

# Social networked cities: the portals

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## **Abstract**

*What is a "social network" ? It is a social structure made up of a set of social participants (such as people or organizations), sets of group ties, and other social interactions between those participants. The social network perspective provides a set of methods for analyzing the structure of the entire society as a whole as well as a variety of theories explaining the patterns observed in the interaction between individuals, independently of the space factor, if the individuals are in direct contact or they are communicating remotely, from different parts of the world, or even if they do know each other or not.*

*The extraordinary success of the online communication proves us that the development of the communication technology we have today have drastically changed the connection we can have with co-workers, friends or family members that are located in a different places, making possible an instant communication with people that are parted by great geographical distances: different cities, different countries, different continents.*

*This presentation comes with an innovative inter-connected communication network for public spaces that can rise a high level of interest from the local communities worldwide, connecting people from different cities with each other and bringing in the urban landscape a direct visual connection with another urban landscape through a virtual connected "window" ("portal") that opens up to the other side towards a different geographical location.*

*Based on the principles of the existing communication networks and the success of the live web-cams installed by the municipalities that allow people from all around the globe to watch the daily life of an urban location, this solution is very simple, easy to put into practice and with a great potential of improving the leisure time of the inhabitants of any smart city.*

**Keywords:** *social connection, communication, live street view, virtual communication.*

## 1. Introduction

What is a “social network” ? It is a social structure made up of a set of social participants (such as people or organizations), sets of group ties, and other social interactions between those participants. The social network perspective provides a set of methods for analyzing the structure of the entire society as a whole as well as a variety of theories explaining the patterns observed in the interaction between individuals, independently of the space factor, if the individuals are in direct contact or they are communicating remotely, from different parts of the world, or even if they do know each other or not. [1]

The extraordinary success of the online communication proves us that the development of the communication technology we have today have drastically changed the connection we can have with co-workers, friends or family members that are located in a different places, making possible an instant communication with people that are parted by great geographical distances: different cities, different countries, different continents.

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Based on the principles of the existing communication networks and the success of the live web-cams installed by the municipalities that allow people from all around the globe to watch the daily life of an urban location, this solution is very simple, easy to put into practice and with a great potential of improving the leisure time of the inhabitants of any smart city.

### *1.1. The impact of live web-cams in the world*

The worldwide pandemic of Covid have secluded in the enclosed spaces of their homes for a considerable period of time a big majority of the world population, active or not. The lack of travel capability have brought grief, sorrow, the feeling of being bored or psychologically exhaustion to lots of people. As almost all activities have moved on the web, online, lots of people have fulfilled their need to see the world through the same platform.

The live feed web-cams installed in different parts of the world, in key points of different cities, watching a famous square, or monument, or iconic landmark exist before the pandemic times.

But now, those digital “windows” towards the far-away beloved landscapes have become more important and much more accessed.

Those 24-hours active cameras have been installed by the local public authorities, by private companies or by small groups of people and can be seen free of charge online.

