

**Temporary City:
Appropriation for Everyday Life in Hong Kong**

by

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To the people in Hong Kong who are fearlessly fighting and those who lost their lives for freedom.

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Abstract

This thesis challenges the pursuit of permanence in cities and sees temporary and tactical appropriation as opportunities to improve the everyday life of people in Hong Kong.

In old districts of Hong Kong Island and Kowloon with extremely high density, systems of temporary spaces have been developed over the years to accommodate the needs of diverse social groups. However, increasing privatization of public space and severe housing unaffordability disconnect ordinary people from their daily environments and lose the sense of ownership of the city. This resentment became apparent in the protests in 2014 and 2019.

By exploring the processes and typology of space appropriation alongside the shifting needs of people, this thesis proposes a network through a phone application called BOO! with three typologies that are made of bamboo and other light and collapsible materials. With inspiration from Situationist International and Archigram, these structures add playfulness and rhythms to public space.

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Chapter 1: Introduction

1.1 True Story

Imagine you are a recent graduate in your late twenties. You work as a nurse but you live with your parents and still share a room with two other siblings. You want privacy and independence, but you just can't afford to rent or buy an apartment in the city. After long working hours each day, there are not many public places to go in the urban core other than going to the malls, you feel suffocated.

When you watch the news, there are protests happening to urge the government to keep heritage buildings here and neighbourhoods there. You wish those places could be treasured because they tell the stories of this city. Yet, for the government of this capitalist city, economy benefits often come first. You sighed, feeling that you want to grab on to some precious memory but they are like thin air, so intangible and hard to keep. You feel powerless.

This is a common story in today's Hong Kong, in fact, it has gradually become more common in other developed cities as well. What kind of architecture would meet the change of lives and values in the 21st century Hong Kong? Rather than merely being a form of economic investment, architecture should perform its fundamental role to support and improve the daily experience for ordinary people and to contain stories of a city. As experience is not only space- but also time-dependent, what if temporary architecture could improve city dwellers' daily lives?

1.2 From Nomads to Settlements

99 per cent of the human history is found nomadic. Human history started as early as four million years ago when evidence of bipedal human was found. (Kokubun 2018, 73) Humans had then been nomads and lived by hunting and gathering for the next few million years until approximately 10,000 years ago (Kokubun 2018, 72) near the end of Ice Age. First human settlements appeared at mid-latitude regions as the increase in forestation and disappearance of large mammals such as ungulates in these areas made hunting difficult. To survive, humans had to first adapt to food storage. However, since storage hindered migration and movement, the pressing need for food storage forced humans to adapt a settlement lifestyle. (Kokubun 2018, 79)

According to Kokubun, a Japanese philosopher and writer, maintaining environments and conditions to avoid boredom is crucial to sustaining a settlement lifestyle; also methods to prevent boredom caused the diverse development in human history which is 'civilization.'

1.3 Permanence and Agora

As civilizations developed, forms of settlements started to bring meanings. In Western societies, permanent buildings and settlements became symbols of safety (Bishop and Williams 2012, 12) and this ideology could be found in the concept of collective. In Vitruvius' *Ten Books on Architecture*, his definition of *firmitas* remains a foundation of the concept of 'permanence' in Western societies. He suggested the famous 'triad' of architectural characteristics: *utilitas*, *firmitas* and *venustas*, which are 'utility', 'strength' and 'beauty' respectively. In

particular, *firmitas* refers to 'the ability of a building to endure based on its own material strength and soundness of construction' and 'mass and solidity crafted to endure eternally.' Traditionally, architecture that fulfils such principles is mostly state-owned buildings and places for the public, such as public squares, theatres, auditorium. (Fraser 1990, 57)

As the structures of societies changes economically and politically, formal physical space of the public realm has changed. New ideas of the collective and the commons emerged and methods of architectural commissions become more diverse. Public spaces are progressively privatized and the commons does not only bound to crown land but spaces and resources that are accessible to the public. For instance, private shopping centres became destinations of public lives and social interactions. Politically, the ideology of democracy and social equality, and the emergence of feminism since the 20th century led to the opposition to the binary definition of public and private spheres where 'private' often refers to as 'domesticity and motherhood.' (Fraser 1990, 61) Fraser stands that the 'liberal' or 'bourgeois' public is not quite public after all. Instead, the 'public spaces' are reserved for men and bourgeois classes excluding women and working class. Rather than having a single 'public' sphere (Fraser 1990, 69), 'a plurality of publics' can be directed toward wider publics and members with various social identities, interests, and needs. (Fraser 1990, 67)

1.4 Questioning Permanence

Permanent and formal structures are no longer the only places that people enjoy their public and social lives in contemporary cities due to the change of needs and values

and way of living. From Europe to Asia, unused spaces in urban sites and remnant spaces have been appropriated by the citizens and communities, and they were used as self-made urban spaces, events, flash mobs, and informal gathering places. (Hou 2010, 2) These spaces intended for short-term usage do not only redefine a city's development from economic-based to people-driven but also re-position citizens as from passive consumers to active participants.

The act of space appropriation echoes with Lefebvre's definition of 'the right to the city' which recognizes the ordinary people's positions in cities. Temporary architecture, therefore, become a form of democratic space.

The right to the city manifests itself as a superior form of rights: the right to freedom, to individualization in socialization, to habitat, and to inhabitat. The right to the *oeuvre*, to participation and *appropriation* (clearly distinct from the right to property, are implied in the right to the city. (Lefebvre, Kofman, and Lebas 1996, 173)

So, what exactly are the differences between 'permanent' and 'temporary' structures? Temporality is essentially a continuous process. It becomes obvious that permanent structures simply last longer than temporary ones.

In the 1960s, Guy Debord and the group 'Situationist International (SI)' criticized the rising consumerism at the time that leads to the loss of agora and that appearances and images are placed above everything else. They imagine 'situations' - moments that everyday life of capitalist routine are disrupted without having to buy anything. These moments became moments of truth and real experience. Hence, the resulted design should align with programs that are non-capitalist and are focused on real-life experience instead of only a place that people take photos of and put

on social media; it should be a place for social connections or self-reflections.

Drawing on the complexity of urban contexts and people's way of living in contemporary cities, the research intends to explore possibilities of temporary spaces that correspond to 'the right to the city' as well as the fluidity of public space. As one of the biggest cities with extreme urban conditions, Hong Kong would be used as a testing site to weave theories and urban contexts to propose designs that would make use of the seeming constraints as opportunities for people to realize their individualizations, freedom and other needs through participation and appropriation.

1.5 Thesis Outline

The next chapters first discuss the challenges in the environment and social and cultural conditions in Hong Kong. Recognizing the opportunities in temporary structures, chapter 3 studies the processes and details of existing space appropriation followed by two case studies in two of the most diverse areas in Hong Kong in chapter 4.

Chapter 5 proposes methods that correspond to methodology suggested above with references to Henri Lefebvre, Tim Ingold and Michel de Certeau, and Margaret Crawford.

Chapter 6 introduces the design of a phone application and three designs at different scales. The designs proposed potential solutions to the need for free temporary spaces to gather, a need faced by Hong Kong but also other cities.

Chapter 2: Hong Kong as a Place

2.1 Gigantism



The view of Hong Kong from the Peak.

The 1100-square-kilometre territory of Hong Kong lives over 7.4 million people with 6,659 people per square kilometre, making it one of the most densely populated places in the world. The name 'concrete jungle' is an accurate description of Hong Kong as the city with over 9,000 high-rise buildings which are mostly made by concrete, and it has more inhabitants living on the 15th floor or higher than any other city in the world. (Shelton, Karakiewicz, and Kvan 2011) Skyscrapers dwarf humans and constitute the lack of human scales in the city, and this 'gigantism' (Relph 1976, 118) is one of the components that make urban areas in Hong Kong placeless.

2.2 Private Space

The extremely high density and worsening housing unaffordability with improper planning results in huge challenges for people, especially the younger generations, to seek unable to obtain adequate private or personal space as well as 'true' public places in the city. What is left are 'placeless' places such as shopping malls with the same chain stores, convenience stores, restaurants and cinemas branches.

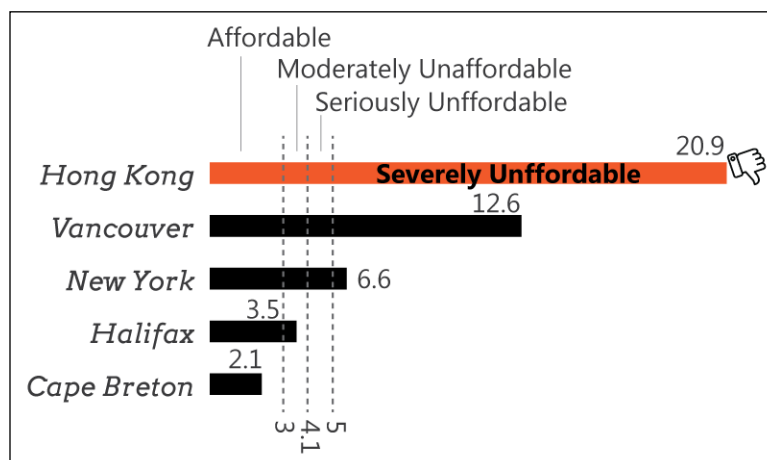
According to 15th Annual Demographia International Housing Affordability Survey in 2018, Hong Kong ranks the last among the 309 metropolitan housing markets in eight countries, which are Australia, Canada, China [Hong Kong only], Ireland, New Zealand, Singapore, the United Kingdom and the United States. The survey rates middle-income housing affordability using the 'median multiple,' which is

the median house price divided by the median household income. Results are categorized into four levels:

1. *Affordable* (Below 3 times)
2. *Moderately Unaffordable* (3.1 to 4 times)
3. *Seriously Unaffordable* (4.1 to 5 times)
4. *Severely Unaffordable* (5.1 times and over)

While Cape Breton in Nova Scotia has a median multiple of 2.1 which makes it rank the most affordable market in the chart, Toronto and London both rank 294 with a median multiple of 8.3 which make them 'severely unaffordable,' and Vancouver ranks the second last with a median multiple of 12.6. For Hong Kong, its median multiple of 20.9 broke the highest record in the survey.

To put this context, it means that it will take 20.9 years of an average pre-tax household income to afford a place to live. It is, therefore, not uncommon to hear stories on the news: 30-year-old primary school teacher, Eunice, has to share flat with her parents and brother; 21-year-old student, Ruka,



Hong Kong ranks the last among 300 markets in housing affordability (data from the 15th Annual Demographia International Housing Affordability Survey 2019).



A comparison of the amount of open space shared per person in four cities (Lai 2017, 20).



Street vendors on Tai Yuen Street in Wanchai, Hong Kong.

lives in a 300 square-foot (28 square meter) room with her family of five.

2.3 Public Space

Due to topography, while three-quarter of the land is being country parks and hills, there is a lack of open public space in the urban areas where people spend most of their time. A study in 2017 from the Civic Exchange, a local think-tank, shows that urban Hong Kongers get ‘an average of 2.7-2.8 square metres of open space per person,’ which is less than half of other Asian cities such as Tokyo, Seoul, Shanghai and Singapore ‘whose residents get 5.8 square metres to 7.6 square metres.’ (Lai 2017, 20) These open spaces in Hong Kong are distributed unevenly that residents in high-income areas such as the Peak, Kowloon Tong and Discovery Bay have access to 8 square metres of open space with other greeneries, while residents in Mong Kok, an area within the urban core, only have 0.6 square metres of open space. Moreover, existing public spaces are not fully accessible to the people. A number of them are under private properties and some are located on podiums. For instance, the famous open space on the ground floor of Times Square is a privately-owned public space.

At the same time, privatization and sanitization of public places slowly kill the existing vibrant streetscapes. While street culture has grown popularity since the Graham Street Market in the late 19th century, the government has long considered the practice to be threatening to public hygiene. They used a number of schemes to encourage vendors to surrender their license; and in areas such as Wanchai, ‘unlicensed street vendors have been increasingly purged by health inspectors and the police in recent years’ (Chalana



A typical street food vendor in Hong Kong.

2016, 11). These vendors are considered as loose space which is defined as ‘space apart from the aesthetically and behaviorally controlled and homogenous “theme” environment of leisure and consumption where nothing unpredictable must occur’ (Franck and Stevens 2006, 3). The decline of these places of urban informality means the decline in ‘the expression of the freedom of the subject’ (Laguerre 1994, 24).

Meanwhile, the number of department stores and chained commercials have been increasing, especially in the development sites, replacing local street vendors and old buildings. Wanchai is an example. During the Lunar New Year in 2016, ‘Fishball Revolution’ in Mong Kok started with the conflicts between supporters of street vendors and the police. (Chalana 2016, 11) It resulted in clashes and reflected deeper political tensions and identity of place.



Protests against Lee Tung Street redevelopment in 2007.

2.4 Loss of Heritage

In architecture, time can be interpreted in the form of heritage buildings that evoke memories to different social groups. However, the policy makers of this capitalist city often put economy benefits before everyday life and needs of ordinary people (Hou 2010, 137), and collective memory. The government’s neglect of the voice of the general public since the 2000s triggers protests and demonstrations, including the preservation of Star Ferry Pier in Edinburgh Place in 2006 and of Queen’s Pier in 2008, the redevelopment of Lee Tung Street in Wanchai in 2007, and the saving of Choi Yuen village in the anti-Hong Kong Express Rail Link Movement in 2009 to 2010. Despite all the efforts in the above protests the government continued replacing numerous heritage



Protests against the demolition of Edinburgh Place Ferry Pier in 2007.

buildings and old neighbourhoods with condominiums and new lands, erasing the stories embedded in the city.

2.5 Temporary Structures

As Relph points out that in cultures such as English, 'places can become almost independent of time' (Relph 1976, 33) because significant tradition and rituals 'count for little,' this thesis argues that such independence segregates people's experience and attachment with the place.

In Hong Kong, however, although declining there is still a sense of tradition and rituals in the urban area. Festivals based on the traditional lunar calendars, such as Lunar New Year and Hungry Ghost festivals are still annual celebrations throughout the city. Rituals happen in everyday life in the form of temporary structures and uses, such as daily street vendors in Wanchai and Causeway Bay, and weekly squatting of domestic helpers in Central. These temporary uses are living examples of opportunities to create time-based architecture. By controlling the frequency and duration of appearance of the structures, rituals can be created among people, strengthening their relationships with the place. Time-based architecture, as suggested by Ole Bouman, is 'an architecture in which process and duration are just as important as form,' and that it would 'adopt the process of becoming as part of its meaning' (Bouman 2003), similar to what Ingold described as 'non-Western' approach.



A Bamboo Cantonese opera theatre in construction during the annual Hungry Ghost Festival.



Domestic helpers squatting on the ground floor of the HSBC building in Central during weekends.

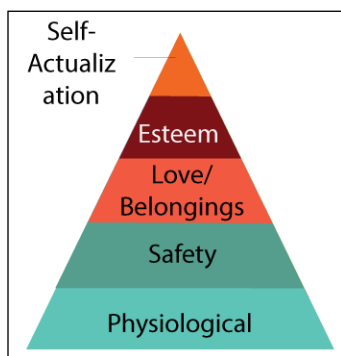
2.6 Outsider

Whether on the political and spatial levels, people in Hong Kong have long suffered from a lack of identity and they have been outsiders of the land. First, the city was a British colony for 150 years before its power being transferred

to China in 1997, where 'One Country Two Systems' was applied to the city for the following 50 years. After the end of the interim, the city is expected to lose its independence in 'political, legal, economical and financial systems.' (Kee et al. 2014, 65) The tension between the two contrasting systems, capitalism in Hong Kong and communism in China, create instability in the identity of the people.

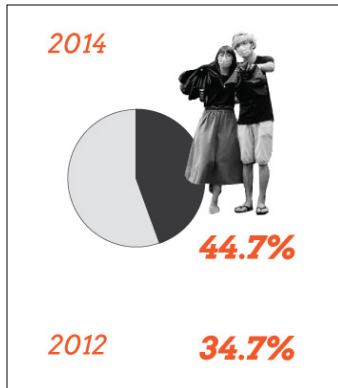
Second, in post-colonial time, this identity crisis is worsened from the way that the government dealt with the land and it is often being criticized of 'not considering everyday life and needs of ordinary people' (Hou 2010, 137). The planning and redevelopment process in Hong Kong uses a top-down approach with little public involvement. With the priority on the economy over people's needs, redevelopments in various communities often erase people's original sense of belongings and attachment, shaking the identity of place.

In fact, the issue with identity and sense of belonging would not cause much tension if Hong Kong is not a post-material society. Post-materialism is the transformation of individual values from materialistic and economic to the emphasis on self-expression and personal freedom. (Inglehart 1971) This notion 'gives priority to citizen input in government decisions and an ideal of humanitarian society.' This belief system takes shape during one's growing environment and would not have huge change later in their lives. Both Abraham Maslow's hierarchy of needs (Maslow and Frager 1987, 97-98) and Inglehart's post-materialism suggests that people fulfil their tangible needs before intangible values.



Self-actualization being the top in the Maslow's hierarchy of needs (Maslow 1987, 97-98)

Therefore, a post-material society is one that is economically stable with an abundance of resources. In Hong Kong, since the 1970s, there was huge economic development and it



There was a 10 % increase in percentage from 2012 to 2014 which the post-80s agree with post-materialistic values (Lee 2014, 55).



Occupying Central for 77 days during the Umbrella Movement in 2014.

soon became an international finance centre in 1980s. Studies in 2012 and 2014 show that Hong Kongers born after the 1980s, often called ‘post-80s,’ shows a much higher tendency (44.7%) to adopt post-material values than the older study groups. (Lee 2014, 55) And it is estimated that the ‘post-90s’ or younger show even a higher percentage of aligning with post-materialism. It is almost not surprising to see people, in particular younger generations, to take on the streets and protests for social values, freedom, and injustice especially in 2014’s Umbrella Revolution and the 2019’s Anti-Extradition Bill Protests or the ‘Water Revolution.’

