

P / REFERENCES OF DESIGN

THE MEANING OF VIRTUAL ARCHITECTURE.

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ABSTRACT | Billions of people spend billions of hours in virtual spaces, which are conceived to entertain, move, or even scare. Much of the attention regarding architecture in digital games approaches the topic from a level design perspective, but architectural design can be used in digital games to establish a narration, tell a story, and create specific aesthetic impressions, as well as gameplay situations (Aroni, 2022). Architecture in digital games can also foretell the unfolding of upcoming events rather than simply adding background information on the game setting, a phenomenon that Brian Upton calls “anticipatory play” (2015). This presentation will investigate virtual architecture as it influences and constructs narration – in this context, architecture is understood as the virtual buildings, cities, and interiors present within the games. What are the architectural elements and techniques that create a setting and enhance narration and immersion for players? How do players understand architectural signs?

This presentation will answer these questions by semiotically analyzing virtual architecture as a central signifier in digital games, based on Umberto Eco’s architectural semiotic theory, where architectural objects denote a primary function and connote a secondary “certain ideology of the function” (Eco, 1997). The denotative function is the utilitarian function of architectural objects by their forms and material properties. Similarly, virtual architecture has a denotative function as well, related to gameplay. The secondary connotative function of architecture, which can be incidental or absent in real architecture, is even more present in virtual architecture, as every architectural element is deliberately created and placed in the game by the designers. It is the connotative function that communicates to players through architectural signs information about the gameplay, the narrative, and the context of the virtual world.

As space is one of the defining elements of digital games (Aarseth, 2001, p. 154), thus understating how the virtual environment communicates is of paramount importance for the development of effective digital game environments, but also for a deeper understanding of how we perceive the space around us, virtual or otherwise.

AS MUCH AS PAINTING AND OTHER “VIRTUAL” REPRESENTATIONS OF SPACE, DIGITAL GAMES BOTH RECONSTRUCT AND CONSTRUCT EX-NOVO WORLDS, USING SIGNS FROM THE REAL-WORLD ARCHITECTURE AS WELL AS THEIR OWN VOCABULARY.



Antonio Canaletto, *Capriccio with Palladian buildings*
Galleria Nazionale di Parma (1750-1760)



Final Fantasy XV © Square Enix 2016



The Semiotics of Architecture

Umberto Eco, *Function and Sign: The Semiotics of Architecture* (1973)

DENOTATION OF FUNCTION

The form of architecture denotes a function



An emergency staircase in a high-rise condo.

Toronto, Canada
(2013)

CONNOTATION OF MEANING

Architecture connotes an ideology of the function



Francesco Borromini

Staircase in Palazzo Barberini
Rome, Italy
(1633)

The Semiotics of Digital Games

ARCHITECTURAL SIGNS IN DIGITAL GAMES FULFILL TWO MAIN FUNCTIONS:

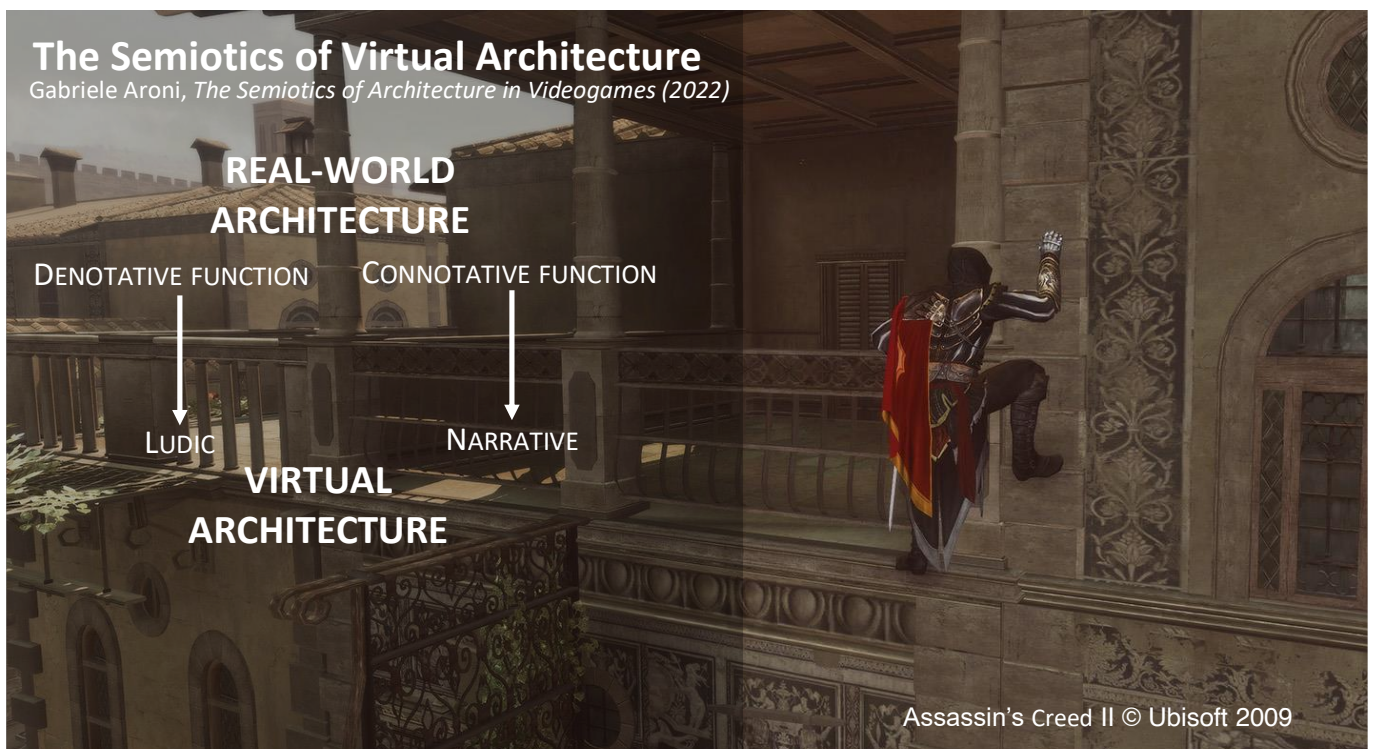
- 1) **LUDIC**: FUNCTIONAL TO GAMEPLAY
- 2) **NARRATIVE**: FUNCTIONAL TO STORYTELLING AND WORLDBUILDING



