

Personal Intelligent Organizer of Content for PDA

Windows Mobile application

AXObjectFinder & AXPDAplayer User Manual

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This document is meant to be a simple handbook to support the users in setting and using AXObjectFinder and AXPDA Player tools, which have been realized to manage and enjoy cross media and multimedia contents, for educational purposes and activities being of great help to people in many kind of occupations: medical, cop, touristic guides, travelling, inspecting, accessing document via mobiles, etc. The full solution includes:

- **Software tools for PDA** to be installed into PDA or Smartphone with Windows Mobile 5, 6, 6.1, or later versions as operating system, for example: HTC, Toshiba, Samsung, Acer, Motorola, Asus, HP, etc.
 - **AXObjectFinder**: a software allowing to manage and organize the multimedia files already running on the PDA.
 - **AXPDAPlayer**: the new generation multimedia player used for AXObjectFinder to enable the graphic display of complex objects/applications, as well as simple files.
- **Digital contents**: can be
 - simple media files such as: video, audio, documents, images, in any format that you may have on the PDA,
 - small applications such as: calculator, flow stream and algorithms, etc. Some basic examples are provided within the PDA software tools, whilst others can be tracked down from the above-mentioned portals or they can be found inside the set-up program already mentioned above or on the following portals.
- **Server WEB portal**. The web portal for mobiles to collect/provide contents and to transform them automatically into suitable formats for both PDA and other mobile systems. **For example portals such as:**
 - **Cross media finder portal**: <http://xmf.axmedis.org> Several kinds of content for PC and mobile.
 - **Mobile Medicine Portal** (<http://mobmed.axmedis.org>) to share, produce and distribute suitable digital content, while making available a support, something similar to a social network, to manage such contents for PC, PDA and Mobile,
 - **Other portals** etc.

If you are reading this document, you have found it inside the set-up package related to PDA software tools or you have downloaded it from the Help page of some web service portal, which is distributing content suitable for this kind of tools.

For any information or request, please drop an email to coordinator.

Setting up AxObjectFinder for PDA

To install the PDA software tools, please follow instructions below:

1. Obtain the set-up package: for example axmedis-pda-player-and-finder-content-installer-touch-june-09-v1-6.zip:
 - a. The set-up package is a zip file which includes other files and among them the PDF of this User Manual.
2. Unzip the set-up package, so as to create a directory and having other sub-directories with examples and files, for example:
 - a. dir: **Medicine-Examples**
 - b. dir: **Other-Examples**
 - c. dir: **Taxonomy-Examples**
 - d. file: **AXPDAPlayerFinder-Installer-touch-june-09-v1-6.CAB**
 - e. file: **AxObjectFinder-User-Manual-ENG-v2-6.pdf (this file)**
3. Copy the sub-directories and files mentioned above into the SSD memory of PDA.
4. Start set-up procedure with a double click:
 - a. **AXPDAPlayerFinder-Installer-touch-june-09-v1-6.CAB**
5. Go to the directory inside the user's PDA where the set-up CAB has been stored and start set-up procedure with a double click (if the user's PDA has already a previous version which is in conflict with the current one, the system will remove old version before installing new one).
6. When the system requests to install the programme into the primary store of the user's PDA or into the memory card of the user, the latter option has to be chosen.
7. Complete the entire set-up procedure.
8. Two applications are installed inside the PDA and they clearly appear as icons within the user's application programmes:
 - a. **AXObjectFinder**: a software allowing to manage and organize the multimedia files already running on the PDA.
 - b. **AXPDAPlayer**: the new generation multimedia player used for AXObjectFinder to enable the graphic display of complex objects/applications, as well as simple files.
9. The first step to be taken is to execute the application AXObjectFinder and refer to the instructions reported in the following section of this User Manual.

User manual of AxObjectFinder

AXObjectFinder is an application programme searching files inside the user's PDA/smartphone and organizing them into icons and/or lists; the application can show to the user the retrieved files via icons, in a simple and easy to enjoy way. Files can be both those in MPEG-21/AXMEDIS format (designed for AXObjectFinder) and other simple files the user has already stored/collected into his own PDA, for example PDF, images, videos, documents, audio, etc. Both kinds of files appear as icons and they are classified, so as to make their management, search and execution less complex and much easier.

