



Developments Progresses

Kiosk, Kiosk Factory and Mobile Distribution applications for AXMEDIS demonstration actions

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Application developments

Kiosk Application

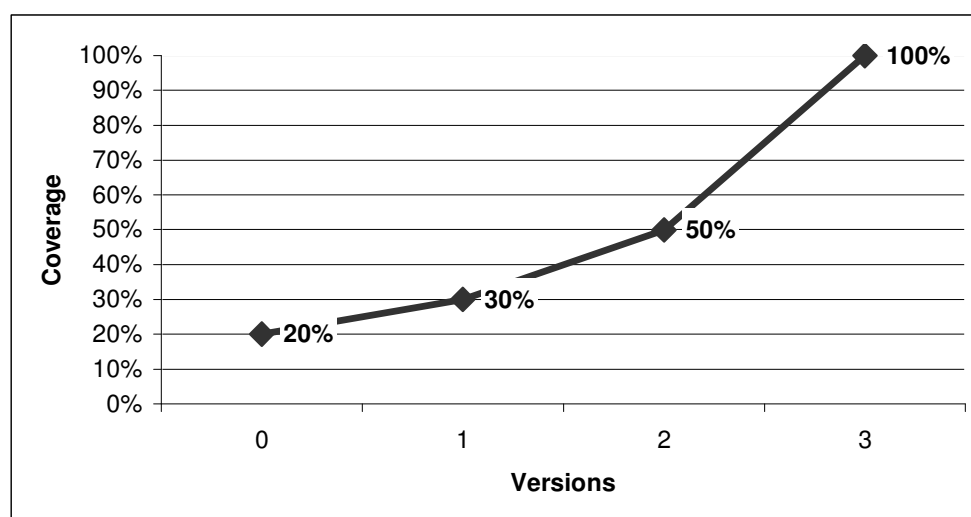
In respect to the Kiosk application, several versions have been produced starting from the defined architecture. The development has been designed following the “*fast prototyping iterative cycle*”. In this manner what produced at each development stage would be usable in the following cycle thanks to a revision and enhancement process. Produced versions are reported hereafter with a basic indication of differences among each other.

- **Version 0** – based on final architecture but implementing basic functionalities, partially “*cabled*”, no integration with AXMEDIS
- **Version 1** – based on version 0, implementing more functionalities, still partially “*cabled*”, basic integration with AXMEDIS
- **Version 2** – based on version 1, implementing more functionalities, advanced integration with AXMEDIS

As far as future versions are concerned, unless necessary, only one more cycle is expected to bring to

- **Version 3** – based on version 2, implementing all functionalities, full integration with AXMEDIS

The following diagram summarises this all.





Kiosk Factory Application

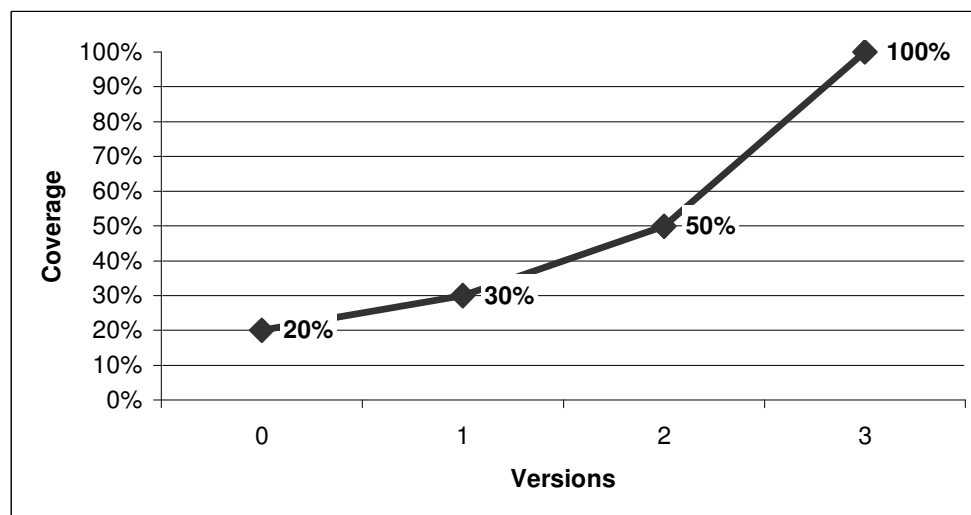
In respect to the Kiosk Factory application, an similarly to the Kiosk one, several versions have been produced starting from the defined architecture. The development has been designed following the “*fast prototyping iterative cycle*”. In this manner what produced at each development stage would be usable in the following cycle thanks to a revision and enhancement process. Produced versions are reported hereafter with a basic indication of differences among each other.