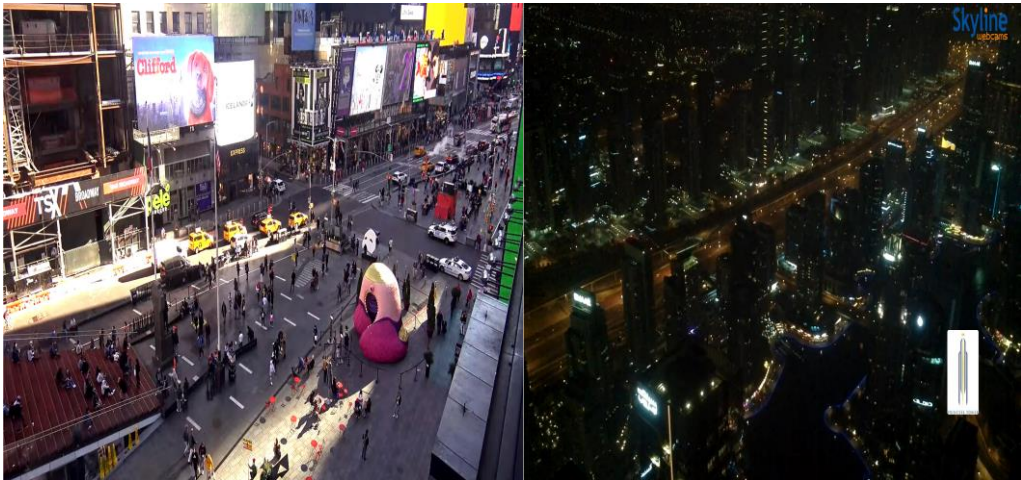


**Fig. 1.** Live camera view of Trevi Fountain – Rome  
 Source: <https://www.skylinewebcams.com/>

For example on the Skyline Webcams platform we can find a very clear description from the beginning: “Live Cams from the most beautiful cities of the world” and the list of the web-cam locations accessible there is featuring a lot of “World Heritage” Categorized public landmarks as: Piazza San Marco - Venice, Rome: view of the Colosseum and the ruins of the Ludus Magnum, New York: view of 42nd Street, Madison Ave and the Hudson River from Grand Hyatt New York, Jerusalem: view over the Western Wall and Temple Mount from Simcha Hall at the Kotel, and the list continues with hundreds of live cams from all over the world. [2]



**Fig. 2.** Live camera view of Milan Cathedral, the Galleria and equestrian statue of Emanuele II  
 Source: <https://www.skylinewebcams.com>



**Fig. 3.** (a) Live camera view of Times Square - New York; (b) Live camera view of Dubai Marina  
 Source: <https://www.skylinewebcams.com>

### 1.2. Google street view - interesting views

Google Street View is actually a display of interactive panoramas of stitched VR photographs. Most photography is done by car, but some is done by tricycle, boat, snowmobile, and underwater apparatus, as well as on foot.

As Google Street View system is a virtually created continuum, the elements that create this continuum - the street photos themselves are real, they were taken on the real world and sometimes the camera can capture the unexpected, the extraordinary, the unusual.

Observing a live feed of a street camera can be sometimes surprising, as public was astonished by the award winning photographer Michael Wolf, that captured the public's attention with his astonishing collection "A series of unfortunate events" as part of the exhibition "Print error / publishing in the digital age" proposed by Alessandro Ludovico, for the Jeu de Paume virtual space.



**Fig. 4.** Michael Wolf – A Series of Unfortunate Events  
 Source: <https://slidetodoc.com/michael-wolf-a-series-of-unfortunate-events-michael/>

Michael Wolf uses his photographic skills to capture pictures of daily life accidents or unusual urban life sights surprised by the camera systems of Google Street View, where city streets can be perceived in a digital and photographic continuum. He takes “pictures” cutting out meaningful and universal elements and perspectives, which become fully entitled “photographs.” [3]



**Fig. 5.** Michael Wolf – A Series of Unfortunate Events

Source: <https://www.cnet.com/pictures/unfortunate-views-of-google-street-view-photos/>

There are lots of people that like to spend time wondering the streets of distant cities in a virtual way, using Google Street View in order to visit faraway places, especially in the last two years when the pandemic crisis have forced them to stay home or restrain from going abroad.

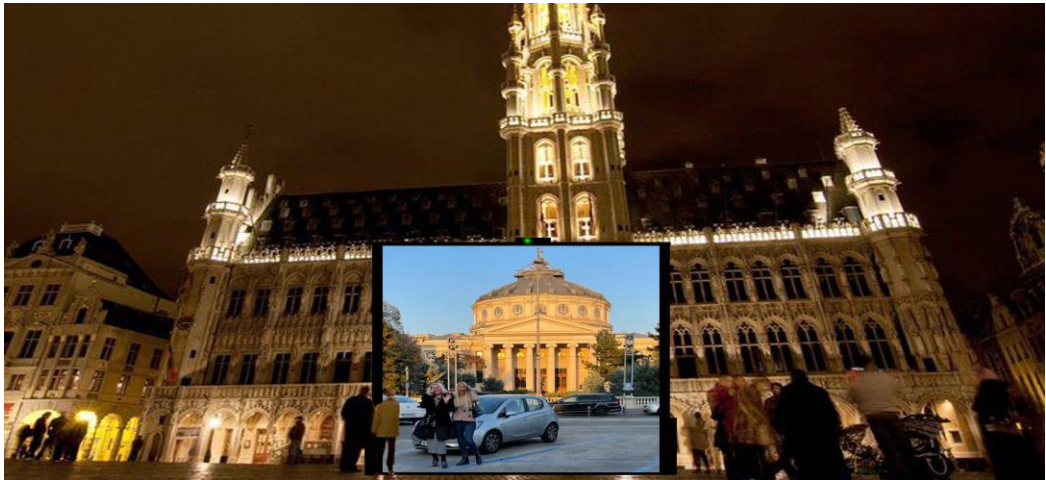
What I am proposing here is a much closer to reality experience, as our “portals” are using real live videos of real places with open access to the wide public.

