

**From the contextual awareness series: “Gold Environment”. Augmented Reality App using AI to create site-specific meshes all over the real place. By Chiara Passa 2022**

Gold Environment is an augmented reality application using pre-trained AI algorithms to recognize and interpret the real space to create site-specific meshes all over the place. From the meshes vertices, onlookers can watch growing up from the walls and the floor, a series of randomly nomadic objects moving around and growing even more if touched. The artwork highlights how augmented reality alters our perceptual dimension of reality, subtracting, adding, blurring and modifying reality to increase the imagination in our real dimension. The audience, through tablets and smartphones (by also tapping wherever on the screen to generate random sound-effects) is invited to look over the real surface, exploring the liminal duality between tangible and virtual place.

Gold Environment recreates an ontological vision of the place by speculating on human perception, where the machine creates a generative object-oriented gold texture in continuous transformation all around the viewer. Get ready to enter a hybrid world, another dimension but simultaneous to the IRL one!

**Usage:**

Button: Stop/Run AR to generate AI gold meshes all over the real place.

Button: Clear Meshes to stop meshes and regenerate new objects growing up from the new chunks.

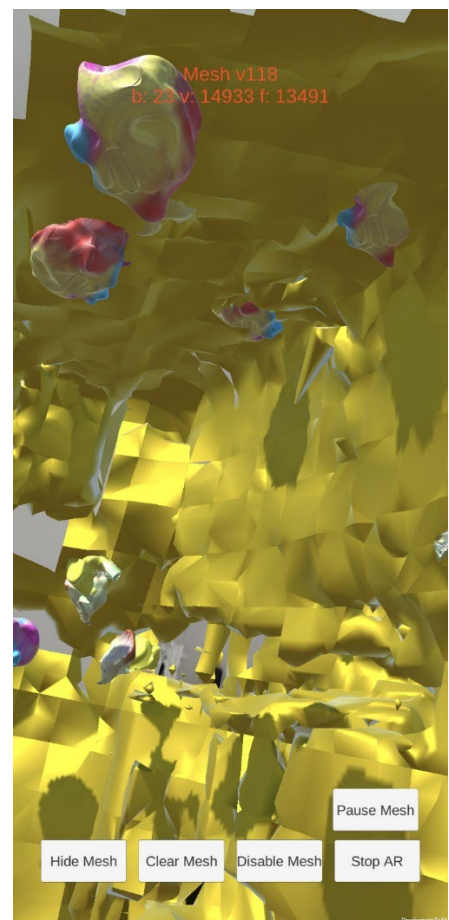
Tap the screen to generate random sound effects all over objects and meshes.

