
    - o Easy
    - o Difficult
    - o Very difficult

2. Demonstrator structure and menus
    - o Self-explanatory
    - o Good
    - o Difficult to understand
    - o Very difficult to understand

3. Graphical user interface (GUI)
    - o Very attractive
    - o Attractive
    - o Poor
    - o Very poor

4. Selecting and navigating a catalogue
    - o Very easy
    - o Easy
    - o Difficult
    - o Very difficult

5. Contents accessible through the demonstrator
    - o Very attractive
    - o Attractive
    - o Poor
    - o Very poor

6. Selecting and buying contents
    - o Very easy
    - o Easy
    - o Difficult
    - o Very difficult

7. Features and technologies emerging from the demonstrator are
    - o Highly relevant
    - o Relevant
    - o Moderately relevant
    - o Not relevant

8. Business potential of the proposed solutions
   - o Very large
   - o Large
   - o Moderate
   - o Low

9. Your experience with the demonstrator
   - o Very satisfying
   - o Satisfying
   - o Moderately satisfying
   - o Not satisfying

10. Overall impression of the AXMEDIS project
   - o Excellent
   - o Good
   - o Average
   - o Bad

Until now, we got the following answers:

	Count	Completed / Started	Completed / Viewed	Started / Viewed
Completed	7	77,78%	16,67%	
Started	9			21,43%
Viewed	42			

Table 2. Summary of the questionnaire answers.

As from Table 2, the questionnaire has been seen by 42 users, but less than one over 4 started to answer, and not all of them completed it.

Table 3 reports the details about the users answers to each question; furthermore also mean, standard deviance and variance are calculated.

Q1	ANSWERS	%
Access to demonstrator and user registration processes		
Very easy	3	33,33%
Easy	**5**	**55,56%**
Difficult	1	11,11%
Very difficult	0	0,00%
Total	**9**	
Mean	1,78	
Standard Dev.	0,67	
Variance	0,44	
Q2	**ANSWERS**	**%**
Demonstrator structure and menus		
Self-explanatory	1	12,50%
Good	**4**	**50,00%**
Difficult to understand	3	37,50%
Very difficult to understand	0	0,00%
Total	**8**	
Mean	2,25	
Standard Dev.	0,71	
Variance	0,50	
Q3	**ANSWERS**	**%**

Graphical user interface (GUI)		
Very attractive	**3**	**37,50%**
Attractive	1	12,50%
Poor	2	25,00%
Very poor	2	25,00%
Total	**8**	
Mean	2,38	
Standard Dev.	1,30	
Variance	1,70	
Q4	**ANSWERS**	**%**
Selecting and navigating a catalogue		
Very easy	0	0,00%
Easy	**6**	**85,71%**
Difficult	1	14,29%
Very difficult	0	0,00%
Total	**7**	
Mean	2,14	
Standard Dev.	0,38	
Variance	0,14	
Q5	**ANSWERS**	**%**
Contents accessible through the demonstrator		
Very attractive	0	0,00%
Attractive	**4**	**57,14%**
Poor	2	28,57%
Very poor	1	14,29%
Total	**7**	
Mean	2,57	
Standard Dev.	0,79	
Variance	0,62	
Q6	**ANSWERS**	**%**
Selecting and buying contents		
Very easy	0	0,00%
Easy	**5**	**71,43%**
Difficult	2	28,57%
Very difficult	0	0,00%
Total	**7**	
Mean	2,29	
Standard Dev.	0,49	
Variance	0,24	
Q7	**ANSWERS**	**%**
Features and technologies emerging from the demonstrator are		
Highly relevant	1	16,67%
Relevant	1	16,67%
Moderately relevant	**4**	**66,67%**
Not relevant	0	0,00%
Total	**6**	
Mean	2,50	
Standard Dev.	0,84	
Variance	0,70	
Q8	**ANSWERS**	**%**
Business potential of the proposed solutions		
Very large	0	0,00%
Large	**4**	**57,14%**

Moderate	2	28,57%
Low	1	14,29%
Total	**7**	
Mean	2,57	
Standard Dev.	0,79	
Variance	0,62	
Q9	**ANSWERS**	**%**
Your experience with the demonstrator		
Very satisfying	1	14,29%
Satisfying	**2**	**28,57%**
Moderaty satisfying	2	28,57%
Not satisfying	2	28,57%
Total	**7**	
Mean	2,71	
Standard Dev.	1,11	
Variance	1,24	
Q10	**ANSWERS**	**%**
Overall impression of the AXMEDIS project		
Excellent	1	14,29%
Good	1	14,29%
Average	**4**	**57,14%**
Bad	1	14,29%
Total	**7**	
Mean	2,71	
Standard Dev.	0,95	
Variance	0,90	

Table 3. Details of users answers to questionnaire.

To summarize, most of the users accessed easily to the demonstrator, they think the portal has good structure and menus and an attractive interface. They think it is easy to select and navigate a catalogue, to select and buy contents, having a satisfying experience with the demonstrator. In their opinion contents are attractive but they could not fully understand the technological innovation introduced by the overall AXMEDIS project.

8 References

[1] Kiosk Distribution Technical Note:
http://www.axmedis.org/documenti/view_documenti.php?doc_id=3991