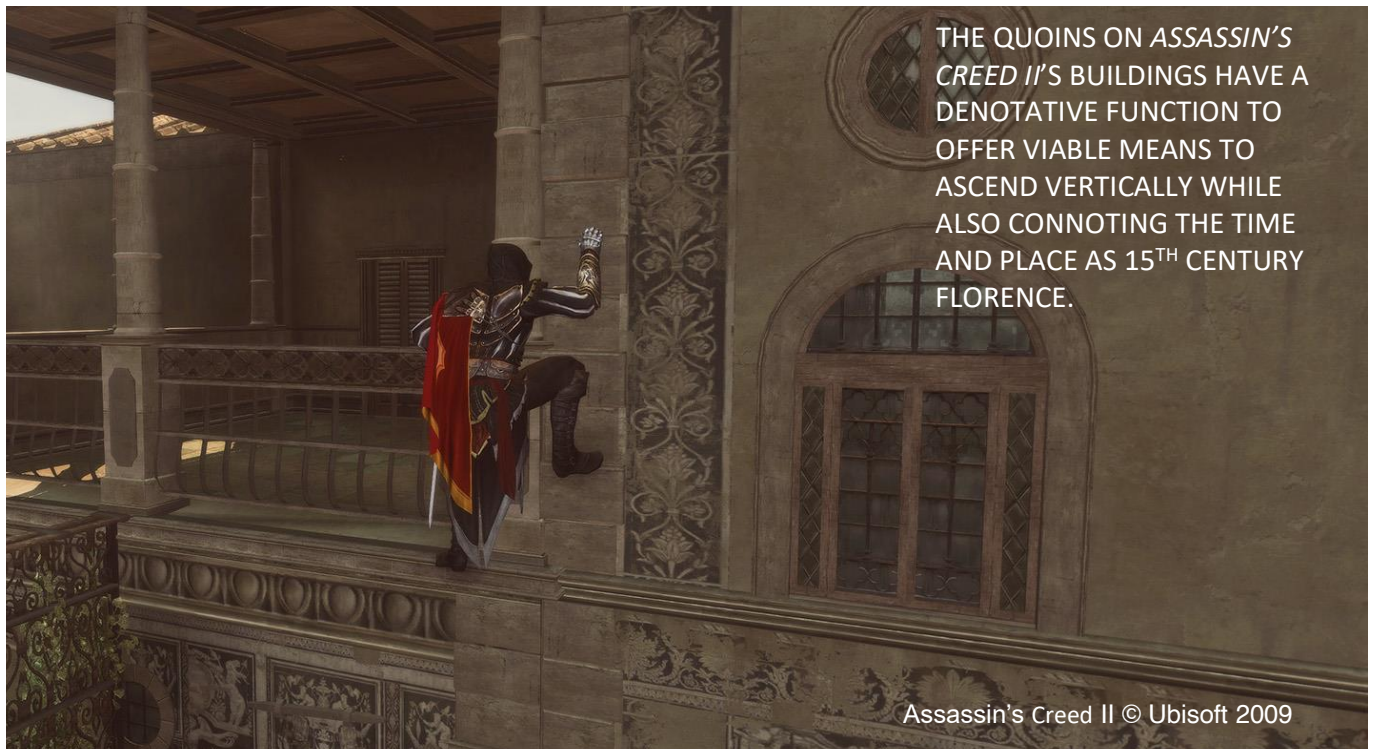
RiME © TequilaWorks 2017

The Semiotics of Virtual Architecture

Gabriele Aroni, *The Semiotics of Architecture in Videogames* (2022)

