BIG DATA – SOCIAL COMMUNITY

Where the construct of social community sits in the urban environment under the influence of data technology ?

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Abstract

Where the construct of social Community sits in the urban environment under the influence of data technology?

This question is pushing us to research and imagine prototypes: social, urban, and built prototypes that can respond to this question. Can our way of life be designed better? Can we adopt a social policy "mortgage 2.0"? Can we create a system that makes living space more affordable? Can we implement a social currency into this system?

Social community constructs can occur anywhere as a response to our need for social interaction.

Online social interactions are already given. Gamers have been using such platforms since 1996, millennials and gen Z are more involved in the online and virtual interactions than they are in the offline medium. These are the future generations of city users.
The people that are decision-makers now in the political and urban planning fields are people that did not experience the new digital era in the 1980s and as such, they cannot be anything other than analog dependent and lack an in-depth understanding of overall new technology implementation and the immersion that later generations enjoy.

The socially built environment has been implemented through direct social interactions since 1970 and it has shaped contemporary urban design. These types of built environment, without denying their high-value merits, have their limitations and the recurrent need to go back to small scale values and village driven social activities are eventually failing in vast scale and over densified cities.

The question remains: how can we trigger future social interactions in an in- between environment defined as a amorphous medium existing between a problematic densified built environment and a semi-virtual environment?

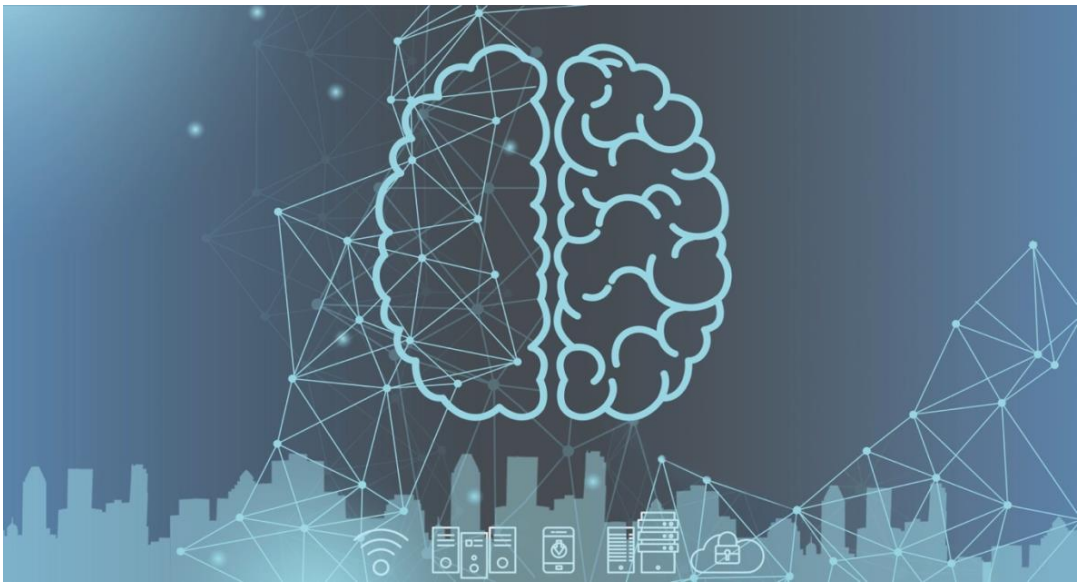

Figure 1. Paper subject illustration. *Source. Team image*

Objectives:

To go forward beyond the statistical usage of data to formulate strategies for urban, civic participation through online platforms.

Research the rate of acceptance of a social token-based reward inside of a community.

Next step forward in communal residential living.

Rethinking of the community attributes will contribute to laying the foundation for a large scale community management based on social tokens.

How is social media influencing and benefiting social policies?

Design of built future shared communal spaces, in residential, education, and so on.

Literature Review:

After a thorough review of current policies and publications in the field informally dubbed "Smart Cities", referring to the interaction between emerging technologies, big data urban planning and governance, we identified the areas of study that have received particular attention. These fields of study generally relate to energy conservation and sustainability as well as urban mobility. Other concerns regarding the growing impact that technology has on human quality of life with necessary resonance on the built and urban environment are just emerging and have not yet received due attention. Within our research and subsequent experiment we mean to address one of these issues: the impact on the community and the ripple effect that access to technology and connectivity in the community can, will or should impact the urban space and the City.

