Automating Production of Cross Media Content
for Multi-channel Distribution
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DE9.6.3
First Prototype up of content production and distribution to kiosks and local PDAs

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Abstract: This document provides the basic information needed to understand the related deliverable that being a prototype cannot be accessed like other reports.
Keyword List: Kiosks, PDAs, Distribution, Application.

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Table of Content

1 Executive Summary and Report Scope

The present document represents the accompanying document of the prototype named DE9.6.3 Content production and distribution to Kiosks and local PDAs. Aim and purpose of the presnet document is therefore to provide a basic supportive documentation to describe the prototype.

2 Introduction to the Kiosk Demo

The demo covers the two side of the process that is the management of the kiosk and its operation. In more detail there are two sets of interfaces, one related to kiosk management (encompassing, catalogue management at the factory side and user management at the kiosk side) and one related to user fruition.

At kiosk management side is important to take into account that there are two levels one (called the kiosk factory) dealing with content production and catalogue preparation, and one related to local kiosk management (catalogue selection & loading, user management…). 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 in the catalogue, assign the proper category, rights and costs to each, prepare and distribute the catalogue.

As far as the user is concerned 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 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 in respect to usage statistics (top-ten, best picks and offers) yet 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 (eventually downloaded in advance).

The initial version was relaying on a lose integration of components (there was the need to have on the same network all the components but they where on separate machines, now a more integrated version including PMS and AXCS on the same machine (kiosk factory / kiosk) have been delivered and demonstrated. The original kiosk application related Postgres DB has been successfully migrated to MySQL and integrated.

2.1 Where to find the demo and other supportive material

The demo application could be found on the project CVS while objects used are to be found in the set of supportive material coming with the Query Support installation pack. Furthermore the Wiki page of the project related to demos provides access to screen based video recording that should support in the process. Hereafter all such references are explicitly reported.

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2.2.1 Demo software location

The software for the demo is to be found on the project CVS (https://cvs.axmedis.org/newrepos/) under the "applications" area (https://cvs.axmedis.org/newrepos/Applications/) and more specifically inside the Kiosk Components section (https://cvs.axmedis.org/newrepos/Applications/kioskcomponents/) which is divided in Factory and Kiosk given the specific nature of the application. References for the two mentioned components are:

- Factory (https://cvs.axmedis.org/newrepos/Applications/kioskcomponents/Factory/)
- Kiosk (https://cvs.axmedis.org/newrepos/Applications/kioskcomponents/Kiosk/)

It is, nevertheless, necessary to take into account that the application demo makes usage of the underlying infrastructure either locally (that is having the AXMEDIS framework installed locally) or remotely (accessing to it via the provided web-services. To this purpose we will also recall that:

- AXMEDIS framework can be found at the address: https://cvs.axmedis.org/newrepos/Framework/
- AXMEDIS web-services can be found at the address: https://cvs.axmedis.org/newrepos/WebServices/

Last but not least it will be necessary to find ready made objects to be used for the testing. Such objects are available at the following addresses:

- Generic sample objects: http://www.axmedis.org/documenti/view_documenti.php?doc_id=2056
- Objects included in the Query Support installation:
  https://cvs.axmedis.org/newrepos/Framework/doc/other/axdb/Mysql-4.1.10/SavedObjects.zip

As previously mentioned, supportive documentation and videos can be found both on the project web-site (http://www.axmedis.org) and on the project wiki (http://www.axmedis.org/tiki/).

Videos of the early demonstrations on the portal are to be found at the following download address:
http://www.axmedis.org/attivita/documenti/download.php?area_id=1&attivita_id=27&l_s=struttura&gruppo=413&order_by=data&asc_desc=desc where for kiosks can be found:

- axmedis-kiosk-factory-july2006.avi (http://www.axmedis.org/documenti/view_documenti.php?doc_id=2186)

Videos of the early demonstrations on the wiki are to be found at the following download address:

- Distribution of Content via Kiosks: (http://www.axmedis.org/documenti/view_documenti.php?doc_id=2186)

2.3 The overall scenario

What is an AXMEDIS kiosk? Well this is a specialised distribution channel operating at B2C level and covering a quite dispersed set of user needs and activities. In more details it represents a point of service inside an infrastructure that may be spread over the territory with multiple differentiated instances all related to each other in terms provided content (museums kiosk will all deliver content related to the museum net while tourism devoted kiosks will provide content related to tourists activities and interests) with a common usage of technology and distribution tools. Lastly, kiosks will be characterised by the availability of a LAN where will be connected point of services (terminals) and wireless PDA.

How does the kiosk area fit in to the rest of AXMEDIS? The kiosk sits at the Distributors level (as shown in the following figure)
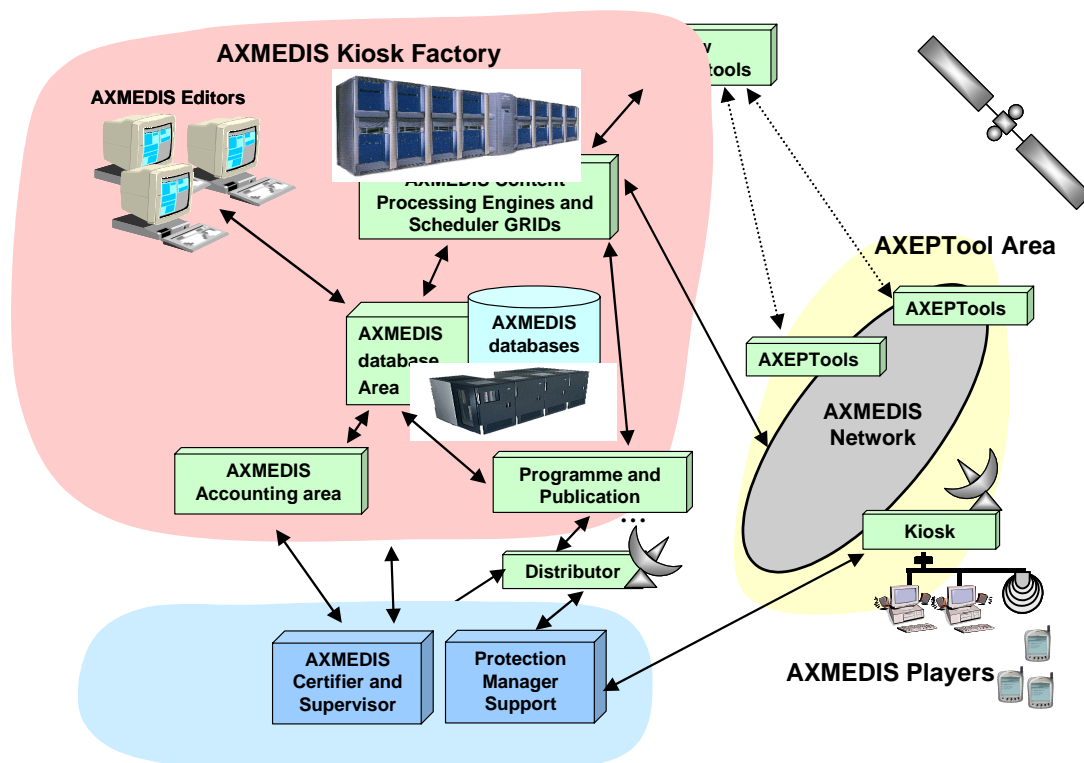
Figure: AXMEDIS Architecture highlighting the Kiosk Area

To deliver AXMEDIS objects using kiosks, there are two scenarios:

Scenario 1. In the first scenario 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).