Go to *start->application programmes* and look for AXObjectFinder icon (the physician's bag). Launch AXObjectFinder application programme.

A thorough reading of this user manual is highly recommended in order to have a general overview about the functionalities provided by the proposed system.



AXObjectFinder Initial Page:

When executed for the first time, AXObjectFinder application has neither organized yet, nor identified the user's files and the example files provided during set-up.

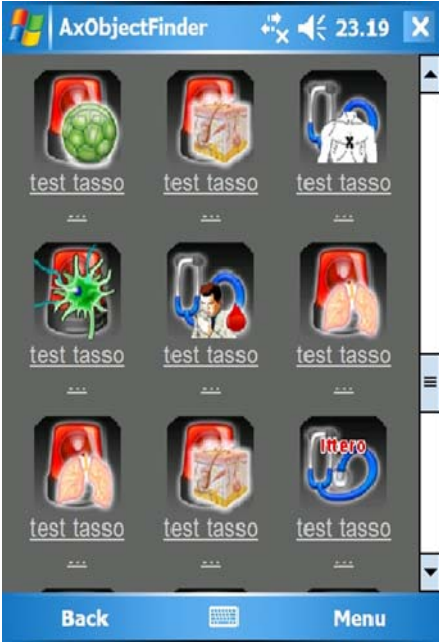
Therefore, the screenshot on the left will have only the first four icons, which stand for service functionalities; such icons are related (as you can see from the screenshot on your left) to:

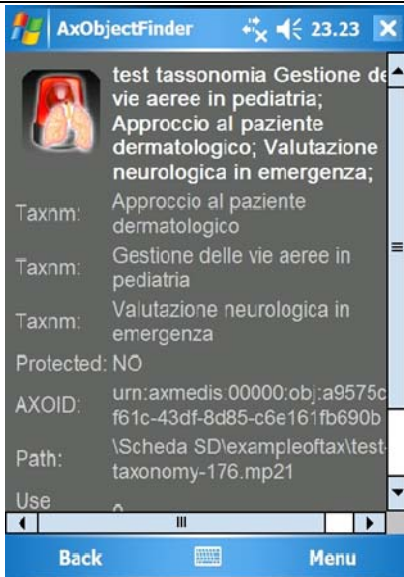
- **WEB:** to get access to the Web Pages of the service, for example of the Mobile Medicine site, <http://mobmed.axmedis.org> (see below for further info); it can be set up from the Settings;
- **Local Search:** to search through proper queries into the local database of the user's PDA (see below for further info);
- **Taxonomy:** to surf the medical taxonomy in order to look for objects/application which have been classified taxonomically by the system (see below for further info);
- **Open...:** to open directly a file the user knows he has in his own PDA memory (see below for further info);

Please note that AXObjectFinder application:

- can search and classify files already included in the user's PDA and it can show them in a well organized way in this first page (the user can scroll on the left or below, using his finger) or in other search pages depending on the criteria selected from the MENU which is placed on the bottom of the page on the right. As default value, the graphic display is only alphabetical, which means according to title/filename.
- Do not switch off the PDA; after some few minutes the first objects will be classified. From MENU the user can select HOME to refresh this page and see what are the objects the system has just found.

As soon as the icon list related to the objects/application programmes appears, the user can scroll that list with his finger and he can choose