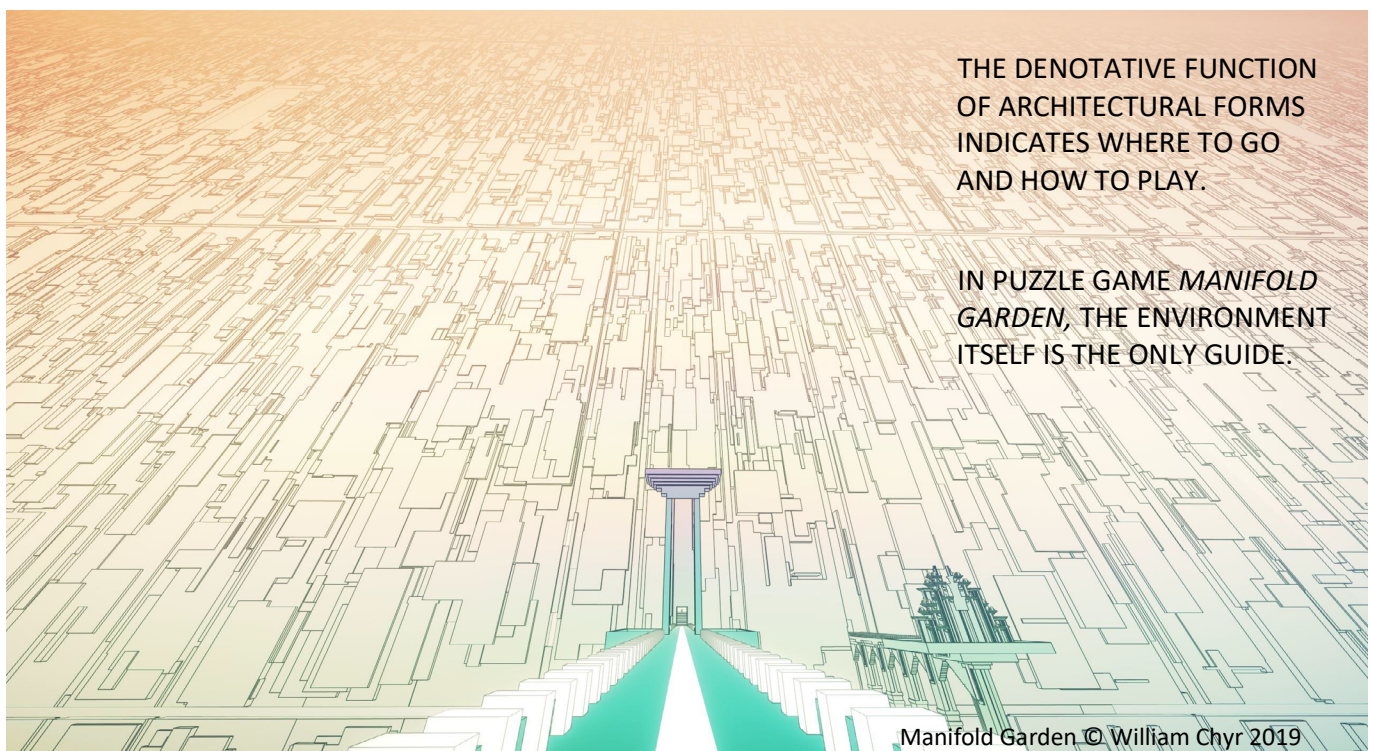


Assassin's Creed II © Ubisoft 2009



THE QUOINS ON ASSASSIN'S CREED II'S BUILDINGS HAVE A DENOTATIVE FUNCTION TO OFFER VIABLE MEANS TO ASCEND VERTICALLY WHILE ALSO CONNOTING THE TIME AND PLACE AS 15TH CENTURY FLORENCE.