- **Version 0** – based on final architecture but implementing basic functionalities, partially “*cabled*”, no integration with AXMEDIS
- **Version 1** – based on version 0, implementing more functionalities, still partially “*cabled*”, basic integration with AXMEDIS
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As far as future versions are concerned, unless necessary, only one more cycle is expected to bring to

- **Version 3** – based on version 2, implementing all functionalities, full integration with AXMEDIS

The following diagram summarises this all.



Mobile Application

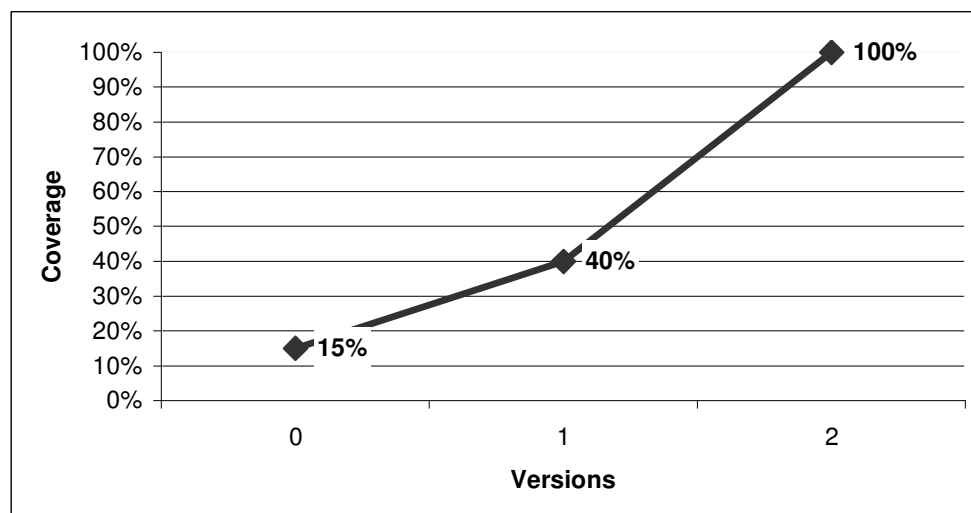
In respect to the Mobile application, is necessary to say that development started much later than the one related to Kiosk and Kiosk Factory, as the Mobile application was initially in charge to others; in any case several versions have been produced starting from the defined architecture. Also in this case the development has been designed following the *"fast prototyping iterative cycle"*. This gave us the possibility to catch up in the development process so to get in line with original expectations despite the late start. Produced versions are reported hereafter with a basic indication of differences among each other.

- **Version 0** – based on final architecture but implementing basic functionalities, partially *"cabled"*, no integration with AXMEDIS
- **Version 1** – based on version 0, implementing more functionalities, still partially *"cabled"*, basic integration with AXMEDIS

As far as future versions are concerned, unless necessary, only one more cycle is expected to bring to

- **Version 2** – based on version 1, implementing all functionalities, full integration with AXMEDIS

The following diagram summarises this all.