	<p>to see/execute an object/application.</p> <p>What is recommended is to leave the programme on at least for 5 minutes for the first time. This will enable the system to index and classify all the files in the user's PDA. The automatic scanning system of AXObjectFinder can identify each new file, whether coming from PC, or being memory direct copy or anything else. When the next scanning phase is over, the file will become visible with its icon, it can be searchable into the database and associated with taxonomy if it has a taxonomical classification.</p>
	<p>If the user scrolls the icon page with his finger or using the scroll bar (on the right of the screen), he can see some examples concerning the several icons representing categories of medical contents, according to the agreed taxonomy. Icons stand for the first two levels of taxonomy. In the example, the taxonomy has been derived for a medical application. Any other kind of taxonomy can be directly loaded.</p> <p>Every application/object having in their file name "Test....." refers to example content which will be removed in due time and replaced by real content. At present they are mere examples to show how such objects can work, when properly classified, etc.</p> <p>If the user selects one of these "test" icons (content/application), the AXPDAPlayer application programme is invoked to execute and display such content.</p> <p>Apart from these test contents, there are some real demonstration contents such as:</p> <ul style="list-style-type: none"> • Audio_example_Paganini.m21 • museo-virtuale-demo.mp21 • AudioMuseo-VGAreal-FS-v9b-new.mp21 • AudioMuseo-guida-low-res.mp21 • img-Poznan_city_DSCN6568_2ok.mp21 • flow-bls_new.mp21: algorithm • ComplicanzeIABP-640x480.mp21: slides which can be scrolled with a finger • complicanzeIABP-pda-r-fs-md-v5.mp21 LOW RES version • video-test-dicenta.mp21: video on asthma and allergy • video_bpco.mp21: video PBCO • Immagine_di_test_3.m21 • pdf-bpco.m21 • etc. <p>Such demonstration contents are also reported among the icons/application of AXObjectFinder with longer and clearer names, much easier to be identified.</p> <p>From the zip package of the installable it is possible to get many other examples from non medical applications. Moreover, it is possible to get examples of many kinds, from educational to audio visual guide, training courses, video entertainment, fun video, games, see http://xmf.axmedis.org.</p>



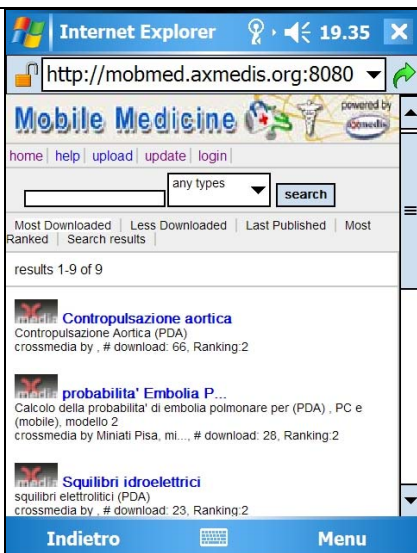
Metadata

If the user selects with a finger or a pen the text associated to an icon, the metadata of the object itself are displayed. Metadata are pieces of information describing the object: title, description, authors, data, ID, protection or not, path in the user's PDA, how many times it has been used, when for the first time, when for the last time, etc. Among the info:

- taxonomical classification, in the example those of Mobile Medicine, any other taxonomy can be loaded as well.
- classification in terms of groups of the main service portal, in the example those of Mobile Medicine, any other group classification can be managed as well.

Such information is used to classify the user's objects according to preferences, please refer to the screenshot on *settings*, which is described below.

The user can go back to the previous page, by clicking on BACK in the menu on the bottom of the page, on the left.

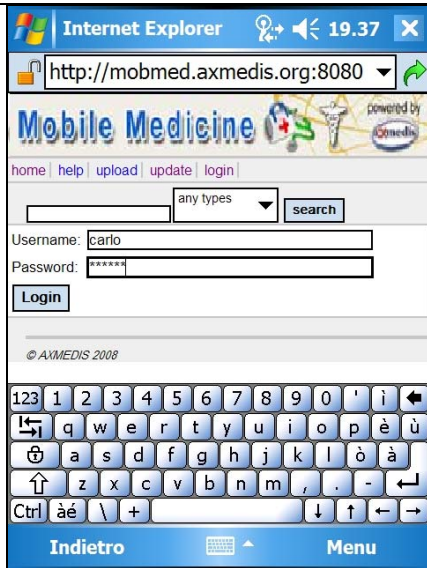


WEB page of AXObjectFinder

When choosing the first Icon WEB in the main page referred from the settings is called. In the default value of settings the system goes to the Internet connection and opens the Internet browser directly on Mobile Medicine Portal (this is part of the user default settings, for example <http://mobmed.axmedis.org>) as shown in the left screenshot. This portal has many other functionalities for users accessing it via PC. The PC user Manual of this portal is described in another document. Another Portal can be <http://xmf.axmedis.org> > Any other portal can be referred as well.