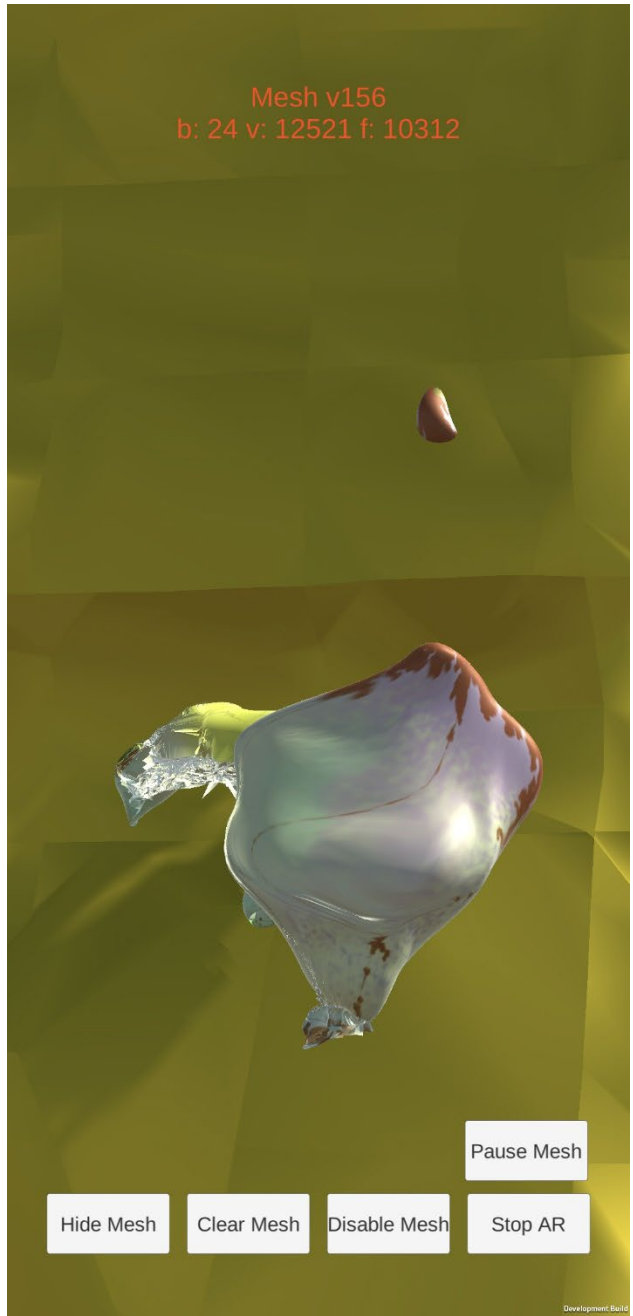
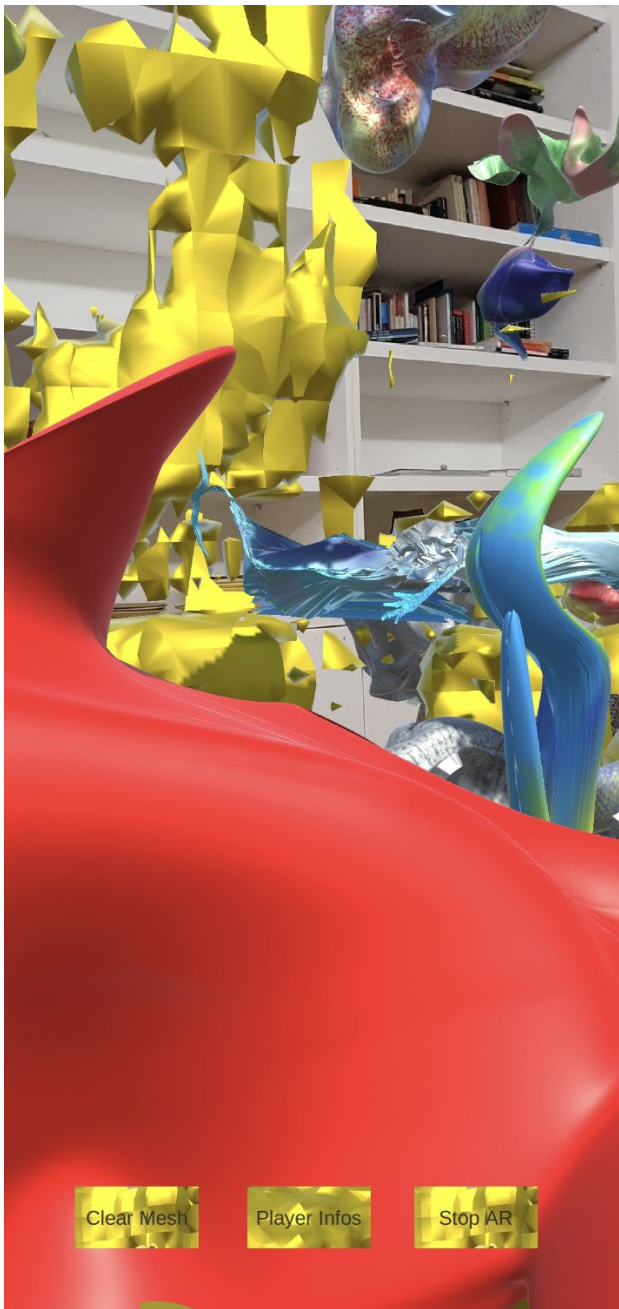
Images at <https://www.instagram.com/chiarapassa/> and short video here <https://youtu.be/cThnyU3hEuw>