Cities have been long viewed as rigid structures subject to laws, rules and governance that is more often than not removed from the community. The car-centred and building-centred city has been prevalent until now when there is an emergence of the idea of the people-centred city. As the members of the community become increasingly interlinked, process and deliver data faster, more efficiently and more accessibly, analysing the potential requirements, needs and affiliated research labs at UCL – Bartlett, such as Space Syntax and so many others that were already active before the computer age are now using the available data or personal data collected for the understanding, discovery and development of urban processes and models. We are not interested in using existing paradigms; we are interested in creating an open-source system that can evolve dynamically by using existing data or collecting new data directly from users in clearly defined social domains.
There are social programs implemented today,

like in The Netherlands, where retirement homes offer free rent for students spending time with the elderly residents. This is a local social construct that provides benefits for two-gapping generations that have no previous overlapping interaction.

Tomorrow, with the help of and by the implementing of new connectivity technologies, this model can be replicated and made available to social layers that would benefit from the association but were previously isolated from each other. The advantage of large scale technological implementation in the short run would be to close the data divide between generations by establishing a system of social tokens. For every beneficial activity provided, there would be a corresponding credit associated. Once this beachhead can be set, furthermore policies can be implemented to modify and improve social life and shape the urban environment.

Methodology:

Creating new data collecting methodologies: data entered directly by users, upon completion the individuals that have participated are rewarded with social tokens that can be used on social platforms, games, everyday usage or other environments. Building a self-evolving and adaptive online platform that works continuously and incorporates data from community management to social education; the platform scans for video content on existing platforms and can classify the information by category.

User-Generated Content (UGC). Citizens UGC can generally occur: (1) proactively when users voluntarily generate data on ideas, solve problem s, and report on events, disruptions or activities that are of social and civic interest, or (2) retroactively, when analysts process secondary sources of user-submitted data published through the web, social media and other tools[1] .

”Potentially the “next phase” in this ever-transforming technology landscape is the creation of tiny, intelligent devices that are embedded into everyday objects such as houses, cars, furniture, and clothes, and

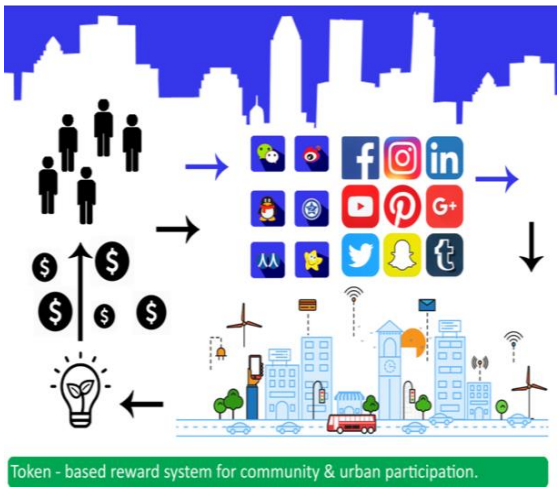

Figure 2. Token reward system. *Source. Team image*

which can “listen in” and produce recommendations and interventions as needed. The concept of “Internet of Things” (IoT), attributed to Ashton in 1999 is still primarily a vision at this stage. However, there are many individual IoT technologies and systems that are operational [2]. Some envision a future with Machine-to-Machine (M2M) communications, where “billions to trillions of everyday objects and the surrounding environment are connected and managed through a range of devices, communication networks, and cloud-based servers” [3] . “ Needless to say, the number and variety of data streams available to study cities will greatly increase.” [4]

We look forward to creating algorithms that can interpret in real life the needs and feed information to other devices and algorithm s that can shape built environments after those descriptions.

Data collection from social networks is broad spread and has a very vague potential as the socially relevant content for the built environment. Data entered by users is essential because users can live either in the area of a constructed and inhabited environment from the 12th century or inside the smart cities that are developed.