Scenario 2. In the second (On-Demand) scenario, a user selects a multimedia object in the AXMEDIS Distribution Area. The request from the distribution area starts a series of events behind the scenes where the user sees the object requested.

2.3.1 Kiosk content and catalogue Production & distribution

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 one to be used to build the catalogue. By using the AXMEDIS Editor and a specific application the publisher produces the catalogue starting form a set of pre-defined templates. 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.
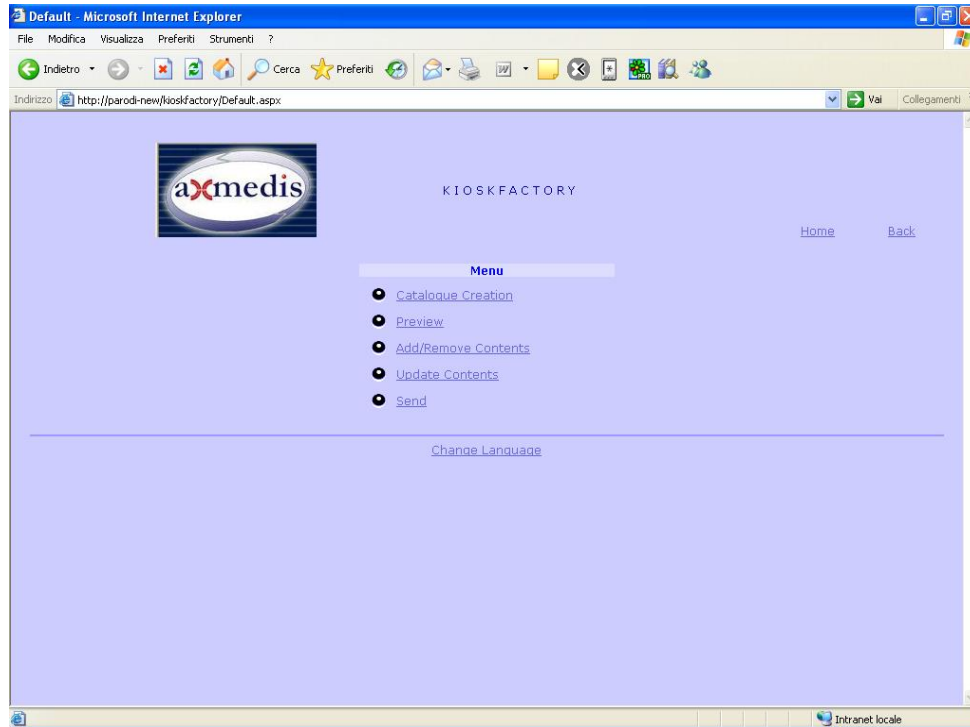
Figure: Kiosk Publisher's home page (at the Kiosk factory)

Figure: Catalogue creation
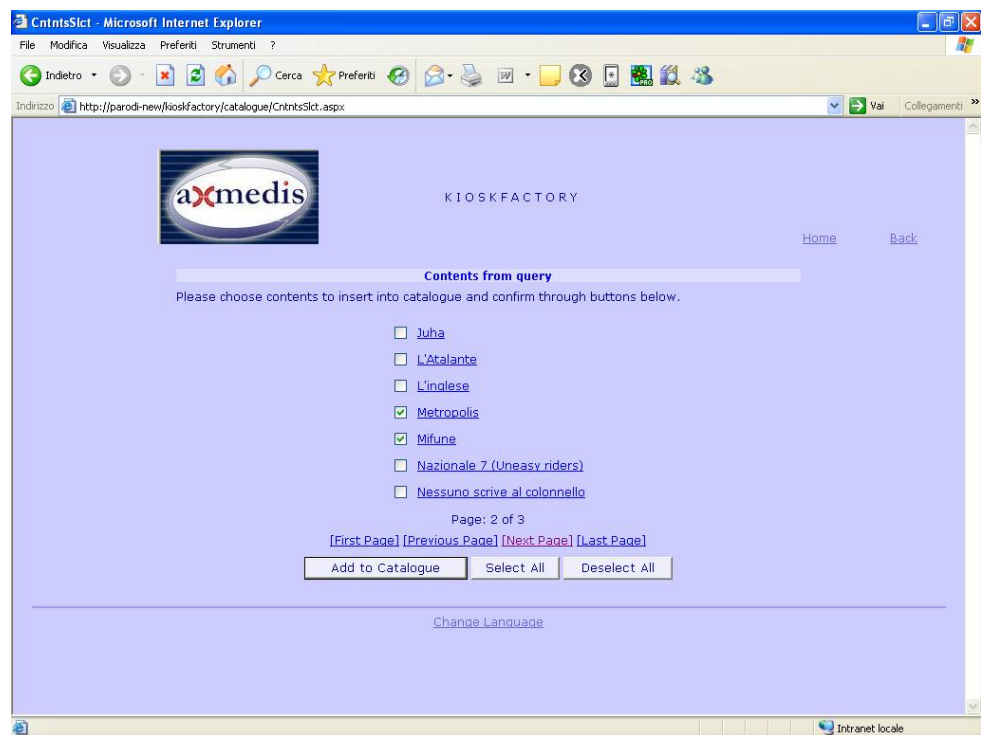
Figure: Content search and selection for catalogue construction