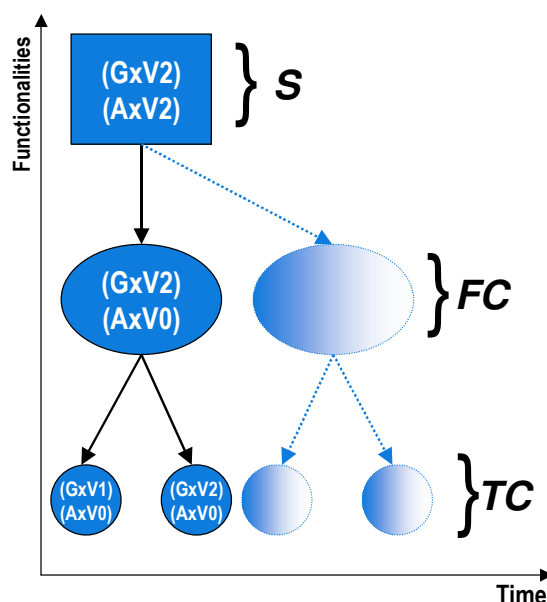
Deployment Scenario in GIUNTI Interactive Labs

In order to successfully and effectively achieve AXMEDIS installation in our “factory” was evident that we needed to progress in stages, so to minimize efforts and maximise results. Hereafter such steps are better explained and the resulting deployment schema is also reported.

- The initial stage was the set up of a system that we will, from now on, call “server”, where AXMEDIS database would be installed along with all “server-side” applications of our developments (including *learn eXact* and its database). This system is indicated in the diagram as “S”.
- The following stage was to set up a system that we will, from now on, call “fat-client” as it has both the “client-side” of AXMEDIS (the editor and other tools but not the database) and the one of our application, but is also provided with the “server-side” of our applications so to be able to further provide services to other systems that will have the “client-only” side. This system is indicated in the diagram as “FC”.
- The last stage was to set up a system that we will, from now on, call “thin-client” as it has only the “client-side” of AXMEDIS (the editor and other tools but not the database) and the one of our application. This system is indicated in the diagram as “TC”.

As far as GIUNTI Applications are concerned we have already explained that several versions have been produced, therefore Version 0 will be indicated as GxV0 in the diagram, version 1 as **GxV1**, version 2 as **GxV2** and version 3 as **GxV3**.

For easiness of representation we have also adopted in the diagram a convention to identify the stage of development of the AXMEDIS Framework integrated in the systems, namely version 0 (**AxV0**) to refer to the set of tools released in May, and version 1 (**AxV1**) to refer to the set of tools released in June.





Content production

Content production (or at least what feasible in the present situation) has been focused on tools installation, configuration and debugging; all has been done in the perspective to assess what presently available from several points of view:

- **Functional** – how many functions are available and operational, which is their operational level and coverage of user's need
- **Qualitative** – how good does the tool perform presently available functionalities
- **Acceptance** – how easy could be user acceptance especially in the content development environment (taking into account habits, conventions...), moreover the following aspects too have been taken into account:
 - ▶ **Completeness** – how complete is the tool coverage of users needs
 - ▶ **Effectiveness** – how effective is the tool if compared to normal working tools
 - ▶ **Efficiency** – how efficient is the tool if compared to normal working tools
 - ▶ **Stability** – how stable is the system (under several circumstance from load to regular operation...)
 - ▶ **Reliability** – how reliable and stable is the system
 - ▶ **Maintainability** – how easy is to upgrade and maintain the infrastructure, how demanding is its operations
 - ▶ **Appeal** – how appealing is the system to the user in terms of aspect, operation, innovation...



Issues & problems encountered

Some tools have not been installed or tested yet due to demonstrators development related priorities and also to the fact that at present there are no indication on needed resources and generated loads on installation systems. These latter info (along with indication on the minimum-maximum required configuration are mandatory (this has been repeated several times) in order to allow proper resources planning and allocation.

Furthermore there are components related to fingerprinting, protection... that should be functionalities provided either via user interface of certain tools (editor...) or as specific services. In any case they should be as transparent as possible as originally requested in the requirement collection and analysis phase.

In relation to the selection process of content for the testing and demonstration phases, encountered issues are:

- To use content available (and usually covered by traditional copyright constraints is necessary to be able to transpose present contractual aspects into licenses
- To use so-called "*free*" content is necessary to adopt a licensing model that is consistent with project aims and respectful of generally accepted "*good conduct practices*" (mentioning the source, no commercial use...)
- To aggregate / modify existing content applies what mentioned in the previous two points
- Present collections of content are suitable for most of the internal testing but present stage of development of tools makes it difficult to use them
- Even though content has been delivered and loaded on the repository effective access to it is difficult also because of the present copyright constraints.