Implications

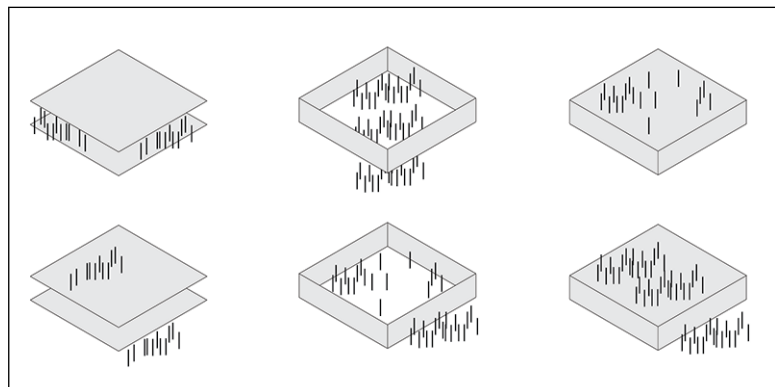
What does this social background mean to architecture? Back to the place-making. Establishing a sense of place is to allow people to feel that they belong to certain places and to cultivate deep relationships with the places through different experiences. Sense of identity and attachment would alter one’s experience with the place. Being an ‘insider’ of a place, both physically and socially, leads to a much stronger sense of identity compared with ‘outsiders.’ While the above problems involve complicated political and social tensions, the position of this thesis is that through changing the processes of place-making in individual, community and urban scales, architecture is able to bring together a network and acts as activism.

Chapter 3: Temporality in Cities

3.1 Temporality and Music

While interrelated, it is necessary to differentiate time and temporality. Philosophers and scientists have been asking the question ‘what is time and temporality’ for centuries. Time is objective; it is the ‘regular setting for the vagaries of history’ (Ingold 1962, 72). In contrast, ‘temporality’ is a subjective progression through moments and activities.

Although perceptions and scales of temporality have been shifted drastically since industrialization and urbanization, what remains unchanged is that temporality can only be experienced through actions. Lefebvre (1996, 157) and Ingold (1993, 161) both compare temporality of events to music and space to landscape. Without the action of musicians playing the instruments, music cannot be produced and experienced. The interrelationship of rhythms in music is similar to the rhythms of various social lives. Essentially, temporality brings time to a human scale where time acts as a stage and human activities as performance. Ingold’s *The Temporality of the Landscape* introduces ‘taskscape’ to denote ‘a pattern of dwelling activities,’ and that taskscape is social (Ingold 1993, 159) due to how people perform their



Everyday life as performance in different urban settings which act as stages.

activities with one another. Because of this interrelationship, taskscapes with different rhythms resonate with each other and produce results that are otherwise different. Hence, deviated from the 'Western bias,' Ingold points out that 'the present gathers the past and future into itself' (Ingold 1993, 159) and that 'there is no single, one-dimensional strand of time' (Ingold 1993, 160).

3.2 Cultural Perceptions

Learning from different cultural perceptions and fundamental differences in the views of temporality deeply rooted in Western and Eastern culture would help understand the context and design of temporary structures.

In Western thought of time is linear with a definitive beginning and end, so for paintings, for example, is considered end products in themselves (Ingold 1993, 161), and that it is common 'to privilege form over process' (Ingold 1993, 161). Adversely, Eastern and other cultures tend to view time as cycles hence it is natural to consider paintings and other artworks as a process rather than its products. Viewing temporality in a non-linear way expands the approach to consider whether there are a beginning and end to events, artworks, materials as well as their impact, use and adaptation.

This difference in perceptions of time can be interchangeable to space. The concept of impermanence is deeply embodied in non-Western cultures. (Bishop and Williams 2012, 12) For example, Buddhism and Hinduism view 'the impermanent nature of life and changes are undeniable truth of existence.'

3.3 Tensions

If we view architecture as processes rather than forms, the binary division between permanent and temporary begins to blur: buildings and their materials simply have different life span and rhythms, just as landscapes are in motion that is slower than our activities. (Ingold 1993, 164) In an urban context, the interplay of rhythms can only be experienced in everyday life and the lived and senses like vision, sound, touch etc. (Ingold 1993, 160), as well as an everydayness, repetition, and ritual (Heidegger 1975). 'Temporary space' should be redefined not based on its lifespan, but its intention of being used within a limited time frame, which contrasts to formal buildings.

Temporary space often referred to as loose or insurgent space, is informal and sometimes messy. According to Michel de Certeau, governance and policies are spatial and the informal and individuals are based on time (Chase, Crawford, and Kaliski 1999, 12); in cities, the former is formal planning and the latter being the everyday life, or urban vernacular (Chase, Crawford, and Kaliski 1999, 19). The creation of temporary structures often triggers tension between institutions and users who are usually ordinary people, and this resonates with what Ingold and Langer argue as the essence of rhythms which lies in the 'successive building up and resolution of tensions' (Ingold 1993, 160).

Chapter 4: Case Studies

4.1 Central and Causeway Bay

Viewing Hong Kong in terms of temporality at the level of planning or strategy, one will see the constant building and demolishing of the city. Both Central and Western District and Causeway Bay demonstrate various types of temporary spaces and uses, such as street markets and bamboo opera theatres, with mature networks of transportation and support services.

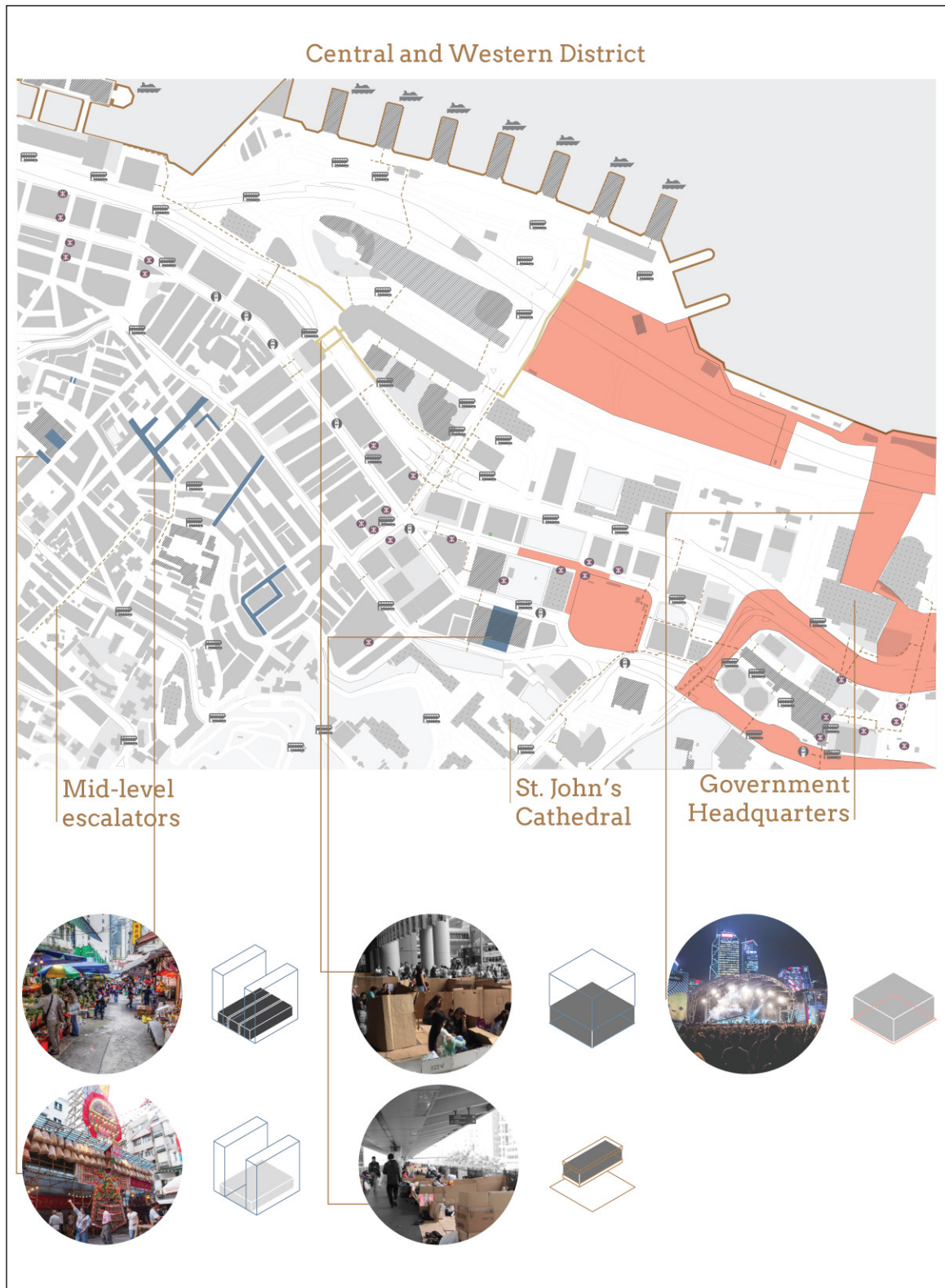


Sloped alleys with vendors in Central.

Central and Western District was the earliest settlement of Britain. It has then been the centre of political headquarters and a major commercial-business area. From the map, old buildings with smaller footprints cluster organically on the west side. The narrow alleys and other in-between spaces favour the formation of street markets and food stalls etc. On the contrary, newer buildings with bigger footprints, such as the government headquarters and International Financial Centre (IFC) with wider streets and open space favour large-scale events and protests that involve many more participants at a time. The harbourfront boardwalk also attracts lots of uses.



An aerial view of Central around the government headquarters.



A number of street markets and street restaurants are serving people who live, work and visit in Central and Western District. Pedestrian bridges and Central-Mid-Levels Escalators, the longest outdoor covered escalator system in the world, also provide opportunities for space appropriation. (Refer icons to 'Matrix.')



Shopping area in Causeway Bay.

Causeway Bay is a major touristic and shopping area, although it also has residential area and public facilities. Street markets are found in smaller streets, usually near major train stations and landmarks such as Times Square. From both case studies, it is worth note that both pedestrian bridges and flyovers are important places in Hong Kong as the city needs to grow upward due to its high density. The bridges themselves and spaces underneath them are common venues for different uses. One example is the space appropriation of domestic helpers on pedestrian bridges during weekends and living space for homeless people underneath flyovers.



Domestic helpers squatting on a bridge in Causeway Bay.



Temporary spaces in Causeway Bay are used for everyday life, retail, traditional rituals and events, and civil acts such as protest. Da Siu Yan (villain-beating) under Canal Road flyover is one of the traditional rituals that attract locals and tourists on a daily basis. (Refer icons to 'Matrix'.)



Clockenflap, Hong Kong's biggest annual music and arts Festival held in Central harbourfront.

The two study areas illustrate the possibilities and potentials of temporary architecture. These spaces change according to the performance with the urban setting acting as stages. Various rhythms, as suggested by Lefebvre and Ingold, occurred at different frequencies and time in the same place; sometimes they resonate, sometimes they create tensions. For instance, at the Central harbourfront, international music festivals, carnivals are held annually, while protests and demonstrations happen a few times of the year; street markets that open daily create lively environment but sometimes receive warnings from the government department for occupying too much street space.

In contrast to the formal planning strategy, tactical temporary spaces offer an alternative to the top-down approach. People participate in the making of the city by everyday life actions. (Chase, Crawford, and Kaliski 1999) Temporary structures are 'more participatory and spontaneous, therefore more open and inclusive' (Hou 2010, 15) and this share similar nature with public space. Spatially, urban informality is a way to 'redefine the boundaries, meanings, and instrumentality of the public sphere' (Hou 2010, 14). The distinction between public and private spheres dissolves: when privately-owned restaurants and markets extend to streets, pedestrians can immediately experience the extended spaces by senses like view, sound or even smell; when bridge pedestrians walk pass the domestic helpers' cardboard partitions, they often feel they are intrusive to others' private space. The complexity of the informal temporary spaces adds richness to urban life.

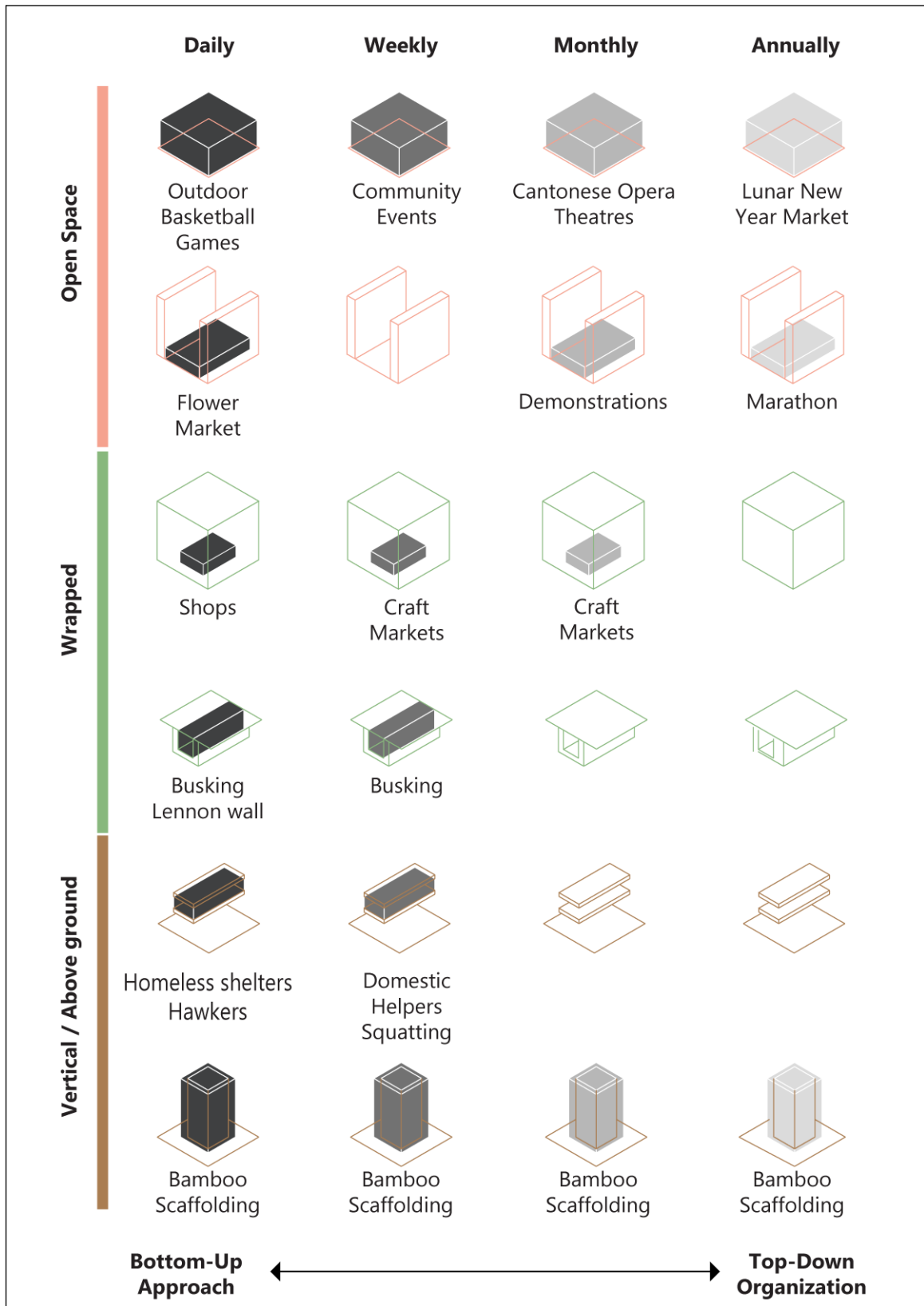
4.2 Matrix

The studies of the two districts reflect the diversity of temporary spaces which leads to the analysis of temporary structure throughout the city. These typologies can be organized in terms of their sites' spatial qualities and frequency of use. The four types of sites are:

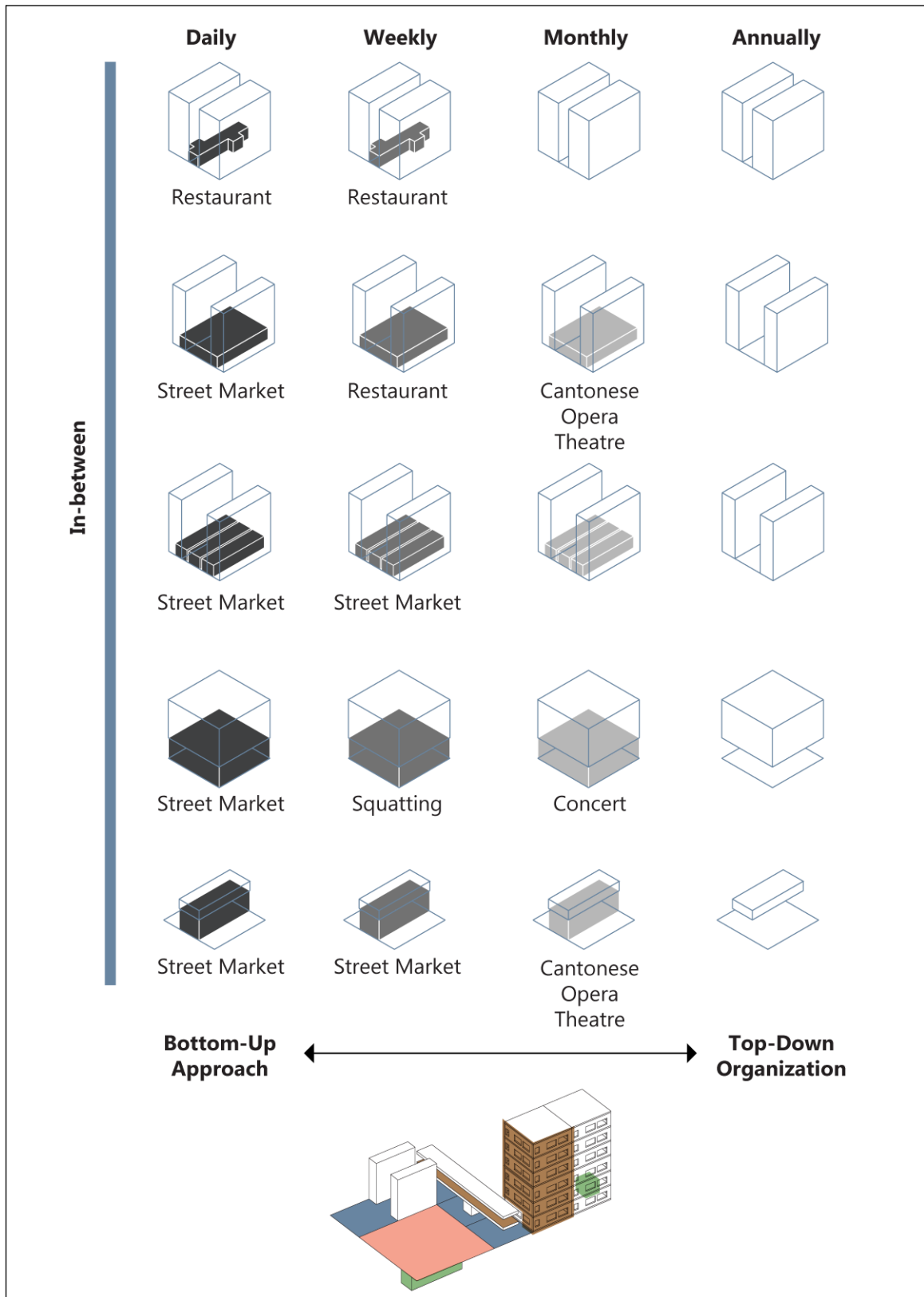
1. Open space such as playgrounds and open streets;
2. Wrapped space such as enclosed atriums and pedestrian tunnels;
3. Vertical and above ground space such as building facades and pedestrian bridges;
4. In-between space such as alleyways, narrow streets, covered areas on the ground floor of buildings, and areas underneath bridges. This type of space is very common in the urban core of the city.

