

“CRYPTA MANENT”. The early Christians and the catacombs of the Ancient Rome.

Project proposal for a performative, high technological archeological exhibition-path, installed inside a modern museum

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Abstract.

Crypta Manent '013 aims to create a hybrid virtual-reality, immersive, and scenographic exhibition-space/path, representing a Catacomb of the Ancient Rome, installed inside a modern, itinerant museum. The resulting environment is dynamically connected to big open dataset [LOD], specific for the archeological Built Heritage, enriched with correlated media resources, aiming to process them in quasi-real time, through urgent computation algorithms, and live reproducing different path and archeo-environment live. The resulting experience touches every sense and stimuli [visual, acoustic, tactile, olfactory, cognitive and learning], coming to the "immersive" experiment, since a so called "tech-capsule" is installed reproducing in stereoscopic, immersive performance a real underground walkway, assisted by wearable devices. The dynamics of data streams coming from the set of Big Open Data, leads up to the experience to “5 dimensions”.

General Premise.

The catacombs of Imperial Rome represent at the maximum point, the most unique and precious, the journey of faith that characterised the early Christians of ancient Rome. A faith that found its expression in these alive and intense places, concealed and hidden, in which to observe Christian worship of the dead, but also to meet the celebrating moments of intense Christian life. Considering the testimony handed by the early Christians of that time, and with the aim to disseminate matters of a Christianity still little known, it was conceived a project for an exhibition on the theme of the Catacombs of ancient Rome, which has four thematic areas:

- the catacombs of Rome, with emphasis on the five most significant sites — San Callisto, San Sebastian, Priscilla, Domitilla, and St. Agnese;
- the archeological findings, with selection and exhibition of objects of archaeological and artistic heritage;
- the iconography, with an exhibition of some important objects of Christian iconography;
- the biographies, historical reconstructions of the life of martyrs, popes and scholars of the period.

The hypothesis of the project basically involves three stages / steps:

- a first phase of spectacular architectural achievement of the exhibition, the exhibition space that becomes a real catacomb, being the unifying container of all the other modules;
- a second phase, more intrinsically educational, that provides the exhibition space of real artifacts and exhibits;
- a third interactive, high-impact step, that represent catacombs's heart, alive and beating, an intense and emotional journey for all users.

Catacombs of ancient Rome are spread over very extensive areas of land, branching off into labyrinths of miles, and each contains in itself differences from other environments. Their presence also insists on a very consistent historical period: it must be specified, so that, in view of the multiplicity of environments catacomb for size, architecture, extent

and the magnitude of the reference period, was deliberately chosen to combine into one installation a plurality of different environments, exemplified here by three sets different from each other:

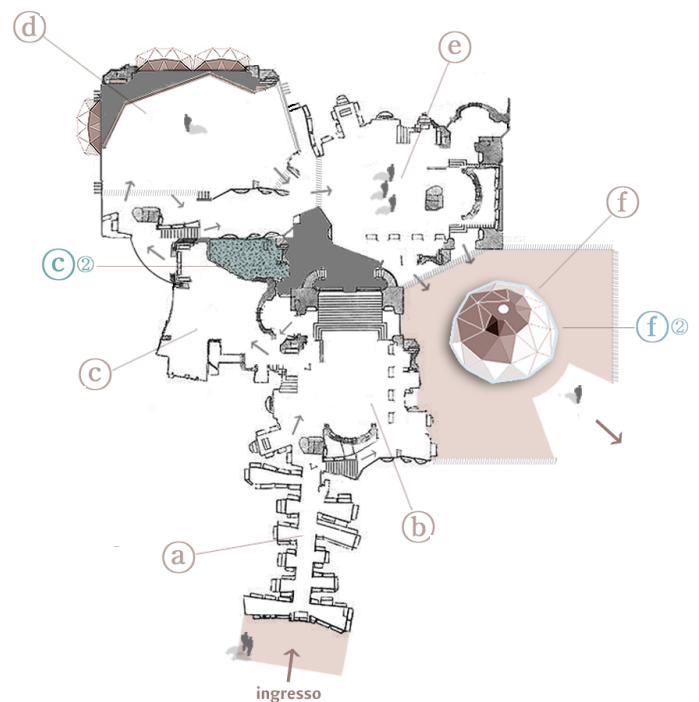
- a first stage designed simpler in structure, and more commonly known as “Gallery”;
- a second set designed for larger and more complex structural and artistic elements and details, to reproduce a “Crypt or Arcosolium”;
- finally, a third smaller and more intimate room, the “Cubicle”.