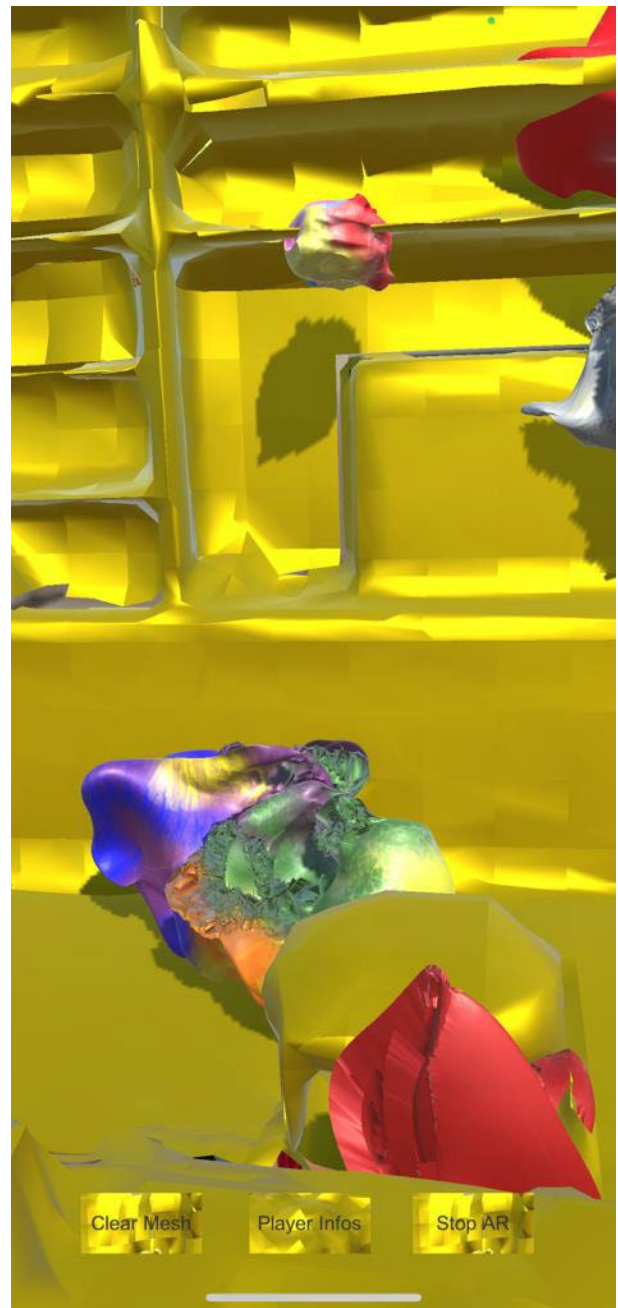
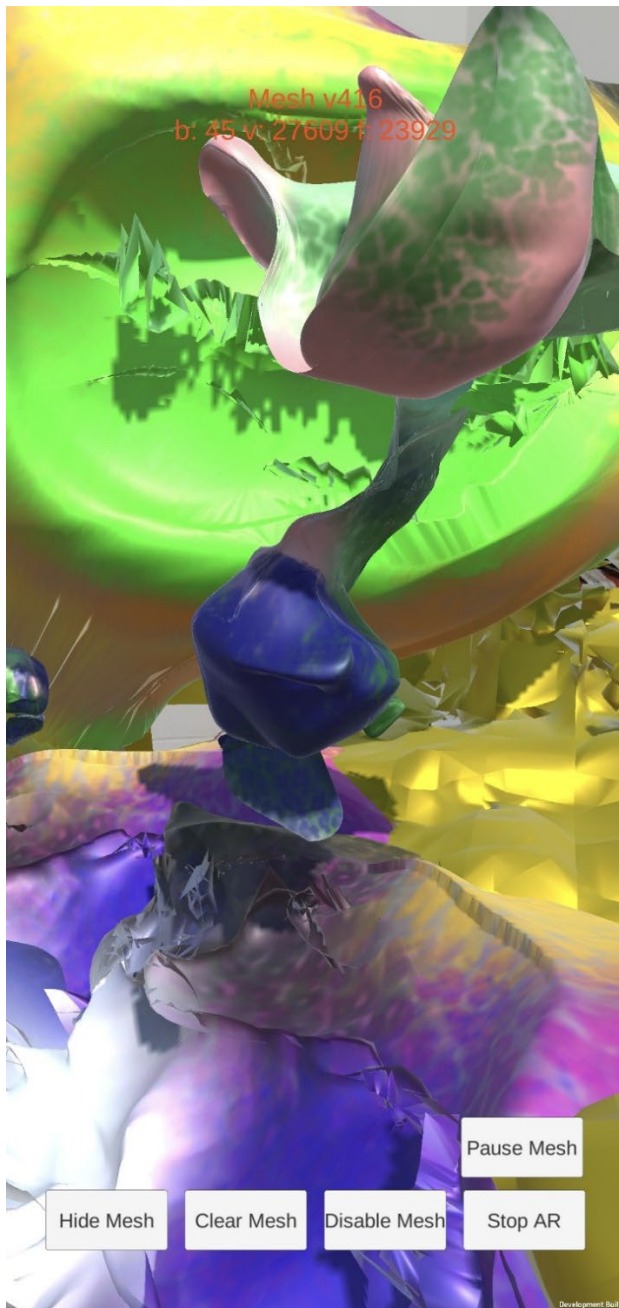
Video at Panke gallery, Berlin 2023 <https://www.youtube.com/watch?v=jQ4eKzgXp1Q>

Link App Android <https://play.google.com/store/apps/details?id=com.ChiaraPassa.GoldEnvironment> Link

IOS: <https://apps.apple.com/it/app/gold-environment/id6443699743>







*Screenshots from the AR App*



**From contextual awareness: Depth Data Space. Augmented Reality App using AI to create site-specific customized points cloud all over the real place. By Chiara Passa 2022**

Depth Data Space is an augmented reality application using pre-trained AI algorithms that interpret real space to design a structure made of points cloud surrounding the tangible situ. Through AI the real-time depth buffer turns into nano-sculptures that, seen all together, design a Big Data Space always different according to the real piece/space that it will cover. Players are invited to look at the digital evolution of the surface, exploring the liminal duality between tangible and virtual place across unpredictable synesthetic combinations.

The audience, yet through tablets and smartphones, by tapping wherever on the screen, generates random phrases (pronounced by an AI) about physics, quantum, dimensions, micro-macro spaces, energy, strings, probabilistic nature, etc.

**Usage:**

Button: Show Point Clouds to generate AI nano-sculptures all over the real place.

Button: Interpolation to interpolate sculptures with a certain shape.

Tap the screen to generate random physics phrases wherever.