Figure: Content details.
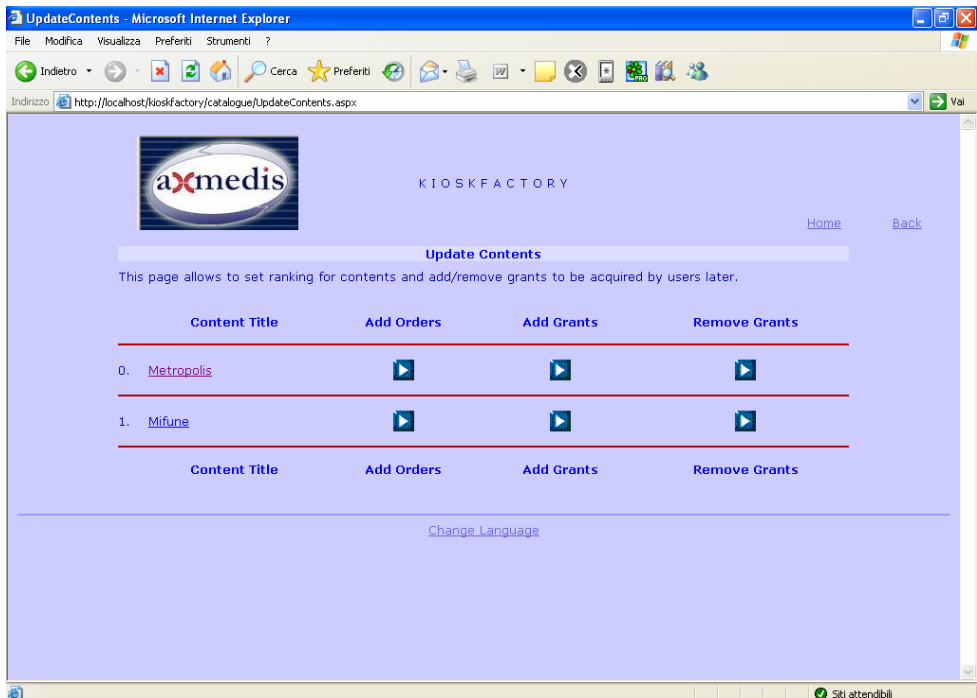
Figure: Content management for catalogue construction
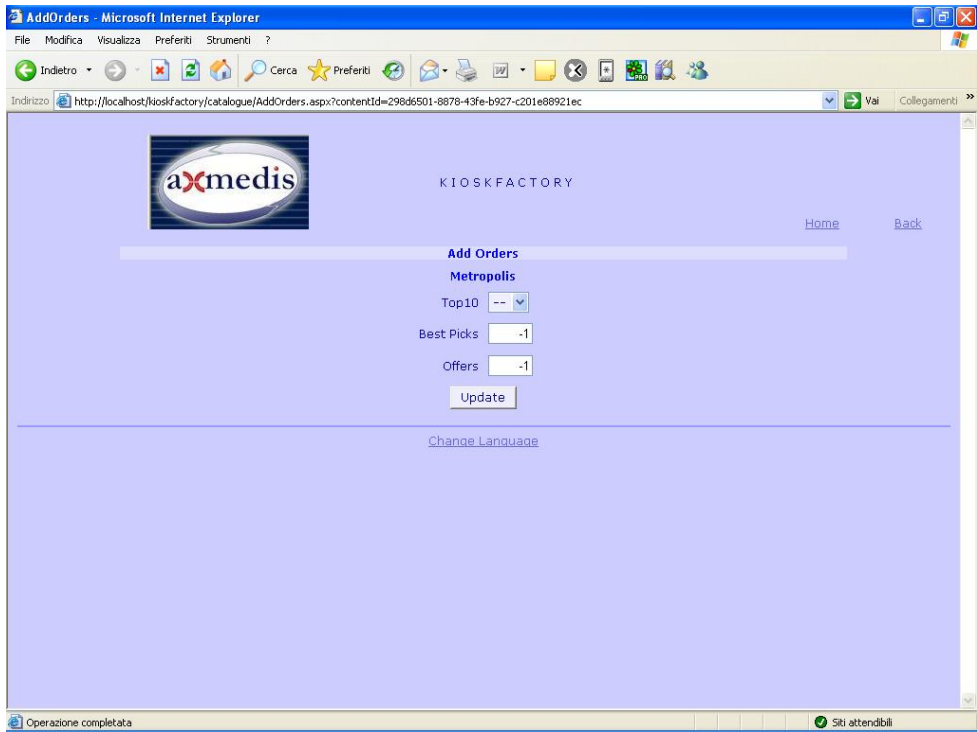
Figure: Catalogue orderting and ranking depending on user access/purcahese
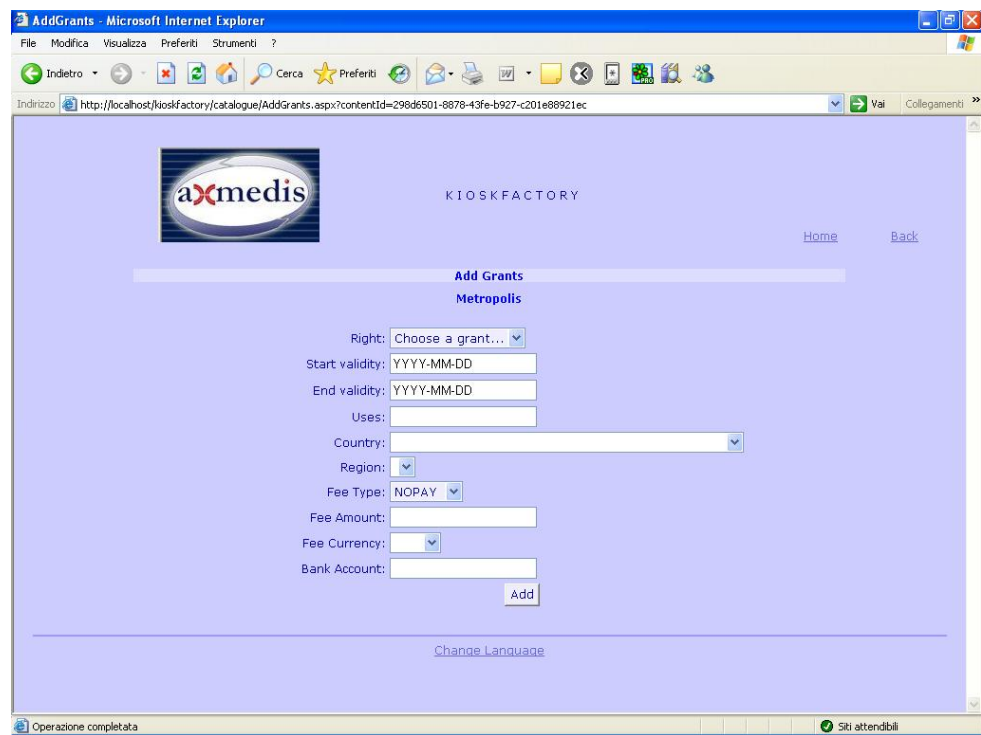
Figure: Catalogue completion via grant attribution to content
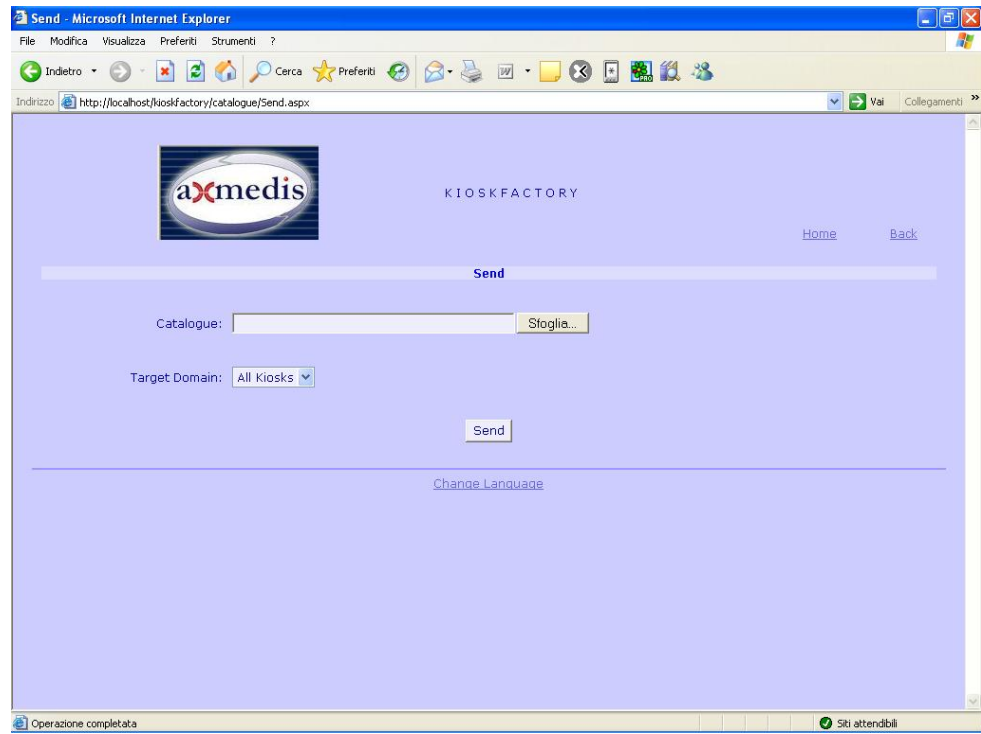
Figure: Catalogue distribution to kiosks
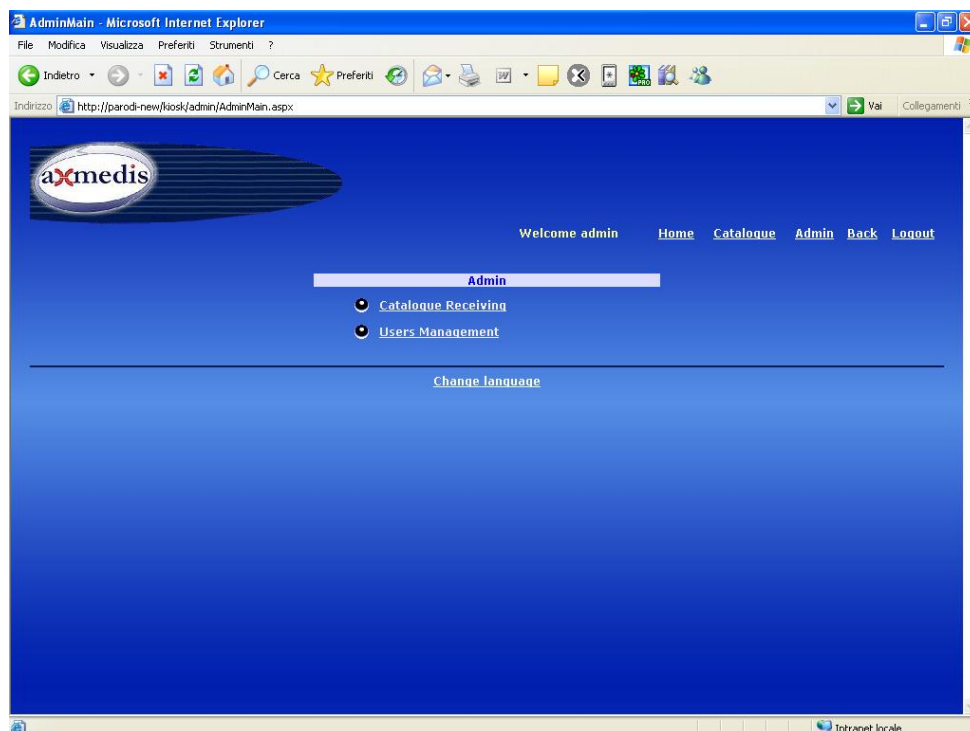