Historical Sources.

It is possible to date the first Christian communities in Rome between 50 and 100 AD, the first concrete result of the preaching of the Apostles Peter and Paul. The next century instead sees the emergence and proliferation of the early Christian cemeteries, which became common following the first persecution of the Christians, also for the desire of the faithful to separate their modes of burial from pagan ones. The first underground cemeteries, therefore, known only in a second time with the name of “Catacombs” {gr. Kata, in down; Kúmbes, cavity in depth}, have the double function of places of celebration, hidden, discreet and intimate of Christian rites, and burial places of the faithful. The Roman catacombs were born all in the vicinity of the consular roads, in the suburban area of the city, in compliance with the law that prohibited the burial of the dead within the city walls. On the Via Appia, therefore, some of the most important Roman catacombs were built, the burial place of some of the most important Popes, among which the same Callisto gave its name to the most important of the Roman catacombs. At the end of christian persecutions, thanks to Pope Damaso (366-384), catacombs became places of worship, the object of pilgrimage by the faithful, and for that reason those place were enriched and embellished both by the Popes, and the faithful. It is in the middle of the fifth century that the catacombs ceased to be used as cemeteries, while continuing the work of beautification and restoration by the Popes, until they were abandoned, and then fall into oblivion throughout the late Middle Ages, partly because of the translation of the relics, as object of worship, from catacombs to churches within the city walls. They will make one exception with the catacombs of San Sebastiano and San Lorenzo. Forgetfulness and the state of abandonment of catacombs were interrupted by Antonio Bosio (1515-1629): his studies will lead to the posthumous publication in 1632 of the volume “Underground Rome”, testimony to the work that will lead to census, in addition to the five most popular sites, even about forty underground cemeteries of whom it had lost track. Bosio’s work will be followed by the study of Giovanni Battista De Rossi (1822-1894), to whom we owe the restoration of cemetery topography of the origins of Roman Christianity, which is why De Rossi is considered and recognized as the father of Christian archeology. Up to now, in the third millennium, the Roman catacombs keep intact all their charm of hidden and mystic places, and are still living testimony of faith and devotion.

Hypothesis of a plant of the exhibition.

We present the entire itinerant museum plant that recreates the environment of the catacomb. The hypothesis is based on assumptions that necessarily



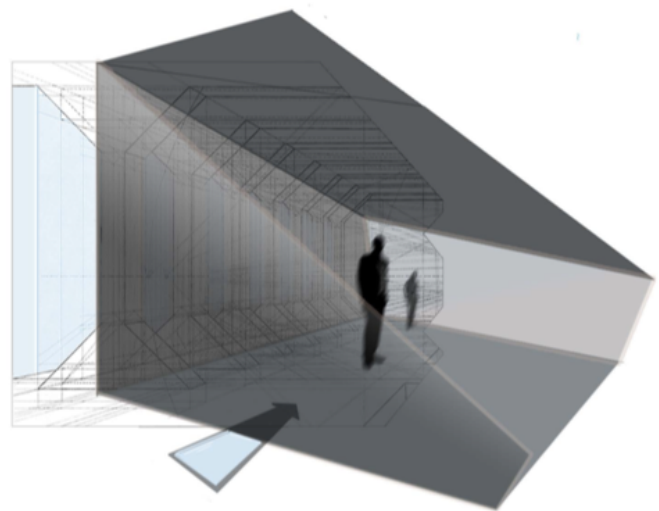
should be declined for each of the specific sites that can reproduce, for the scenic part. As you can see, the exhibition contains, in at least 2 of the 7 areas provided, as many areas of "virtual representation", and one representation of the so-called "Archeo-Reality". In the first two, in particular, the platform museum regains its raw function, hosting elements of high-tech electronics, virtualized and "increased" representation, thus placing the visit is, at the same time, a viable chronological timeline — discovering the past — and a futuristic mechanism, determining an ubiquitous path in the space-time.

The theatrical setting.

It provides for the establishment of three different settings for the exhibition. The first setting corresponds to the area of access, and provides a playback plastic, in 1:1 scale, of a tunnel [the "Gallery"] of some tens of meters, which gives the visitor a sense of "go deep". A similar dramatic setting will be maintained then in several steps to the areas of representation, called "theaters".

