OLOS®

the new frontier of interaction
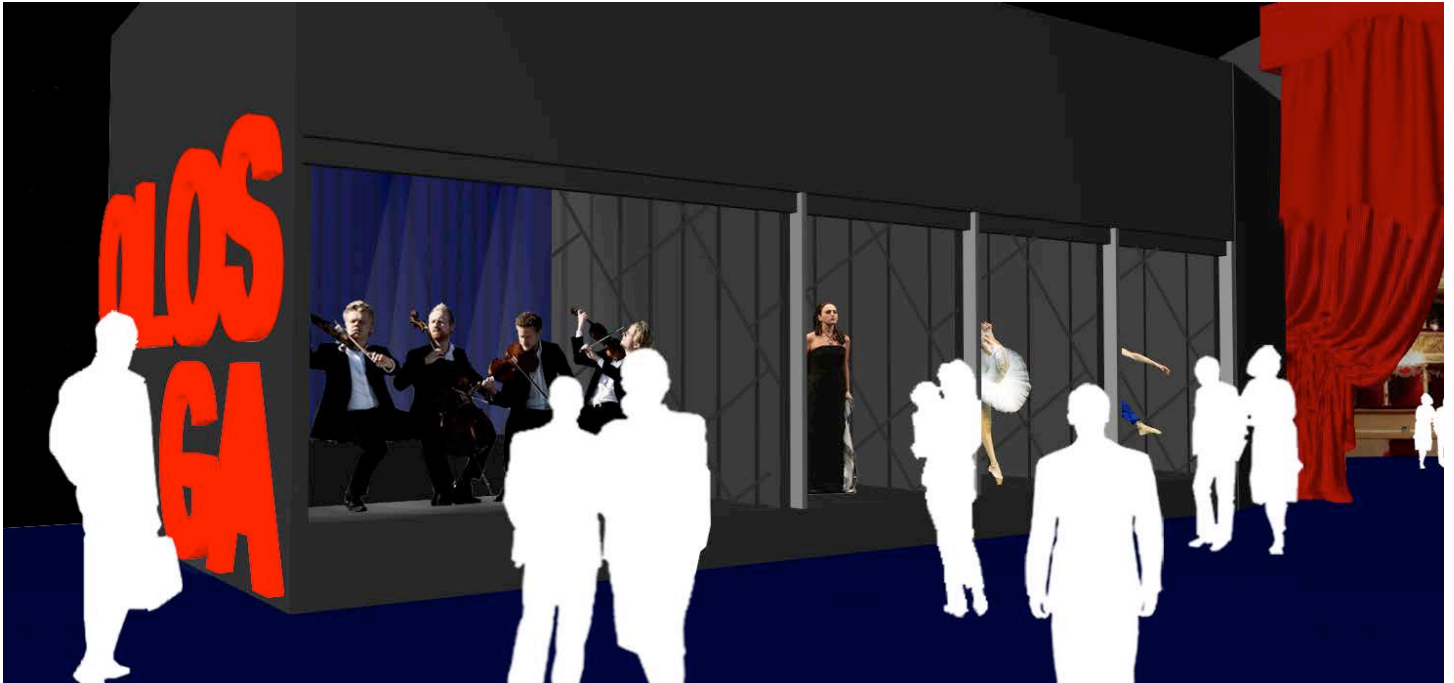
concepts

OLOS® is indeed evolutionary

So far interfaces that reproduce perfectly the human expressions and figure have been considered as a fundamentally unreachable goal, even if they represent a natural mode of interaction between man and machine. Through the pragmatic and effective fusion of human creativity, state of the art technology from IT (Information Technology) and digital cinematography, OLOS® reaches it and changes the assumption that this is just a matter of engineering: by playing parts and roles, human beings of flesh and blood supply all the expressions and actions used by the interfaces in the subsequent interaction with the users.

Therefore, they look and behave so human that the term most suited to them is holographic human beings.

OLOS®
combines the traditional creativity of performing arts and avant-garde engineering

The performances are captured as sequences of ultra high (8K) resolution images through techniques of holographic simulation and are then deployed at the front-end of a highly distributed and interactive IT infrastructure, which is directly connected to the cloud and is capable of linking users to all the available information resources.

It is a platform that finds application in a variety of contexts, from museums and places of culture –where a Genius loci or a historical character leads the visitor in the discovery of interactive stories and contents–, to theatre and fairs.

