

The Captive Portal as Artistic Opportunity and Ascetic Project

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This paper looks at how the captive portal can be used as an artistic medium, in particular how it can provide opportunities to expose the hidden formal characteristics of networked interaction through a particular, limited, engagement with wireless technology. It will introduce the captive portal as a geographically limited wireless local area network (WLAN) that forces those connected to a single location. The paper will examine how their value as artworks lies in their limitations and draw comparisons to the installation in contemporary art and historical precedents from medieval asceticism. To qualify these observations the author will conclude by discussing a practice based example of using wireless local area networks as an open, democratic and site-specific artwork.

Contemporary Art. Installation. Networks. Asceticism

1. INTRODUCTION

This paper will look at captive wireless local area networks, otherwise known as captive portals, and discuss how artists can use them counter the trend of perpetual expansion in networks and the accompanying affects on the subject, those of alienation and synchronisation. This perpetual expansion can be illustrated by the simple increase in the size of the data sphere, the amount of data generated globally, and projections on how much it will continue to grow. These suggest that it will grow ten-fold, from 16 zettabytes in 2016 to 163 zettabytes by 2025 (Figure 1). The same IDC study also speculates that this growth will be fuelled by an increased frequency of users making contact with a digital network, from once every 6 minutes in 2015 to every 18 seconds in 2025, on average.

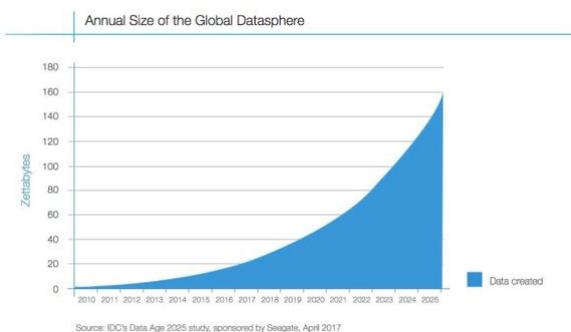


Figure 1: Annual Size of the Global Datasphere. Image: Data Age 2025: The Evolution of Data to Life-Critical

But what are the implications of this perpetual growth? Even back in 1948 Norbert Wiener recognised the impact that the growth and financialisation of communication could have on social stability. In *Cybernetics or Control and Communication in the Animal and the Machine* he writes:

“In a society like ours, avowedly based on buying and selling, in which all natural and human resources are regarded as the absolute property of the first business man enterprising enough to exploit them, these secondary aspects of the means of communication tend to encroach further and further on the primary ones. This is aided by the very elaboration and consequent expense of the means themselves”

In this passage, Wiener suggests that the primary aspects of the means of communication, to enable group homeostasis, can be undermined by secondary aspects of the accumulation of power and profit through the expansion and control of these means of communication. Communication networks, for Wiener are vital, and inescapable in the everyday contemporary milieu, but what strategies for self-regulation exist if one wishes to resist being drawn into this elaboration?

Self-regulation on the internet usually presents itself in somewhat facile terms through strategies like quitting Facebook, using life management apps like Moment, or making vague individual pledges just to ‘use the phones less’ or ‘spend less time online’

that seldom amount to a great deal. While these techniques might offer the illusion of respite, it could be argued that they are simply more examples of how self-regulation has become instrumentalised into another form of production. After all, announcing that one has quit Facebook on Twitter, or using an app to lessen ones time online makes little difference to those who capitalise on lives spent engaged in the immaterial labour that web 2.0 thrives on. This paper posits the captive portal and an alternative self-regulatory strategy, and will do this by initially examining what a captive portal is and how it is used in conventional terms. The captive portal will then be placed in the context of contemporary art through looking work by practitioners, and a text by Boris Groys. Finally, it will look back to medieval history for clues to how limited spaces can function as emancipatory zones within dominant administrative regimes and compare this to an example of the author's own artwork

