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# Visual Languages: On-Board Communication as a Perception of Customercaring

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## *Abstract*

The year 2020 should have been one of confirmation of the continuous growth in the “cruise tourism sector”: new ships for delivery, new constructions, and the design trend of the gigantism of these means of transport. If, at first, ensuring a correct perception of orientation on board these new ships were a complex challenge and not yet fully resolved, today with the outcomes of the Covid pandemic it appears even more and more complex.

The logistical communication of the past now seems to be no longer sufficient: the collapse of cruise bookings has introduced serious problems in the sector which must not only rethink new models of internal organization on board, but also reconsider how to regain the trust of potential passengers, frightened at the idea of getting on a ship.

This research introduces some reflections and proposals shared with industry operators and aimed at the reformulation of approaches and languages in order to bring potential customers closer to the Cruise Experience.

## *Keywords*

visual communication, multimedia approaches, complex structures, cruise transport.



May 2020: harbour cities change their perceptive profiles, transforming the usual view of the harbours of large cruise ships into a visual void, replaced by the silhouettes of the giants of navigation at anchor outside the port, as if they were ghosts in memory of a remote era. Venice is experiencing a return to the past, the waters of the lagoon become clear again and the perspective of the Grand Canal is finally free from the closures caused by the transits of "oversized" ships, to which this wonderful town resigned itself.

The pandemic makes evident the disproportions and overruns of the limit, the sizes of the cruise giants now appear in all their excesses, as does the crowd pouring into the collective spaces, that cause a real inevitable gathering; some cases of infections on board accelerate a process of disruption of the system, visualized and amplified by the media, which transmit images of health emergencies.

September 2020: Summer gives the illusion of an end to the pandemic and a consequent possible recovery of the cruise sector; which timidly reappears with advertising campaigns all aimed at reassuring potential users, through alignment with the restrictive anti-Covid measures.

Even if it has been a false hope and the resumption of the spread of the virus has blocked at the beginning the revival of the economic induced by sea travel, however the story has highlighted the substantial obsolescence of the communication systems that on board welcome and support passengers: panels and paper brochures, voice information and electronic touch screen devices, that is the combination of screen and digitizer, in order to allow the user to interact through the simple and immediate use of their fingers.

If for the analog component the potential and limits relating to application areas and reference targets are now clear and consolidated, the reasoning for touch screen instruments, until recently considered a definitely positive model of effectiveness, efficiency and balance of the cost-benefits ratio is different.

What intervened, on the contrary, to undermine this certainty? Simply the awareness of the health risk that occurs whenever several people touch the same surfaces with their bare hands: Sars-Cov-2 virus, in fact, can be also transmitted through the contamination of unwashed and / or disinfected hands.

Here, therefore, that the search for alternative forms of communication develops from a hygienic-sanitary emergency situation and the occasion of the crisis in the cruise sector represents an opportunity to experiment and mutate the techniques already in use in other cultural and geographical areas; not only but, it also represents an opportunity to update the contents, starting from the concept of customer-caring.

It could be said that the new frontier is given by the awareness that it is not a problem of solving a specific question that is different from time to time and not systematizable, but of undertaking a path to assure and protect the well-being understood in a global sense of those who use the cruise travel system; this proactive attitude translates into the formulation of a methodology of general value, which aims to draw up guidelines in compliance with certain assumptions, which are essentially the following ones:

- To convey a sense of attention to the passenger at 360°;
- Not to limit to signal attention to the Covid emergency;
- To promote the full knowledge of the medium;
- To promote a full knowledge of all its functional values;
- To incorporate hygiene behaviours into good practices on board;
- To avoid conflict with mandatory signs.

Above all, of course, it is mandatory to make the promoter recognizable, or to personalize the communication system, from time to time adapting it to the identifying characters of the specific shipping company. (MLF)

The design approach will necessarily have to combine – as mentioned – analog media with multimedia and assisted technologies; in particular, QR codes will be used, now consolidated in their wide-range use, and on-board communication will be then integrated through technologies based on Projected Augmented Reality, on an infrared light system detected through the integrated combination between hardware / software, as well as on holographic representation (fig. 1).

Fig. 1. Technology based on projected Augmented Reality that allows you to merge the real world with the virtual world. Each surface in the detected environment can become a possible screen.



These choices are motivated by the search to obtain a form of communication that might reach users in a way immediate and effective as possible, in order to always respect targets and purposes in a contextualized manner. It is essential that the result of the design choices is a system of documents of rapid perception and of univocal, simple and memorable understanding; alongside these requests, as for what concerns the present moment, a further request to be satisfied is given by the respect of a careful hygiene, where, consequently, no physical contact is foreseen, not even only tactile.

These are certainly alternative and above all updated modes, which offer a valid alternative to all systems based on the touch screen, which appear immediately obsolete and ineffective.

Overall, the Projected Augmented Reality represents a fusion between the real world and the virtual one with its effective and captivating perceptual yield, which is implemented thanks to a technology with latest generation projectors and the integrated combination of hardware and software, with the visible structured light, the “intelligent” scanning and the privileging of the point of view of the projector; the scanning of the visible structured light allows the alignment and correspondence “pixel by pixel” among the elements present in the real environment and the captured digital image, as if the latter had been taken with the optical parameters and the point of view of the projector:

The high-resolution projection of the image – automatically aligned with the objects present in the real world – thus assumes a significant importance, as it allows to transmit the information processed and converted into 3D maps directly on the real surfaces that become possible screens. Dedicated softwares therefore make it possible to apply procedural effects and projector control to produce captivating and engaging visual experiences through the creative and synchronized projection of visual and audio effects. Games of lights, colors and shapes automatically adapt to real surfaces, thus enhancing their scenic depth. Ultimately, this form of augmented reality uses the projected light to “increase” the contents to the reality without the aid of viewers or devices necessary for their vision, as is the case, on the contrary, in other forms of AR. This peculiarity allows its use in multiple areas of application: from the individual artistic installations to the promotion of the territory, from the urban redevelopment of “non-places” to being an integral part of wayfinding for orientation in real-life spaces as in public places and on cruise ships (fig. 2).