The other axis of the matrix is based on the frequencies of use, which are daily, weekly, less than weekly and annually. While some of the spaces are used in a wide range of frequency, some are used for specific frequencies. Here, 'frequency' is equivalent to the concept of 'rhythms' from Lefebvre and Ingold as mentioned in previous chapters. From the maps of the two case studies, the mix of rhythms coexist and interrelate, forming the unique urban conditions in the two areas, and this interrelation can be further discussed using the other two sets of temporalities (Chase, Crawford, and Kaliski 1999, 12) identified by Lefebvre besides the temporality of strategy and tactics.

The first set is the repetition of 'the cyclical' and 'the linear' mode. The cyclical refers to the rhythms of nature such as



A matrix showing the three of the four types of spatial conditions where temporary spaces are found in the city and their correlations to the frequency of use.



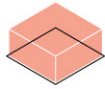
The in-between condition shows the most variety of temporary spaces. From the studies, the less frequent the activities are, the more likely for them to be organized from a top-down approach.

'night and day, changing seasons, birth and death' (Chase, Crawford, and Kaliski 1999, 12). 'Rational processes' define linear patterns, time measured into quantifiable schedules of work and leisure' and examples are timetables, fast food, coffee break and prime time. However, if we adopt Ingold's view, it is arguable to describe time as linear because of Western bias and processes that are manmade as 'irrational.' Yet, the activities that Lefebvre suggests are those with short durations. An alternate interpretation of Lefebvre 'linear' rhythm is to imagine the line being zoomed in to a portion of a circle so ultimately, the linear is part of the cyclical but at a smaller scale. The first two sets of temporality are predictable, so what is more important to Lefebvre is the third category of time: 'the discontinuous and spontaneous moments that punctuate daily experience' (Chase, Crawford, and Kaliski 1999, 12), 'fleeting sensations of love, play, rest, knowledge' are some of the examples. This understanding of temporality reveals 'possibilities and limitations of life.'

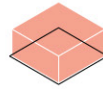
If we apply the three sets of temporalities and draw connections between spatial context, frequency and strategies, we can first identify that open space tends to be more formal and some belong to the strategy which is institutional and happen less frequent. Opposingly, temporary spaces in alleyways are often operated by private owners and are open on a daily basis. For instance, annual international music festivals organized in Tamar Park in Central is more formal than Wan Chai street market that is formed by independent shops owned by citizens. Secondly, the appearance of temporary structures are dependent on the 'rhythm of nature' especially weather as most of them are

outdoor spaces, and they are reliable on common people's work and leisure schedules.

Thirdly, the temporary spaces are more accessible and inclusive than other permanent space and they are usually less restrictive to people or activities that are not within expectations. Multiple social groups would intersect in a less controlled way and spontaneous moments would happen easily. For instance, in protests, people from different backgrounds can join; if someone shows up in costumes or give their opinions in different ways, they would not be excluded from the event; if people want to take a rest, they can sit on the sidewalk without security guards asking them to leave.



Open space / Playground
Cantonese Opera Theatre



Open space / Major road
Roadblock



Main components

- Bamboo
- Nylon strips
- Zinc panels
- Weight

Supporting equipments

- Ladder
- Storage
- Cart
- Plastic stools
- Lights

People

- Scaffolders
- Elderly helpers
- Community members

Main components

- Bamboo
- Railing for structural support

Supporting equipments

- Readily available bamboo

People

- Press
- Protestors (Mostly students or people under 30)

Each type of the temporary spaces can be broken down into main and supporting components and people. Playgrounds and major roads are sites of open space in the city.



Above Ground / Pedestrian Bridge
Leisure space



Wrapped / Shopping Centre
Craft Market



Main components



Cardboard for enclosure



Cardboard as divider



Cardboard as floor



Domestic Helpers
(Mostly Filipinos and Indonesians)

Supporting equipments



Hook



Plastic bags as storage



Pedestrians

Main components



Chairs



Decorated table as display



Clothing rack

People



Vendor owner

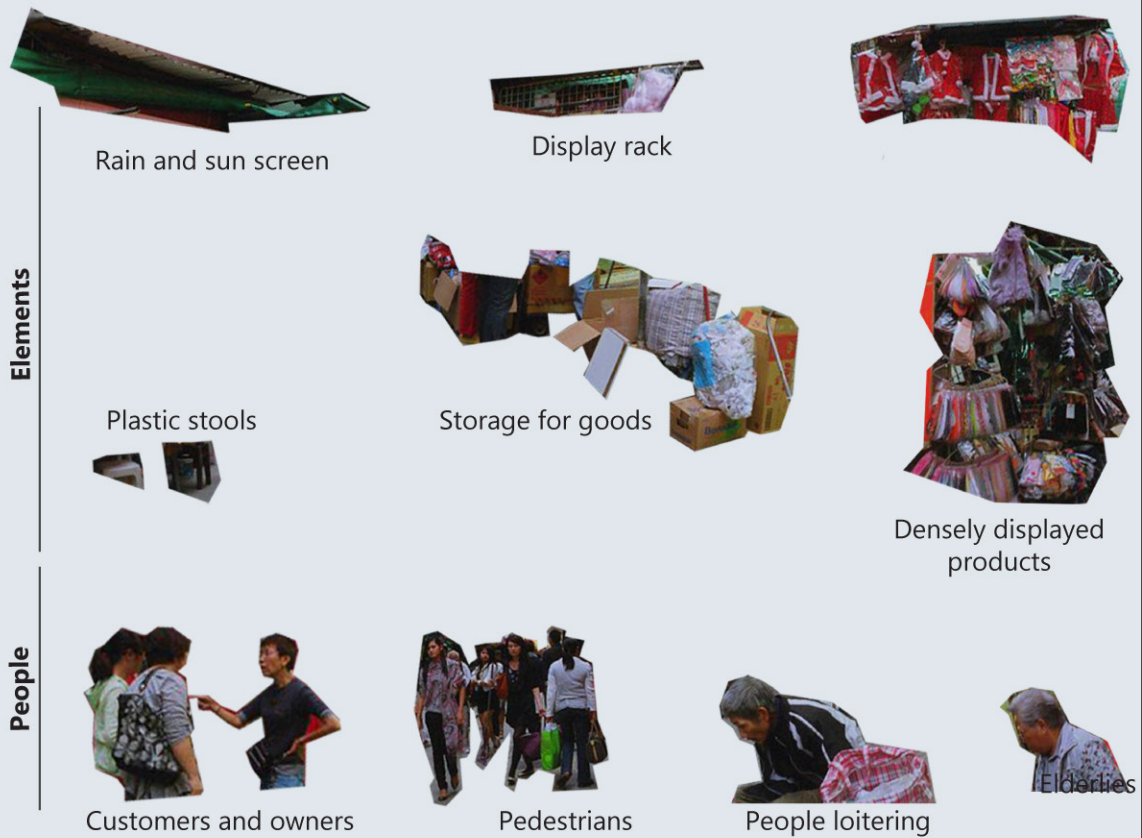


Consumer

The outdoor environment of the 'above ground' condition and the indoor setting of the 'wrapped' condition present a different use of structural and supporting components.



In-between space / Street market/ Location: Tai Yuen Street Market, Wan Chai



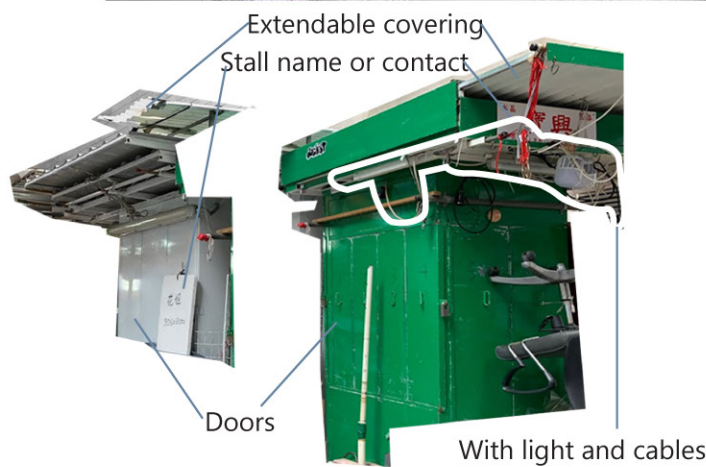
One of the typical programs for in-between space is street markets. Storage, seating and display boards are common elements.



In-between space / Street market/ Location: Tai Yuen Street Market, Wan Chai



Main stall components



Desk-height wheeled storage and display

Supporting equipments



Desk chair



Ladder



Weights

In this street market, vendors use similar base setups (in green) as storage.



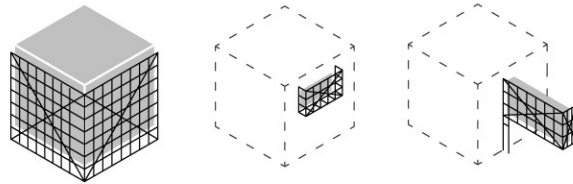
Vertical / Bamboo scaffolding/
Location: Building facades



An industrial building



Space Museum in Tsim Sha Tsui



Common types of bamboo scaffoldings

Main Components



Nylon Strips



Bamboo canes

Supporting equipments



Steel brackets



Safety net

People



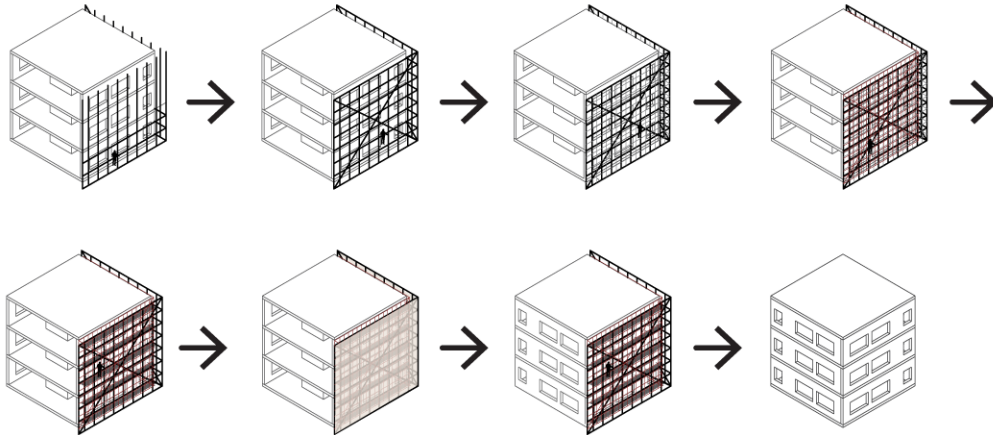
Bamboo scaffolders

Various scales of bamboo scaffolding can adapt to different kinds of sites despite verticality, curvature, outdoor or indoor environments.

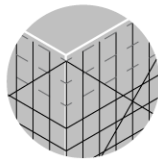


Vertical / Bamboo scaffolding/
Location: Building facades

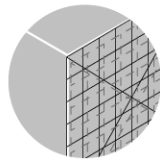
Common way to build double-layered bamboo scaffoldings



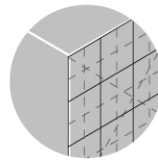
3 Principles to dismantle



From upper
to lower
level



From
exterior to
interior



From non-load
bearing to load
bearing

Basic principles to erect and disassemble bamboo scaffoldings.

Chapter 5: Methods

To tackle the above situations, a set of design methods forms a system to create temporary structures and phone application.

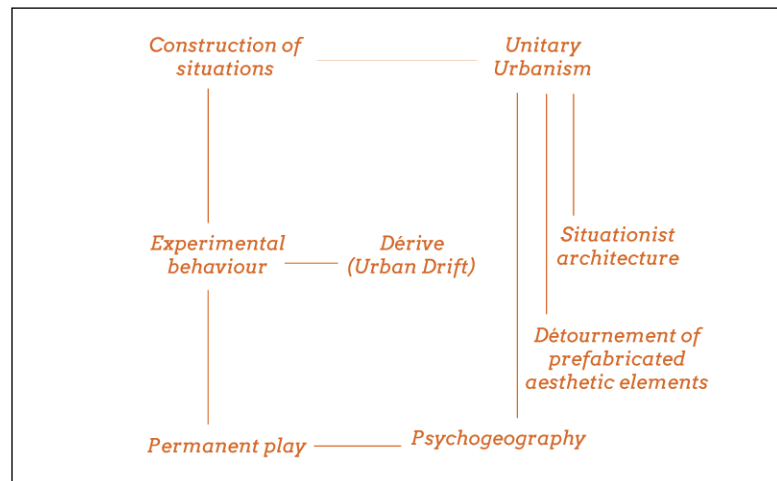
5.1 Contemporary Situationist

The temporary structures would appear and disappear within the city, with similar materials which help people to recall places that are now gone. The designs are like cracks to break the city's strategic planning for the people to express their voice and thoughts. Architecture does not only create public space but also 'public time' (Bouan 2003). It strengthens the spatial-temporal relationship again through creating architectural rituals, such as setting specific date and time for structures to appear and disappear.

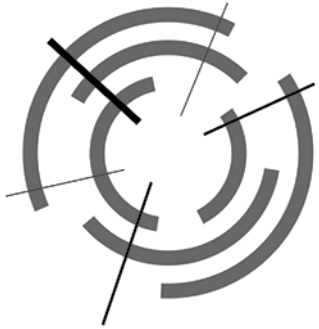
Similar to the concepts the Situationists, where *dérive*, or 'urban drift,' and *permanent play* being experimental behaviour, this design experiments with actions that



Diagram showing the interactions of social groups (big circles) in public space while maintaining certain privacy and individual space. The imbalance between private and public life is one of the concerns in dense environments such as Hong Kong, where people have little personal space.



The ideology of the Situationist International, which was active from 1957 to 1972 in Paris, was outlined in the diagram presented on the poster 'New Theater of Operations for Culture.' (Wark et al. 2008, 11)



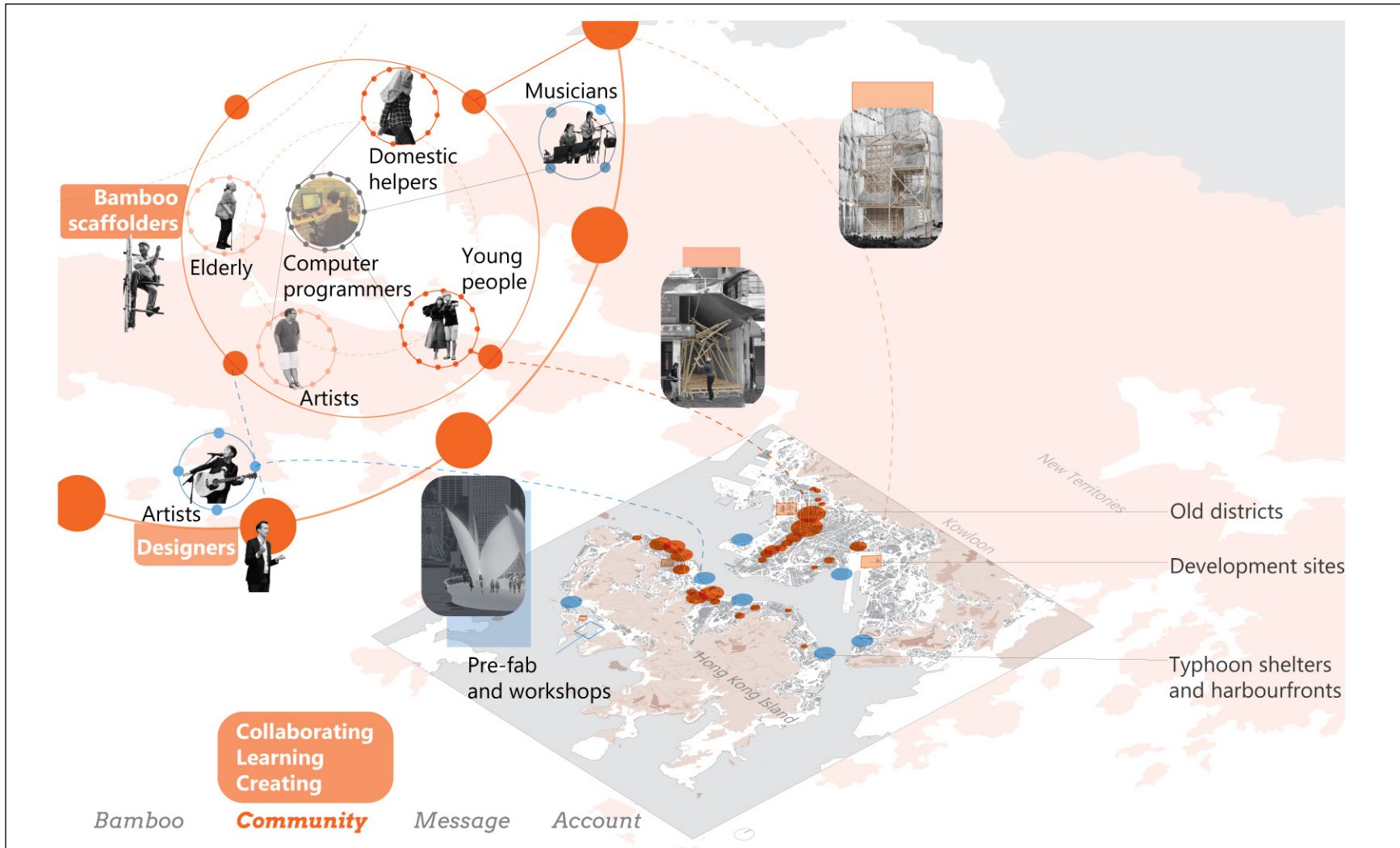
An interpretation of situationist concept of discontinuous, spontaneous moments that bring people with different lives together.

can happen with existing urban structures through the 'constructions of situations' (Wark et al. 2008, 10), in this case, creating support systems for the appropriation of public space and 'the moment of play and of the unpredictable' (Lefebvre 1991, 129) to happen. However, unlike the Situationists, this design is grounded on the participation and social aspects of users.