2. THE CAPTIVE PORTAL

2.1 Uses of the Captive Portal

Captive portals are single pages that users are often redirected to in order to gain access to a wider network. They are often deployed by institutions and businesses to drive users to a web page in order to collect information or show advertisements before further access is granted. They are a useful data gathering, authentication and advertising opportunity gathered into one. Hackers, critical technologists and artists have obviously sought to use the same technology and make it available for others to experiment with. For example, in 2012 David Darts and Matthias Strubel launched the *Piratebox* project. It allows users to build their own wireless local area network using a compatible router or raspberry pi. It still has an active community and has been joined by others such as Sarah Grant's *Subnodes*, which can also act as a mesh network and wider Internet access point. The accessibility of raspberry pi's and the scalability and flexibility to mod devices with firmware like Open WRT now means that it is possible to create networks and meshworks that range from the local to the national, from something that might broadcast into a stairwell using *Piratebox*, serve a local community like Dhruv Mehrotra's *Othernet* in Brooklyn, to something like Libremesh that connects people over extended areas like Guifi.net in Spain, or *Freifunk.net* in Germany. One of the key features of this technology is that it has become scalable, it can begin small and grow as required. Artists have also used this technology and collaborated with these creative technologists, such as Evan Roth's *Kopime Totem*, developed with the Pirate Bureau

and *Piratebox*. It broadcasts the kopime symbol via the SSID of seven routers and, on connecting, users are directed to a local file-sharing site.

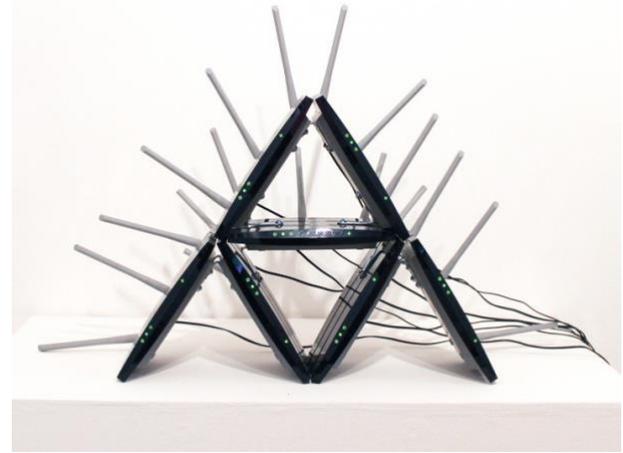


Figure 2: Evan Roth 'Kopime Totem' 2014. Image: Evan Roth

But while acknowledgement must be given to artists and creative technologists who have made these technologies accessible and produced examples of how it might work, this paper is more concerned with the potential shift that occurs in the interpersonal dynamic when users are connected across a geographically limited network rather than the global internet.

2.2 Contemporary Art and the Captive Portal

To expand upon this, it is necessary to draw upon a short text "The Politics of Installation" by Boris Groys from his book, *Going Public*. In the essay Groys examines what differentiates artists and curators. He suggests that the difference lies in a tension at the heart of the democratic notion of freedom. On the one hand there is the artist, and their 'sovereign unconditional publically irresponsible freedom of art making' and on the other, the curator represents 'the institutional conditional publically responsible freedom of curatorship' (Groys 2010). In a traditional exhibition of images or objects in series, the curator becomes an accountable, institutional buffer between the artists and their work and the public, who is free to walk through the exhibition, very much as they would along a public highway. A consequence of this separation the artist and viewer are held suspended within each realm of freedom. Thanks to the nature of this institutionally mediated gathering, viewers are organised into a public and, according to Groys, cannot sufficiently recognise itself as a community. He draws parallels with football matches and pop concerts, and uses images of Thomas Struth's series of photographs of gallery and museum visitors to capture these temporary gatherings (Figure 3).



Figure 3: Thomas Struth 'Pergamon Museum IV, Berlin' 2001. Image: National Gallery of Victoria, Melbourne

In the installation, on the other hand, the artist remains sovereign. The viewer is no longer viewing a series of objects in an institutionally mediated space and the curatorial buffer is gone. Thanks to the artist's choice of primary material, that of space itself, the chain of choices and of inclusions and exclusions loses some of its institutional character to become less of a public space, and more of a momentary authoritarian regime in which, to quote Groys, the 'visitor becomes an expatriate who must submit to a foreign law – one given to him by the artist. Here the artist acts as a legislator, as a sovereign of the installation space' (Groys 2010). What the artist chooses to do with this power is, of course, up to them. They could simply act like a curator, or experiment with new forms of temporary community by building on the momentary gathering of individuals in the space.