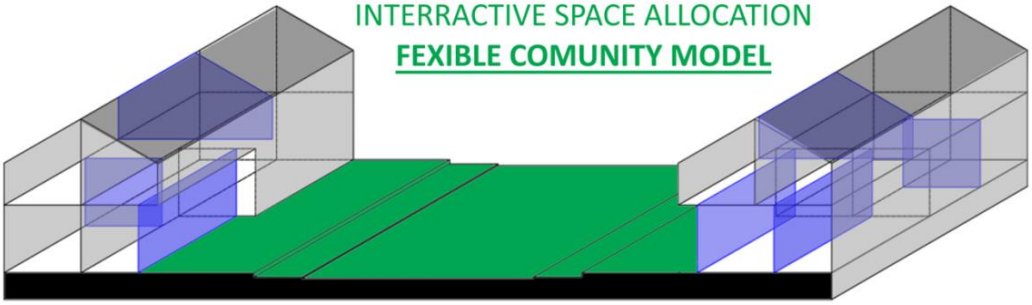

Figure 3. Low rise community environment model. *Team image*

Project Possible Implementations:

We are proposing two scenarios that have an impact on the urban space and the built-up space. Even though both proposals have the potential to be developed separately and can also be divided into different research subprograms, it was essential for us to describe the entire area where these explorations can have an impact.

Project 1: public urban space

Monitoring, understanding and redistributing parking, roads, car usage and circulation spaces according to necessity, community need and feedback.

The city can become interactive not only with tourism but also with street experience. The cars can park in the middle of the street if the traffic is not heavy, the space of the sidewalk can widen, an ideal situation as described by Jan Geel that can be interactive. Parking time and space (the middle of the road if the road is not used) can be scheduled and reserved upon availability, location and transit time can be known ahead of time .

Project 2: residential & communal space

With the 3G tech leap, we are reasonably confident to say that we tried to enhance performances of existing platforms, public platforms, city infrastructure and management platforms. We are not talking about improving the performance of the current urban environments, enhancing transportation or services, which are already on the drawing boards altogether with the 4G leap and only need future implementation methodology.

We are talking about the ***"The next step forward in communal residential living"***, and its impacts on the urban environment.

We can develop procedures that can improve and reshape the living experience in social residential complexes, hopefully with an impact on the built environment.

The start will be a low-cost self-sustainable community, along with collective energy and resources management. The rethinking of the community attributes will contribute to lay the foundation for a large scale community management based on social tokens.

We propose an interactive residential building where the living space can be reconfigured to meet the needs.

We believe that through examples and mini centres, we can better describe this interactive space. For example, an elderly person does not need the second floor of a duplex apartment, and instead of a usable area of 120 m2, he would need a usable space of 70- 80 m2 on one level. It would be great if the dwelling house could be reconfigured so that such a significant change could be possible. By extrapolating, we can extend this situation to work on the scale at an interconnected level of a residential building or a whole building.

