

Digital Heritage Presenter

Unique Selling Points of www.museumsolution.com (a Personal Space Technologies initiative)

Using virtual reality is a new and appealing way to interpret valuable objects. The Digital Heritage Presenter is a fun and powerful interface to share a valuable object and tell the story about the uniqueness, the craftsmanship and the historical facts.



The virtual reality technologies of Personal Space Technologies are designed to engage the participation of the visitor and let them have a memorable experience. These solutions offer the kind of gratification that is usually associated with theme and amusement parks, combined with the promise of learning and discovery, or intellectual gratification. Visitors have a “magical” experience.

The Digital Heritage Presenter and the Digital Heritage Presenter Mobile liberate the collection from the confinement of the museum or the depot.

The Digital Heritage Presenter shows the digitized artifact in 3D and allows the visitor to actually control it. Visually, the visitor has the object in the hands and can now freely explore the object as if he or she was holding the real object.

Originally developed for the medical world the technology allows users to see and interact with optimized 3D images in an intuitive way.

Digitized objects in 3D allow a user to interact in the same way as with the original; holding it, rotating it, and looking at specific details. Learning about the object becomes fun and the attention span of a user for a simple piece is enhanced.

Users do not have to think about the technology. It just works!

How does intuitive interaction work?

Accessing and controlling 3D digital content with a traditional mouse and keyboard can be tedious and very difficult for inexperienced users.

In the Digital Heritage Presenter users are given arbitrary objects in their hands and when they move the object the digitized artifact on the 3D screen mimics this. The Digital Heritage Presenter tracks the movement of the objects in 3D.

Controlling 3D objects become as simple as picking up a block and rotating it in the hands. Anyone can do it, at least anyone who remembers how he or she explored the world as a toddler.

Added to this are additional tools like pointers and magnifying glasses. And they work exactly like you would expect.

We further believe that it is beneficial when the devices are made of simple materials and do not contain any electronics. The chance for theft is then also reduced as these devices have no intrinsic value to the user.



Replicas of the original art can also be used for the interaction. However, this is not a requirement.

This technology can use any object for interaction (e.g. blocks, bottles, replicas, and racquets). A museum can choose which objects are most beneficial for interaction.

A museum can use one block for a full catalogue of objects and use for instance a touch screen to select the desired artefact.

Also it is possible to use a number of objects (e.g. 10) for interaction. When a user picks up an object the corresponding artefact is shown. When a second object is picked up, the second artefact is then shown.

Benefits

The Digital Heritage Presenter technology allows:

1. To both protect and show the object better.
2. The visitor to interact with the art in an interactive 3D world. The visitor is holding the digitized object in the hands.
3. See the object in much better detail from all points of view in 3D.
4. To tell a rich and complex story while interacting with the art. Multimedia information is added to the object to enhance the experience and to educate the visitor. For example an old artifact can be shown in 3d in its original 14th century setting, or a movie is showing where it was made, or by pointing to a specific area on the digitized object information on certain details are given. The opportunities are limitless.

The following users can benefit from the Digital Heritage Presenter technologies:

- **Visitors** have an exciting and memorable experience interacting with art in a way never before possible. Visitors have a new and fun way of interaction with the collection (experiencing the collection).
- **Museums** (curators and management) are given a new methodology to tell stories and guide visitors through an exhibit. Also they can continuously add new content to the Digital Heritage Presenter and as these systems can be made mobile it allows for exhibits to travel without the traditional costs.
- **Designers** and exhibit creators are given new interfaces to tell the story and show exhibits.
- **Educators** have a fun way to explore the objects. A complete new world can be used to explain the heritage while having fun with the objects.

Problem solving solutions

The Digital Heritage Presenter solves a number of problems:

1. It makes the object much more visible, even very small, too big or not available objects can be shown.
2. Objects that are very sensitive to conditions such as light, humidity, temperature or vibrations can now be shown in their full glory in the best possible method for telling the objects story.
3. It increases the number of objects that can be shown. Scanned pieces that are in the depot can also be shown.