The entrance "Gallery" (a) — The exhibition becomes a real catacomb.

Access to the exhibition should immediately immerse the visitor in the sense of mysticism, silence and sacredness, which then characterizes the entire representative path. The catacomb, contrary to what is commonly believed, was not considered by Christians just as a hiding to protect themselves from persecution, but a place primarily intended for the burial of the dead, and the celebration of the rites. For this reason, the first room will have all the characteristics of a typical tunnel, ie. on the model of one of the galleries of the catacombs of San Callisto, played with plastic life-size, simple in structure, but perfectly consistent with the reality in detail: immediately intimate in its climax, the Gallery introduces the atmosphere of an underground room in which the sense of depth, silence and mysticism



are almost respirable. In addition to a purely visual sense, also tactile and olfactory perceptions will be solicited, reproducing such as the conditions and the temperature of an underground cavity, the aroma of incense used for funeral rites, the basic modification, spreading evenly to all rooms sounds, songs and the prayers the visitors should find into the whole path of the catacomb.

A long corridor will extend in length and depth. Spartan finishes, carved into the stone, it keeps all aspects of an underground cavern in which the earth alternating rows of niches. The representation of the Gallery entrance, therefore, plays a function of architectural continuity, and chronological narrative; as a chronological connection between environments of different historical periods, style variations along the corridor represent different ages between the Christian successive epochs, illustrated through specific items of information.

The "Crypta" or "Arcosolium" (b) — The intimate space of the Gallery now leads to the 2nd space.

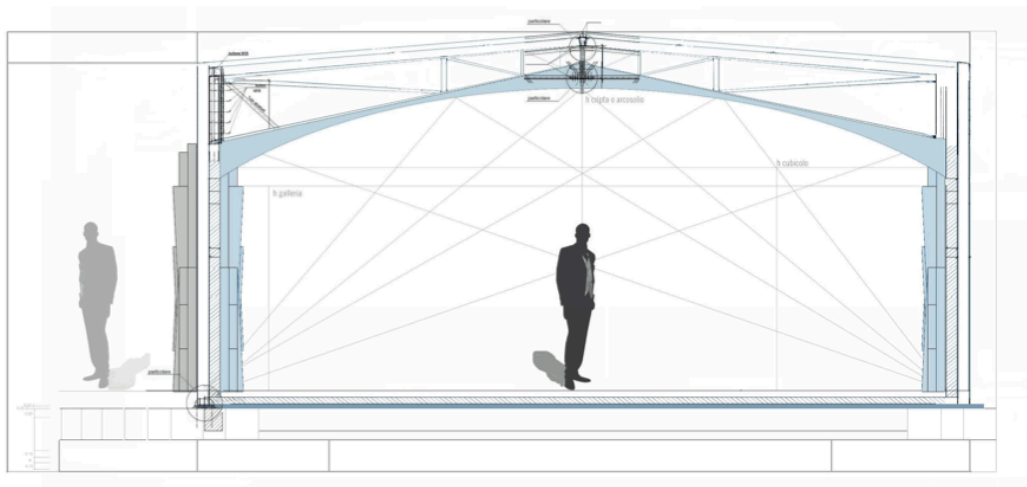
The second environment will have the characteristics of a "Crypt" or an arched niche ["Arcosolium"], with vaulted ceilings, in a broader space.

Considering the different types of catacombs on the territory of ancient Rome, and examining the various forms of structure, as well as room belonging to each age, it is expected to install in this second area a more complex architectural system, most majestic in the structure giving a greater visual impact for details and artistic content. The

environment reproduces, therefore, a catacomb room with vaulted ceilings, opening the visitor to a more extensive breathe: the room is enriched with artistic decorations and inscriptions, such as those found in the room of the Catacombs of San Sebastiano [Rome]. This area has a strong, intense emotional involvement, tactile sensations, olfactory and acoustic insulation - with the help of special lighting, the use of fragrant incense, and the calibrated sound. It tells of a burial area designed to an outstanding personality, or probably for a martyr, and is well suited to host relics and archaeological finds, such as original artifacts.

The "Cubicle" © — From the open space of the Crypt, moving to a new, smaller volume room.