Project 04 : Prototype

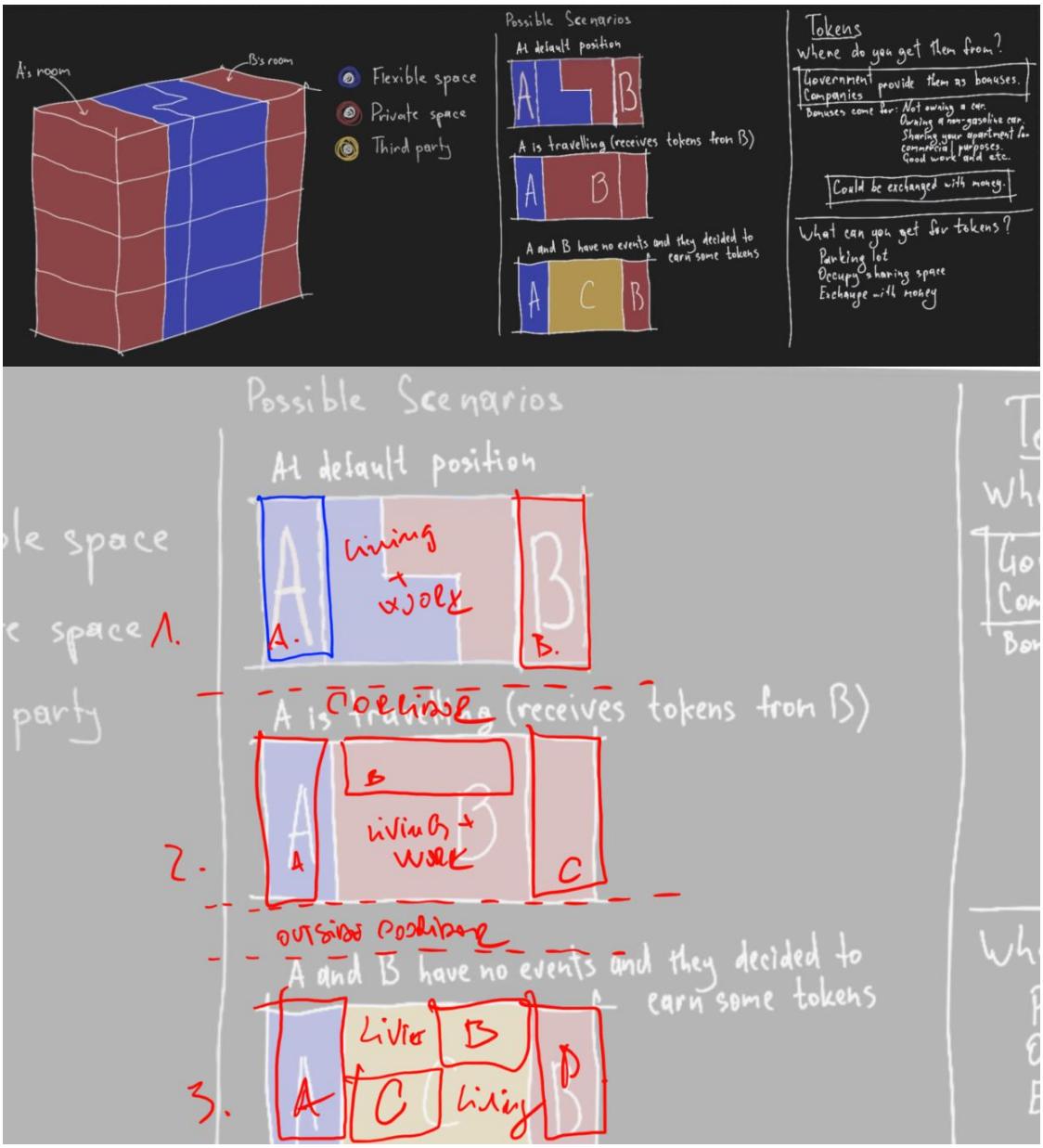

Figure 4. Shared space , Mortgage 2.0. *Source Team image.*

Project 3: Mortgage 2.0

In the light of the recent pandemic situation and not only we are trying to find partners to develop the above ideas into a prototype of affordable the shared spaces. The first example in China, there is a great depression for the young generation related to the fact that a lot of the members of the young generation will never afford to own an apartment.

The idea behind Mortgage 2.0 proposal is that only half of the surface of the residential unit will be privately owned.

The remaining shared space can be used for residential purpose, work purpose and can be rented with social tokens.

The price of a two mil Rmb / apartment (this is medium-low price standard) can be cut in half in an economy that is using the real estate market for economic growth.

The shared used space can be subject to a social-economic policy.