Images at <https://www.instagram.com/chiarapassa/> and short video here

[https://youtu.be/X1Wm4\\_G1qmU](https://youtu.be/X1Wm4_G1qmU) Link App Android

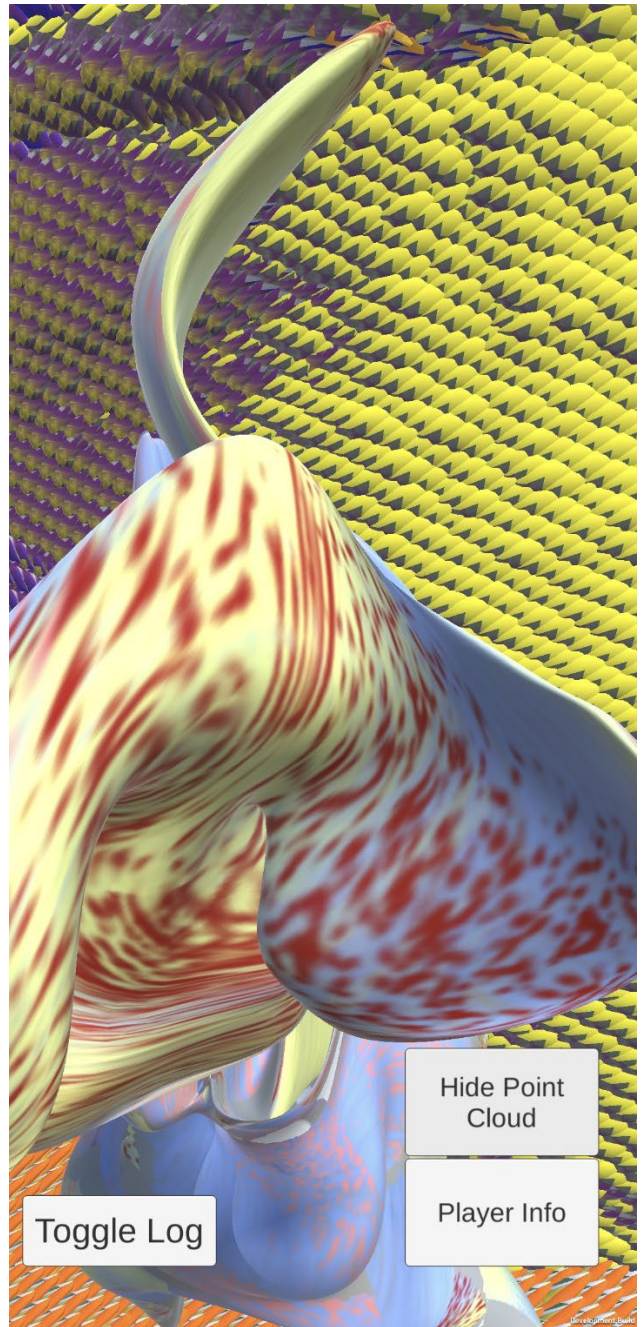
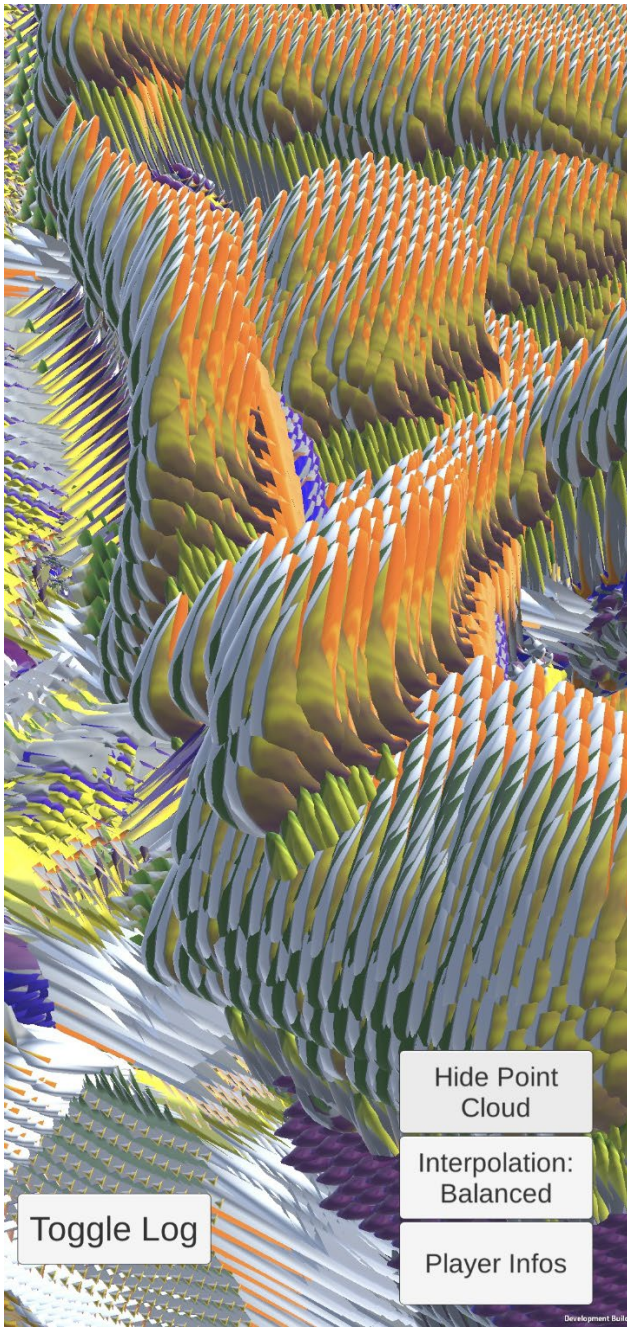
<https://play.google.com/store/apps/details?id=com.ChiaraPassa.Depthdataspace> Link IOS