Figure: Kiosk Adninistration home page
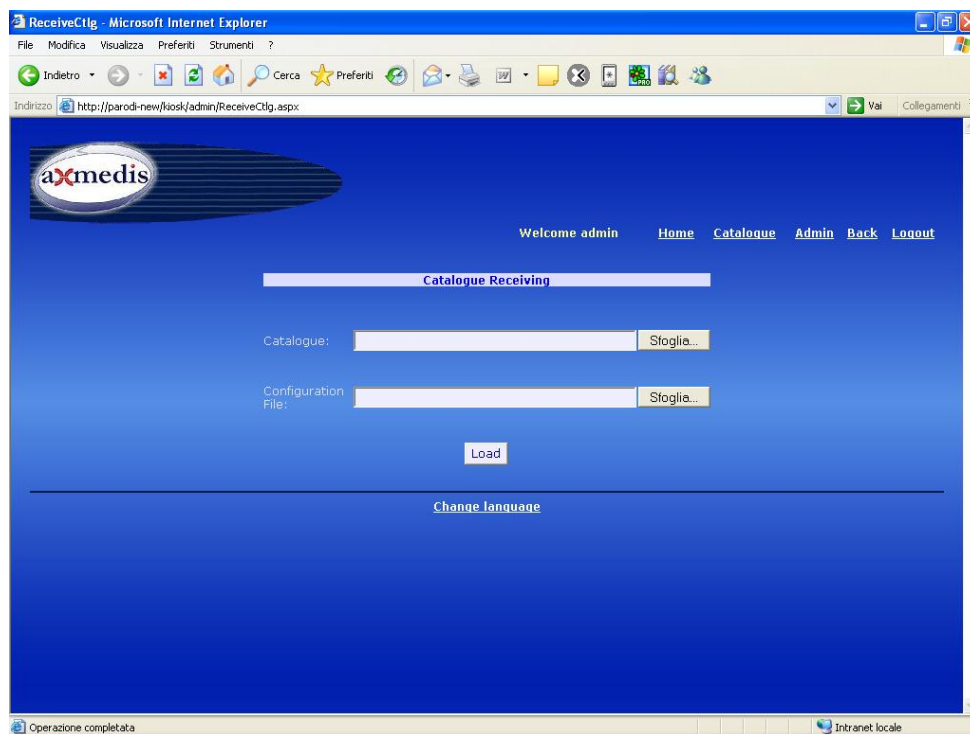
Figure: Catalogue receiveing and loading at the kiosk
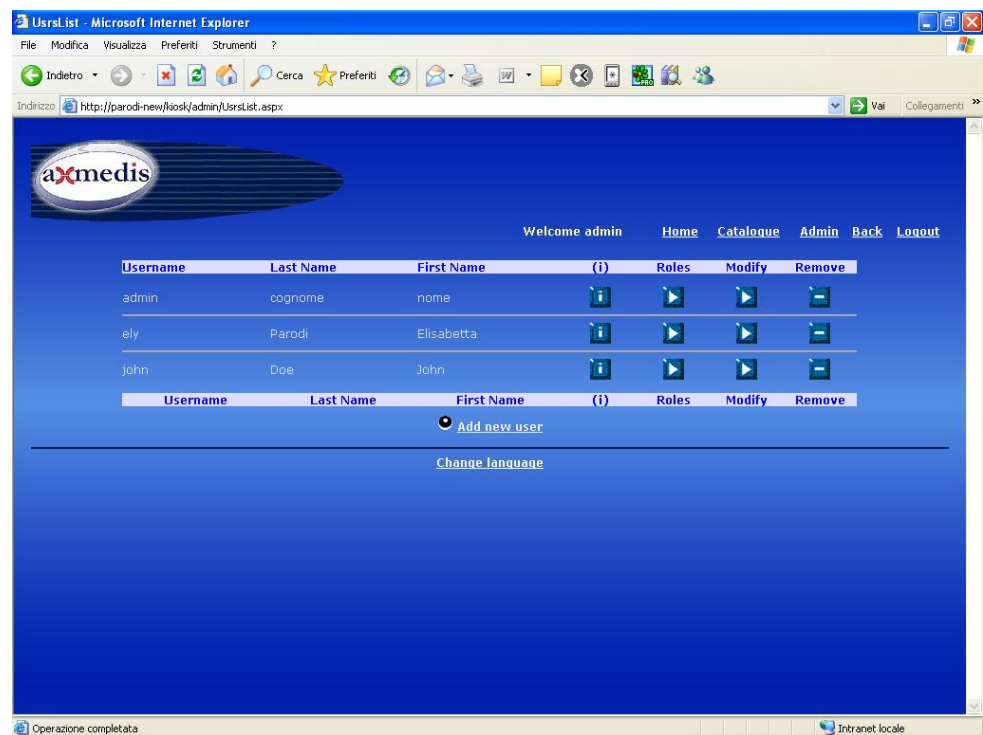
Figure: User administration at the kiosk
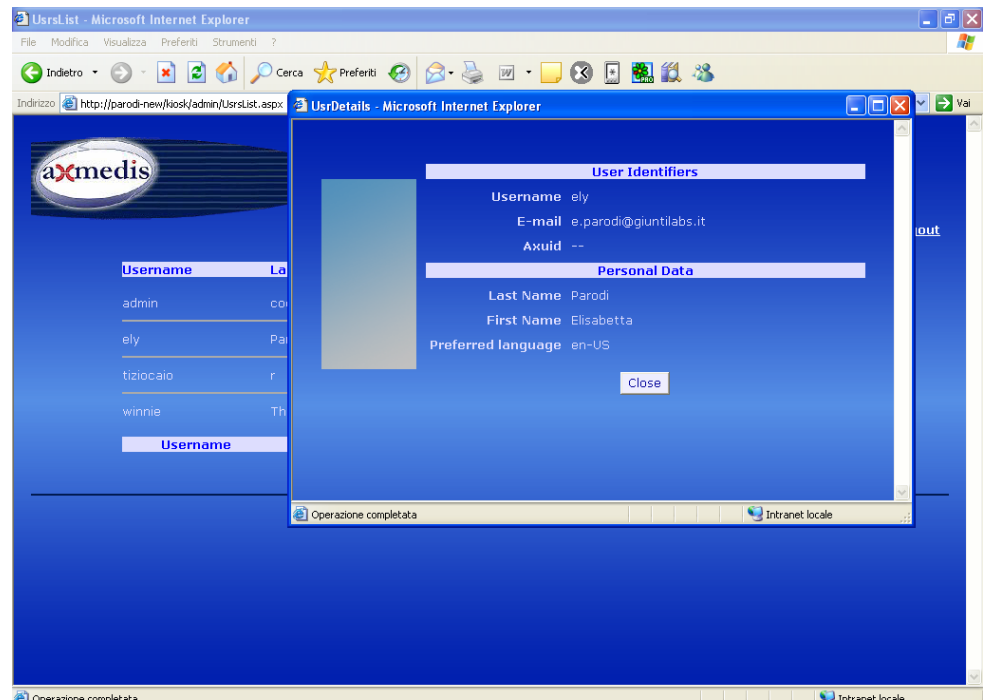
Figure: User administration at the kiosk: user rinformation summary
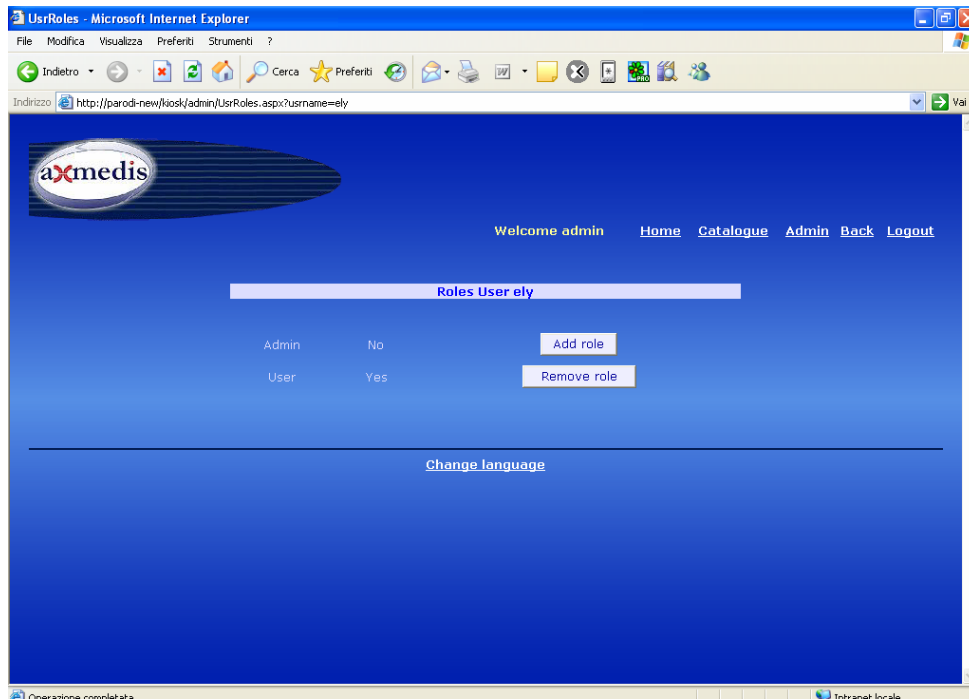
Figure: User administration at the kiosk: roles management