## **2. The portals**

The idea that will be presented in this presentation is very simple and probably very spectacular, a beautiful interactive input that will bring a new and intriguing element in the urban landscape and our cities inhabitants daily life.

We are imagining a network of big size screens that can be placed in a public place of big interest in one city, let's say city A that will show the live cam placed in a different city, let's say city B. On the top of this screen it is placed another live camera that transmits to the other “connected” screen on city B the live feed of the people and the background in front of the screen placed in city A.

It is actually a system similar with two persons making a live chat on their mobile phones where they can see each other, just in a much bigger scale, on a 24h continuous live feed where the people in one place can see through this “PORTAL” - a virtual window towards the other city.



**Fig. 6.** Portal between Grand Place de Bruxelles and Athenaeum Palace Bucharest location  
*Source: Photomontage by Monica Frangulea, photo inside the portal by Oana Blaga*

### *2.1. What would attract us to the PORTAL?*

The presence of such a portal in an urban location can be the reason of more interesting thing to happen: cultural events, open air exhibits or multimedia shows that can be watched by audiences in both cities live, in the same time!

In this case, the portals can facilitate an unprecedented cultural exchange with big impact for the cultural landscape of both sides of the portal.

The portal can also attract a large audience as we could see interesting things about the daily life of a far away place:

- How is the weather on the other city?
- How are the people dressed? What is the style and trends of the other place?
- What is the general mood of the people there? Are they happy? Are they sad?
- Are they busy? Do they look preoccupied? Do they look worried or they seem mostly relaxed?
- what are they eating or drinking on the street?

### *2.2. Positioning the PORTAL in the city*

For a more immersive visual experience, the portals should be placed as close to the ground level as possible, giving the impression that the people could “walk through” and to enhance the impression that the people in front of the other portal are actually right in front of you.

This would also increase the strength of the main symbol that the portal network is representing: we are all living in the same world, we can be all connected, the people on the other side of the world are all equal with all of us, as citizens of the same planet.

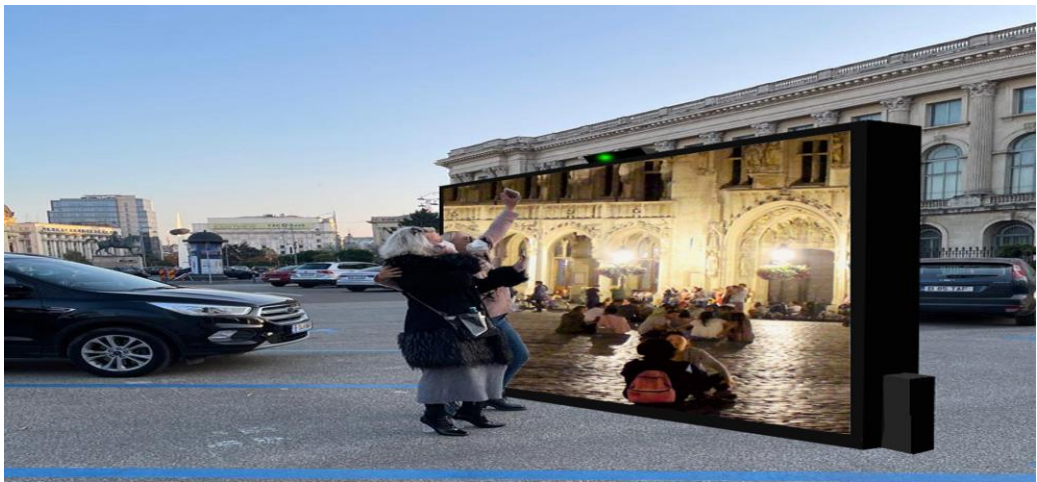
People can go to watch the portal just to see random people from the other side but it can happen that in time people can start to get organized and arrange