<https://apps.apple.com/app/depthdataspace/id6444699240>

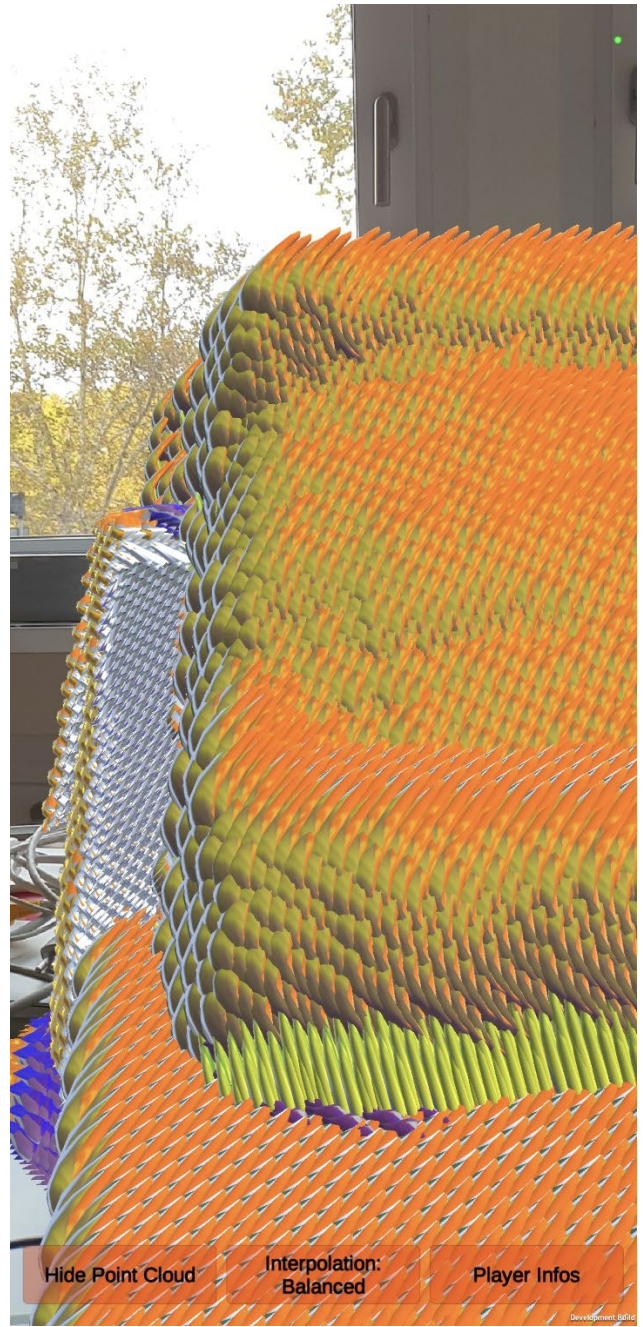
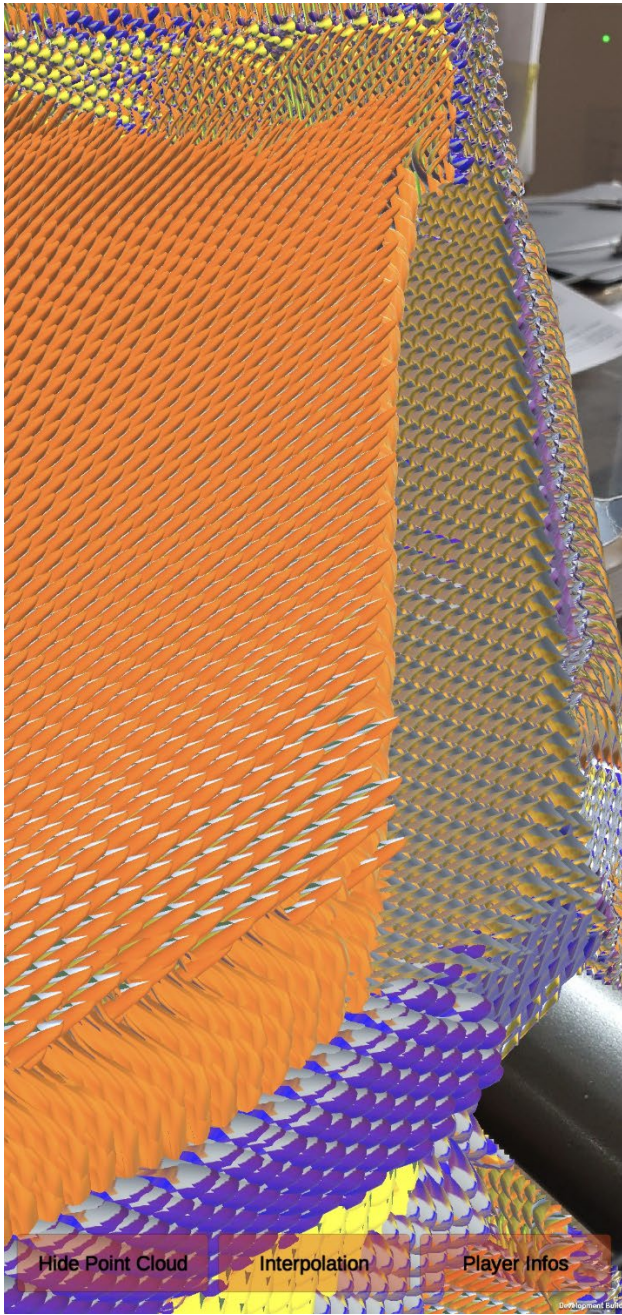
**ON THE AR/AI APPS:**

Gold Environment and Depth Data Space distract the audience from the real context bringing persons into a transformed place made by themselves. The artworks use augmented reality to stretch the space beyond its limit, so the emerging spaces are interconnected: the imaginary space arranged by the virtual effects and the spatial arrangement of the place itself. Spectators are unsettled by this double relationship by having the sensation to remain suspended.