2.3.2 Kiosk catalogue and content Distribution & fruition

So what happens when a kiosk is used? The user shall register or log onto the kiosk infrastructure to be recognised and authorised 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.
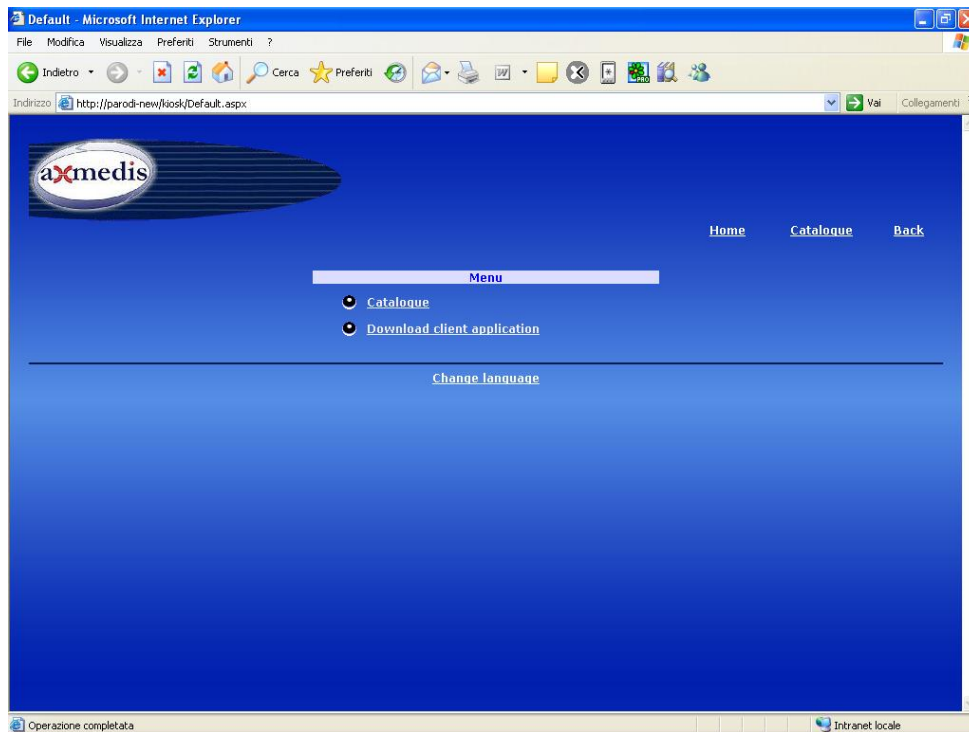
Figure: Kiosk home page