What is salient in Groys' essay is the potentiality that he sees in demarcated, limited spaces, how by taking, 'aesthetic responsibility in a very explicit way for the design of the installation space, the artist reveals the hidden sovereign dimension of the contemporary democratic order that politics, for the most part, tries to conceal' (Groys 2010).

The networked communication space has its own hidden dimensions, the standardising technical protocols that govern every interaction, the legal complexities of terms of service and contractual obligations that provide access to the network, and the implicit rules that govern online experiences. To take just one example, Alexander Galloway, in *Protocol – How Control Exists After Decentralisation*, describes these implicit rules as *continuity*. Continuity helps to align the browsing experience as closely as possible with the consciousness of the user. There must be linearity, pages must link to other pages, links should be truthful and go where they say they are going and must not crash or break, everything must work so that the mechanics that produce this immersive

simulation are hidden. Of course, one of the key differences between the institutionally mediated gallery and the Internet is that they occur in very different types of space. The internet may have initially been publically funded and institutionally oriented but thanks to the technological determinism of the 1990's (described in Barbrook and Cameron's 'Californian Ideology') and the more recent recentralisation of the user experience through platforms like Facebook and Amazon, the network now facilitates, as Maurizio Lazzarato describes, 'informational exchange and cooperation' through codification and, 'gives form to and materialises needs, the imaginary, consumer tastes, and so forth and these in turn become powerful producers of needs images and tastes' (Lazzarato 2006). It is perpetual 'and enlarges, transforms and creates the ideological and cultural environment of the consumer' (Lazzarato 2006). The commonality, however, lies in both the institution's and the Internet's shared ability to create temporary communities, albeit with different agendas. And where the installation can possibly operate as a small, sovereign fissure in the institution, maybe the captive portal can act as a fissure in the Internet, and within these small spaces hidden dimensions of larger spaces can be sensed, or half sensed. But it would be a mistake to think that simply limiting something makes it more revealing or useful. Like Groys suggests, when artists draw on their sovereignty during the creation of an installation they can just as easily become authoritarian as benevolent. The same goes for the captive portal, so how could one be used to establish a temporarily semi-autonomous space in which a degree of Wiener's 'group homeostasis' through communication can occur?

2.3. Regulation and the Captive Portal

The answer, as I have suggested, perhaps lies in revisiting ideas around regulation, both self-regulation and in groups. For clues to how regulation using small networks can be organised, an eye can be cast back into the past. Individual and communal self-discipline and self-isolation have a rich history in the west and forms a thread that runs from late antiquity with desert hermits, through the medieval monastic tradition and into the emergence and eventual triumph of capitalism. Amongst all of this self-denial there have been some innovative attempts at balancing individual sovereignty with the formation of mutually beneficial communities, and there is a useful reference point to be found in Giorgio Agamben's, *The Highest Poverty, Monastic Rules and the Form of Life*. Specifically, it can be located in the activity of one particular group of medieval friars – the Franciscans, founded in 1209.



Figure 4: Giovanni Bellini 'St Francis in Ecstasy' 1480
Image: Frick Collection, New York