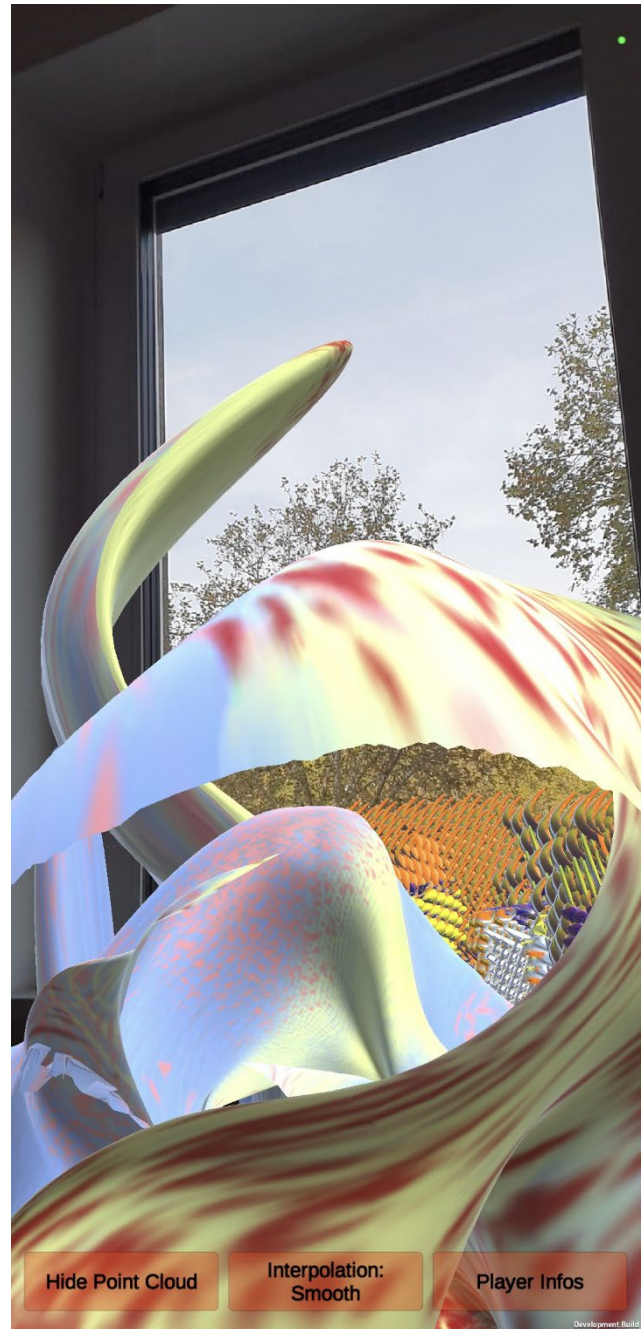
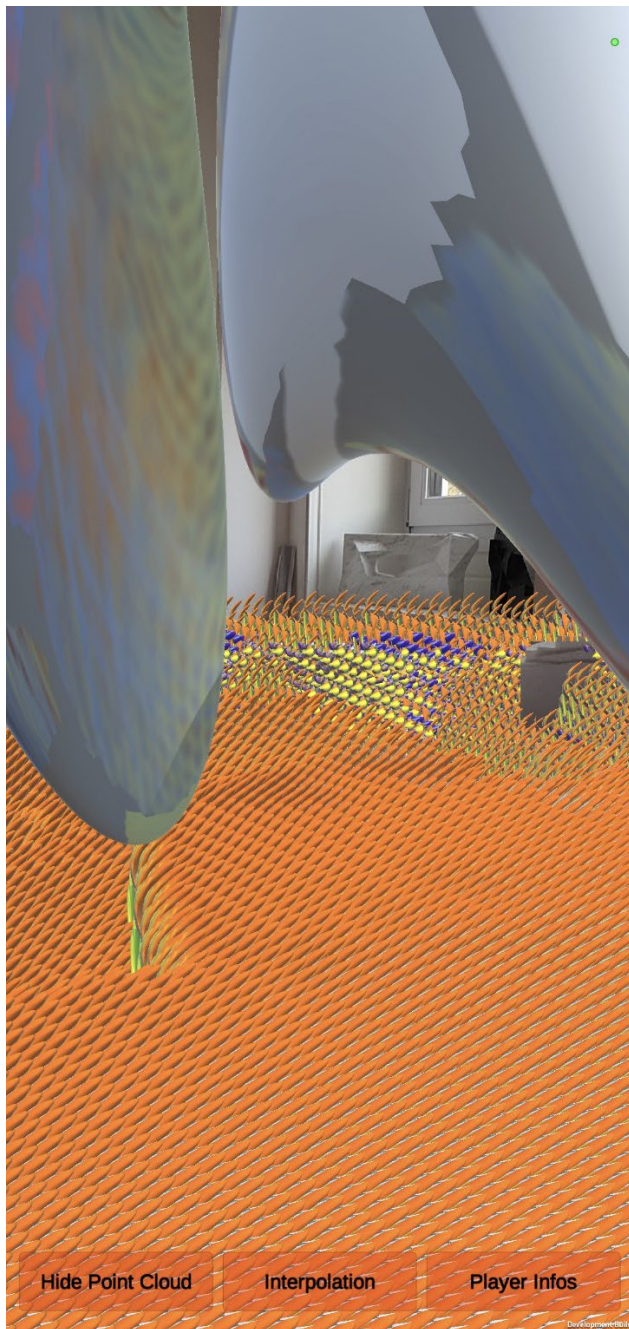
Between inside and outside the space opens up to include several dimensions. The fourth dimension – that of time – is just one of the many that help people's vision. Spectators walk and move as if they were in the so-called 'reality', but the classical space is bended, expanded, and pierced: the place itself becomes an immersive reality/non-reality to be explored.