The number of structures is limited to create a sense of preciousness. As 'scarcity makes time into a collective good, while abundance privatized time' (Bouman 2003), the number of structures are built depending on the privacy of the program.

5.2 Network

The design aims to bring together existing groups and create a community, not just a closed group. The community includes designers such as artists, architects, and app designers, makers such as scaffolders, and community members in the city. The extensive network is created and maintained using a phone application so place-making and other participation are not bounded by time and locations. There is also information for users to learn more about the participation and building of the structures. If they are interested, contact information is provided on the application as well.



The “BOO!” network connects the users, bamboo scaffolders and designers. While each of them participates in the network at different frequencies, their collisions result in groups collaborating, learning and creating the three typologies in various sites in Hong Kong. For example, young people and bamboo scaffolders work and build “larva” which are often found in old districts.

5.3 Accessible Sites



Aerial view of Aberdeen typhoon shelter, one of the same kind in Hong Kong. This type of coastal area is a potential site for larger scale performances (Google Maps, n.d.).

Recognizing the inaccessibility of some of the current public space in Hong Kong, all the sites are accessible from the street levels. Bottom three floors of bamboo scaffoldings, alleyways, and the coast are the three types of sites. Also, all the sites are in proximity to public transport such as MTR train stations and bus stops and trams, so they are accessible in terms of transportation.

The structures bring people to places that are not common for inhabitation but can be commonly found around the city. Although the temporary structures would be dismantled or moved to the next sites, the commonality of sites connects and expands people's experience and memory to the whole city. Say you went to an alley structure once. Although it is now moved, the structure in another alleyway that you just walked past reminded them the memories they had from the last one.



Alleyways are commonly found in older districts in Hong Kong Island and Kowloon. Some of them are appropriated, usually used as extended space by store owners next door, or as independent store areas.

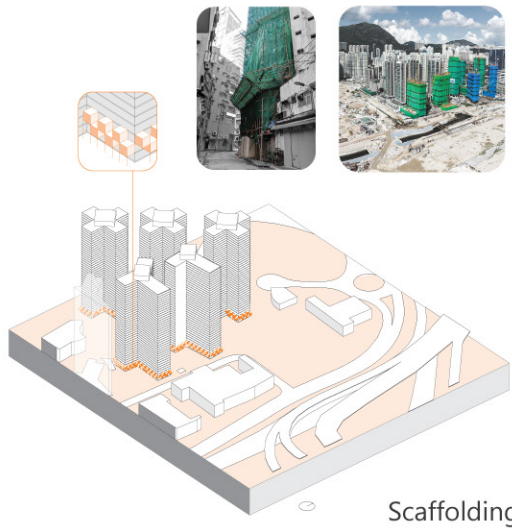
5.4 Three Scales

The structures are designed in three scales: small group, community and urban, which addresses the lack of both private and public space by providing space with different privacy levels and needs in everyday life. The intention to create these places is to construct and share stories in the city. Their programs aim to give a sense of freedom and to allow self-actualization and expression in response to post-materialist values, hence places for small gatherings, community events and small concerts. Similar to what the situationists pursue, the three scales of structures bring arts and real-life experience to the city.

■ *Spawn*



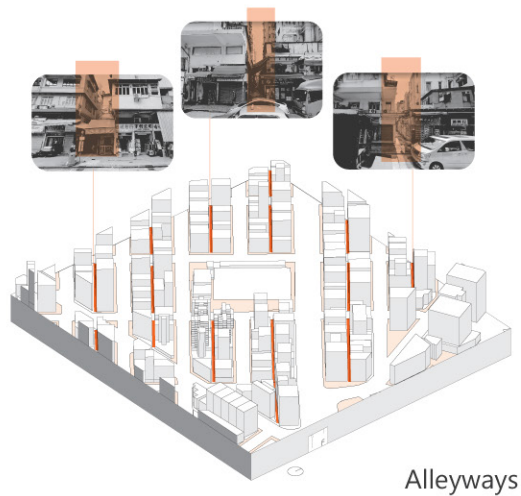
Scale :	Small
Frequency :	Two months
Program :	Private gathering
Feature :	Nested



— *Larva*



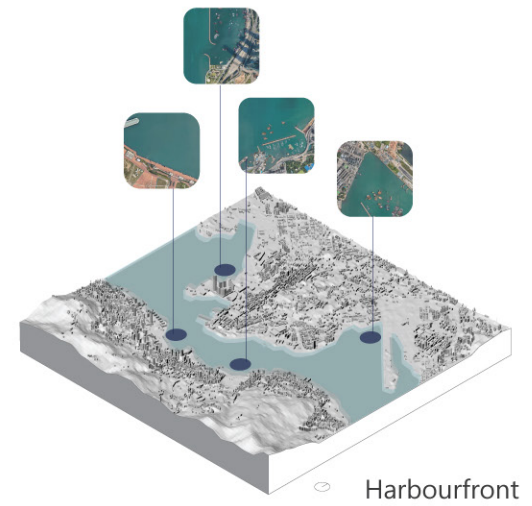
Scale :	Medium
Frequency :	Bi-weekly
Program :	Community events
Feature :	Collapsible



● *Cocoon*



Scale :	Large
Frequency :	Irregular
Program :	Floating
Feature :	Festival



A summary of the three designs in different scales, which are 'spawn', 'larva,' and 'cocoon,' in terms of their frequency of change, features and programs.

5.5 Bamboo as Material



Bamboo scaffolding in various scales around building facades which are commonly found throughout Hong Kong.

This thesis intends to bring the century-old bamboo craftsmanship up to date and to adapt to the changing needs of people. Through using this commonly used and vernacular material in new ways, the identity of a place is alleviated by creating sameness in differences. (Relph 1976, 44) A sense of community is also improved by building and sharing knowledge to each other (Relph 1976, 59) through the network.

Bamboo is one of the common materials used in temporary structures in Hong Kong. It stands out not only because of its abundance in construction scaffoldings at different scales and Cantonese opera theatres at diverse sites, but also its vernacular nature in contrast to the concrete and steel in this contemporary city. Its high adaptability to all kinds of sites and its portability makes it a great architectural material not only in Hong Kong but subtropical or tropical regions such as South China, Vietnam, Cuba etc.

In Hong Kong, because of the association with non-contemporary structures and dangerous work environments, bamboo is often viewed as 'a backwards material in a hyper-modern environment' and the bamboo scaffolding profession has been taken as 'low-class' (Ngo 2013). However, given bamboo's physical properties and its long history and existing craftsmanship in the city, it is possible to use bamboo to develop new types of architecture that are sustainable in terms of environmental, economic and social aspects. Its use needs to be expanded and techniques need innovations before this traditional craft is lost.

Currently, the material culture in Hong Kong favours the need for building skyscrapers. In contrast, the fast-growing



1
Bamboo theatres are adaptable to a wide range of sites in the dense urban core.



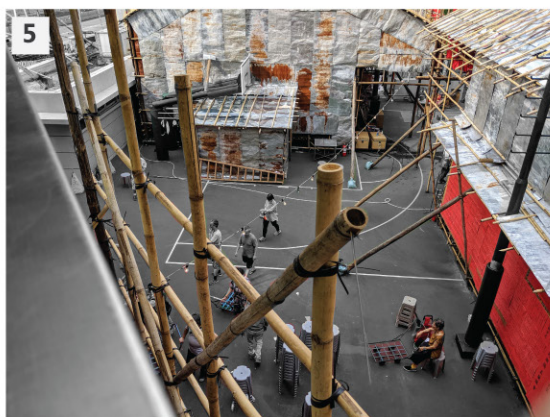
2
Bamboo and wood members stored on sidewalks or placed near the sites.



3
Bamboo canes are connected every two feet which are based on the human scale. No drawings are needed for the construction.



4
A bamboo theatre after the decorations and signs are put up.



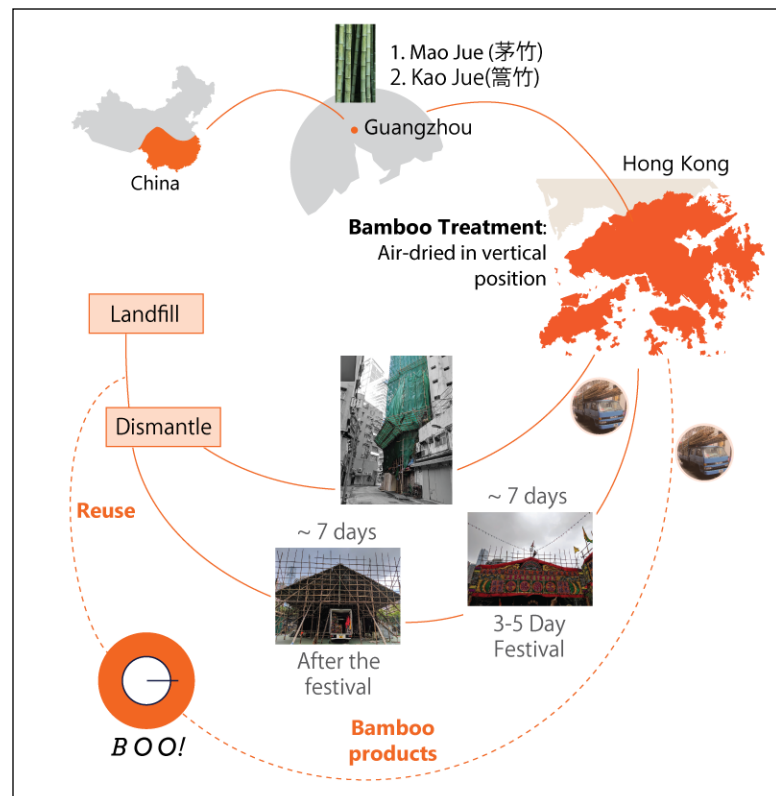
5
A few modules are built to form a courtyard. Places for worship, offices, and backstage for performances are created.



The building of a Cantonese opera theatre in urban playgrounds. This series was taken in August 2019 during the preparation for the annual Hungry Ghost Festival.

bamboo is native to this sub-tropical region. Appropriate physical or chemical treatments can prevent the bamboo canes from rotting. In terms of economy, bamboo is cheap and hence it is still much widely used than steel in the scaffolding industry. Socially, bamboo's long history with Cantonese opera theatres and its wide use in bamboo scaffolding in most of the construction is closely related to the city's cultural identity and is part of the city's collective memory. Because of its lightweight, bamboo is much easier to be handled by individuals as compared to concrete. This gives light to its potential for participatory designs that would offer ordinary people opportunities to express their thoughts and to have control over their space (See appendices for detailed sections).

The existing material cycle of bamboo mainly involves transportation, storage, construction and dismantling, and



A diagram of the existing material cycle of bamboo and its incorporation with the structures in the “BOO!” network.

perhaps reuse, rather than the planting and harvesting of bamboo canes. According to the *Guidelines on the Design and Construction of Bamboo Scaffolds* by Hong Kong Buildings Department, two types of bamboo are commonly used in Hong Kong: Mao Jue and Kao Jue (HKSAR Buildings Department 2006, 2). They are being harvested and transported from South China. They should be three to five years old and should be physically treated by air-drying in a vertical position for at least three months before use. The bamboo canes are cut approximately six meters long for easy transportation in the city. The bamboo members are transported to urban or rural sites by trucks or ships, being erected with the support of steel brackets or anchorage (HKSAR Buildings Department 2006, 8, 12, and 13), and would be used from a few hours to one or two years depending on the type of use.

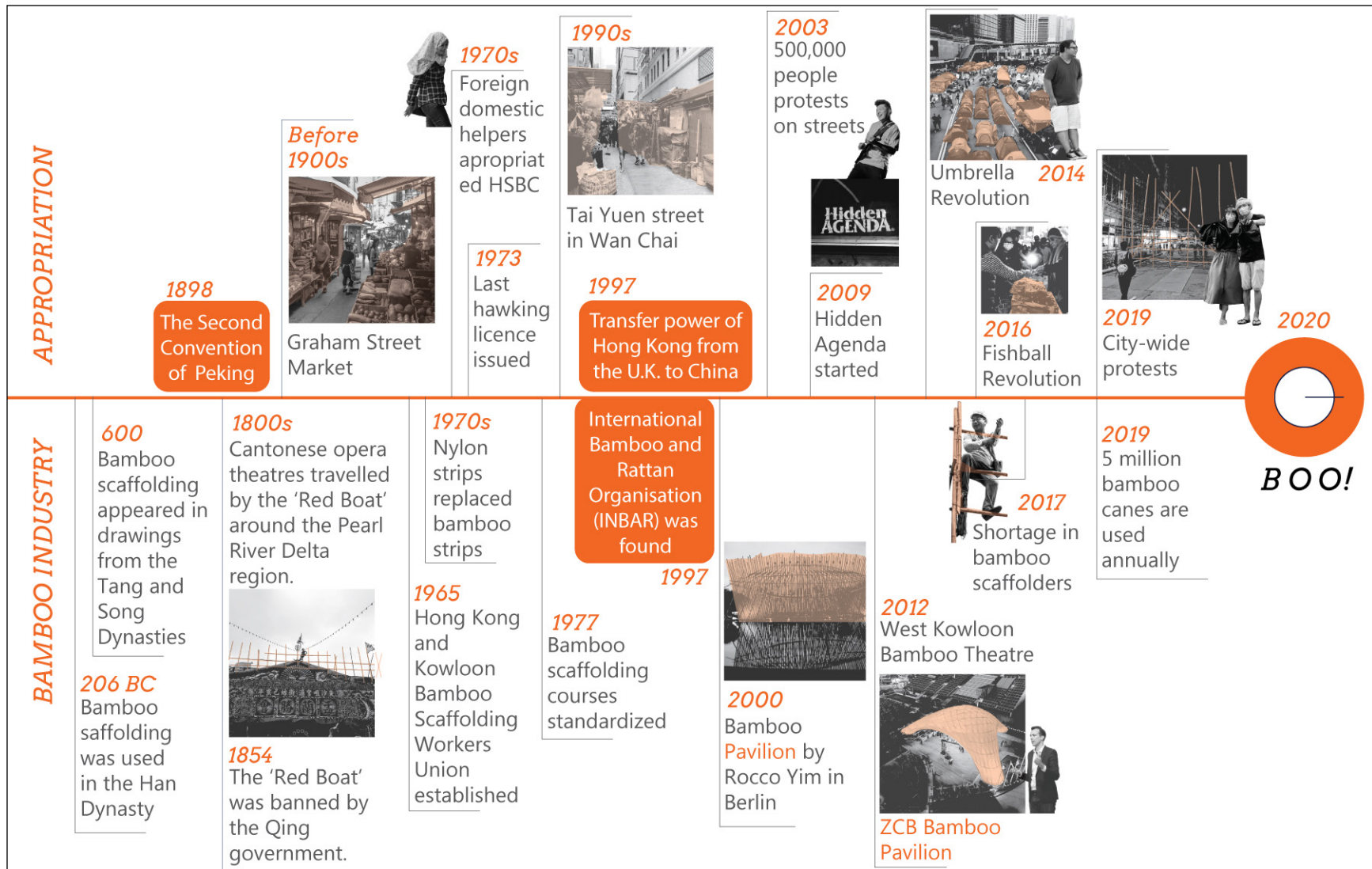


ZCB Bamboo Pavilion.

For scaffolding on building facades, two layers of bamboo are required as work platforms can be built in-between. Safety nets and other safety measures are put on to prevent falling objects. For Cantonese opera theatres, the structures are mostly free-standing occasionally attach sides to railings and would be dismantled in a few days after the end of festivals. After short-term use, the bamboo may reuse for two or three times before being sent to landfills.

Despite the current set-ups of the bamboo material cycle, innovations can happen with bamboo treatments as this step is crucial in determining rot-resistance and duration of the structures. Bamboo canes can be chemically treated with boric acid and borax solution (Hidalgo-Lopez 2003, 148) so it can be used for a longer period of time. The ZCB Bamboo Pavilion, built in 2014, was one of the first bamboo structures in Hong Kong that were intended to last

for decades (Crolla 2018, 157) and it used such chemical treatment for the bamboo canes.