Presently the document selection delay is related to issues concerning the licensing of available content and the need to address such issue.

We would suggest to have a central AXMEDIS database located in DSI where objects based on content provided by partners can be created, manipulated and stored in the present "*testing*" phase; this could be done with an agreement entitling DSI to host and use for trial purposes provided content, this agreement will "*de-facto*" prevent commercial usage of the content at present, but at the same time allow testing from all partners while retaining proper security on content that will be only be stored in the local database.



Replies to received questionnaire

In the following table is reported the most updated set of replies to the questionnaire submitted by DSI to content owner and developers to assess present status of in-house deployment of AXMEDIS framework.

Question	Reply
1) did you installed the axmedis editor ?	Yes
2) how many installations?	Previously 1, currently 3 (2 including the database and 1 without) Tried V2.1 and looked for further versions after the V2.2 but could not find any. We tried the set-up provided in v2-2 and have to say (where it not for the known problems reported by DSI) this would be a good improvement
3) how many objects you have produced ?	A few elementary samples Plain and AXMEDIS objects have been circulated during debug phase and also used to verify if desired functionalities were properly working
4) did you used the hierarchy editor and viewer ?	Yes
5) did you used the visual and behavioral editor and viewer ?	Yes but having a lot of problems: use is not intuitive, USERGUIDE-Visual-and-Behavior-Editor-and-Viewer.doc is not updated to editor version contained into zip file. We could save SMIL file and try to view the result of our insertion of scenes and temporization, then we would re-open visual view and adjust shapes, but we could not manage to go back to that view. We would also like to re-open an already saved smil file but then we can't see visual scenes, while temporal schedule seems to be resetted. On closure editor always crashes. We never could manage to listen to audio. Encountered problems have been always reported and in some cases this turned out either in work-around suggestions or in upgrades in components.
6) did you used the license editor and viewer ?	Yes Encountered problems have been reported in the wiki. Interaction with developing partners turned out either in work-around suggestions or in upgrades in components.
7) did you used the protection editor and viewer ?	Yes the viewer. We tried setting something about protection but while finalizing object development the editor crashed so that we are not sure of the actual result Encountered problems have been reported in the wiki. Interaction with developing partners turned out either in work-around suggestions or in upgrades in components.
8) did you used the capability of the AX-MEDIS editor to call external procedure for processing content ?	Yes if you mean content processing plugins, we used: - audio adaptation with success for aif -> mp3 and fail for: - wma -> mp3 (editor just closes without message) - mp3 -> mp3 (editor just closes without message) - wav -> mp3 (editor just closes without message) - image adaptation successful for: monochrome, contrast, resize, edge, emboss, blur, mirror, rotate, paste
9) did you installed the AXMEDIS content processing tools, AXCP ?	Yes Encountered problems have been reported in the wiki. Interaction with developing partners turned out either in work-around suggestions or in upgrades in components.
10) did you used the AXCP editor ?	Yes, we used image processing functions: monochrome, paste, rotate Encountered problems have been reported in the wiki. Interaction with developing partners turned out either in work-around suggestions or in upgrades in components.
11) did you created some java script ?	Yes, we used image processing functions: monochrome, paste, rotate
11a) Have you executed those scripts ?	Yes and we succeeded. We found debug functionality very useful.