Just as today's Internet experience is shaped by hidden technical, legal and behavioural protocols devised by a small elite, the spiritual life of the medieval Christian was similarly shaped by liturgical and sacramental protocols written and administered by the organised Roman church. The monasteries of the medieval period were, however, semi-independent communities; they set their own rules, partly based on the gospels but also based on more contemporary texts such as *The Rule of St Benedict* and the slightly earlier, anonymous *Rule of the Master*. This existence swapped adherence to a highly centralised canon law with an oath made to an abbot follow a more localised rule. A key difference between the two is that laws are obeyed, while the monks had an ethical obligation to internalise the communal rules and outwardly act accordingly. One is centrally administered while the other is individually and locally responsible. While this loosely governed form of monastic life was acceptable in small communities of monks, eventually the monasteries became too wealthy and powerful and the Pope forced them to accept Roman church doctrine into their orders. One can hopefully begin to see the correlation between the shift from smaller, more locally ordered and ethically accountable communities to a rules bound, centralised and highly standardised organisation. Just as most of these 'anomalous' monastic communities were eventually absorbed into the pan European logic of the Roman church, so have many smaller communities of web users on bulletin boards, home pages and chat rooms been absorbed into the standardising global logic of organisations such as Facebook. The Franciscans, however, were a particular thorn in the Roman church's side, and what makes their resistance so interesting, in this context, is the way in which they managed to negotiate their eventual absorption in the organised

church while leaving their order with enough sovereignty to practice according to their own ways. To be explicit, I suggest that the way in techniques by which the Franciscans carved out an indistinct space for themselves in which they were both within the administrative purview of the church, but also without it offers some clues about how a networked practice can sit within the protocological regime of the digital network, but resist can also resist it enough to prevent total absorption. The Franciscans did this through a radical conception of poverty in which they employed a very nuanced approach to use and ownership. They contended that use and ownership were separate and argued for a new classification of use that claimed no ownership, that was a de facto use that simply allowed the sustenance of the individual. Franciscan monks, like small children, were incapable of ownership, only of 'poor use'. This opened up a realm of practice that acknowledged canon law, but at the same time oriented the monk's obligations to another set of natural requirements. The analogue in a networked environment would be to acknowledge the framework of protocols and contracts that exist to produce that environment, but to take an 'expropriative' approach that minimises these as much as possible, for example removing payment and data plans, complex global platforms, or investigating formal alternatives to the orientation of the networked space that so seamlessly standardised the nuances of global communication.

Just as today's global internet corporations strategically acquire smaller organisations that offer resistance to their agenda, the medieval Roman curia predictably objected to the Franciscan's promotion of radical poverty as the organised church was a fabulously wealthy institution and this was perceived as a threat to their right to ownership. So, unfortunately, the Franciscans became locked into a long technical doctrinal conflict that they could not win. While much of the writing around this period of Christian history focuses on this struggle, what remains largely unexplored, according to Agamben, is the question of what can be done with this concept of expropriative use, use that is not concerned with neither rules nor life, but resides lightly touching both in an attention to daily routine, to habitus and habit.

3. EDGE HILL GARDEN NETWORK

How can captive portals, then, follow this example of setting up an expropriative space in which simple use, in the Franciscan sense, could correlate to what Wiener refers to as the primary function of communications, that of homeostasis?

To provide a practical example of how this might be achieved there follows a discussion around an on-going piece of the author's own work – a captive portal at a train station in Liverpool. Edge Hill station is the oldest passenger railway station in the world and also now home to Metal, an arts organisation. They have studios, exhibitions space and a permaculture garden on one of the platforms. During the fallow period of the winter they run an R&D residency in the garden as a way of activating what would otherwise be a relatively dormant space. During this winter the author set up a solar powered captive portal that broadcasts along the platform. It uses a raspberry pi, but as the broadcast range of the pi is relatively limited, a Ubiquiti Nano Station M2 is also used to extend the signal along the whole platform. It is powered by a leisure battery that is recharged by a 100w solar panel, so is off-grid and self sustaining. Users are invited to connect to the *Edge Hill Garden Network* by signs on the platform and it appears as an unsecured Wi-Fi access points on the list of those available in the station. Once connected, a single page appears and the user cannot navigate anywhere else.



Figure 4: Edge Hill Station Garden, 2018. Image: Dave Evans

The site was chosen as train stations as sites of intersecting rhythm and habit, infrastructural rhythm mixes with the tempo of daily journey's for commuters, from home to work, and in the case of Edge Hill, there is the added, albeit much slower rhythm of the garden. Add to this the compulsive habit of engagement with 4g networks that often occurs in these sites of waiting and the author was presented with a unique rhythmic environment in which to explore. The challenge was to create a localised space in which the temporary community of station users could share small experiences with one another. The emphasis of these exchanges is on raising awareness of being implicated in a subtle web of rhythms in the station, all of which contain their own agendas, from the simple

rhythms of survival in the garden, to the flow of labour between cities and the cognitive capitalism inherent in the repeated checking in on mobile devices.