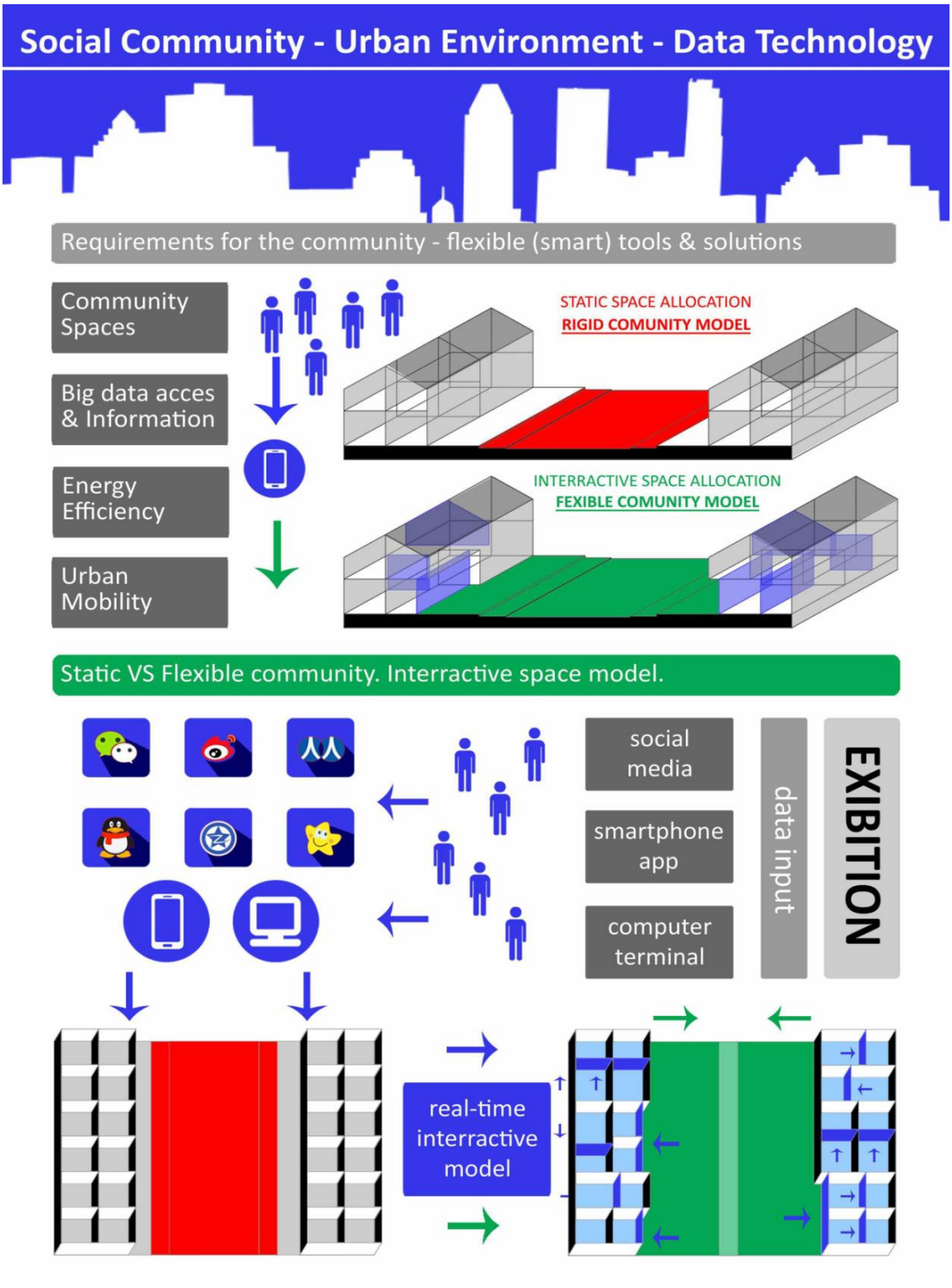

Figure 5. Caption. Source.

Project 04 : Prototype

A building adapted to the policy Mortgage 2.0 can provide all the necessary working and living spaces as a shared space or private rented space. We think that loggias can become internal used space that the ground floor space can be extended over the sidewalk or street parking spaces that the elevation walls (tech walls) can be folded and or can provide significant interior partitioning.

Commercial ground floor:

Different types of businesses have different space usage needs, bars, restaurants, commercial all are using different the public domain right now, and the ground floor spaces always need to be reconverted.

Designing a mobile elevation with an easy to reconvert space behind that can use in case of need the public domain can provide an easy switch between usages and also can give daily reconversion is needed, similar to the street shop owner that pushes his vending cart each day in front of the shop, still enhanced.

Working/living floors:

We mentioned above that this type of prototype depends on 50% of owned space and 50% shared used space, or at least this is our initial thinking.

There is a massive advantage of being able to use high-end technology and to continue to upgrade this technology on 50% of the building spaces without the full approval from owners.

The soft partition can be simply folding walls or modulate furniture, and the exterior walls can fold inside of the building to create the new splits between the residential units.

Also, these exterior walls can incorporate sustainable technology from hydroponics to solar and beyond.

Endnotes

[1] Glenn Geers, and Piyushimita Thakuriah "Transportation and Information: Trends in Technology and Policy." 10.1007/978-1-4614-7129-5 (2013).
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[3] K.R. Rao, Zoran S. Bojkovic, Bojan M. Bakmaz, "Wireless Multimedia Communication Systems: Design, Analysis, and Implementation" **C**RC Press, 24 iun. 2014
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