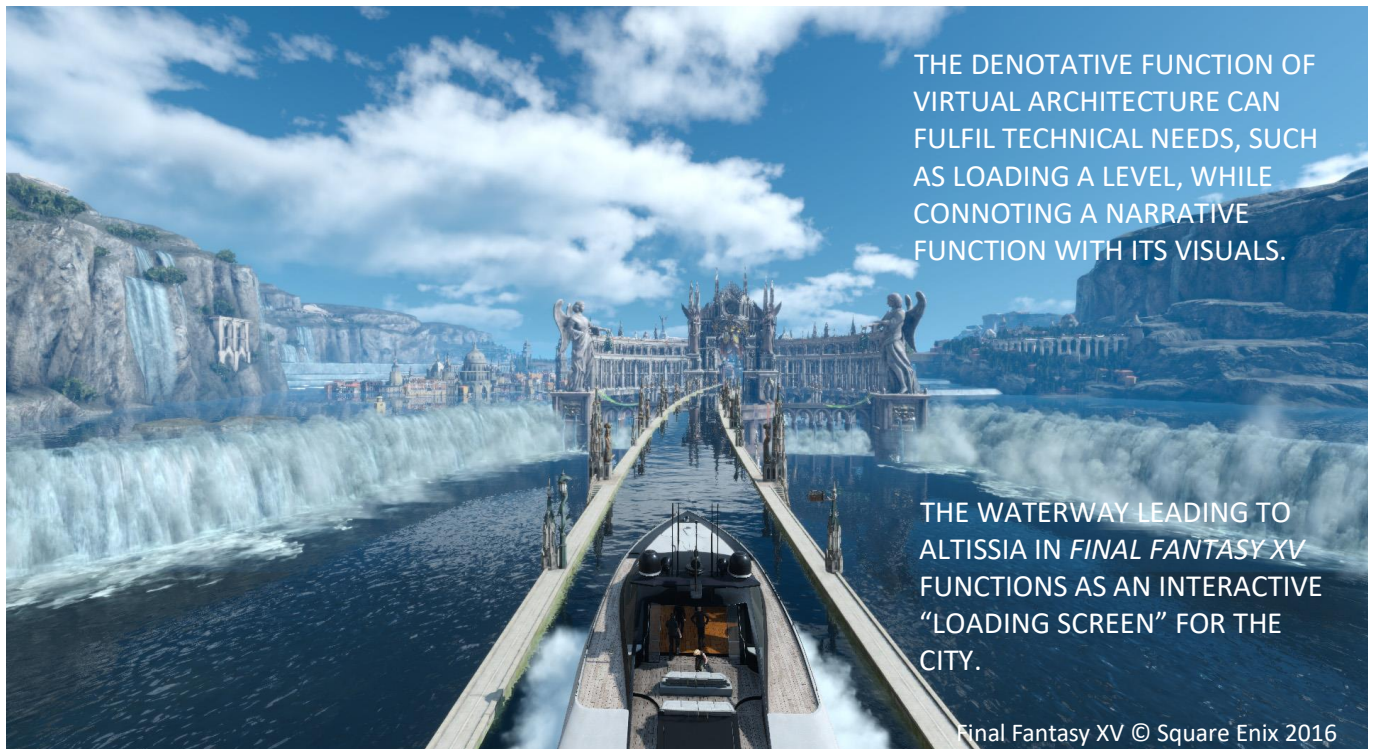
Assassin's Creed II © Ubisoft 2009

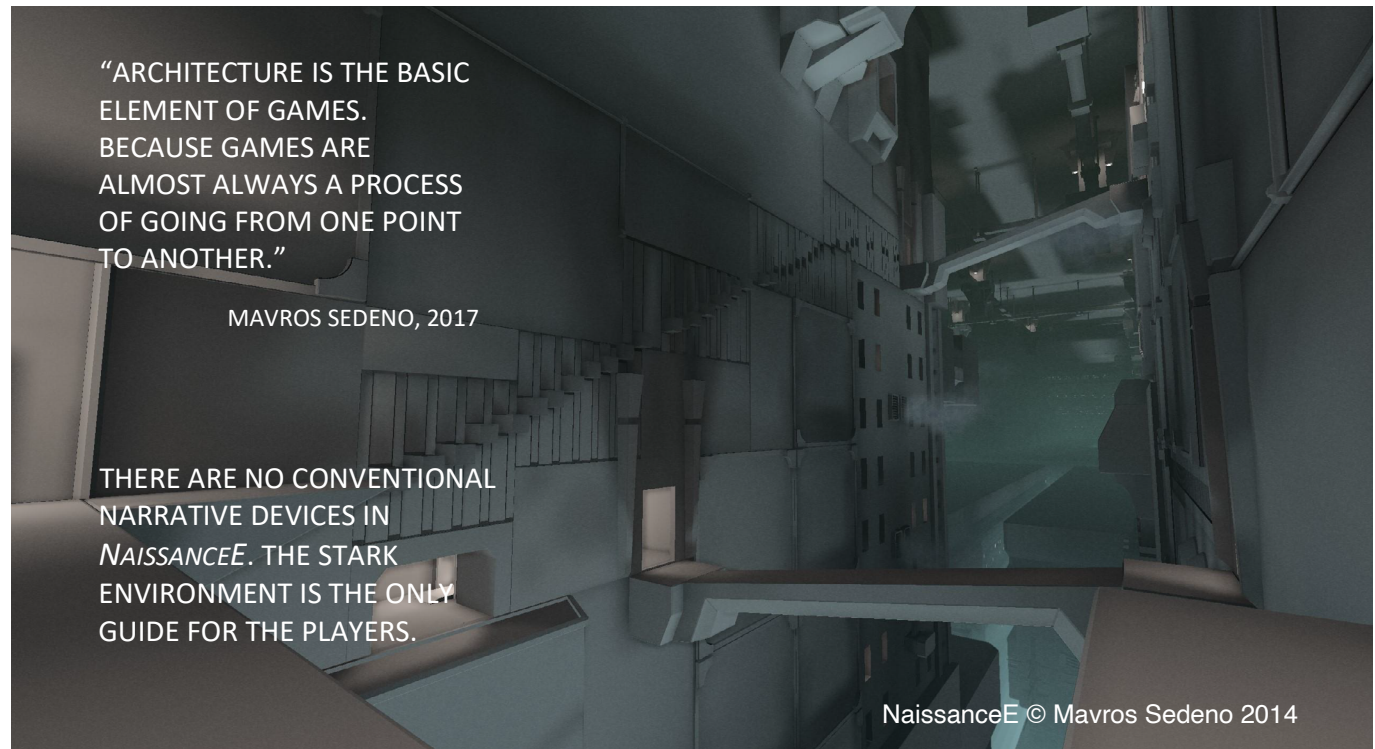


THE DENOTATIVE FUNCTION OF ARCHITECTURAL FORMS INDICATES WHERE TO GO AND HOW TO PLAY.