The third environment will play another typical room of the catacombs: the "Cubicle". More modest in size, square, and very similar to a bedroom, with ornate ceilings and inscriptions, is the staging of the last space dedicated to



spectacular architectural reproduction of rooms. The "Cubicle" is expected to achieve what is inside the most intimate catacomb, accommodating a section of the show where the didactic part becomes predominant. Square or rectangular, with lower ceilings, generally painted with motifs and symbols of the period [the Monogram of Christ, the Fish, or the Phoenix], or reproducing rituals such as "Eucharist" and the "Oblation", or with inscriptions dedicated to the dead. The cubicle was, in fact, a real family tomb containing several niches: the space is reduced embracing the viewer, who lives an immobilized intimacy, also thanks to acoustic spatialization devices, thinly spreading a low silence, volume reduced, so for this the sensations are more accurate and calibrated, and a sense of smell will be most pronounced with the use of persistent perfumes, conjugated specifically to the four corners of the cubicle. However, the increased sense of breath already experienced in the Crypt, since the use of lighter colors than the tuff of the Galleries, remains unchanged and ensures adequate access to the educational topics covered.

The different exhibition displays. The catacomb as dynamic and interactive encyclopedia.

In both the environments, Crypt / Arcosolium, Cubicle, the exhibition path hosts archaeological finds and utensils, such as jewelry and iconographic material representative of the Christian symbolism, and his life. The area is divided ideally but also visually, in two distinct parts.

The first part of the exhibition is devoted to the presentation of archaeological finds of the catacombs, belonging to different historical periods and Christian ages:

- **Hall of the "Crypta / Arcosolium" ©. Digital interactive encyclopedia, set in niches of the Crypt.**

The exposure of the various archaeological finds will be done through the use of electronic display, streaming digital encyclopedic information, raised from the ground to an ergonomic height for the visitor, in transparent

materials as to maintain neutral and undisturbed the view of the setting of the room, which is itself archaeological, and evenly distributed so as to have a path which naturally leads gestures and interactive sequence from the Crypt of the Cubicle.

To maintain a line of continuity with the atmosphere introduced at the entrance of Gallery, and then all the way to intimacy, mysticism and the feeling of depth and isolation, will be used special lighting devices that can play twilight atmosphere, a place almost muffled, surrounded by a soft light without compromising visual enjoyment of archaeological finds, which if necessary will be illuminated by spot directed ad hoc. The of electronic displays are sensitive to the use, so their luminance lowers as soon as the visitor moves to another place. The user will be constantly accompanied by sounds in his exhibition depicting the typical sound environment catacomb [his silence], and tactile sensations [temperature, high-impact plastic surfaces material, baric feeling of descending] that plunge into the atmosphere of a real catacomb.

The second part gives the way to a more didactic portion of the show, with insights on the selected archeological site that highlight its history, and its peculiar characteristics. It displays specific digital billboards hosting Christian iconographic material, and biographies of some of the most famous martyrs and Popes of the period. Finally, it will set up the performance of a plastic model in 3D, scale 1:10, depicting an entire catacomb section. It is the hall in the “Cubicle”:

- **Hall of the “Cubicle” ©. A room and a teaching plastic model in small-scale.**

The size of the room in question is more contained. We are hosting an educational section, which aims to provide historical, religious, artistic and technical information about the martyrs, or the Popes concerning the specific site and age currently visiting, and different structures, architectural technics, until you get the exposure of a big plastic model in 3D with segments in section, depicting one of the most famous catacombs of Rome, such as “St. Domitilla” or “San Callisto”.

In particular, the visitor will benefit from insights into the catacombs of:

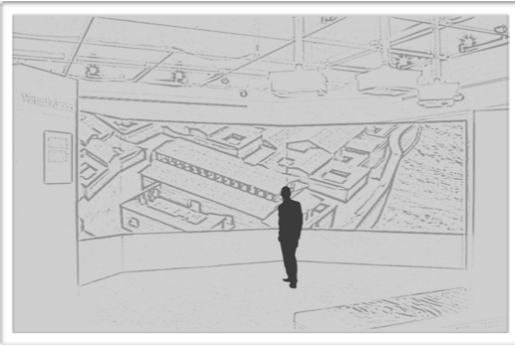
- San Callisto, the oldest and largest official cemetery of the Christian community in Rome {20 km};
- St. Sebastian, the temporary burial place, under the Emperor Valerian, of the Apostles Peter and Paul;
- Catacombs of Priscilla, which extended over 13 km, in addition to being the burial place of many martyrs, retain the oldest image of the Virgin, dating from the second century AD, and the oldest representation of the Eucharist;
- Catacombs of Domitilla, among the largest with an area of 15 km, bear witness to the conversion of a rich patrician, Flavia Domitilla, who made available his lands to accommodate the Christian cemetery;
- Catacombs of St. Agnes, a symbol of anti-Christian persecution, representing the martyrdom of the young Agnes (third century AD).