through other communication systems to meet in front of the portal in purpose: “ I live in Bucharest and I have a family of friends in Brussels and we are going to meet in front of the portal, we are going to talk on the phone but we are going TO SEE EACH OTHER in real size!”

The question of recording also the sound is debatable, as it could create the phenomenon of noise pollution but this matter can be optional from case to case.

A more quiet location of one portal can be disturbed by a strong continuous noise of a busy urban area if the position of the connected portal is placed in an agglomerated place or even if there is a significant time zone difference between the two places and while on one side it is night time, more quiet, on the other side it can be rush hour daytime for example.

Another interesting fact is also that we can observe the architecture on the other side, as it would be best that the portals are placed in positions that would face famous landmarks, so the people from the other side of any portal can see an interesting, iconic part of the other city, a place that would be worth visiting if they would come in person to visit the city they are only watching through a digital screen.



**Fig. 7.** Portal between Grand Place de Bruxelles and Athenaeum Palace Bucharest location  
*Source: Photomontage by Monica Frangulea, photo outside the portal by Oana Blaga*

Then there is also the question *What city would we connect to ?*

There is a number of things we should take into consideration when we try to decide what city would we like to see on the other side of the portal we would install in our own city.

First of all, would we like to see a city of similar cultural background with ours, similar climate, similar race with our city inhabitants, or we would rather connect to a totally different place ?

An important matter is also the time difference between different cities in the world.

Two cities with a big time difference live-video connected through the portal would mean that while in one city it is daytime, in the other is night time and this would raise the problem of visibility of the image on the portal screen.

If in one city it is night time, a portal showing a daylight cityscape would be very visible and easy to observe. But the opposite can raise some difficulties, as during daytime a darker screen can be less visible. There is also the problem of the reflections of the city lights or sunlight on the screen surface itself, but this difficulty can be solved by using certain types of advanced technology screens, that we will be mentioning on our last chapter: **“The technology behind the PORTAL”**.



**Fig. 8.** Portal between Grand Place de Bruxelles and Athenaeum Palace Bucharest location  
*Source: Photomontage by Monica Frangulea, photo outside the portal by Oana Blaga*

So where would we place the portals ?

The possibilities are endless: what places are we proud of in our city ? What would we like to show to the world ?

Where would we place a portal ? Here there are just a few suggestions:

- central squares
- places of historical relevance
- places of cultural or technological relevance
- places of industrial relevance
- green areas, parks
- places of economical importance - financial district,
- important natural landmarks - river side, beach front, places where you could see the city from a high observation point
- places where the portal can be visible for a big number of people: Amphitheater shaped urban areas, a square at the bottom of an urban stair or a descending road
- places of industrial relevance





**Fig. 9.** Portal placed Kungsträdgården - Stockholm connected with South Beach – Miami  
*Source: Photomontage by Monica Frangulea, photo outside the portal – Alamy*