Figure: User registration at the kiosk

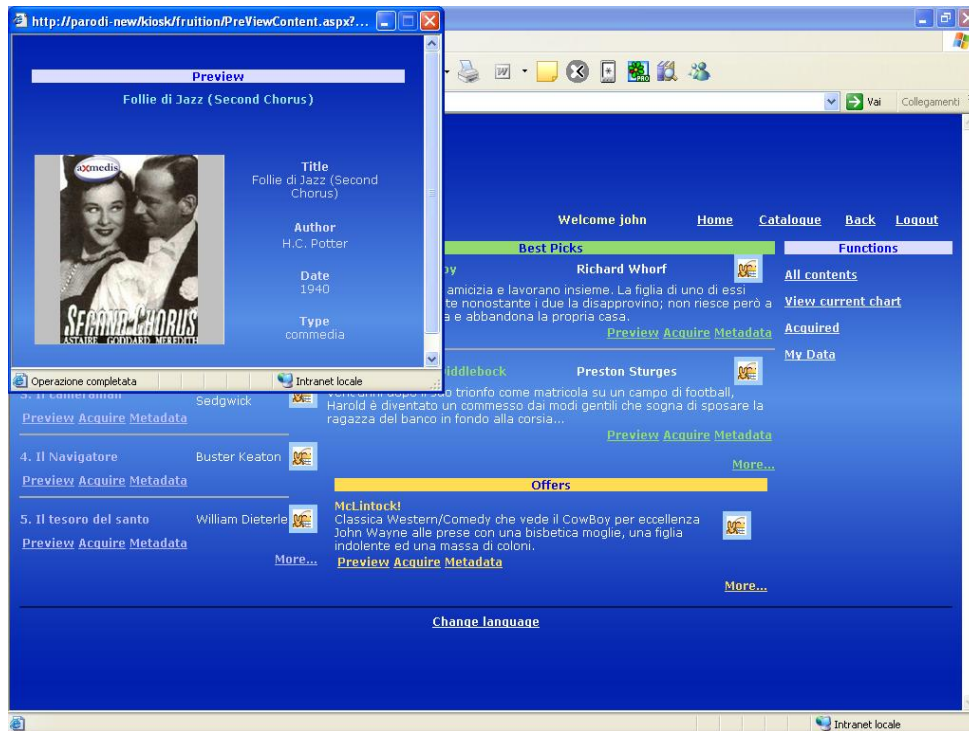**Figure: kiosk catalogue**

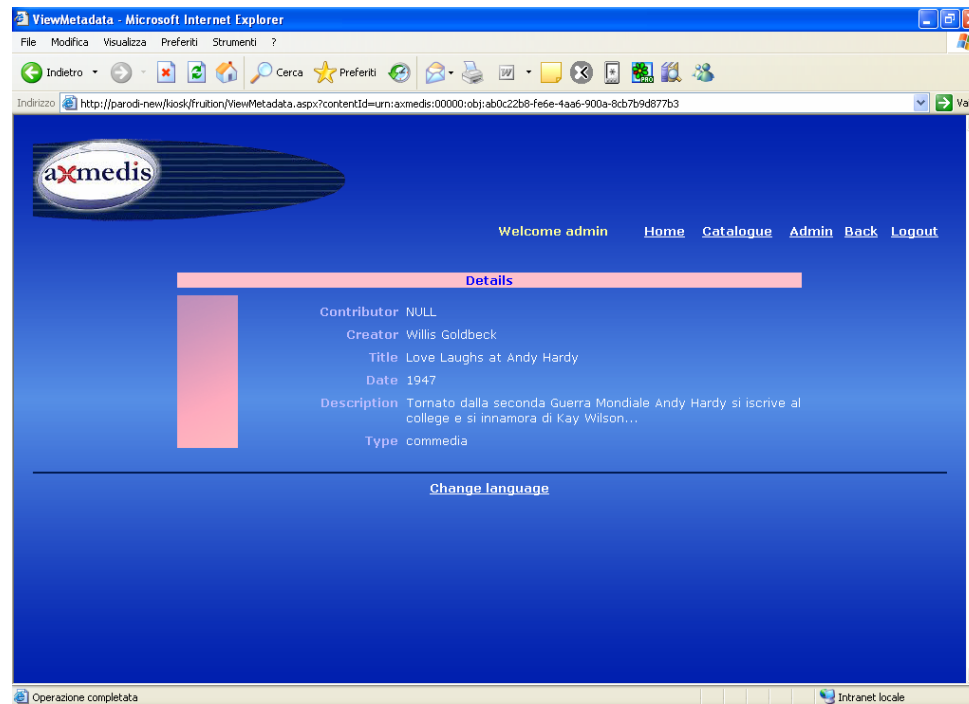**Figure: content preview at the kiosk**

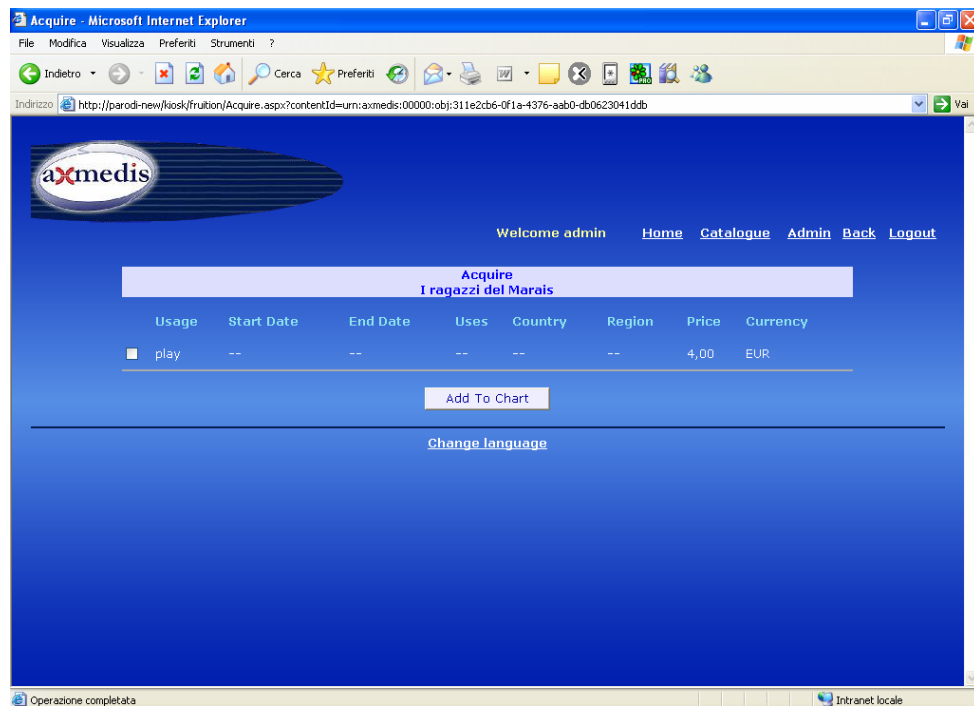**Figure: content metadata access at the kiosk**