From this WEB page, the user can:

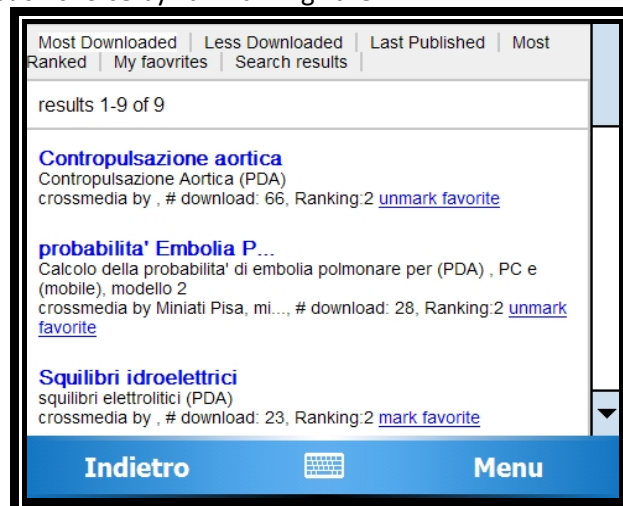
- **register/log** as user username e password, see below;
- **search among objects** available in the portal according to related keywords;
- **download objects.** At present when the download of an object/application occurs, the system verifies whether this object is already included in the user's PDA. If this is the case, the system does not waste time in downloading again, but opens the object already included in the user's PDA. Otherwise, it starts downloading. The recently downloaded object is automatically inserted into the PDA local database.
- **See several dynamic lists of objects:**
 - **Most downloaded:** list of the most downloaded files from the portal,
 - **Less downloaded:** list of the less downloaded,
 - **Most ranked:** list of the most ranked ones,
 - **Less ranked:** list of the less ranked ones,
 - **My favourite:** most preferred ones (only if logged user),
 - Etc.



Main WEB page of the content Service

From the WEB page which can be accessed through the user's Mobile (see settings for its definition), it is possible to carry out the registration allowing the user to access the preferred contents and to mark objects in the general pages as preferred, less preferred and so on. To access as user, you have to be registered. The registration can be done via Internet using a PC. During the registration, the users can register to different groups and declare their interests and specialization fields. Preferred objects can be searched and accessed via PC.

Once registered/logged, the dynamic lists already described (most downloaded, less downloaded, most searched, etc.) allow the user to see which are the contents marked as preferred and grant the right to change such choice by "unmarking" them.



For each content, the system displays:

- title, description, etc.
- number of downloads.
- ranking, average vote expressed by users, from 1 to 5 starlets.
- marked / unmarked by the user.



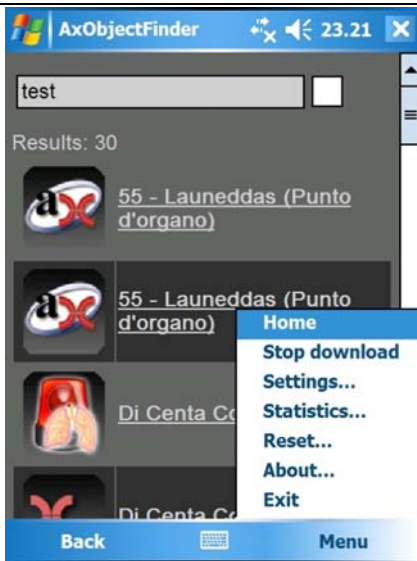
Local Search into your PDA personal database:

When choosing second option of the first screenshot, namely **Local Search**, what appears is the screenshot reported on your left.

If no queries have been carried out, the screenshot will have only the field to insert the text to be searched and the search button on your right. The list of "results" appears only when a query is carried out. The reported number is the number of found file/objects/application programmes.

The search is carried out within all the metadata of the user's objects, including taxonomical data and filenames.