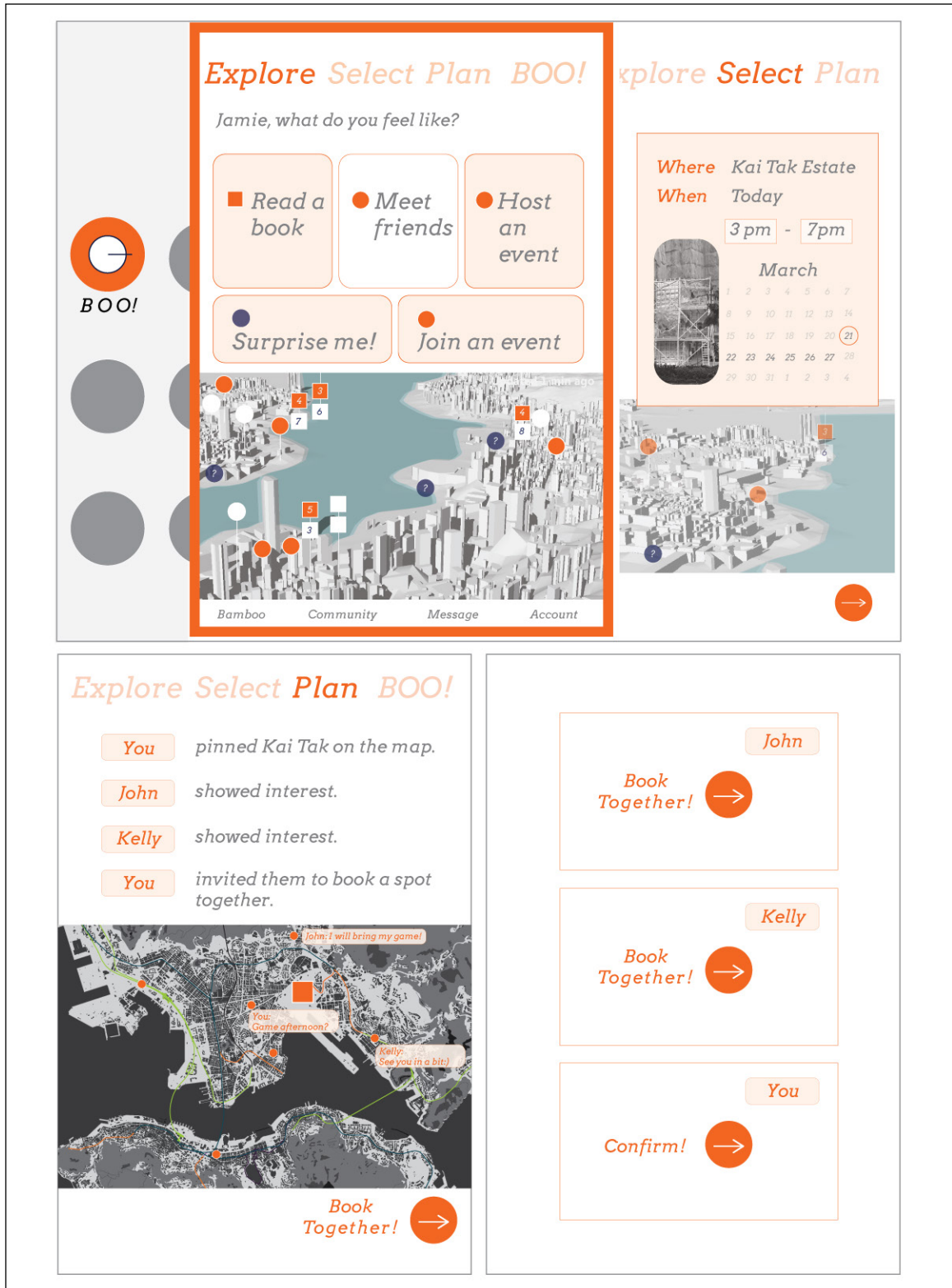
A timeline of the development of the social needs of appropriation and material culture of bamboo and come together in the app “BOO!”

Chapter 6: Design Proposal

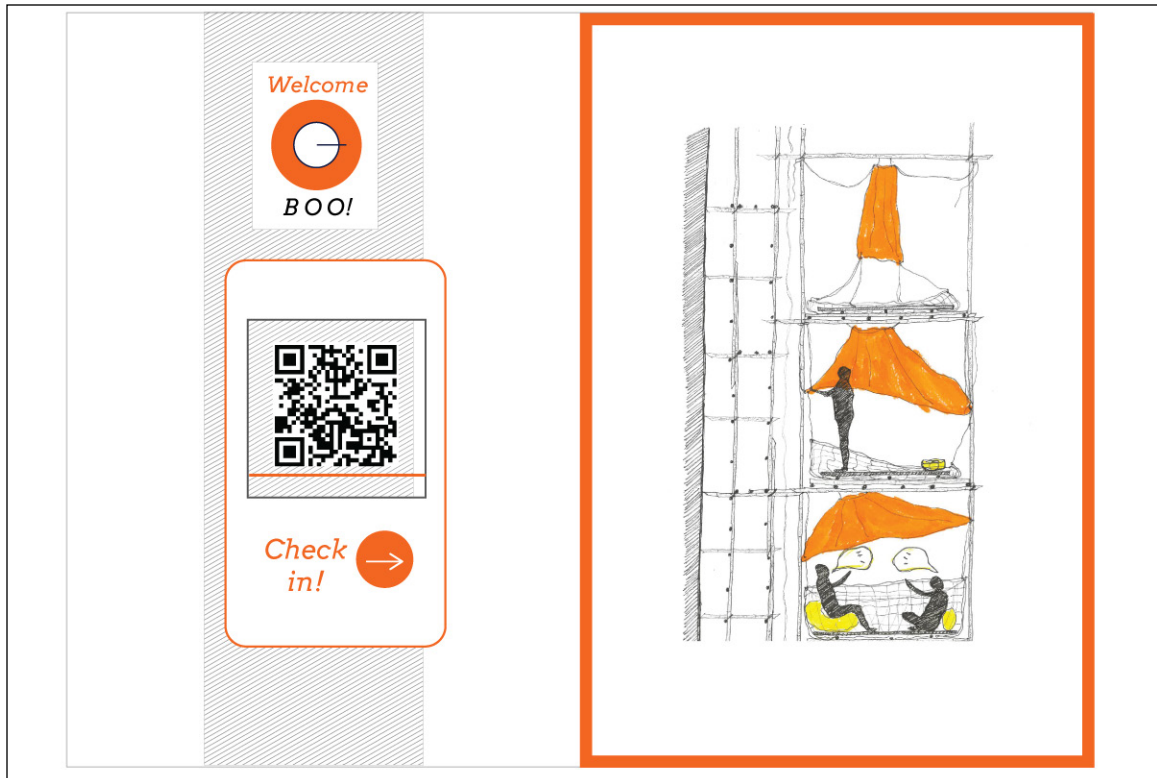
6.1 BOO!

To tackle the above issues on the urban level, a phone app called 'BOO!' is launched. It is a user-friendly platform working like bike share or AirBnB.

Once you open the app, you can click on the activity options: whether you want to read a book, meet friends, host events, or you want surprises. On a live map, you will be able to check the locations and vacancy of the small and medium scale structures and receive surprise notice of the appearance of the large structure prior to special events. After you enter your preferred time, date and location, you can decide and book your next destination. There is also an option on the map where you can see if your friends' locations so you might head to the same destination. Upon arrival, you will scan a QR code and open the structure or simply join the event!



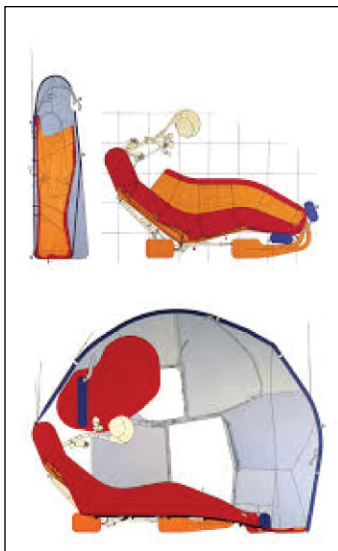
The phone app “BOO!” starts by offering public space options with a live map showing occupancies of each type of structures throughout the city. The app allows users to book spaces and connect with their friends.



The last two steps are users checking in and opening the structure.

6.2 Spawn

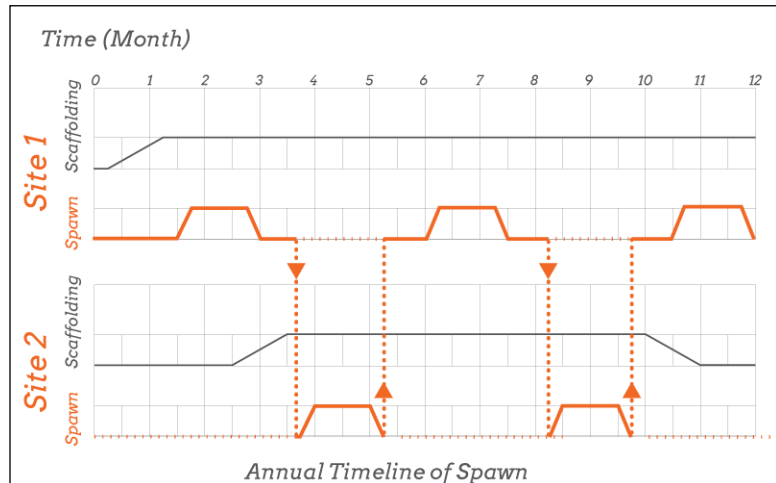
The 'spawn' is the smallest, with each unit used for private gatherings by two to five people. From *BOO!*, you can find them situating at building scaffoldings located around the city, mostly around development sites. It will be switched to a new place every month. It gives rooms for solitude and private gatherings with the user groups of young students and professionals. Comparing with the work of the group Archigram, in particular, Michael Webb's *Cushicle* and *Sitaloon* in the mid-60s, both designs involve the users' action to build their own space in unusual sites. However, this design is about socializing in small groups and while *Cushicles* are meant for individual use.



Cushicle and *Sitaloon* by Michael Webb, 1964 and 1967 (Archigram Archives 2013).

With these structures extended from the bottom three floors of original scaffoldings on building facades, the closing of

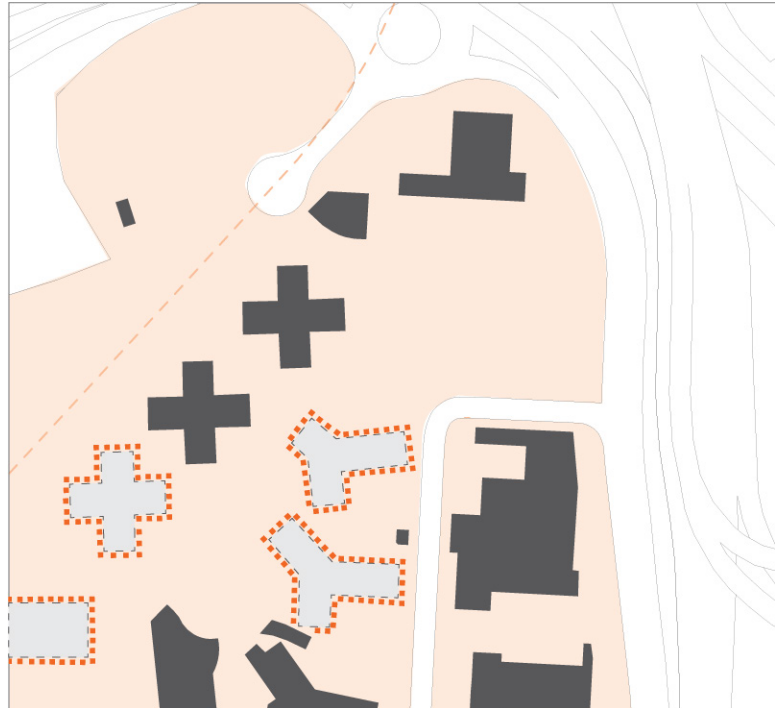
the shaded portion indicates vacancy which can be seen from a distance. Once it is occupied, users will open the shades together with a net-like structure that acts as railing for safety. While the extended scaffolding can be erected on-site, the shade portion can be prefabricated and attached to the scaffolding.



Spawn (graph in orange) appears for one month in each site, and will be transported to another sites. Their temporality is highly dependent on the schedule of the original scaffolding (graph in black). The slope of the orange line indicates the time estimated for the construction of spawn on site.



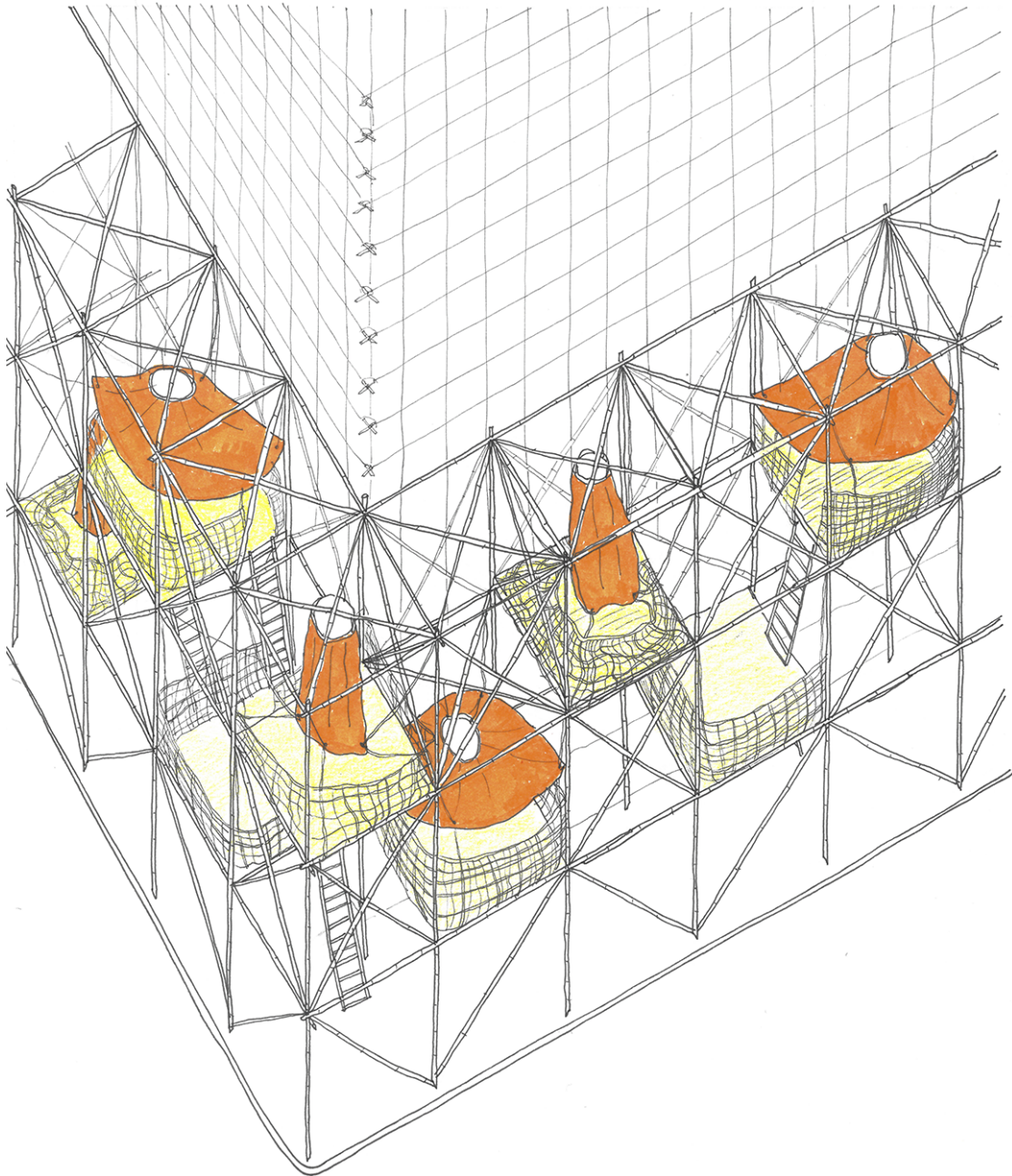
Site 1: Scaffolding in Kai Tak area, Kowloon.



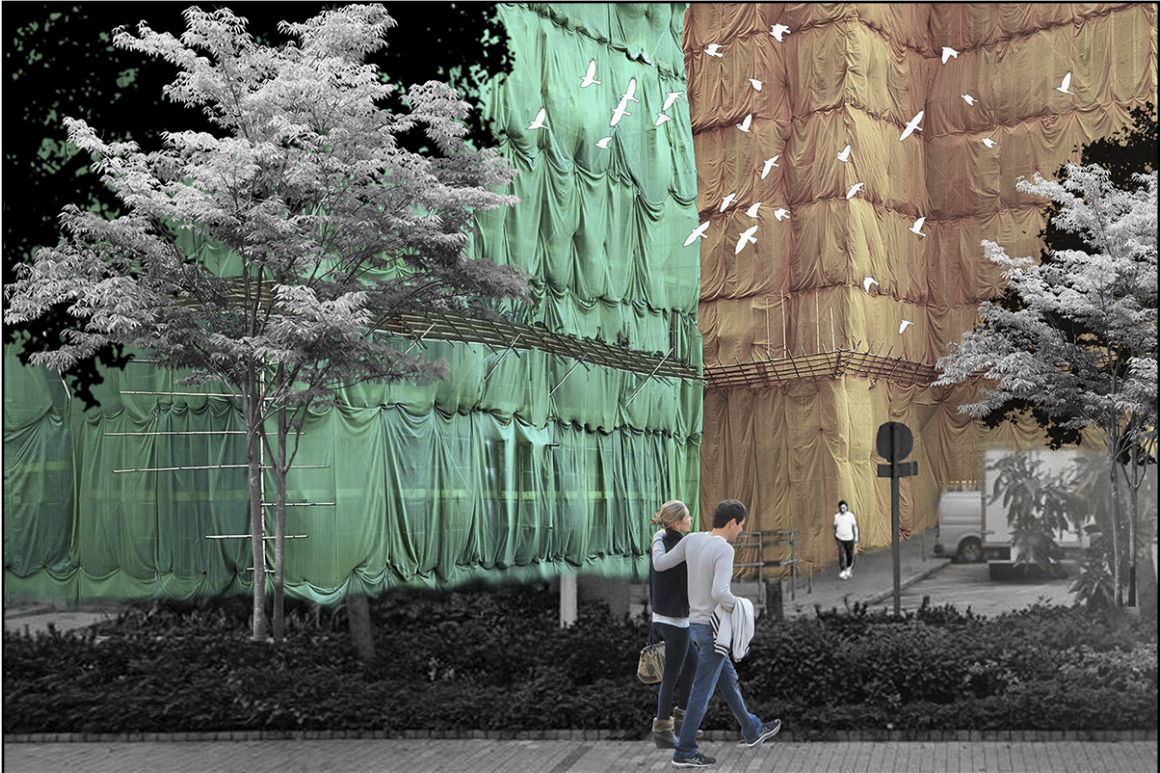
The land in Kai Tak was cleared, and a number of developments have been happening since the demolition of the old airport in 1997. Housing estates and malls are constructed in the area.