Screenshots from the AR App

From the contextual awareness series: *Object (RE) Oriented Debris*. Augmented Reality App using Artificial Intelligence to create site-specific meshes all over the real place. By Chiara Passa 2024.

*Object (RE) Oriented Debris* is an augmented reality art-application (plus real interactive sculptures in situ) using pre-trained artificial intelligence algorithms to recognize and interpret the real space (through smartphone/tablet sensors) to create site-specific meshes all over the real place. I created the meshes texture inspired by the space environment colors and the metallic debris orbiting all around. Gradually, the meshes will transform the real place into an abstract space where the onlookers are projected in. The artwork highlights how augmented reality alters our perceptual dimension of reality, subtracting, adding, blurring and modifying reality to increase the imagination in our real dimension.

The audience, through tablets and smartphones by tapping wherever on the screen, just over the meshes, generate and place in situ random 3D debris which I previously created using AI and a database of 3D assets (that updates, growing with new debris) I designed ad hoc. All the debris are interactive, so the audience can change color, scale, rotate, translate and collocate the debris into the new space. Each debris emits a space-sound I took from ESA public archives after doing research. Audience can also interact with the real sculptures placed in situ thanks to NFC system that allow people to discover the animated inside of the sculpture.

*Object (RE) Oriented Debris* invites the audience to look over the real surface to traverse the border between art and game for exploring the oscillations between tangible and virtual place.

*Object (RE) Oriented Debris* recreates an ontological vision of the place by speculating on human perception, where the machine creates a generative object-oriented super-place in continuous transformation all around the viewers. Get ready to enter a hybrid world, another dimension but simultaneous to the IRL one!

Android App:

<https://play.google.com/store/apps/details?id=com.ChiaraPassa.ObjectREOrientedDebris>

IOS App: <https://apps.apple.com/us/app/object-re-oriented-debris/id6502514195>

### **Usage and Buttons**

**Reset mesh** to Stop/Run AI space meshes all over the real place. Move around to cover the whole place. Continue moving to change meshes, chunks and directions.

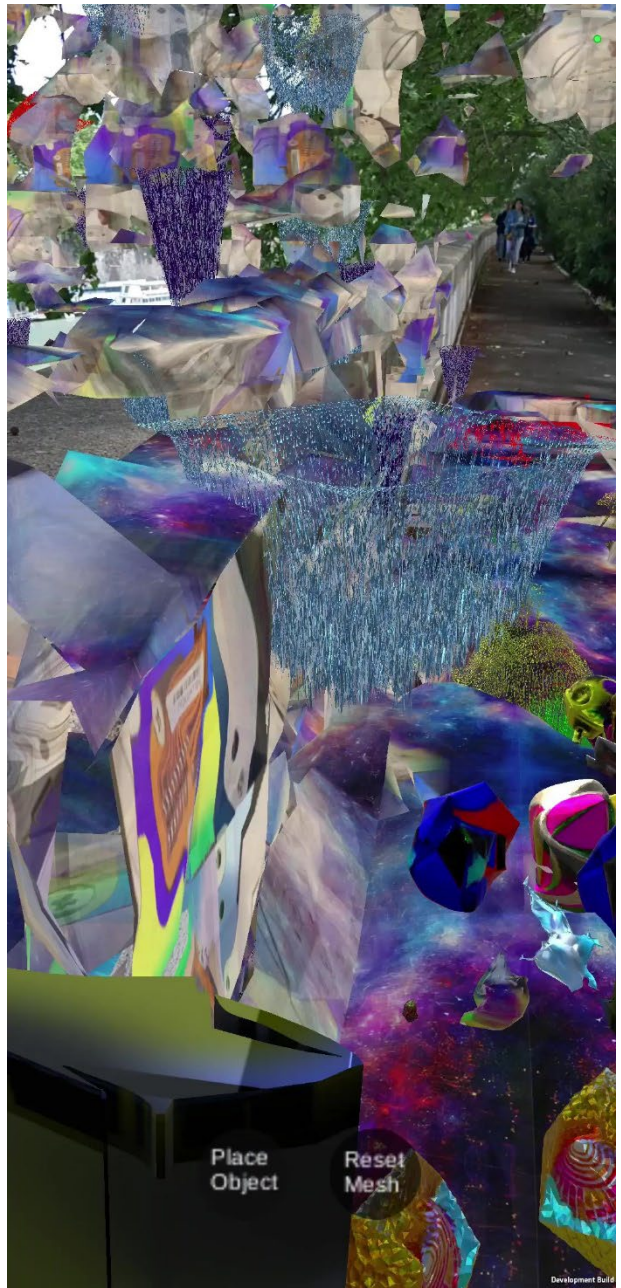
**To place random 3D debris**, tap wherever on the screen, also over the meshes. Each tap will place debris within its space-sound.