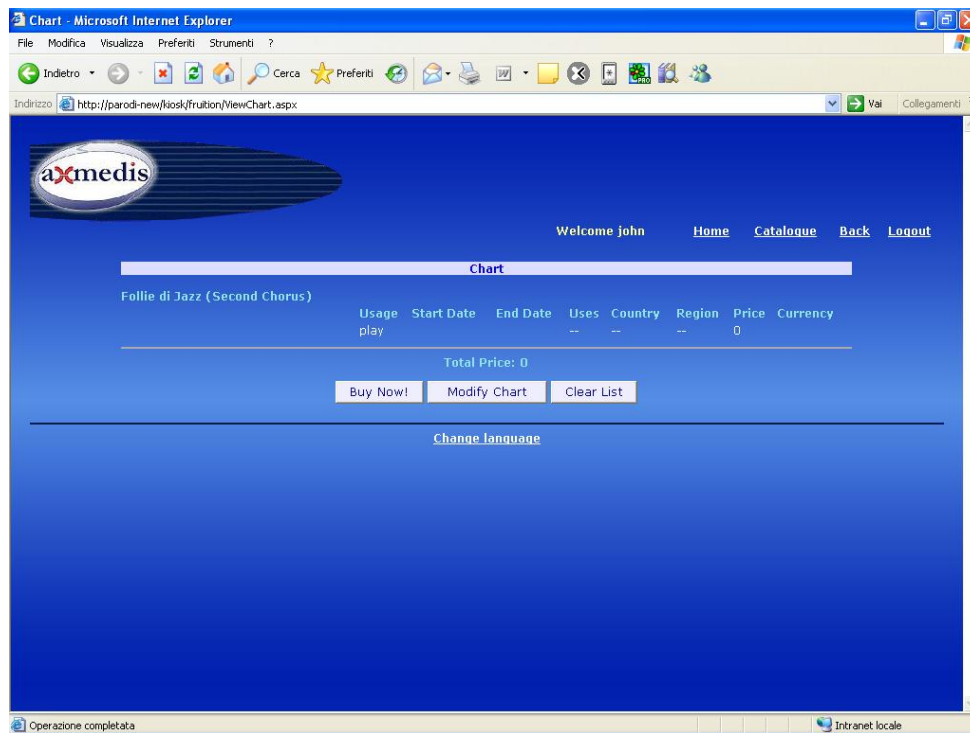**Figure: content acquisition at the kiosk**

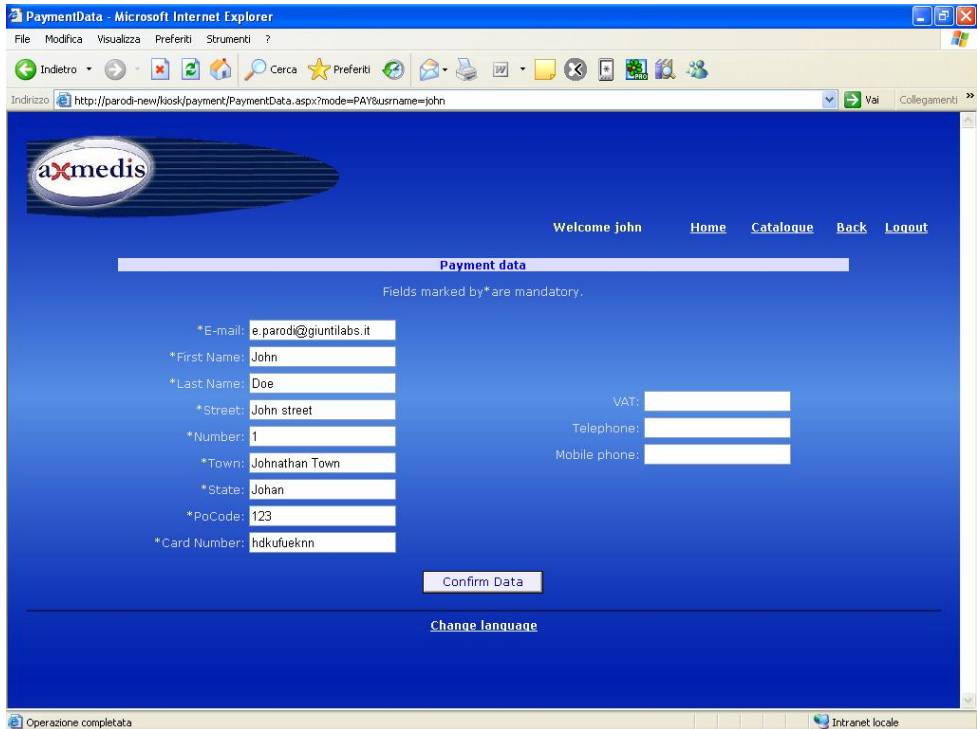**Figure: content purchase at the kiosk**

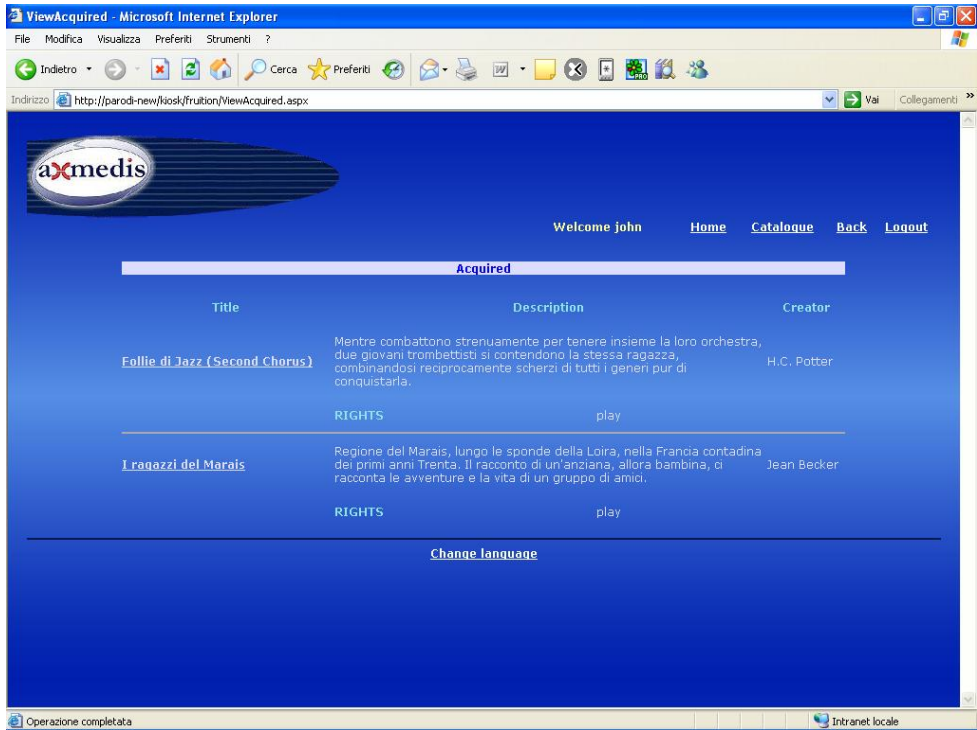**Figure: transaction finalisation at the kiosk**