In addition to the insights, the hall will host a vast catacomb iconography, symbolism and rituals representative of Christians. The digital display is connected to a large digital library of cultural, archeological item, hi-res. images, reproductions, maps, plants, ornaments and decorations that were recurrent within the catacombs: the Good Shepherd, the praying, the monogram of Christ, the Fish, the Dove, the Alpha and the Omega, which will be provided by a digital platform [ThePrimate, interoperating with EUROPEANA], illustrating and explaining religious meaning, liturgical rites, lexical etymologies, artifacts looted, as well as certain information set of predictive type.

The model is the culmination of the phases of the exhibition route: given the multiplicity of the catacombs on Roman soil and the extent and variety of the guest rooms within the same catacomb, the presentation of a model becomes an element of topographic completeness of the exhibition, with the ability to watch up close and at a glance a catacomb complex in its entirety.

Real and virtual representations.

The exhibition becomes interactive, virtual, and dynamic now. Coming from the halls of exposures, through a passage that serves as a hollow sound, you enter the "Virtual Theater": a wide space, which hosts a large wrap-around screen for playing a stereoscopic flight movie on the archaeological monumental complex of a large catacomb, throughout the territory on which it stands, the near city, the ancient road network, systems and urban artifacts.



•The Virtual Theater ④. The catacomb between real and virtual.

Visitor has the access to a modern room where he can still look back at the scenographic environment of the catacomb reproduced in plastic. The museum here regains its exhibition space, and shows its character of authority, modernity and contemporaneity.

The environment returns to its original appearance and gives himself to the protagonist of the room, filling the space so impressive: we are

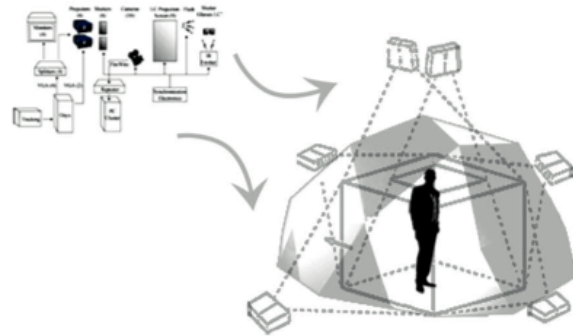
in the "Virtual Theater". The space is a movie theater, with all the charm of the great derision, the depth of the anechoic fabrics, reflective wood modulated in the design of space and sound, the central lighting of the big stereoscopic screen. The previous catacomb continuum is broken, compared to everything that's here: you are again in it, "this is the museum". The visitor will be introduced to attend the screening of a film in computer graphics on an archaeological traditional complex of catacombs, its internal structure, its extension compared to the topography of the territory outside; monographic notes, in-depth documentary, technical, historical and artistic information are given in the movie. Through the techniques of 3D modeling, it is obtained the reconstruction of an entire complex, to create a movie with the help of an aerial simulated "flight" on land and structures, and flying through the labyrinthine interior routes, alternating jumps out of the rebuilt section, for an extreme sense of lightness, landscape, precise view. The movie, in fact, gives the impression of having access to places and spaces in a dynamic and fast and very addictive flight-view, so to understand them in their entirety. The multi-screen system allows an high-resolution, video stereoscopic and binaural audio experience. Some LCD projectors with high brightness on 1,000 ANSI-lumens, are installed. The stereo-vision is obtained by interpolating two images projected from the right and from the left by as many projectors, using a circular polarization, then usable on with or without the aid of glasses. This is a performative original system used in the field of performing arts and high PRO museum exhibitions.

• The plastic representation of "Reality" ⑤. The catacomb alive: rites and characters to become live.

After the virtual flight, a new space that also acts as an acoustic insulator between adjacent and as a break between different climax, takes the viewer inside the catacomb space again, in the scenographic setting and in atmosphere. Here is the representation of a real scene, indeed it is a "Reality".