In this example, the site is chosen at Kai Tak where the old airport was located. A large piece of land was cleared, and is now available for building housing estates and other communities.

The appropriation starts by extending the bottom floors of existing bamboo scaffoldings, small spaces are created for private gatherings. The closing of the shade portions indicates vacancy which can be seen even from a distance. Once you arrive, you will climb up the ladder, open the shades as well as the bottom net. Throughout the day, more people arrive and fill in the spawn.



Axonometric drawing of spawn. Spawn is attached to existing scaffoldings around building facades.



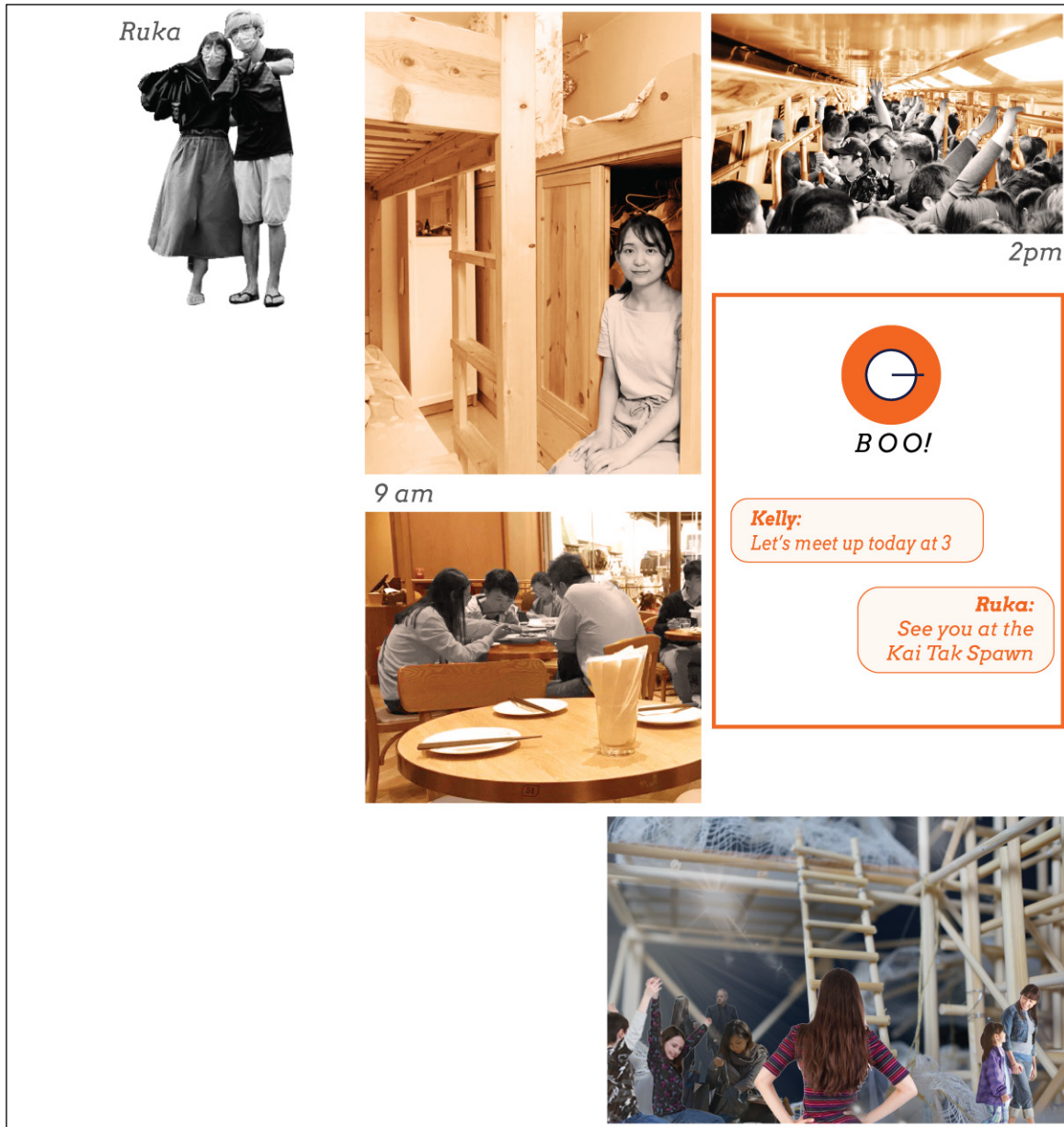
Spawn is being built after the bamboo scaffolding of the building facades and its safety nets are put into place. The shades and nets of spawn are closed when the space is vacant.



People start to fill up the space and open the structures as they occupy the units.



The structure is fully occupied throughout the day. The shades and nets returned to its closing states and marked the end of the day.



A day of Ruka with the use of the *BOO!* app.

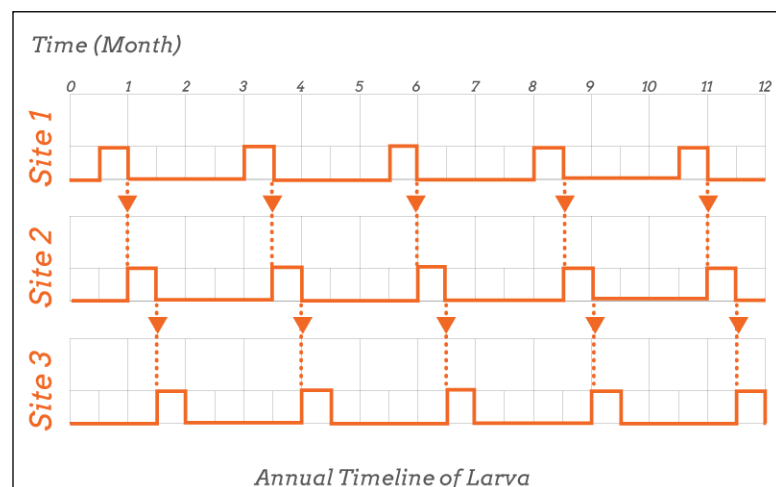
For Ruka, a local university student, Spawn and the BOO! network give her options to spend quality time with friends. She now has a few more options to spend her personal time other than the shared room with her siblings in her parents' apartment, and chain restaurants in shopping malls.

6.3 Larva



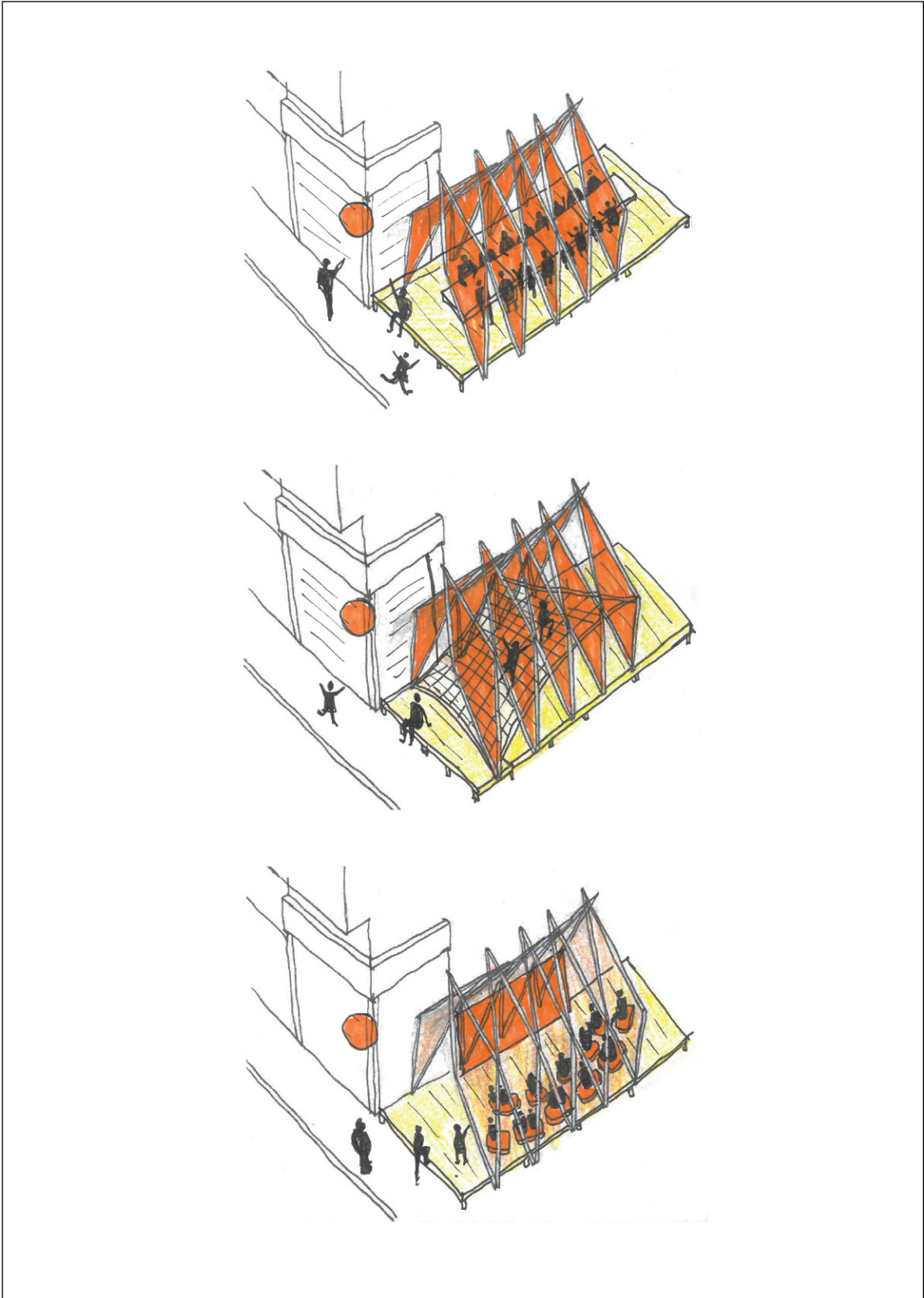
A design-build project, Cape Breton Highlands National Park Gridshell, by Coastal Studio of Dalhousie University. (Video by Coastal Studio, 2018)

One scale up is 'Larva,' the appropriation of many alleyways which are often found in older districts. Each station can occupy up to 20 people for various social activities and they will change locations after two weeks. Inspired by design-build projects such as the Cape Breton Highlands National Park Gridshell by Coastal Studio, in larva, the general public will participate in place-making by learning and collaborating with bamboo scaffolders. Since bamboo is light and portable, members of the structure are cut in less than 3 m for easy transportation and erection. Joints are designed for the structure to collapse in an efficient way.



Larva appears at a site for two weeks before being transported to another one within the network.

User groups for larva are broader than spawn because of its accessible locations and design. Elderlies and children will find the structures approachable even without the phone app because they may find one larva near their neighbourhoods. Or, young people may find larva locations and tell their grandparents about it and go together. Larva is also a place where various social groups can occupy at different times of the day.

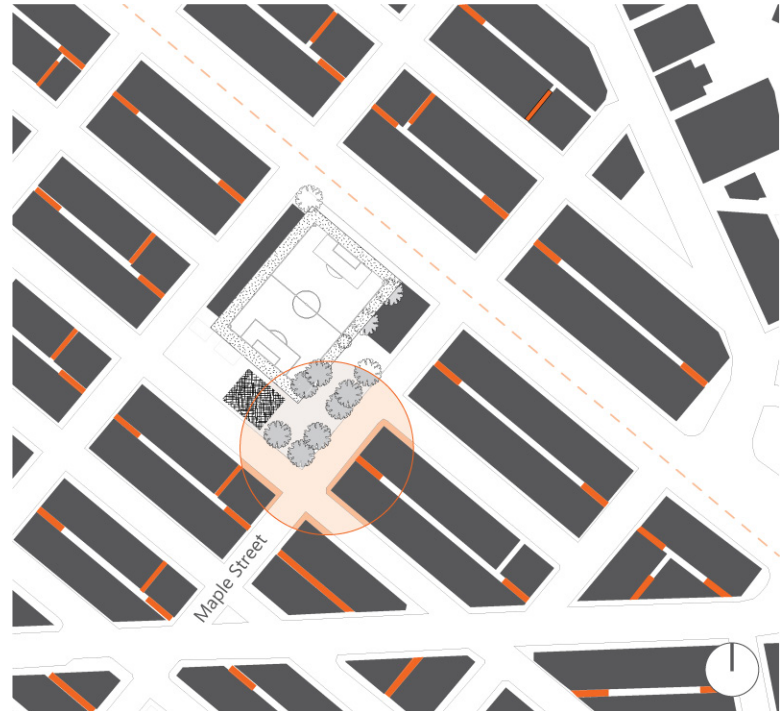


Larva is able to adapt to different community events: community lunches and dinners, climbing nets for children and evening filming.

In this example, the site is chosen in an alleyway on Maple Street in Tong Mi near Yau Ma Tei. This is a district with an abundance of old buildings (refer to the drawing in chapter 5.2 'Network') and it is common to find alleyways in this building typology.



Site 1: Alley in Tong Mi

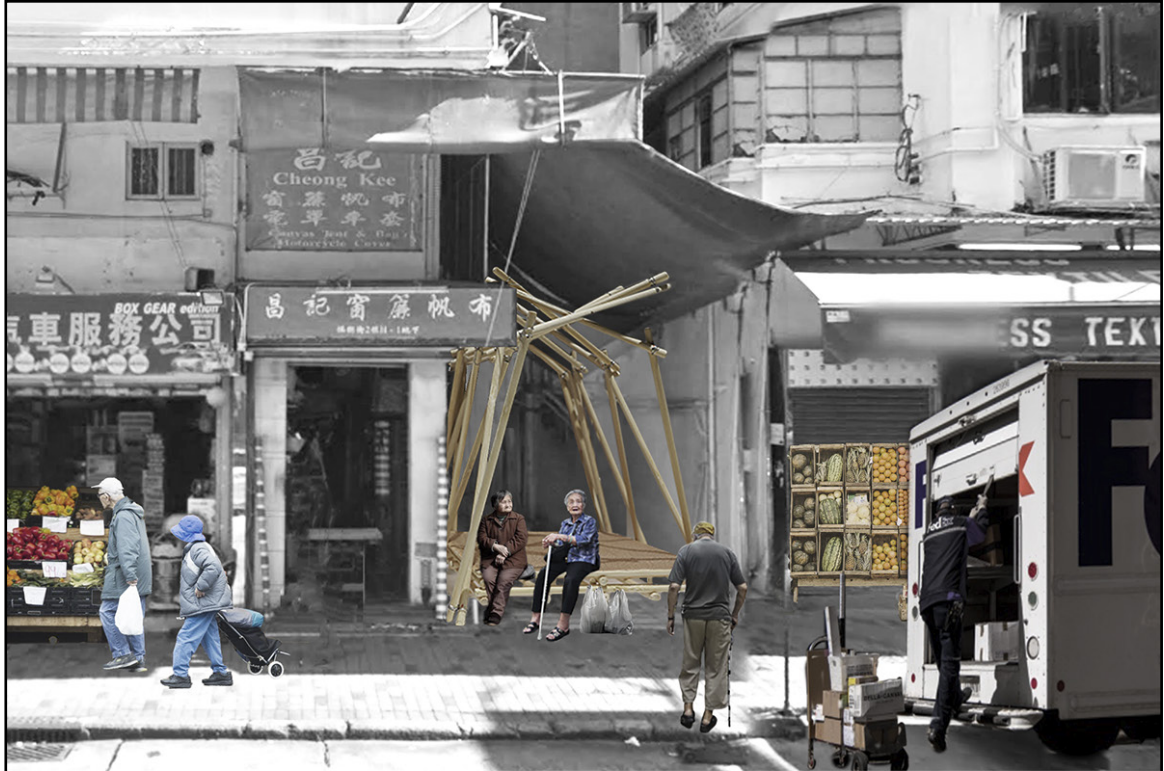


All the alleyways (in orange) are considered as potential sites with the exceptions of existing appropriation. This example site is located near a primary school and a football court, with larva offers alternatives to the existing public space.

With this site, larva will be used by the elderlies to gather in the morning, children to play in the afternoon, and young people and artists to watch films and hold social events in the evenings.



Larva is being transported on site by trucks and being constructed efficiently by bamboo scaffolders and the public who are interested in learning the techniques.



Users will find the site location either on the “BOO!” app or by word of mouth. Since alleyways are common in old districts, people in the neighbourhood may discover one larva near where they live. Elderlies can use it in the morning and children can play after class.



In the evenings, community events such as film screening can be hosted. At nights, the structure of larva will be collapsed.