**To interact** with the placed debris just tap again on each debris to change color, scale, rotate, translate, collocate, etc. **To delete a debris**, tap on each debris in order to select it and press the button delete.

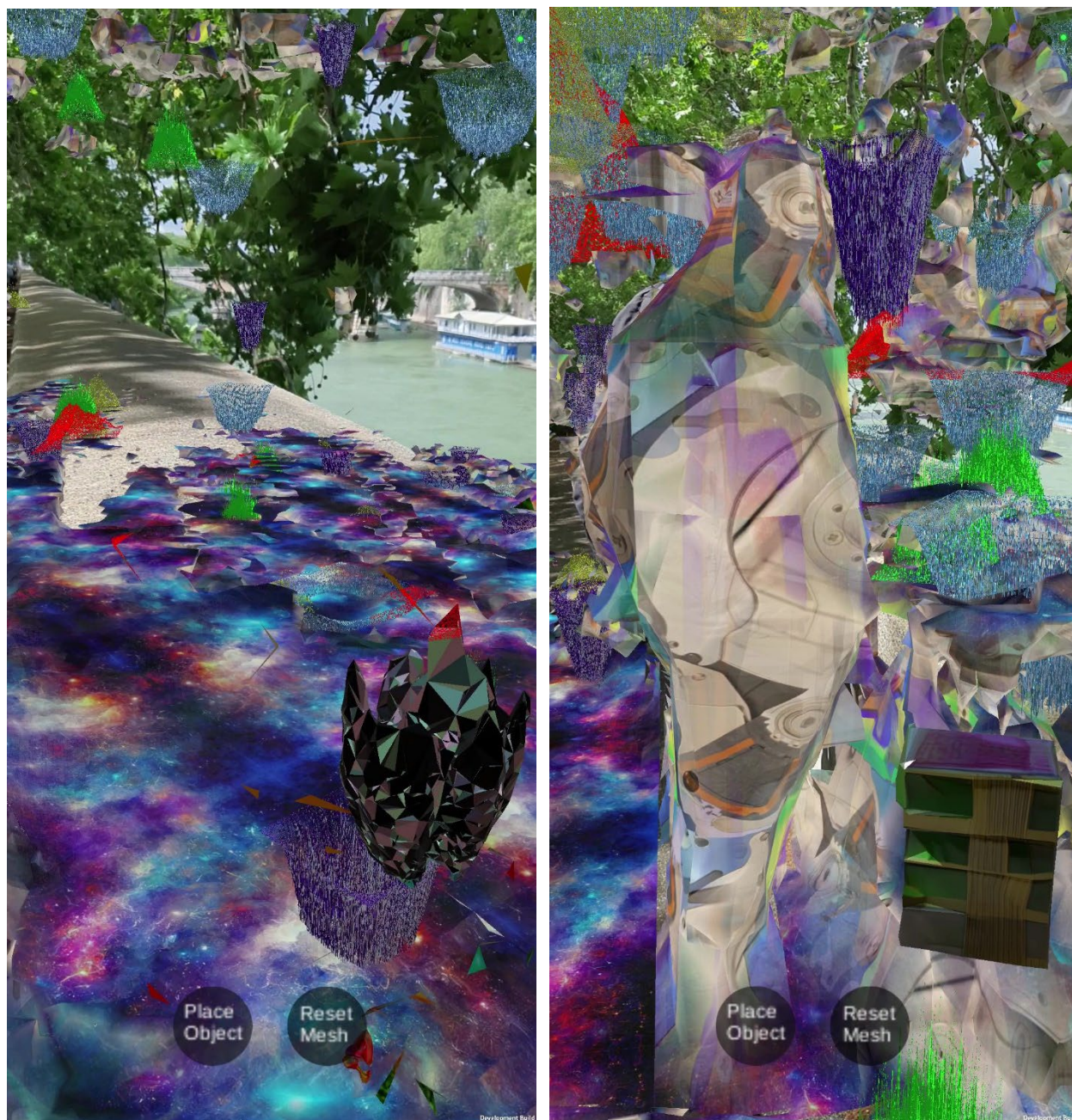












*Screenshots taken from the App.*

**Chiara Passa**, visual artist (Rome, 1973) working in media art AR, VR, AI since 1997. Graduated (M.F.A.) from the Fine Arts Academy of Rome, Master in audio-visual media from the Faculty of Modern Literature. My artistic research - part of the revival concerning the immersivity in art that began around the mid-90's - analyses differences in virtual spaces through a variety of techniques, technologies, and devices, using virtual reality and augmented reality technologies as artistic media to explore architecture as a lively interface.

Portfolio: <http://www.chiarapassa.it/Portfolio-Chiara-Passa.pdf>

Selected shows: <http://www.chiarapassa.it/SelectedExhibitions.html>

Full CV statement <http://www.chiarapassa.it/Artisticprofile.html>