IN PUZZLE GAME *MANIFOLD GARDEN*, THE ENVIRONMENT ITSELF IS THE ONLY GUIDE.

Manifold Garden © William Chyr 2019



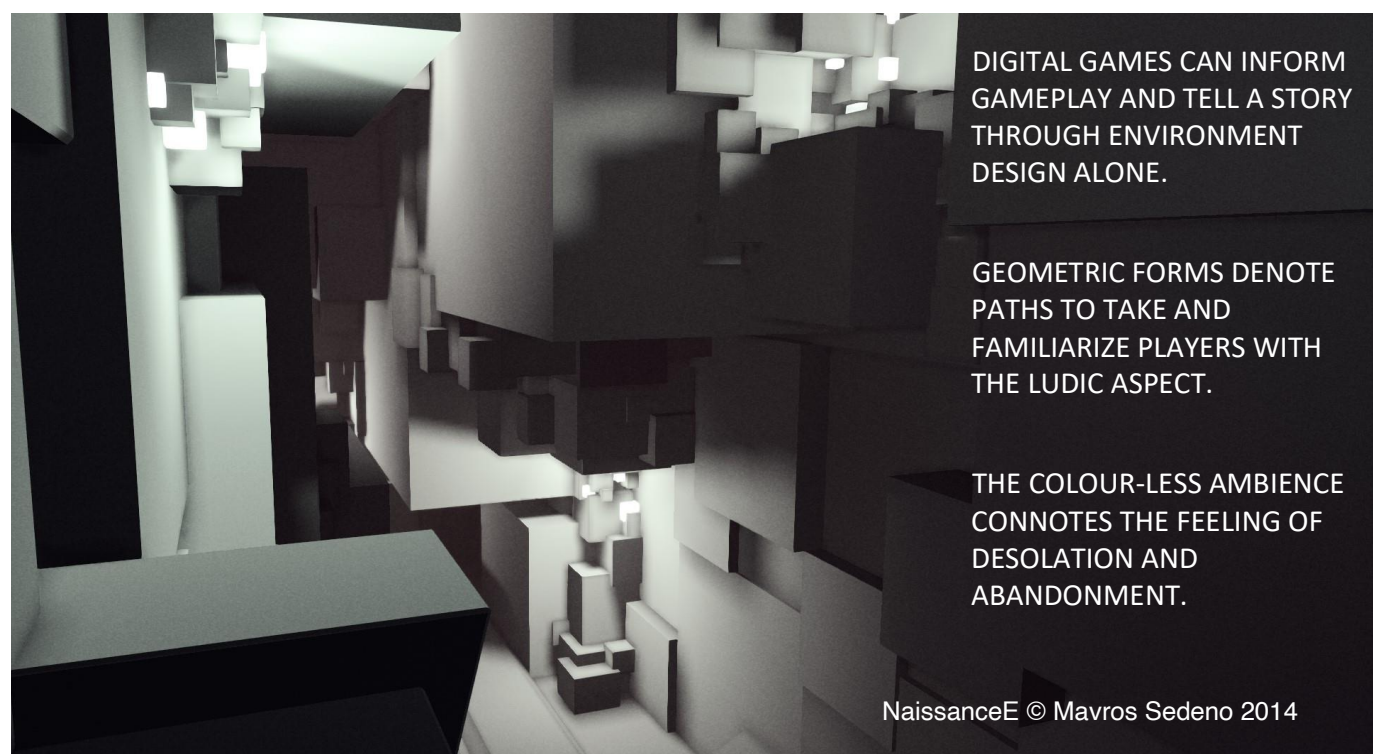


"ARCHITECTURE IS THE BASIC ELEMENT OF GAMES. BECAUSE GAMES ARE ALMOST ALWAYS A PROCESS OF GOING FROM ONE POINT TO ANOTHER."

