



Human Generated Environment is a new way to organize object spaces so that they serve as user interfaces, but also function as local data environments, in which the logic of internal and external interactions between the elements works according to the rules defined by designer.

Foreword

We are living in the era of technology and information, and the true significance and perspectives of this have just started to take shape. Widespread availability of computers and the advancement of global information structures are changing the way we think of communication itself. Computer technology has moved past its infancy; we no longer use computers just to store and process information, but also to exchange and restructure it. Affordable devices available today make it possible to communicate at an entirely new level. What does the future hold for us?

The interplay medium

We usually think of a composition (in visual arts, architecture, literature or music) as an arrangement of passive objects that form a meaningful structure in our imagination according to the laws of shape and color perception. We normally speak of an interaction between objects in a composition at the level of color and juxtaposition of sizes and shapes. We may then formulate rules on how these interactions should be structured so that the results are customary to our perception, and use these results as a means of expression. But today we can go beyond that: our new electronic “sense organs” give us the opportunity to perceive information and interact in an entirely new way. The time has come to teach the world of objects a new language.

Imagine an interior or a landscape, in which all objects share information about their location and physical state with each other. As the designer of an interactive space, you can define the algorithmic logic by which the objects operate, which complements the visible logic of the architectural space. As a user of the information space, you can interact with the environment and change its parameters via the physical and virtual “interfaces” provided by designer.

You can use the conventional ways of physical interaction with the objects, but can also choose to interact with the environment through personal electronic devices. Either way, any interaction with domestic or industrial devices is just a special case of a Human Generated Environment, such as a “smart house” or a computer-controlled system of street lighting. Such systems, however, serve merely to automate an already existing conventional process. But Human Generated Environment as a concept extends beyond this: it aims to structure the interaction at an entirely different level, where the data itself and the character of data representation are used as expressive tools.

We offer a new concept of structuring the environment that includes interactive and informational components acting at the level of human-object, object-object and network-object-human interactions, in addition to the conventional means of expression.

[see the other side of the booklet](#)

Apart from examples in this booklet, we are happy to consider custom solutions for highly specialized spaces. For example, for a library or museum we can provide database access directly from the customers’ handheld devices, giving them precise instructions on the location of the books or exhibits of their interest. We are also happy to develop outdoor implementations of local information and interactive spaces.

Designers and architects can use our solutions in buildings and landscapes to create a more complex interaction logic for architectural objects driven not only by the goal of maximum automation, but also by aesthetic considerations.

We are ready to collaborate with private individuals, architectural firms and other businesses to develop solutions within the frameworks of existing architecture and interior design or from scratch. In further perspective, we are interested in developing everyday-life devices, materials and module systems featuring the characteristics of Human Generated Environments.

We offer to create customized local interactive spaces including, but not limited to:

- Design and development of interactive objects
- Interior / exterior design and engineering of interactive spaces
- Development of interactive software and hardware solutions.
- Follow-up engineering and construction works
- Testing, tuning and support of software and hardware components.



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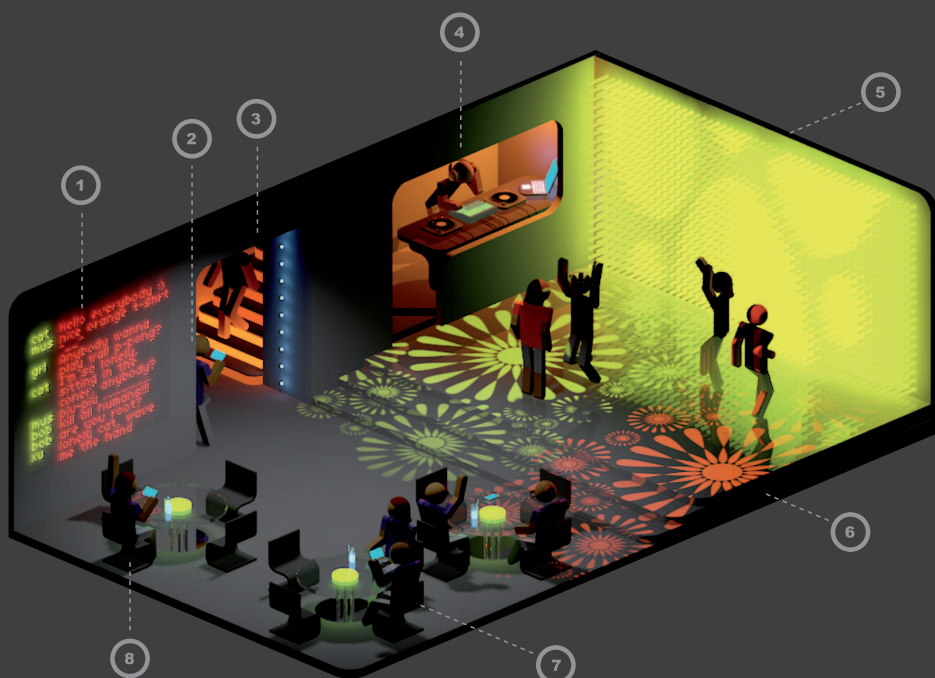
The concepts of Human Generated Environment and local interactive spaces may seem quite ambiguous today because it is not yet easy to predict how they will evolve. It is clear, however, that local informational and interactive spaces will revolutionize the reality within the next decade, similarly to how the World Wide Web did it in the 90s. It's still early days indeed, but we already have some ideas.