The search activity is carried out on every object of the PDA which could have been classified. If AXObjectFinder has been active for a certain lapse of time, the system could index/classify every content/object and file in the PDA.



MENU on your right bottom part:

When selecting such menu, Options can be:

- **Home:** to go back to the first page of main WEB page portal for content, for example is it set to the Mobile Medicine web portal and service.
- **Stop Download:** to stop downloading an object the user is downloading from the WEB portal.
- **Settings:** to set up the settings of AXObjectFinder as to display and running functionalities.
- **Statistics:** to see statistical data on how the object indexing/classification is going on within the AXObjectFinder system of the user's PDA, or to see the status of your own personal AXObjectFinder.
- **Reset:** to set at zero / to clear the history of the user's database, going back to the default set-up conditions.
- **About** to have a set of information on the application programme creation and its version.
- **Exit:** to exit from the AXObjectFinder.

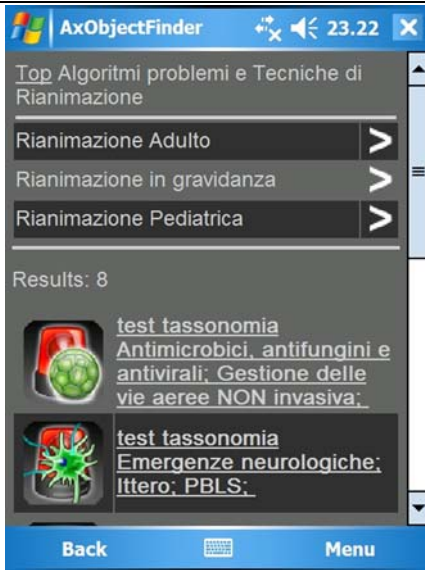


Statistics

When selecting from *MENU->Statistics*, the user can see a set of statistical information, as reported below:

- Number of MPEG-21 objects in the PDA database.
- Number of items in the model taxonomy (i.e. 376).
- Number of complete scanning operations made on the user's PDA to search objects and files; scanning means to perform a complete inspection of the user's PDA.
- Number of identified files (i.e. 606).
- Number of analysed directories (i.e. 47).
- Number of analysed MPEG-21 files.
- Number of new added MPEG-21 files.
- Number of new generic files added to the database (the added files are only those having a filename extension which is listed in *settings*, see *settings* for any change).
- Number of cancelled files: when a new scanning occurs and some files are no longer there, such files are deleted also from the database and they are no longer visible as icons in the interface, lists and queries.
- Number of invalid MPEG-21 files (i.e. 5).

Noteworthy is that the automatic scanning system of AXObjectFinder can identify each and every new added file, either coming from PC or being memory direct copy or whatever else. When the next scanning occurs, such file will be added into the database of AXObjectFinder, it will have its own icon, it could be searchable into the database and it will be associated to taxonomy values if it has been given a taxonomical classification (this means that when realized, such file has been provided with a precise taxonomy).



Taxonomical search

When deciding to surf Taxonomy from the first page of AxObjectFinder, the resulting screenshot is the one on the left. The example is referred to the Mobile Medicine taxonomy that is loaded as default. Any other kind of taxonomy can be loaded.

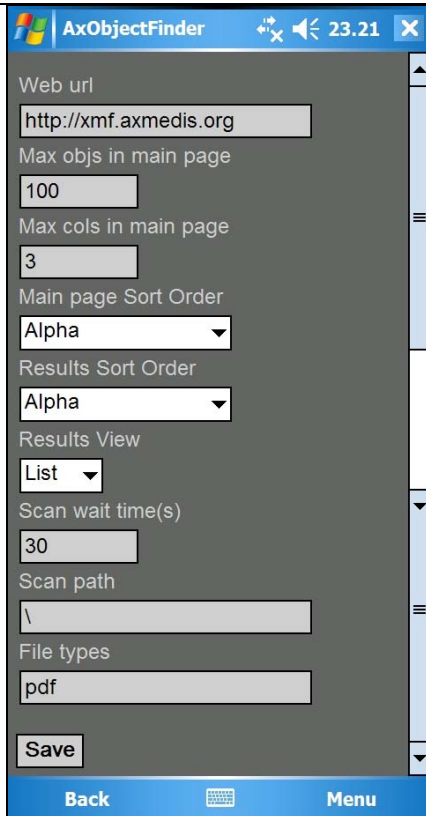
In the upper part of the page, there is the taxonomy. In the lower part there are the objects associated to such taxonomy, with the related node shown in the first line and related sons of that node.