Question	Reply
12) why do not have posted them as examples on the portal ?	We did not posted javascript rules as we did not think it was our task. We'll do it if you confirm us we have to. Could you please suggest right place where to put? into AXCP folders even if they are not under our responsibility?
13) did you processed objects on the java script ?	Yes
14) did you connected your database to the AXCP grid ?	A remote connection has been established since a rather long period. Tests of connection, content search, retrieval and insertion using ILABS provided WEB-Services have been performed with good results both in terms of reliability and usage (at least was the result reported to us) with up to 100 seek in parralel...
14a) What are you waiting for installing the focuseek and connecting your database to the axmedis database via Content Processing ??	grid installation is planned to next time by our side (after july review) Please note that 1) we provided fully functional description and implementation of a web-service for accessing Tamino, plus a live accessible installation of our accessible in remote to allow Focuseek to design, develop and test the Tamino interfaces. The same infrastructure has been used to test what developed and results reported have been quite good as previously reported 2) lots of efforts have been spent in debugging components not in charge to us and helping partners deploy their part (see what has been done for the DB and query support, Editor and AXCP, PMS... as we also had to deliver our demonstrators therefore to meet imposed deadlines we had to schedule and prioritise work. Having a fully and correctly functional version of the editing tool and connected AXCP was far more important than having a fully installed non-functional framework.
15) did you protected some obejcts ?	Yes we tried
16) did you installed the AXMEDIS database tools ?	Yes we did and the process was not pain-less. We had need for quite intensive support and almost acted as "guinea pigs" furthermore once the editor was put in place it has been quite complex to interface with the already installed DB (the DB was installed prior to the editor)
17) did you loaded some objects ?	Yes samples that were either available or provided
18) how many objects did you posted into the database ?	Just the samples and some of the very basic results achieved so far Please read carefully previously reported comments.
19) did your produced some queries into the database you installed ?	Yes
20) did you created queries from the java script in AXCP ?	No since it has not been necessary until now in carrying on our scenarios. We'll manage this aspect as soon as it will be necessary basing on our scenarios and schedulation
21) what do you think about usability of AX-MEDIS Editor ?	Same aspects are not so intuitive (especially as far as object rendering is concerned) but we believe that at present the results of the trials we have performed are not enough to reply, there are still many instability in the system that we are not able to understand if they are caused by the way the system has been installed or if they depend by system bugs. We have requested availability for a meeting to try to solve together all these issues We tested V0.1, V0.2, V0.3, V1, V2.1 and the install procedure of V2.2. except for this last point we have always provided info to developing partners on issues encountered, I would rather say that in many cases we have even pointed out suggestions and hints acting more as debuggers than as users
22) which features are missing in the AX-MEDIS Editor ?	Stability above all : editor crashes too often, it's very stressing for content developers. Usability for SMIL Editor. Maybe in tree view it would be nice to visualize also the type of the resource, not only the name: icons are not enough, since all images have the same icon, and similarly all audios have the same icon too. Undo seems not to work. Possibility of "composing" a textual page in a "power-point-way"-like: setting a



Question	Reply
	background, adding and formatting text, adding hyperlinks, synchronizing audio. SMIL editor should synchronize image and audio, AXCP can manipulate images... but seems that it is not possible to put the whole result together (we would like to have, for example an image with text and audio in the same page = one audio/visual impact only) Encountered problems have been reported in the action plan and will be posted to the wiki once properly formalised. A list of desiderata will be drawn on the basis of an ongoing analysis of what initially requested, what delivered and testing results
23) what do you think about usability of AX-MEDIS player ?	For basic assets is good enough, for the kind of objects we are thinking is difficult to say both because we did not manage to produce them the way we expected and because we did not manage to understand how we should then play them Encountered problems have been reported in the action plan and will be posted to the wiki once properly formalised. A list of desiderata will be drawn on the basis of an ongoing analysis of what initially requested, what delivered and testing results
24) which features are missing in the AX-MEDIS player ?	A sequential "slide show" oriented display is not enough, hypertext and navigation oriented approach should be covered too. Encountered problems have been reported in the action plan and will be posted to the wiki once properly formalised. A list of desiderata will be drawn on the basis of an ongoing analysis of what initially requested, what delivered and testing results
25) what do you think about usability of AX-MEDIS database ?	So far so good
26) which features are missing in the AX-MEDIS database ?	Can't say yet, still under evaluation
25) did you installed the Programme and publication ?	No since in our plans this task is scheduled after july
26) did you installed the workflow ?	No since in our plans this task is scheduled after july
27) did you used the fingerprint for audio, video, and text ?	No, these functionalities should be transparent in our opinion even though we should be able to know how they work, which are their results, in which format they handle and store data as such info may have a direct impact on internal data processing steps (storage, search & retrieval, verifications...) Apart from the previously reported notes we would like to stress that such functionalities should be either provided as services that have to be recalled by the AXCP in the ingestion / protection phase, whenever protection verification is needed and also whenever DRM controlled operations are to be performed. This therefore presents a multi-fold scenario: 1) insertion among rules of specific calls to abovementioned services. 2) automatic usage of such services by tools performing operations that are specifically mentioned / recalled in DRM rules and that require verification 3) a specific human-led operation at editing time (in this latter case procedures for using the tools should be by far simplified)
28) did you used the adaptation algorithm for audio,m video, etc.. ?	Yes for images (worked) and audio (see previous comments)
29) did you used the descriptors for audio video, and text ??	No also in this case functionalities should be transparent in our opinion even though we should be able to know how they work, which are their results, in which format they handle and store data as such info may have a direct impact on internal data processing steps (storage, search & retrieval, verifications...) Apart from the previously reported notes we would like to stress that such functionalities should be either provided as services that have to be recalled by the AXCP in the ingestion phase or whenever editing / indexing / retrieval is needed. This therefore presents a twofold scenario: 1) insertion among rules of specific calls to abovementioned services. 2) a specific human-led operation at editing time