Cafe / tea house



- 1 The screen on the wall is used as a board for multiplayer games that are available for customers to play (powered by a local InterplayMedium microserver). The designers of the local interactive space made sure that the look and theme of the games fit to the spirit of the house.
- 2 Directional light is automatically switched on when guests arrive. The color and intensity of lighting is controlled by an Inteplay Medium microserver that draws information from embedded sensors and can also be adjusted by customers.
- 3 Orange light indicates that bathroom is occupied.
- 4 A stylized image that has appeared on the screen above the bar indicates that the corresponding table has ordered a cup of espresso.
- 5 The bartender can track orders and manage all facilities from his terminal screen. Currently he is putting on the "last orders" message that appears on the panel and will be accompanied by an audible signal.
- 6 The LED panel shows customer messages as well as announcements from the bartender.
- 7 The sound system (digital jukebox). The interface is designed to avoid chaotic switching between sound palettes.
- 8 Guests can choose between music and ambient sounds, select their preferred genre and even add their own tracks.
- 9 Friends passing by can see whether there are available tables inside, what genre of music current visitors prefer and even make sure that their favorite cocktail is on the menu; they can do all of it using their own handheld devices and a standard browser.
- 10 A group of customers enthusiastically play the wall game.
- 11 ...with other guests, passing the time while waiting for their friends.
- 12 RFID sensors embedded in the desk serve as order trackers. Just put an empty coffee cup in the center of the table and the bartender will know that you would like another one.

Night club / disco



- 1 The LED chat panel on the wall displays messages sent by guests. This is indeed a common online chat, only within a single large space. If the music is too loud and you have lost someone or just want to express yourself, simply type a short message using a browser on your handheld device.
- 2 Loved the track and want a copy for yourself? No problem! Download the track (or the entire playlist!) from the browser of your handheld device.
- 3 Some elements of the interior serve a purely decorative function - such as these lights embedded into the steps that change color under your feet.
- 4 The DJ controls the lighting and kinetic effects on the dance floor. In fact, the dance floor itself also reacts to the clubbers' mood.
- 5 The built-in kinetic screen on the wall displays visual effects and even changes its own surface. Visual algorithms can be pre-defined at time of purchase, as well as programmed or controlled in real time by the VJ and guests.
- 6 ...but visual effects are not limited to the screen. Patterns projected on the dance floor can also be either pre-programmed or changed directly during performance. The VJ can use built-in sensors to make the performance even more interactive.
- 7 Tell the DJ that you are delighted with his mix: Just click the "thanks" button!
- 8 If you got bored alone or are a bit shy, drop a line in the chat: You will find new friends in a matter of minutes :)

Residential house / small office



- 1 The lights spheres are freely floating inside the space. Each of them knows about the other spheres and chooses the color according to a selected algorithm. The behavior of the sphere is controlled by a local Interplay Medium microserver. Each light sphere is equipped with a wireless resonant charging unit.
- 2 The transparent LCD panels placed inside the insulating glass can form patterns of any shape. This way, the user can control not only the amount of light entering the room, but also the shape of the patterns (which also change according to a predefined algorithm).
- 3 The projection screen and other appliances are controlled via a wireless interface by an Interplay Medium microserver.
- 4 Static light sources (also controlled by an IM microserver) can monitor the presence and behavior of users – both directly and via separate sensors that are embedded into the furniture and other elements of the interior.
- 5 Decorative interactive elements can be color-based and kinetic. In this example, shelf LEDs play rhythmic patterns; the color and character of light can be selected by the user or according to an algorithm programmed by the designer.
- 6 The Interactive space the user controls light intensity from their handheld device.
- 7 The girl suggests choosing these circles of varying sizes as the window pattern, because they visually rhyme with the shape of the spheres located next to the window.
- 8 The young man fools around with the color pattern of the shelves. He's now turning off the chessboard pattern and will instead play Tetris.
- 9 The cooling fan is connected to the local object network that is managed through a common interface based on an Interplay Medium microserver platform.
- 10 The robotic vacuum cleaner switches on automatically as soon as the Interplay Medium microserver informs it that the whole party has left the room.
- 11 The coils of a wireless resonant power supply embedded in the tabletop power all the devices located on the table, allowing to get rid of cables.