The taxonomical search can display all the objects related to a certain classification, from more generic to more detailed ones. Noteworthy is that some objects can be added to different multiple points of the taxonomy. This means such objects can have a multiple classification, they can be found with different paths, but they will never appear twice in the same list

The user can surf the taxonomy by simply selecting the line containing the item itself, or he can go back selecting the preferred layer in the taxonomical structure, as reported in the upper part of the page.

In the lower part, the user can see the list of objects/ application. For each object there is some basic information. This list can be scrolled with a finger. Depending on *Settings* (as usually from *Menu->settings*) it is possible to shift display options from lists to icons and vice versa and the user can also choose the object displaying criteria: alphabetical, from most viewed to less viewed, etc.

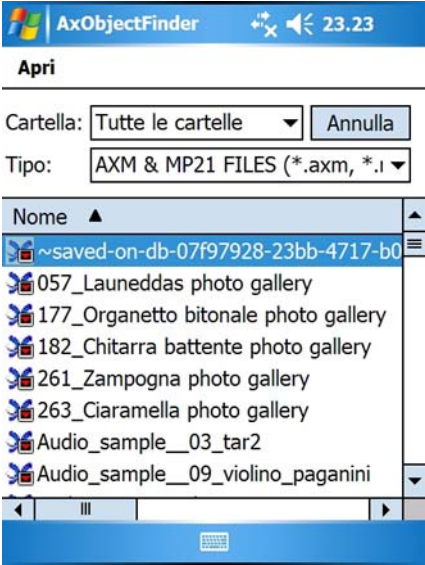
In the example reported on the left, the screenshot displays what surfing into taxonomy is like, after finger scrolling. The system has the taxonomy fields scrolled high above the page, thus clearing some space for the results of the taxonomical query.



SETTINGS of the AXObjectFinder

In the screenshot on the left, the user can see all the settings from *menu->setting* within AXObjectFinder application. Settings have the following meaning:

- **WEB Url:** web site opened by clicking on the world WEB icon from the first page of AXObjectFinder.
- **MaxObjs in main page:** number of max icons to be collected and displayed on the first scroll page of AXObjectFinder. The user can insert the number of objects/application programme he would like to enjoy.
- **Max Cols in main page:** number of max columns to be used to display icons in the first page. If this setting is more than 3, i.e. 10, then there will be 10 columns and icons could be scrolled with a finger, also horizontally, as if turning over the pages.
- **Main Page sort Order:** icon order in the first page of M AXObjectFinder, depending on the user's behaviour. AXObjectFinder is of great help in putting application/objects and user's files in order. Possible values can be as follows:
 - **Alpha:** alphabetical order, simply based on the object title or filenames, when it comes to files.
 - **Most recently used:** from most recently used to less recently used.
 - **Less recently used:** from less recently used to most recently used.
 - **Most used:** from most used to less used; this is the best solution for users preferring to have most used objects within reach.
 - **Less used:** from less used to most used; this can help to understand which are the files the user has neglected more.
 - **Taxonomy:** files are ordered and displayed according to taxonomical criteria.
 - **Format:** depending on format, namely audio, video, images, documents, crossmedia, etc.
- **Results sort Order:** possible icon order in the pages displaying query results. Possible values are the same as those reported above.
- **Results View:** this option allows to set the display of results in the taxonomy surfing, as either "list" or "icon". The default value is *list*.
- **Scan Wait time:** time (in seconds) elapsing between a scanning operation and the next one; values greater than 200 are recommended, if the user has many objects and 2 Gbyte SDD.
- **Scan path:** starting point for the scanning operation (file and application search into the user's PDA). Each directory, being located under that starting point, is scanned. To use "\" means scanning the entire device. If scanning has to be limited only to the SSD (external memory), this can be done by simply writing the name of that memory into the system, for example "\SD card\" or whatever. This depends on the PDA device the user owns. To leave unchanged the "\" option is the best recommended