It is even possible to create galleries exclusively made up of holographic characters capable of sensing the presence of users, answering to their questions in any language (sign language included) and building an interactive personalized path along with them.
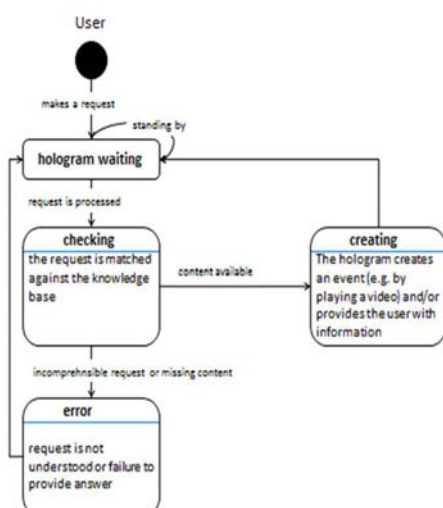
OLOS® is compatible with various degrees of complexity and sophistication of the interfaces

- Speech recognition
- Face recognition
- Natural language understanding
- Dialogue management
- Use of simultaneous multilingual audio tracks
- Semantic content management
- Internet of Things
- Control of external devices
- DMX light and sound systems, video projections, videomapping
- Volumetric motion sensors, GPS/Bluetooth tracking


THE OLOS® MODULAR ARCHITECTURE

The capability of involving users in truly engaging interactions derives also from the easiness with which OLOS® can be integrated within a modular architecture, which provides both the form and substance to these interactions and takes advantage of a variety of technologies.

It is composed of two main subsystems:

1. An **Internet of Things (IoT) application infrastructure**. By detecting the presence of people in the vicinity, it is able to alert the event manager that engages in dialogue with the user.

2. The **OLOS® Event Manager**, namely the core system that orchestrates the whole process underlying the human-like dialogue management. The artificial intelligence system allows the interface to trigger different images and the corresponding moves according to the actions and requests of the user.
It includes:

⇒ A **Natural Language Processing Engine (NLPE)**, which processes vocal signals and translates them into textual messages;

⇒ A **Questions & Answers (Q&A) Engine**, which is instructed to process the textual request and transmit it to a Knowledge Base containing a set of possible answers. It can be continuously upgraded by taking into account the answers it was unable to give.

⇒ A **Video Dispatcher**, which uses the selected answer as the key to query a Multimedia Data Base in order to show the multimedia «event», which enables the hologram to comply with the request from the human user in a spoken form and to provide explanation for further actions that may follow.
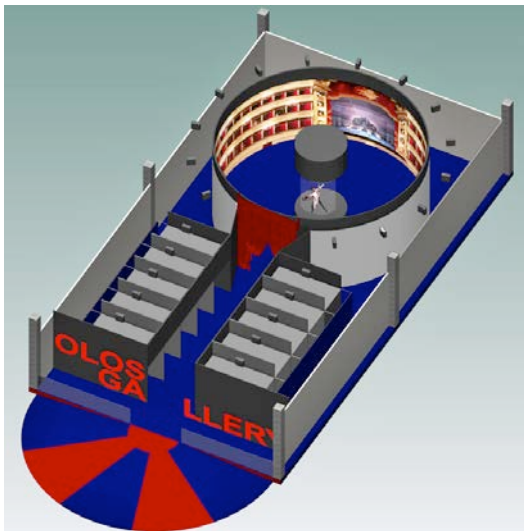
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OLOS® GALLERY BERLIN   GALLERY NEW YORK

OLOS® GALLERY MILAN

OLOS® GALLERY ROME

OLOS® NETWORK   OLOS® GALLERY PARIS

APPLICATIONS

The OLOS® platform has been deployed in a variety of real-life contexts.
By way of example:

- museums and places of culture: in a room or a specific setting, a holographic Genius loci, a character who knows the history and characteristics of the place may illustrate them to the visitors, thereby contributing to enrich their experience thanks to multiple levels of interaction.

- fairs: interactive and multilingual holographic characters, holographic installations and exhibitions can be set up in the pavilions in order to create a stimulating and engaging visitor experience.

- theahre: OLOS® offers multiple levels of interaction and integration. Entirely holographic plays and operas can be created and holographic characters or objects can be included alongside the real ones.

- holographic galleries: a variety of interactive holographic characters –and also real people in telepresence– linked to the subject of the exhibition can guide the visitor through a personalized unique experience, which can be enriched thanks to special visual effects.

- discos: dance performers who can change their spectacularized movements according to the rhythm of the music, world-known deejays who can play at the same time in multiple locations, these are only some of the countless possibilities offered by OLOS®.

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