4. The digitized object can easily be loaned to other museums or to classrooms. The transportability of the object is dramatically enhanced. A Digital Heritage Presenter can be made as a transportable system. It is treasure trove of objects enhanced with the stories that can be transported to any location as long as there is electricity.
5. The Actual object can now be optimally protected against theft and vandalism. The visitor is controlling the digitized version of the object. The actual object is often also present however will not be seen from all sides (e.g. bottom, back, tiny details).
6. The DHP also attracts a lot of attention and therefore can be used to steer the crowd. Using a DHP more people are able to see the object and learn more about the object.

Complete solutions

A complete solution for a museum is not just technology or the content. A museum needs a solution that works as they generally do not have high tech staff to keep systems up and running. The technology must work, be “vandal proof” and the technology should fit within the existing standards for storing digital content in museums.

We believe that a museum must have a flexible solution build for their specific setup. However each solution will contain elements:

1. **The Hardware:** The actual equipment on which the digitized artefacts are shown. Table top, wall mounted and auditorium solutions are all possible depending on the specific needs of the client. Examples are shown below.



Figure 1 Digital Heritage Presenter Mobile



Figure 2 Digital Heritage Presenter

2. **The Software:** The ArtMirager software for easy access, maintenance and interaction with the data. The Art Mirager software takes care of the optimal visualisation including virtual illumination and the dissemination of the educational content. If needed additional modules are created. This software was originally developed for the analysis and optimal visualization of a variety of Medical Images and can visualize any kind of 3D data.

The Art Mirager software is also used to build educational experiences. Often the functionality of ArtMirager software is already sufficient. However joint efforts between designers, curators, educators and Personal Space Technologies will result in exciting new exhibits. The Art Mirager software can present artifact related multimedia information on the 3D screen, a separate screen, or speakers. The information presented to the user can be triggered by the touch screen but also by using so-called hot zones in the artifacts or specific movements by the 3d graspable object the user is holding.

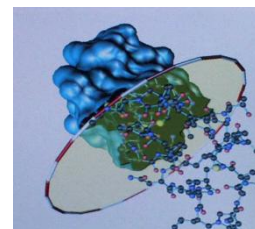
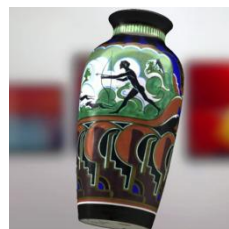
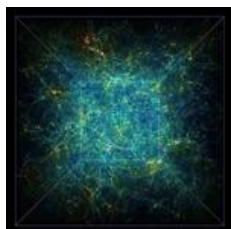
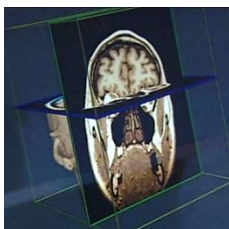
3. **The Support:** This includes the training for the host organization to use the system without any tech savvy people. Also it includes the software and training to be independent using the system and increasing the 3D content.
4. **The 3D Content:** Organizations that already have 3D content can immediately start using the Digital Heritage Presenter. In other cases 3D content must be created and 3D content can be created by many technologies. Depending on the type of desired content a specific technology is chosen. We assist museums in selecting the best possible 3D content creation. A museum can also opt to completely outsource the creation of the content however we would like to train the museum in participating in the 3D content creation. We believe that museums should not always depend on third parties for content and should have a choice.

Content flow

Content can be virtually anything. A museum is not limited to scanned objects as any kind of 3D data can be used. Just a few examples are medical data, microscopy data, 3D CAD models, consmic and seismic data. For artefacts scanned data will be the most likely path chosen:

The process for a museum is as follows:

1. Creation of 3D content or digitization of the object. For example scanning and post processing
2. Deciding what additional information is shown for each artefact and adding stories to each object. Often the information already available in the existing museum information database is sufficient and the ArtMirager software will present the information
3. Loading it into the DHP
4. Start experiencing



If you want to know how we can help you in revealing your collection to the audience and thus creating extra value for your visitors or if you want a demonstration, do not hesitate to contact our sales department for more information at sales@museumsolution.com.

Liberate the collection

Allow the visitor to hold an artifact in their hands without actually touching it.
Show the pieces that are in the depot or in other museums.

Sounds like magic – it is the Virtual Reality technology of Personal Space Technologies.



Digital Heritage Presenter Mobile

Presenting the digital heritage.



Digital Heritage Presenter

Complete solution for the 3D digitized collection



3D content services

Assisting our clients in building 3D content