	<p>solution.</p> <ul style="list-style-type: none"> • File Types: in this field the user can insert all the kinds of filename extension he would like to index, always separated by commas. For example: "pdf,mp3,gif,jpg,png,avi,mov,mpg". These kinds of file can be classified and inserted into the local database of the PDA, while a specific icon is used to represent them together with other files. For such files user actions can be tracked, as well as how many times they have been picked up by the user, the date of such action and so forth. The display of such files is carried out through specific playing tools which are part of the PDA. On such grounds it may occur that some files cannot be enjoyed nor displayed or the viewer cannot bring them to the front page of the user's PDA, thus letting the content behind AXObjectFinder screenshot. <p>Each change made by the user among such settings has to be saved by clicking on the SAVE command/button, as reported at the foot of the setting page.</p>
	<p>Direct Open File</p> <p>Whether choosing the icon and the OPEN command from the first page of AXObjectFinder, a window opens like the one displayed in the left screenshot. This window allows to get a direct access into the PDA surfing , in order to identify the file the user would like to open. He can:</p> <ul style="list-style-type: none"> • Choose a directory (only provided that first level directories are displayed, according to Windows Mobile standard. For this reason, the user is requested to store objects into first level directories of his SD memory). • Choose a file, among AXM and MP21 or Mp21, namely AXObjectFinder objects' extension, but also among simple and direct files, already defined into settings as files to be searched. For example PDF files or others. <p>Once the file has been retrieved, its selection means:</p> <ul style="list-style-type: none"> • to insert the file into the database, whether not yet included, either this is a simple file or a AXObjectFinder application programme. • to open a proper player, in order to execute and enjoy the file. Such player could be the AXPDA Player installed into the user's PDA or Windows Media Player or any other player the user has in his mobile device. Depending on the file type, AXObjectFinder can open for the user the right player. Sometimes the automatically selected player cannot bring the file to the front page of the user mobile device, thus letting the file content behind AXObjectFinder screenshot. This is a problem far beyond the control of AXObjectFinder producers, since it depends on application programmes managed by third parties.











Protected objects

Icons with padlock allow the user to identify immediately protected files. They are MPEG-21 files which are for some reasons protected by DRM. See <http://www.axmedis.org> for further reference.

To get access to /enjoy a protected file, the user has to be authorised by means of a specific licence.

PDA Icon	Kinds of digital content
	Audio for PDA, AXMEDIS MPEG-21
	Single audio file for PDA, for example: mp3, ecc.
	Document, AXMEDIS MPEG-21
	PDF Document
	Image, AXMEDIS MPEG-21
	Single image file: png, gif, bmp, jpg, etc.
	Video, AXMEDIS MPEG-21

	Single video file: avi. Mpg, mov, etc.
	AXMEDIS MPEG-21 format
	Cross media, AXMEDIS MPEG-21 format
	AXMEDIS MPEG-21 format, protected object


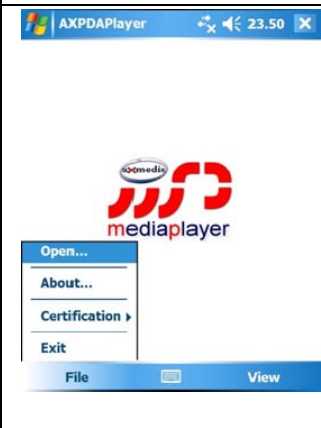
General icons	Functionalities in the first page of AXObjectFinder for PDA
	Open main WEB Portal from PDA
	Open a file, after searching it on PDA
	Search and surf the classification according to taxonomical values
	Full text search for objects in the PDA