We are inside the environment that most of all is adhering to the "reification" of the catacombs. Inside the room is faithfully reconstructed a portion of a stage with special attention to every little detail in spectacular style: in fact, after the virtual plane trip here the atmosphere is dense, the visitor will assist *live* to the ancient life in the Crypt, represented by actors and characteristics for a few hours a day, so that passing visitors linger each time in a different time, witnessing the reproduction of fragments of rituals, liturgies, prayers and activities "really" carried out by Christians. The eyes will be adapted to the dim light of the torches and flames; you can admire the gestures of the protagonists, listening to songs and the prayers. Here comes the real scene. The users are faced with a real theatrical production, with actors that reproduce, as carved in a time continuum fluid that has no end, the live iconic representation of "true". The design concept means to transfer the voyeuristic format of Reality, as a testimony experience, of a fragment of time, as were ancient times were repeated until now, in a theatrical chrono-historiography.

It is therefore expected to realize a portion of the catacomb contained in the volume, but in the exact reproduction of the temperature characteristics, flickering light, of course improved olfactory triggers, and to use plastic models in scale 1:1, with clothes, drapes and patterns of that time, to become the exact personification of Christians of different ages extracted from real life inside the catacomb. The user will assist or participate in a “Reality” representation, breathing pathos, mysticism and sacredness. In this space, you do not need any help from digital, and the “data” has already been made tangible through the theatric art of reenactment, scenography, personation.

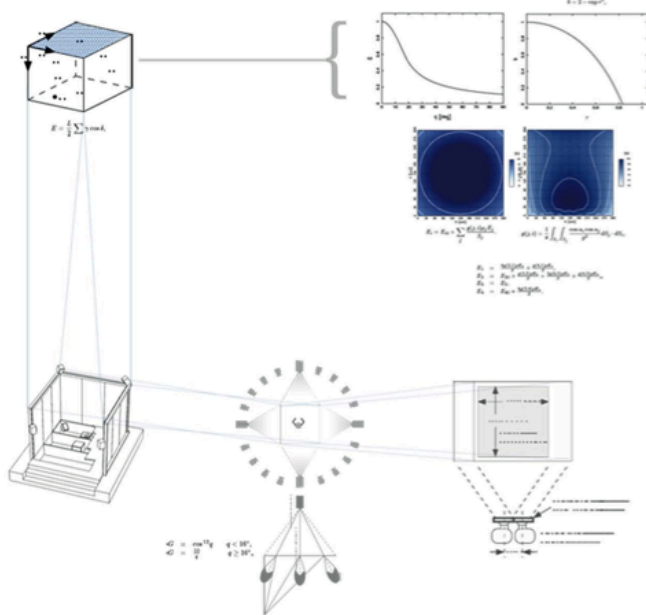


The “dive” (f) — In a capsule of time travel.

The last step towards the final environment: a modern capsule, transparent and high technologized, connected to a grid of real-time processors which elaborate large open data sets [LOD], specifically formatted to carry data descriptors and media which will be treated with over-rapid iterations, according urgent computation systems.

The computational infrastructure produces an output of electronic data connected to a hard-framework of projector devices stereoscopically arranged inside the capsule. The exclusive immersive experience consists in a virtual journey on foot in the catacomb labyrinth: a room in 4d without references to the scenic world, a tech bubble made of

lightweight materials. Inside the capsule the visitor leads to a totally individual and totally immersive path: he is assisted by wearable devices, sensitive to kinetic data. With the use of immersive stereoscopic displays, projectors send to the walls of the cube included in the capsule a video of the entire interior walkway of a catacomb, previously shot and specially carried in a particular fractalized sequence of linked open data. Processors reconstruct in quasi-real time and space sequences of poly-dimensional data, projecting the electronic holographic pulses onto the cubic dimensions of the support in the Capsule, at the center of which is the



visitor dressed with his electric device assistants, and he moves in there. Thus, the mechanism of the “Capsule” is able to be adapted to the choices of the kinetic motion of the explorer, both to understand and translate the poly-dimensional data cluster that come from the stream: in short, is allowed to visit different catacomb paths remaining in the same glass bubble, inside to a single museum. A path immersive through narrow tunnels, galleries, crypts, cubicles, moving under its own steps, only with a few gestures on their feet. The actual movie of a catacomb, together with advanced technology devices, allowing then to offer totally virtual dive in a place thousands of miles away and centuries old.

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