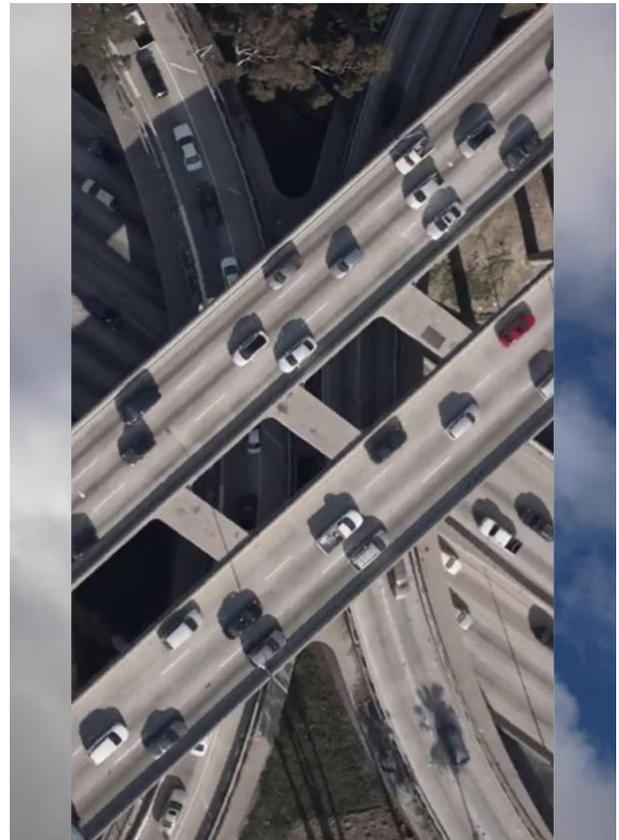


Figure 5: Still from 'Edge Hill Garden Network' Image: Dave Evans

In the name of simplicity an interface was created that users could upload to, images and text. These slowly, and randomly, fade in and out on screen, with no interaction required other than input by the user. The accent is on simplicity, it is 'flat file' so does not use a database, just some CSS, java script and PHP. It tries to be expropriative as it does not collect any data other than that which users input and a time stamp that acts as an ID. It doesn't require any login information, nor are there any terms and conditions. No data plan is required to connect. (Interestingly, the geographic limitations of the network and time logging appear to act as a self-governing mechanism as there has been a notable absence of obscene or provocative imagery and abusive language as of May 2018).

4. CONCLUSION

The basis for this paper was to look at how artists can counter the perpetual expansion and elaboration that is occurring across digital networks. It has used the example of the installation, as proposed by Boris Groys, to

describe how small spaces can exist within larger administrative structures that can highlight the machinations of these structures and allow for experimentation with alternatives. The paper then looks to history to examples of how these small spaces can be organised, using the Franciscan concept of 'poor use' to highlight how communal rules and a minimisation of the technicalities of massive administration might offer a route to more socially cohesive networked spaces. Finally, an example of the author's own work *Edge Hill Garden Network* as a practice based case study. The simplicity of the work is described as an attempt to throw the increasingly complex and ubiquitous organisation of the network into relief through the generation of it's opposite, in the same way that Groys' sovereign installation space may throw the machinations of the art institution into relief.

To conclude, as individual captive portals can now include meshworking protocols they can themselves connect and 'grow' to replace a commercially controlled, increasingly re-centralised Internet with an interconnected series of newly decentralised community-orientated meshworks. So, excitingly, as it stands in its contemporary technological form, the experimental captive portal has the potential to grow and supersede the structure it critiques. While they might still adhere to unavoidable technical protocols in order to function, much like the early Franciscans adhered to the rules laid down by the church, meshworked experiments at various scales and with different organisation models across multiple localities could eventually combine and allow less synchronised and financialised networked subjectivities to, perhaps, emerge.

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