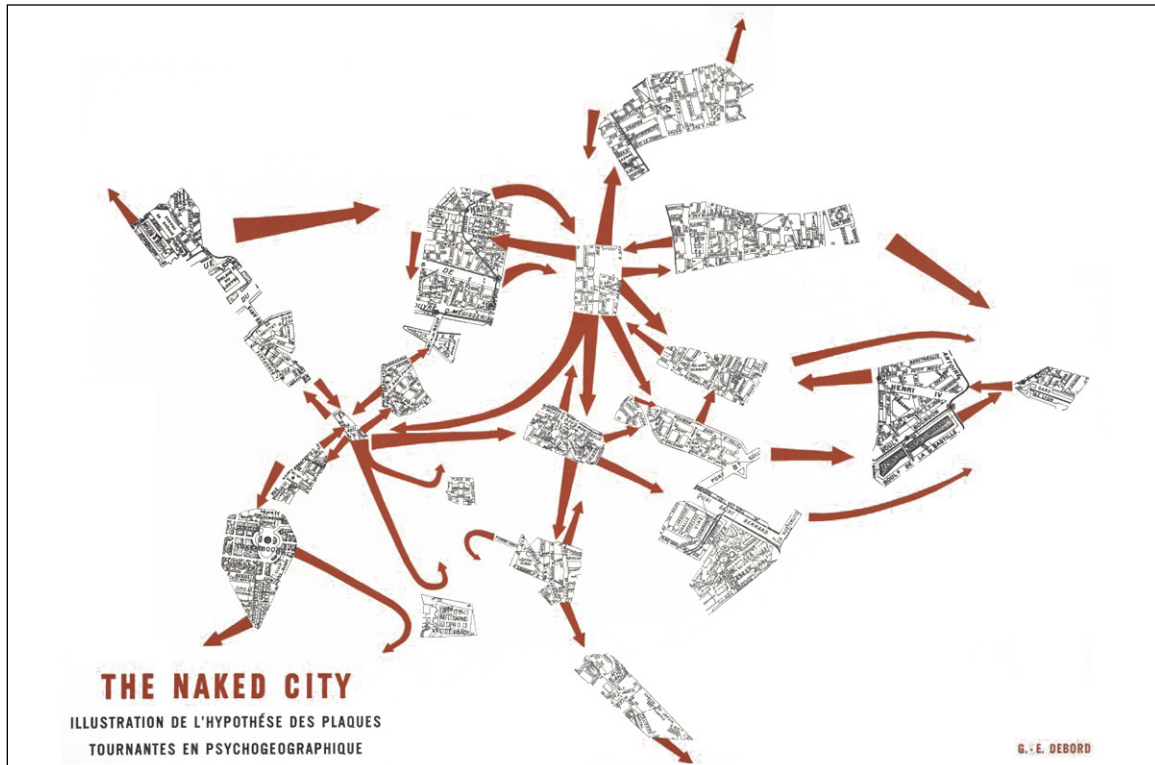


A day of 65-year-old Mrs. Chan and primary one student Yan change and improved by spending time in larva near their neighbourhood.

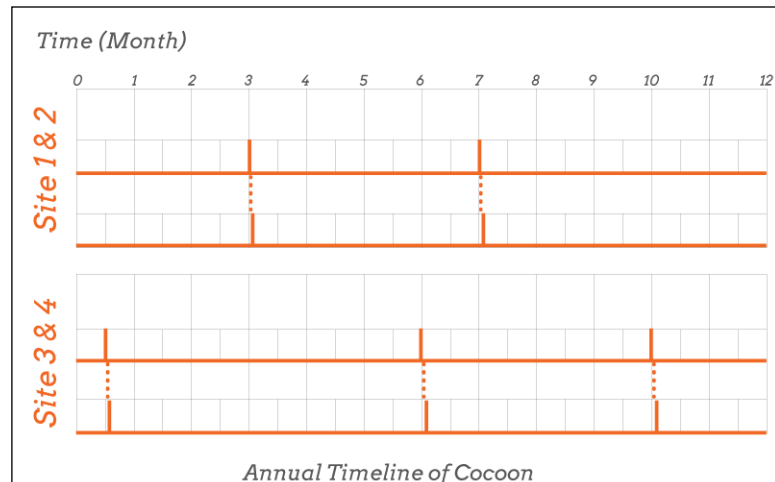
For grandma Mrs. Chan, she will have a place to meet up her friends in the neighbourhood outside her tight apartment. For 6-year-old Yan, after a long day of school across the street, she will go to a larva nearby and have fun playing on the net. Her family's apartment is small so physical exercise is not possible. Larva is also a safe place to play with the eyes on the street.

6.4 Cocoon

At the largest and urban scale is 'Cocoon,' or sometimes called 'Stage Ferry' with reference to existing Star Ferry, which can occupy up to 100 people for performing arts such as small concerts and play. One of the key concepts is 'psychogeography,' where Guy Debord and other situationists explored the urban environment that emphasizes playfulness and urban drifting in the 'boring' environment.



The concept of 'psychogeography' is illustrated in "The Naked City" by Guy Debord, 1957. (FRAC Centre-Val de Loire 1991)

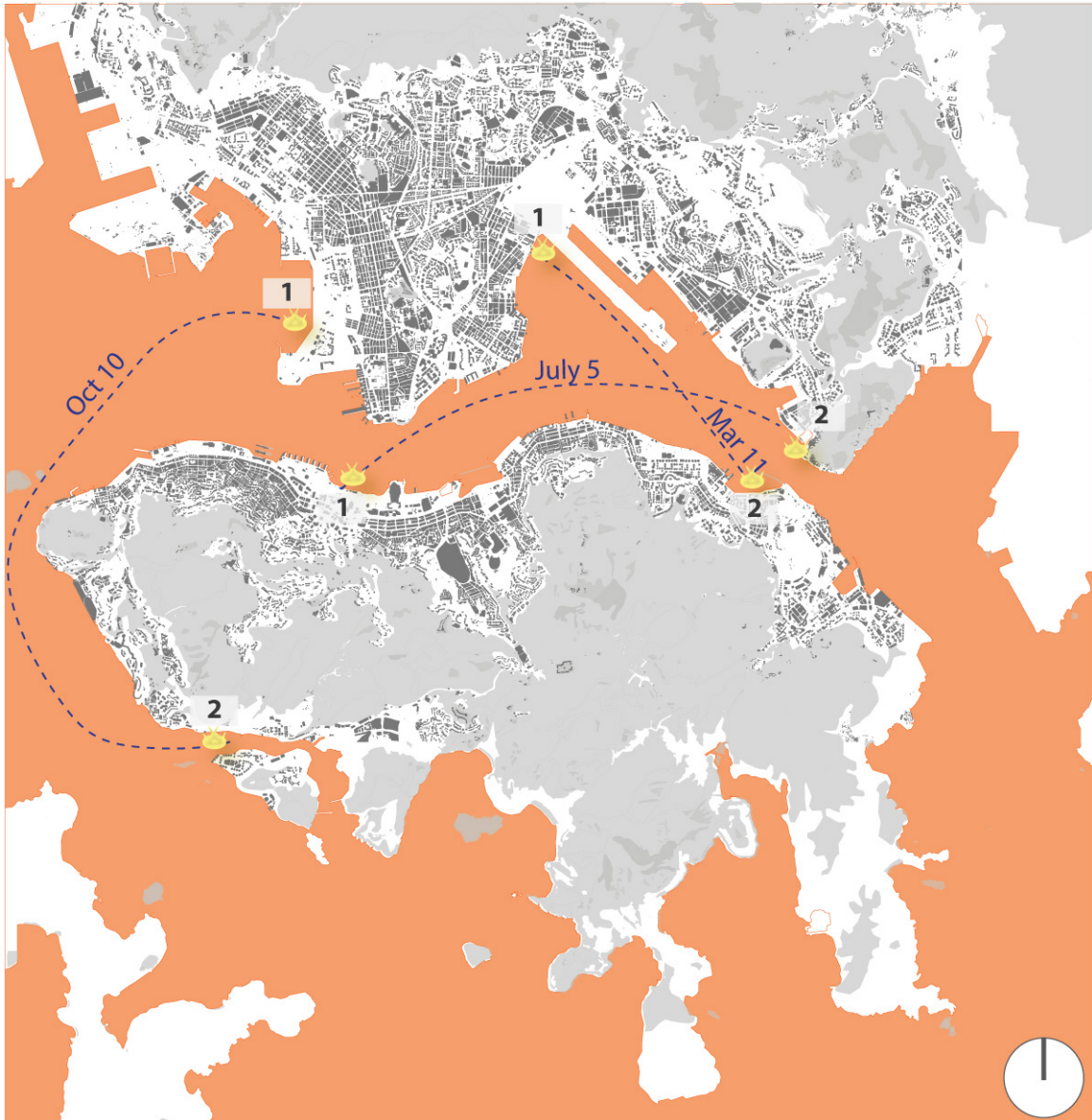


Cocoon appears and disappears in various sites throughout the year.

Unlike the previous two structures that operate on land, Cocoon appears in irregular time and takes unexpected routes in the coastal area. It is a floating platform that is pulled by a tugboat and tour around the coast in Hong Kong during evenings and nights.

The stage would not appear in the public sights unless there is a performance. A day before the event, the *BOO!* app users would see a notification that a surprise show will happen. One hour before the show starts, the users will know where the exact performance location would be. Half an hour prior to the show, the structure will be erected as part of the performance. In fact, the show already begins from the process of creating excitement by notifying users at a different time prior to the date and erection of the structure.

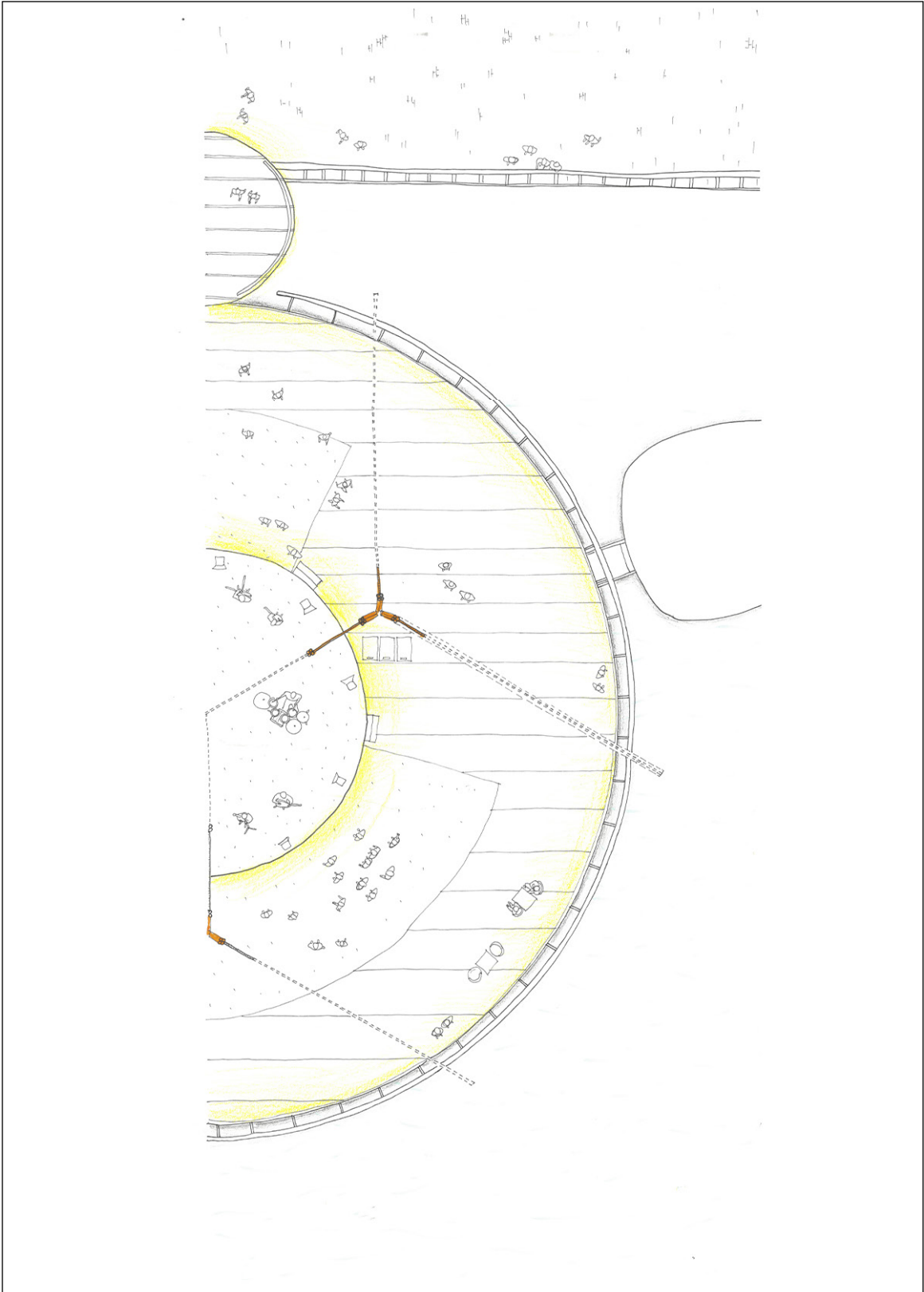
What brings even more thrill is that the stage operates around the coast in a tactical way. If the performance receives complaints from authorities, it is able to move to other spots even during the show. Potential sites for the platform includes all eight typhoon shelters around the harbour as well as the Central and Tsim Sha Tsui harbourfront.



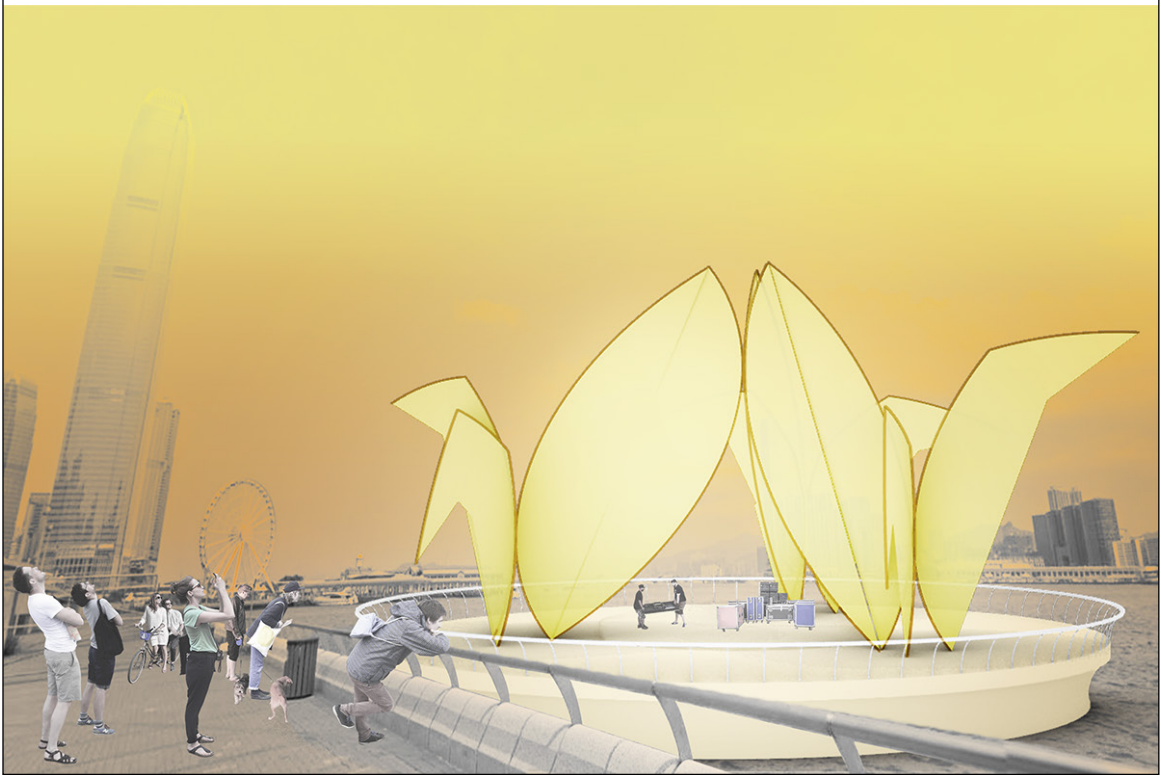
A map showing some suggested routes of cocoon in 2020. The routes are usually combinations of some popular and less well known coastal sites.

For example, on Mar 11, site 1 is Kowloon Bay and site 2 is Shau Kei Wan Typhoon Shelter. On July 5, site 1 is the harbourfront at Central and then site 2 is typhoon shelter at Sam Ka Tsuen.

For October 10, cocoon will perform near West Kowloon Park and then Aberdeen Typhoon Shelter. (Base map from MapaCAD 2016)



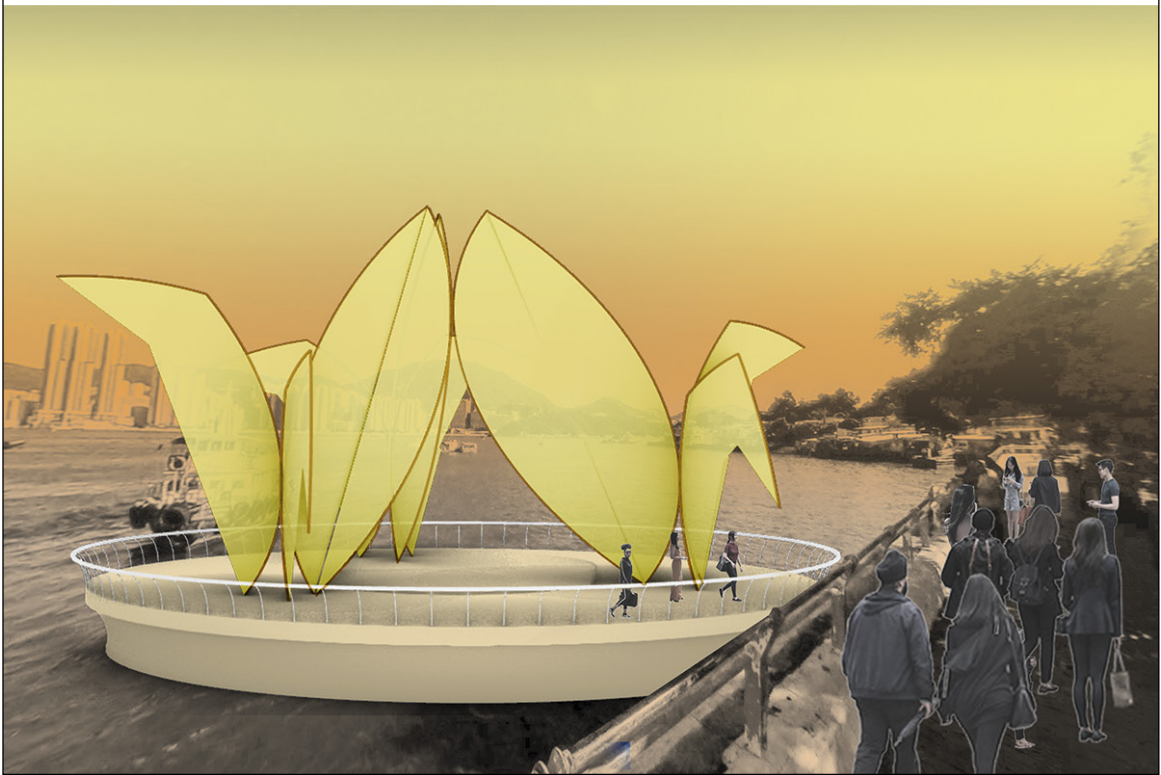
Plan of a the symmetrical cocoon. This floating stage is pulled by a tugboat.