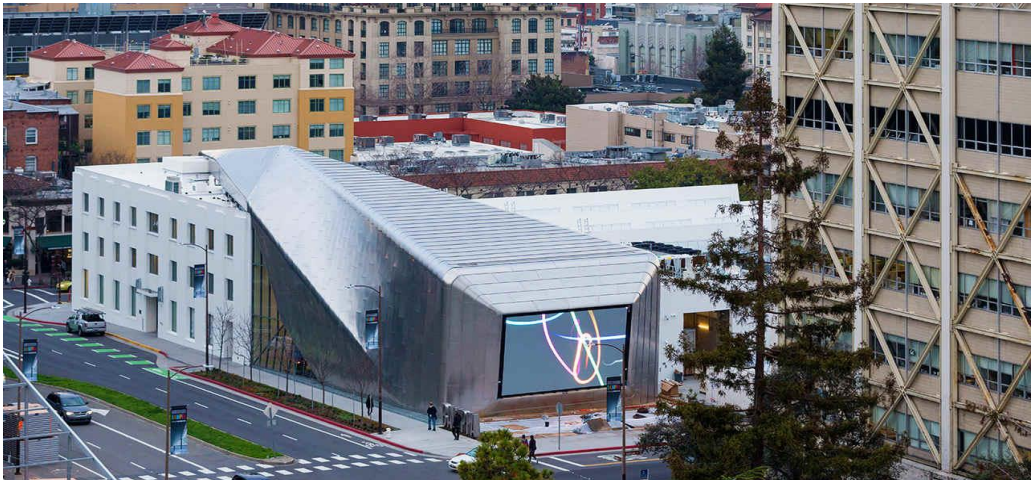
Another matter we would like to address is what type of location from one city would be interesting to connect with another city and what location in the other city should be picked? In other words, would we connect similar places or different ones? Would we connect a park portal with a central square portal? Or a central square one with a beach front portal as in the image (Fig.9.)?

And then there can be also a big difference of ambience temperature, a different season, for example a portal in Australia would show summer time to a portal in Europe where it would be winter time.

Those details are quite important and it would be interesting how the public would react to different connection scenarios of the portals. Of course, there can be placed multiple portals in one city, connected to different portals in different cities, giving the urban dwellers the possibility of choice and opening to a diversity of places, cultures and landscapes.

### **3. Big video screens in the world - examples**

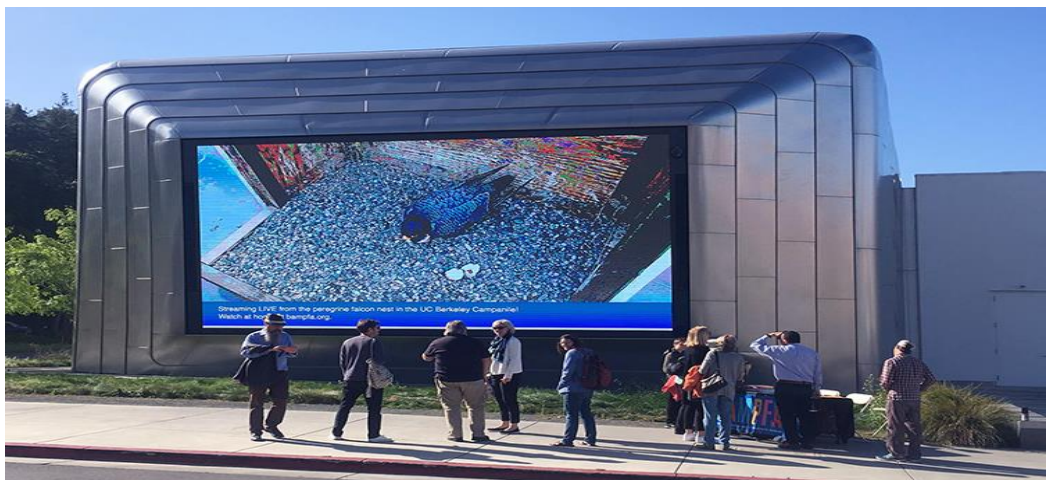
The first example we would like to present is the **Berkeley Art Museum and Pacific Film Archive (BAMPFA)** Designed by Diller Scofidio + Renfro and opened in 2016 where a massive LED screen has been installed on the building's exterior for outdoor screenings. [4]



**Fig. 10.** Berkeley Art Museum and Pacific Film Archiver with massive exterior LED screen  
 Source: <https://www.visitcalifornia.com/uk/attraction/bampfa>

In February 2019, two cameras were installed on the second balcony of the Campanile building in Berkley where a peregrine falcon pair had their nest, so people can watch the peregrines all day, every day.