Question	Reply
30) which algorithms are missing ?	So far we had problems also with some of the available algorithms so we cannot say if something is missing, yet we hope that the conversion tables reported in the requirements have been covered (at least as far as the mandatory ones have been implemented)
31) which features are missing the tools ?	Installation procedure should be provided with adequate documentation (we cannot expect the end user to be a programmer nor a system manager); moreover a clearer mapping of tools and related components should be available; some basic example and the procedure followed to achieve them should be provided to enable users to understand how to use the system and its components. From what we could see of V2.2 the development team is moving in the line we where hoping.



Remarks

Tools installation and configuration proved more problematic than expected (often parts or info where missing or difficult to find). Debugging had to be performed in many cases to understand if the encountered problem was local or general.

Therefore as far as tools installation, configuration and debugging is concerned, we confirm that some tools have NOT been installed or tested yet due to development related priorities and also to the fact that at present there are no indication on needed resources and generated loads on installation systems.

These latter info (along with indication on the minimum-maximum required configuration are mandatory (this has been repeated several times) in order to allow proper resources planning and allocation.

Furthermore there are components related to fingerprinting, protection... that should be functionalities provided either via user interface of certain tools (editor...) or as specific services. In any case they should be as transparent as possible as originally requested in the requirement collection and analysis phase

Last, but not least, the rate of update of components is too high to enable any consistent installation, trial and debugging process, resulting in two possible situations:

- The environment is too instable and therefore results are unpredictable as well as issues encountered (therefore we had to abandon this initial approach)
- The environment is stable and installation consistent, there is a good chance to achieve concrete results, but soon the environment is obsolete in some component

In respect of present status and process evolution what follows is just a summary reported for reference. More detail is available in the slides to be used for the meeting.

	Mar-06	Jul-06	Sep-06	Dec-06	Mar-07
Content production for research test cases & validation	20.0%	24.0%	51.7%	70.0%	100%
Production of content for test cases	20.0%	27.0%	60.0%	80.0%	100%
production of content for validation	20.0%	25.0%	60.0%	80.0%	100%
Production of Licenses	20.0%	20.0%	35.0%	50.0%	100%
Production of compounded AXMEDIS Objects	0.0%	1.0%	10.0%	60.0%	100%
Content Identification for Validation	10.5%	35.0%	70.0%	95.0%	100%
Content Identification for Validation	20.0%	50.0%	80.0%	95.0%	100%
License regulation for content for validation	1.0%	20.0%	60.0%	95.0%	100%
Content Integration and multilingual support	6.5%	47.5%	82.5%	92.5%	100%
Multilingual guidelines	5.0%	60.0%	100%	100%	100%
Multilingual content production	8.0%	35.0%	65.0%	85.0%	100%