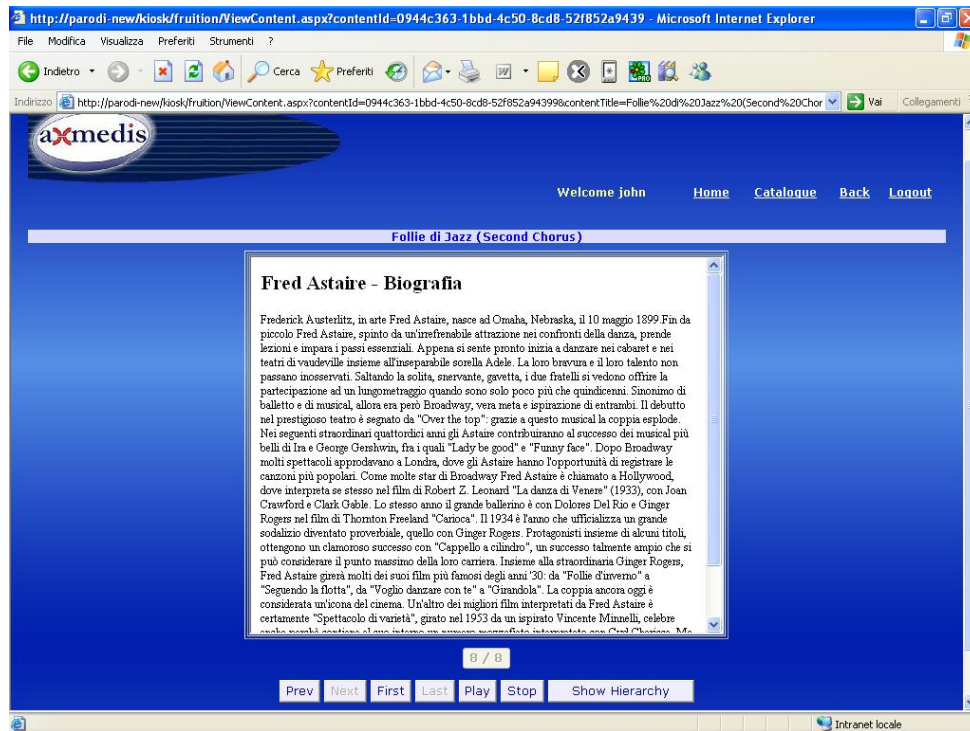**Figure: acquired content browsing at the kiosk**

Figure: content accessing at the kiosk (via terminal)

Figure: content accessing at the kiosk 1/6 (via PDA)

Figure: content accessing at the kiosk 2/6 (via PDA)

Figure: content accessing at the kiosk 3/6 (via PDA)
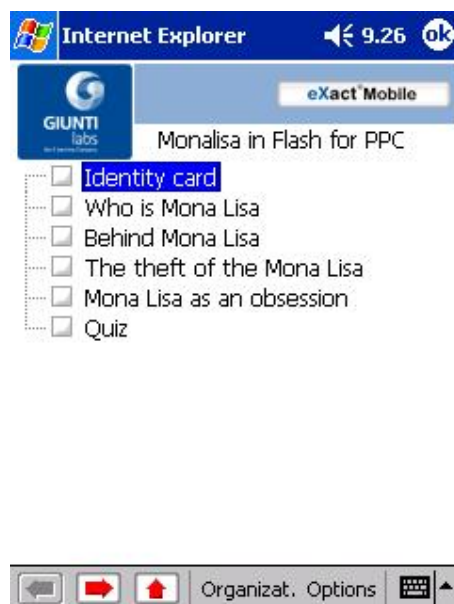
Figure: content accessing at the kiosk 4/6 (via PDA)

Figure: content accessing at the kiosk 5/6 (via PDA)

Figure: content accessing at the kiosk 6/6 (via PDA)

2.3.3   Conclusion

The kiosk environment shall enable to test basically all components of the AXMEDIS framework partially in the content preparation and primary distribution (that will be performed at Kiosk-Factory level) and partially at end user level during fruition at kiosk level. Moreover this demonstration scenario covers the benefit of satellite based targeted broadcast of "content" proving how it is feasible to achieve a high degree of efficiency and flexibility in "specialised" content distribution on a "geographically-dispersed" environment. At user level this demonstrator will trial solution related to combination of business model merging into a single local infrastructure for content search, selection, acquisition and fruition.

3   Bibliography and references

AXMEDIS-DE2-1-1a-UserRequirements-v1-0.pdf
AXMEDIS-DE2-1-1b-UseCases-v1-6.pdf
AXMEDIS-DE3-1-2I-AXFW-Spec-(Distribution-and-Portal)-Part-I-v3-0-closed.pdf
AXMEDIS-DE9-6-1-Spec4ContentProd&Distrib2Kiosks&PDA-v2-2Final.doc

AXMEDIS Public documents

Framework Specifications
(http://www.axmedis.org/area_4/doc.php?l_s=struttura&gruppo=14&order_by=data&asc_desc=asc)

Framework basic technology
(http://www.axmedis.org/area_4/doc.php?l_s=struttura&gruppo=17&order_by=data&asc_desc=asc)

Test cases
(http://www.axmedis.org/area_4/doc.php?l_s=struttura&gruppo=15&order_by=data&asc_desc=asc)

Tutorials
(http://www.axmedis.org/area_4/doc.php?l_s=struttura&gruppo=18&order_by=data&asc_desc=asc)

Content guidelines
(http://www.axmedis.org/area_4/doc.php?l_s=struttura&gruppo=16&order_by=data&asc_desc=asc)

Other documents
(http://www.axmedis.org/area_4/doc.php?l_s=struttura&gruppo=2&order_by=data&asc_desc=asc)

Sources

Kiosk demo
Factory https://cvs.axmedis.org/newrepos/Applications/kioskcomponents/Factory/
Kiosk https://cvs.axmedis.org/newrepos/Applications/kioskcomponents/Kiosk/
AXMEDIS framework: https://cvs.axmedis.org/newrepos/Framework/
AXMEDIS web-services: https://cvs.axmedis.org/newrepos/WebServices/

Sample objects
Generic sample objects: http://www.axmedis.org/documenti/view_documenti.php?doc_id=2056
Query Support related: https://cvs.axmedis.org/newrepos/Framework/doc/other/axdb/Mysql-4.1.10/SavedObjects.zip

Videos
axmedis-kiosk-factory-july2006.avi (http://www.axmedis.org/documenti/view_documenti.php?doc_id=2186)
Distribution of Content via Kiosks: (http://www.axmedis.org/documenti/view_documenti.php?doc_id=2186)

4   Terminology

Not applicable, for reference is always possibile to access glossaries provided for previously reported deliverables.