To share the hatching of the eggs and the new chicks' arrival with the community, the UC Berkeley Art Museum and Pacific Film Archive (BAMPFA) put the livestream video from the nest box on their big screen from 8 a.m. to 6 p.m. on April 25.



**Fig. 11.** Berkeley Art Museum and Pacific Film Archiver exterior LED screen  
 Source: <https://news.berkeley.edu/2019/04/26/falcon-chicks-make-their-big-screen-debut/>

More than 500 people — and several reporters — stopped by throughout the day to watch the new family and ask questions of the peregrine experts who were stationed outside.[5]

Another interesting example is the impressive LED screen placed in the heart of Milan's shopping district this year in the spring to display the Digital Milan Fashion Week runway shows.

Milan Fashion Week was unfolding entirely on computer screens and social media platforms this round for the first time ever, as the persistent virus resurgence dashed any hopes of even a handful of physical shows.[6]



**Fig. 12.** LED screen streaming a Prada fashion live show during Milan's fashion week in Milan, Italy, 2021  
*Source: AP Photo/Antonio Calanni*



**Fig. 13.** LED screen streaming a Fendi fashion live show during Milan's fashion week in Milan, Italy, 2021  
*Source: AP Photo/Antonio Calanni*

Milan Fashion Week, one of the world's leading fashion events, was able to greet fashion enthusiasts thanks to super-sized digital signage from Samsung Electronics installed also on the Duomo Cathedral in Milan, Italy.



**Fig. 14.** Super-sized digital signage from Samsung Electronics installed at the Duomo Cathedral in Milan, Italy-January 2021.

Source: <http://koreabizwire.com/samsung-led-signage-airs-milan-fashion-weeks-digital-runaway-show/164957>

With the 103-square-meter display, Samsung LED signage supports the industry's highest level of 9,000 nits of brightness — technological prowess not interrupted by Italy's famously abundant sunlight — providing a vivid image from the event online. [7]



**Fig. 15.** Super-sized digital signage from Samsung Electronics installed at the Duomo Cathedral in Milan, Italy-January 2021.

Source: <http://koreabizwire.com/samsung-led-signage-airs-milan-fashion-weeks-digital-runaway-show/164957>

#### 4. The technology behind the PORTAL

As we saw at the previous example of the big screens transmitting the live fashion shows at Milano Fashion Week this year, the technology for THE PORTALS already exists.

SAMSUNG has created for example as a solution THE WALL screen family with MicroLED that can solve such a request.

MicroLED technology transfers micrometer-scale LEDs into LED modules, resulting in what resembles wall tiles comprised of mass-transferred clusters of almost microscopic lights. Mounted together as a uniform canvas and plugged in, they create a visual experience similar to what you get with premium QLED TVs.

The modular design allows to form any dimension of street portal-size screen.

The Wall's microLED technology possesses inherent color qualities, with two times superior color purity and a wider color gamut than conventional LED displays, that produce vibrant-yet-natural colors for a one-of-a-kind experience.

Robust durability against everyday impacts with shock-resistant technology, plus superior energy efficiency, results in reliable performance with long-lasting quality.

An exceptionally black base plus **ultra-low reflection** black technology deliver pure black for unparalleled contrast and detail.[8]



**Fig. 16.** Samsung's The Wall

Source:<https://www.cnet.com/tech/home-entertainment/samsung-microled-makes-massive-modular-tv-a-reality/>

We will conclude this presentation with the question: how much of an impact can have such a PORTAL in our city ?

Our city inhabitants would have a window in the middle of a familiar urban landscape where they can peek thru and see a totally different place. Would they like it? Would they be attracted to visit and take a look at what the portal is showing to them? Would they feel that their city has changed just by “touching” another city?

Technology is the major change that the future will bring us. That will impact the most. Our lives, our environment.

As Scott McQuire is telling us in his *Geomedia: Networked Cities and the Future of Public Space*: “Alteration of the ‘place’ that media technologies occupy in the city means that experience of both media and urban space becomes subject to new dynamics. Diverse and often contradictory tendencies are being played out simultaneously, underlining the fact that current transformations are both profound and uncertain in their ends.” [9]

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