MAVROS SEDENO, 2017

THERE ARE NO CONVENTIONAL NARRATIVE DEVICES IN *NaissanceE*. THE STARK ENVIRONMENT IS THE ONLY GUIDE FOR THE PLAYERS.

NaissanceE © Mavros Sedenó 2014

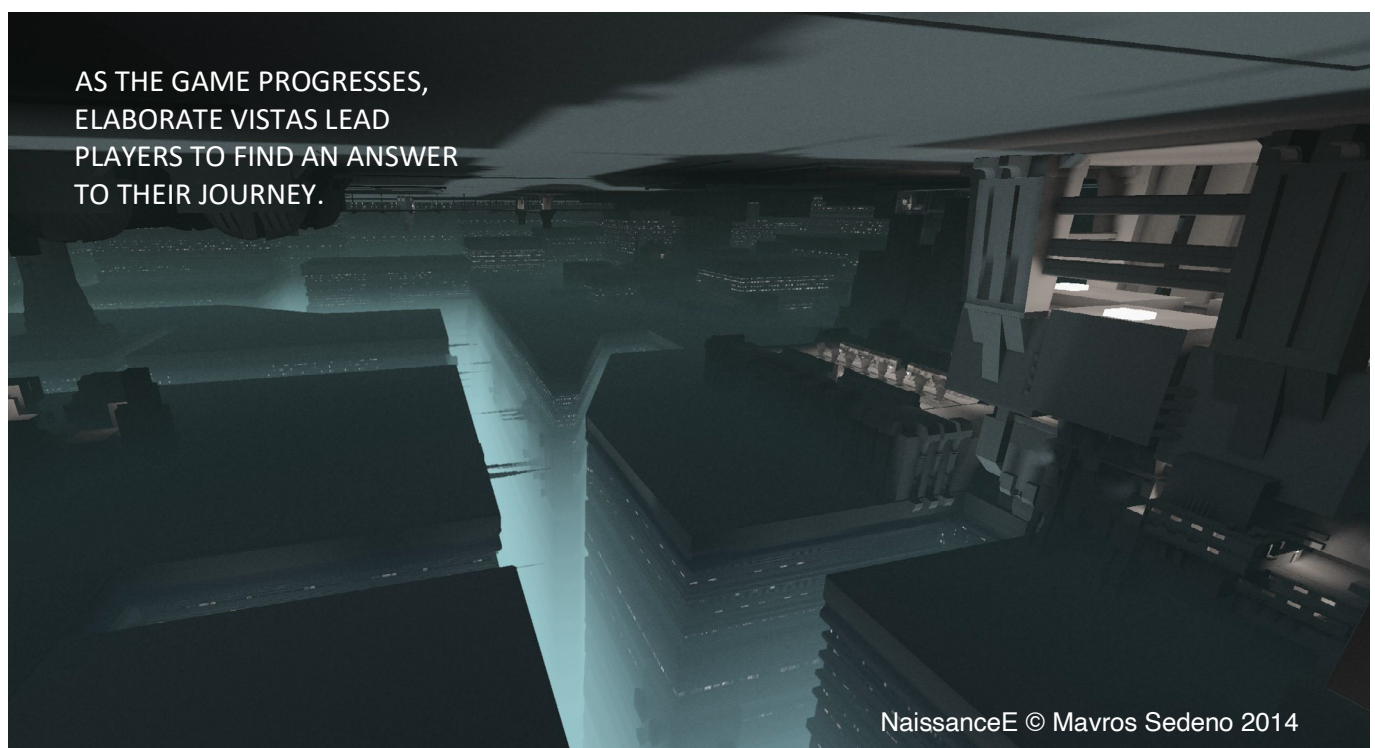
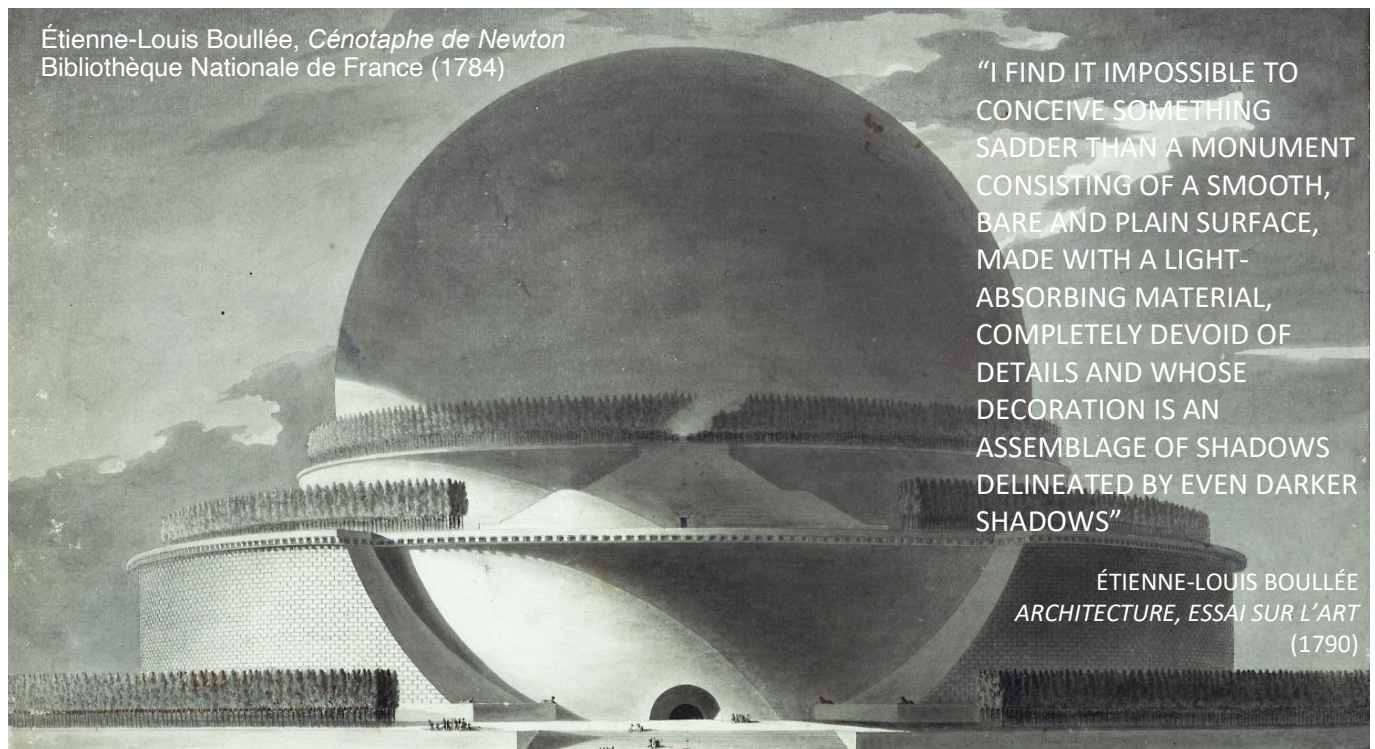


DIGITAL GAMES CAN INFORM GAMEPLAY AND TELL A STORY THROUGH ENVIRONMENT DESIGN ALONE.

GEOMETRIC FORMS DENOTE PATHS TO TAKE AND FAMILIARIZE PLAYERS WITH THE LUDIC ASPECT.

THE COLOUR-LESS AMBIENCE CONNOTES THE FEELING OF DESOLATION AND ABANDONMENT.

NaissanceE © Mavros Sedenó 2014



P / REFERENCES OF DESIGN

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Conference Website

cumulusbudapest2024.mome.hu

Conference Tracks

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Bridging Design and Economics
Speculative Perspectives
The Power of Immersion
The Future of Well-being
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