Furthermore, some contemporary communication systems of wide diffusion and use offer the starting point for a further series of application possibilities; above all, the use of artificial intelligence, with characteristics particularly suitable in certain situations and for targeted target audiences [1].

“Where did I park the car?” “What is the shortest way to reach the goal?” “Which is the most scenic route?”

In everyday life, the contribution of tools that interact with us on the basis of the principle of artificial intelligence as the realization of the human ambition to be able to create a relationship between man and machine, between automation and rational thinking, is not only consolidated, but even almost obvious. Computers and 'smart' devices provide us with virtual secretaries that simplify and support daily activities. (RT)

Naturally, it is a matter of distinguishing which type of automation can be usable and consistent with the communication and information needs necessary on board cruise ships; as is known, automation is structurally divided into two fundamental theories: weak AI and strong AI, defined by the scholar John Searle this definition allows to precisely parametrize and circumscribe the areas of action.

Very briefly, the differentiation between the two types of AI is based on the different action that 'imitates' the mechanisms of the mind, assimilated to computer programming; the stimuli that reach the brain lead to an immediate reflection of purposeful thinking (a 'reasoning'), from which a consequent and coherent action derives. The machine, therefore, has the purpose of imitating and simulating the reasoning produced by the human mind, at different levels, or 'limiting' the activity to the possibility of answering questions that derive from the careful and timely analysis of the data held by the tool, or trying to become itself a sort of autonomous intelligence, which not only learns from experience, but interacts with other non-quantifiable factors, such as emotions or the subjective way of expressing oneself.

It is quite immediate to understand how the type of interest here is the first, since the technological system, necessary for communication and information intended for cruise passenger, works on specific and repeatable questions, in a completely similar way to what happens with the 'virtual secretaries' which we are already used to: in fact, in the case in question, the applications requested from the machine, are limited to understanding and solving specific problems through answers directly derived from the information in possession.

From all the considerations that emerged, it is clear the need to bring together all the different categories of media, from the traditional analogue ones, to the more contemporary visual ones, up to the interaction with AI; the range of possibilities should make it possible to reach the widest target of users, regardless of the level of computer literacy, culture, age, possible disabilities and so on.

There are many possible examples to draw from: the attached images bring only a very small part of already tested implementations (albeit in other contexts), which could be revisited and introduced as a customer-caring system on board cruise ships. Lastly, it is recalled that the ideas and arguments contained in the text refer to the research in progress thanks to the partnership of Grandi Navi Veloci, to the collaboration with the Centro del Mare of the University of Genoa, with the PhD in Science and Technology for the Sea, as well as with some companies specialized in the research and implementation of the technologies described.

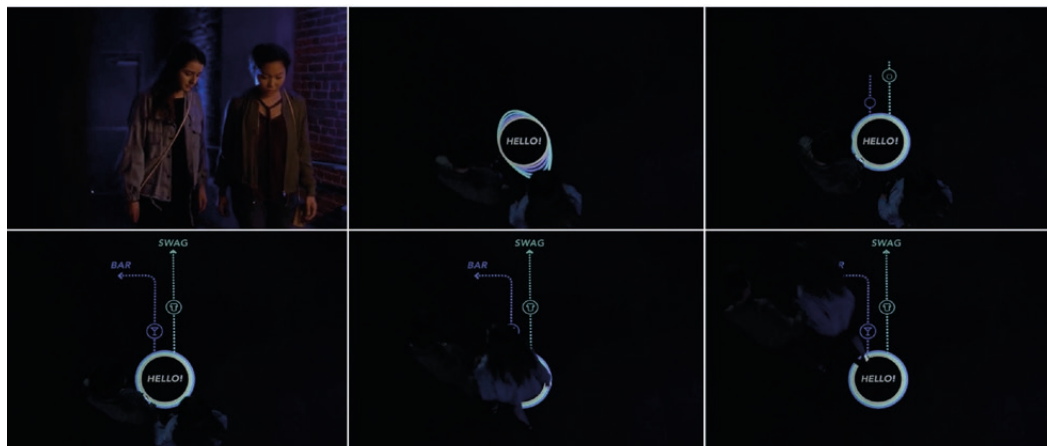


Fig. 2. Integrated on-board communication through the use of technologies based on Projected Augmented Reality.

Specifically, the collaboration with Grandi Navi Veloci led to the awareness of a necessary segmentation of the communication offered on board; if, in fact, the age group of the most widespread cruise target is undoubtedly literate and active from the use of devices and IT tools point of view, on the other hand it is also true that a communication based on an almost dialogic use of the “machine” could even cover also the less skilled users especially with multimedia. This, therefore, is the new challenge: the use of AI at levels of immediate understanding of information, to support each passenger with a virtual assistant in a targeted manner [2] (ER).

#### Notes

[1] In particular, a part of the study presented here is part of the project entitled: welcome on board: integrated habitat communication in cruise ships, funded by University Research Funds – University of Genoa 2019, responsible R. Torti.

[2] The research presented is the result of the joint work of the three authors; the individual contributions can be traced back to the authors by the presence of the initials at the bottom.

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