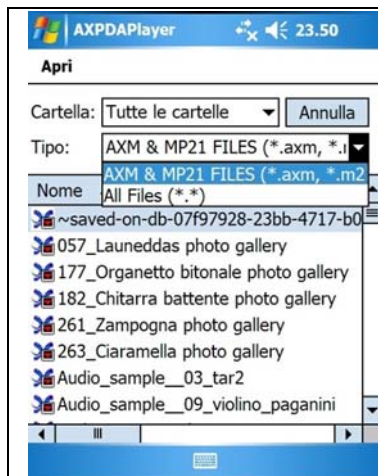
User manual of AXPDA Player

The cross media player of AXObjectFinder is the AXPDAPlayer.exe, which is installed together with the CAB. This cross media player can execute, display and manage the interaction with the user of:

- **simple files such as:** video, audio, documents, images
- **complex files:**
 - calculators realized in SMIL and/or HTML
 - flow streams/procedures realized in SMIL and/or HTML. An object generator for procedures/algorithms has been realized to fit such purpose, which allows from a building block based process flow chart to produce the flux in a graphical way; an example is the BLS procedure.
 - interactive tools such as the audio-guide of the National Museum of Musical Instruments in Rome. The audio-guide is provided among the examples.
 - Slide sequences synchronized with the user's audio files, etc.

Whenever necessary, the AXPDAplayer is directly executed by AXObjectFinder. The user can close such player, when he has finished with an application: it will be Mobile Player to open it again on behalf of the user, whenever necessary. It is also possible to enable the player directly from *Start → programmes* by choosing the related icon.

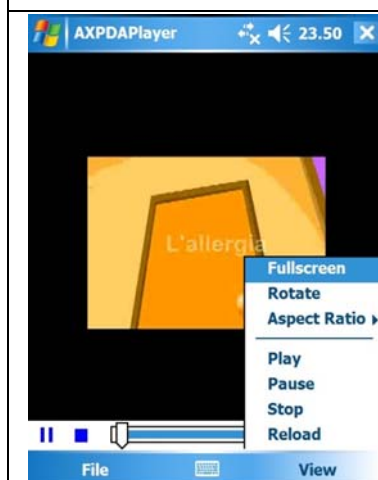
	<p>How to open AXPDAPlayer. After this screenshot the user has to choose some actions from the menu File on the bottom left part of the page.</p>
	<p>Possible operations are:</p> <ul style="list-style-type: none">• Open to open a file.• About to know the version and status of the AXPDAplayer.• Certification: this is the procedure necessary to certify the player, whenever using protected objects.• Exit to close the player.



Open a File

As already explained, same modes.

Files which can be opened and executed by the player are the ones having filename extension as: AXM, MP21, M21



Play a video/audio file

The player can shift to **Fullscreen display** simply by selecting that command from the menu on the right, or by pushing the central button of the arrow pad on the user's PDA/smartphone, or through a light finger / pen pression on the screen for few seconds: the "fullscreen" menu will appear and that command has to be deselected.

The player can **change** screen and related display (from vertical to horizontal one and vice versa) through the arrow placed on the user's left/right. Screen change can be combined with fullscreen mode. Such screen change can be enabled also by auto-sensing systems or when opening the keyboard as it occurs in HTC.


The screen change and FullScreen mode can work in play mode:

- Video/audio, MPEG-4
- HTML as well as SMIL



The player can do the following actions: pause, stop, play, etc.



<p>The player can change screen and related display (from vertical to horizontal one and vice versa) through the arrow placed on the user's left/right. Screen change can be combined with fullscreen mode. Such screen change can be enabled also by auto-sensing systems or when opening the keyboard as it occurs in HTC.</p>	
<p>AXPDAPlayer FULL SCREEN</p>	<p>The AXPDAplayer can automatically go in Full Screen mode, whenever the content to be opened (in SMIL) has such a great size to require full screen mode. An example, which is provided within this package, is the audio-guide of the National Museum of Musical Instruments in Rome. The player can exit the Fullscreen mode, by simply using the same commands reported above: pushing the central button of the arrow pad on the PDA or finger / pen pression on the screen for some few seconds.</p> <p>Furthermore, the player can be forced to stay in Fullscreen mode if a peculiar command is inserted into the player settings. This mode allows to provide the user with a robust solution, since the application programme cannot be closed inadvertently, but only intentionally, which means by switching off the PDA or by resetting the device.</p>