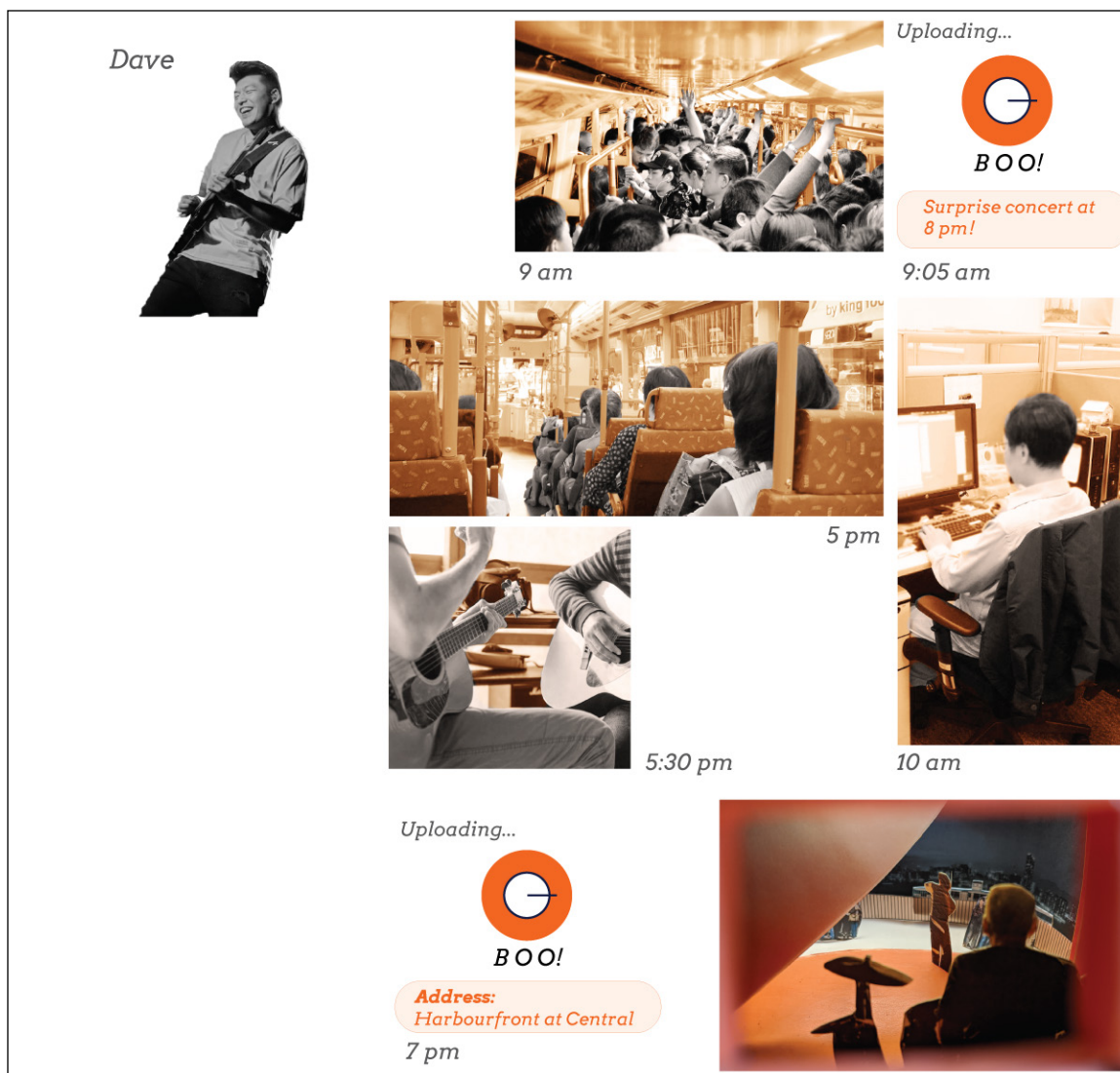
One of the sites is Central waterfront. Once you arrive, you will see the half-open structure in preparation of the show.



You will be on board of Cocoon and start enjoying the show. As the show proceeds, the tugboat pulls the structure to another waterfront area or typhoon shelter.



The planning of the route often combines popular sites and unusual destinations to bring some fun to the familiar city. At the end of the show, the structure will be collapsed and moved and parked to a secret place.



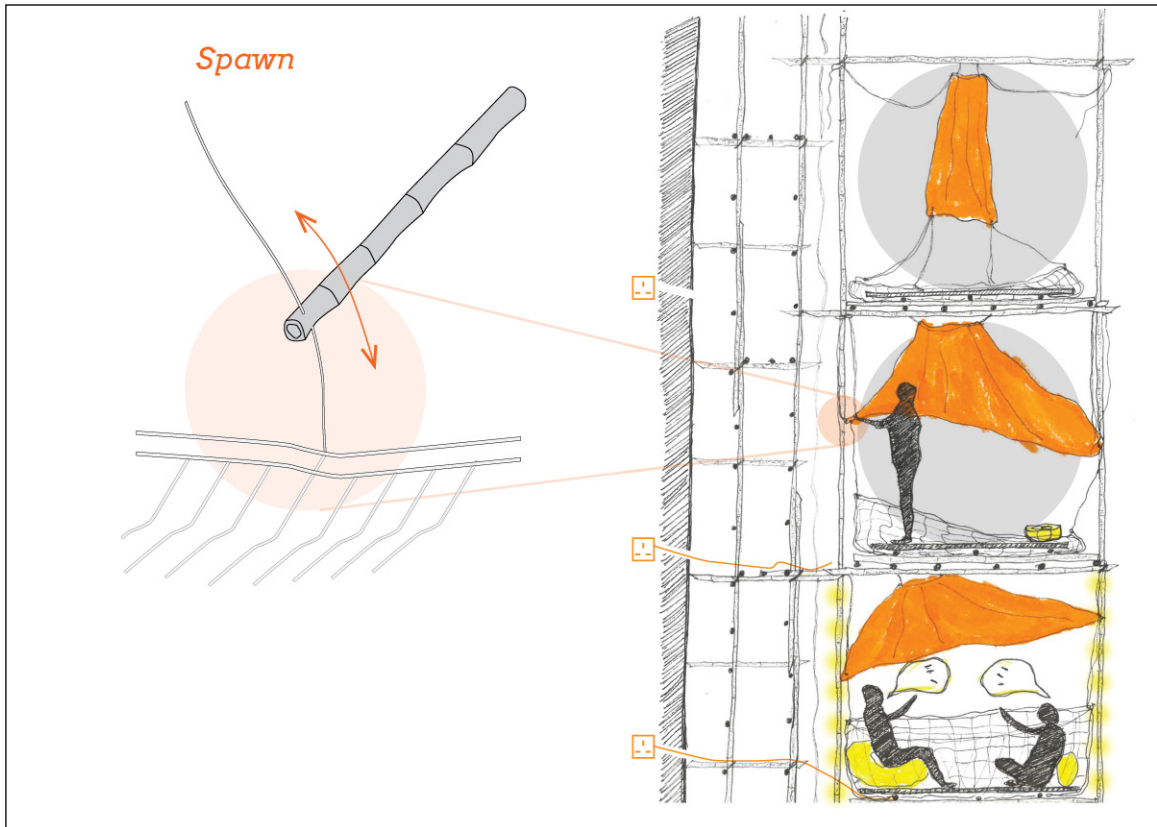
A day of Dave, as a guitarist and a host of a performance.

For guitarist Dave, he is able to use *BOO!* to connect with his audience and to update notifications during the day and on his commute. To host an event, he will send update the information about his concert one day prior, and then he will reveal the location one and a half hour before the start of the concert. Since it is not easy to be a full-time musician in Hong Kong, right now, Dave works in an office for a day job and teaches lessons. On cocoon, he is able to gain performing experience and make his work accessible to other music lovers in the city.

6.5 How Do They Operate?

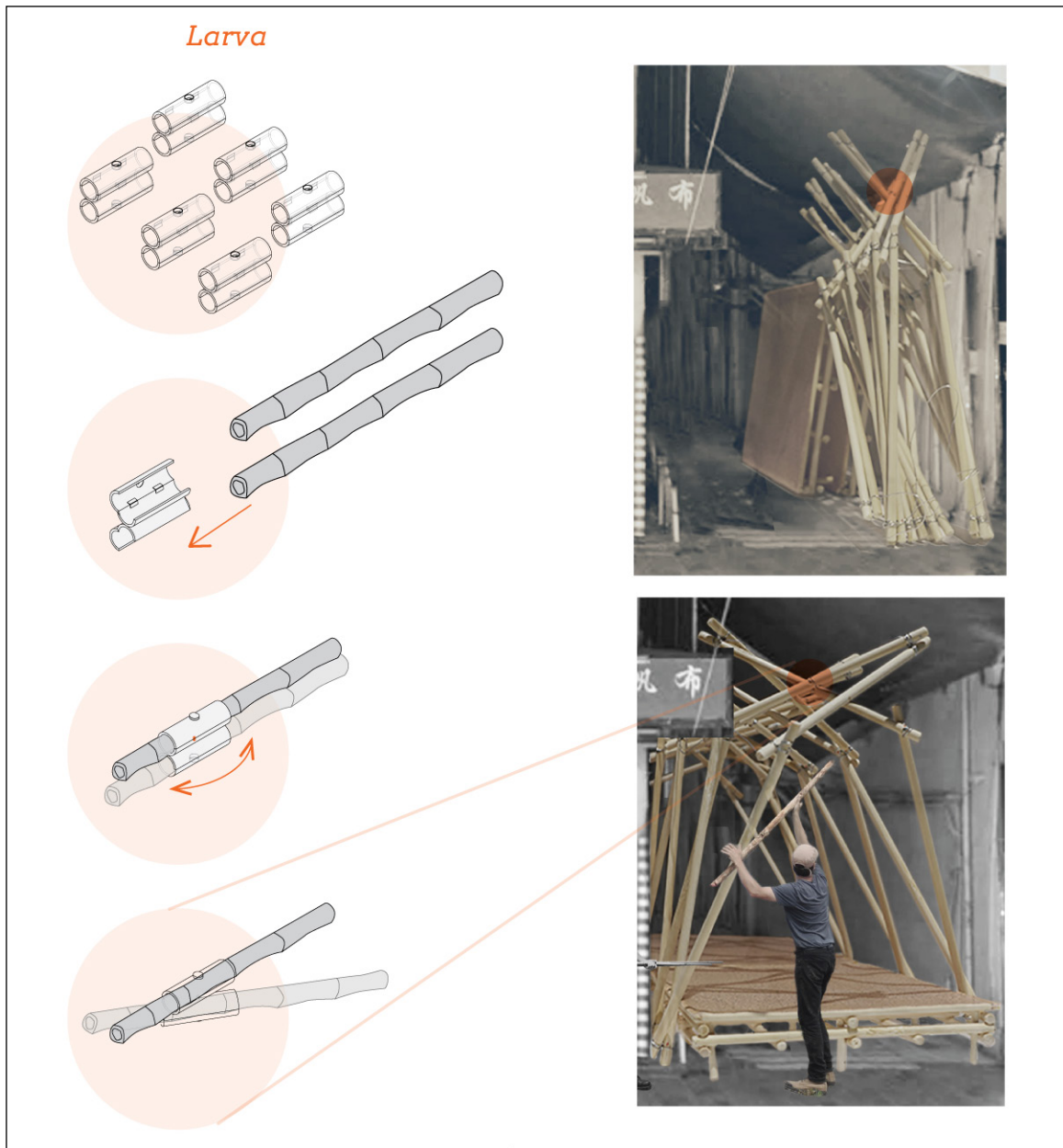
As this thesis intends to bring the century-old bamboo craftsmanship up-to-date and use bamboo for temporary and collapsible architecture, locals scaffolding skills are used with new types of bamboo connections other than nylon strips. Metal connectors are specific to each design while allowing adjustments based on the size of individual bamboo cane. While bamboo canes would deteriorate and be changed after a period of time, metal connectors can be reused for numerous time. In cases with high strength and tension demands, green bamboo canes will be used as they are flexible and strong. If some bamboo canes are found brittle, extra canes can be added or even cut on-site easily.

For spawn, local bamboo scaffolding skills are adopted to construct the extended scaffolding. This extended structure is built with bamboo and the addition of metal wires against shear force and for structural support while maintaining the openness of the spaces. In highly used areas such as ladders, extra bamboo members are added to avoid fast deterioration. To open the structure, users that are not familiar with the operation can use the *BOO!* app to contact trained scaffolders in advance and request them to set up for the place. Otherwise, the users can use the simple mechanism to open the shaded portion and net. The bamboo structure of the shades is hung on the scaffolding. Strings are used to connect the shade and the net so when the users pull the strings, the shade and the net which will be open and closed simultaneously. In the evenings, electrical cords are plugged from the host building so outdoor lights can be installed and used after dark.



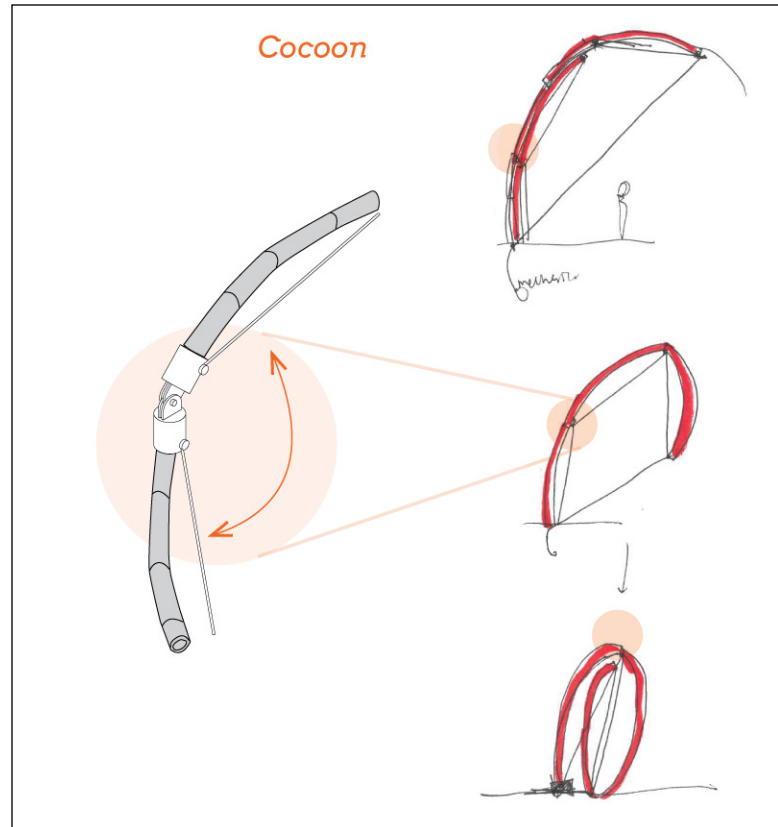
One interface of the app explains how the bamboo members work in spawn.

For larva, bamboo members of the structure are cut to less than 3 metres for easy transportation in urban streets and erection. Once a bamboo cane is placed in a metal connector, the cane can be secured by tightening the knob. The connectors allow the rotation of bamboo members for opening and collapsing the structure efficiently.



Larva operates by the rotation of bamboo members through metal connectors.

For cocoon, green bamboo canes are bent and held in tension to create a landmark-like structure. The 4-metre bamboo canes will be treated by submerging in a natural salt solution of borax and boric acid (Hidalgo-Lopez 2003, 148) for longer use. The tension wires hold the bamboo curvature while the connectors allow the joints to collapse before and after events are held. Each wing is a system of double hinges with three bamboo canes and three wings



Cocoon can be open and closed following the flow of events.

are joined to form a larger structure. These structures are secured into the raft. Although the structure of cocoon is more long-lasting than spawn and larva, its presence in the city's coastline is relatively more temporary.

Methodology	Situations in HK	Methods	Design
Lose sense of place	<ul style="list-style-type: none"> - Unable to have private or personal place - Lack of accessible public space 	<ul style="list-style-type: none"> - Provide designs in different scales of privacy 	Three scales: <ul style="list-style-type: none"> - Small (individual), - Medium (community), - Large (urban)
Placelessness: <ul style="list-style-type: none"> - Giganticism - Extremely high density 	<ul style="list-style-type: none"> - A lot of skyscrapers 	<ul style="list-style-type: none"> - Design with human scale 	<ul style="list-style-type: none"> - Bring the public space to street level
Placelessness: <ul style="list-style-type: none"> - Landscape made for tourists - Commercial strips 	<ul style="list-style-type: none"> - Many places targeted mainly towards tourists and commercial uses. - For example, excessive amount of pharmacies, jewellery shops. 	<ul style="list-style-type: none"> - Avoid sites that are placeless - Design for the locals 	<ul style="list-style-type: none"> - Sites: Everyday life
Lack of identity	<ul style="list-style-type: none"> - Post-materialism: Self-expression and actualization. - For example, protests in 2014 and 2019 	<ul style="list-style-type: none"> - Arts program - Users being participants instead of consumers in place-making - Create a community - Build and share knowledge to each other 	<ul style="list-style-type: none"> - Private gatherings, community events, music performance - Accessible phone app - Vernacular material: bamboo - Collaboration between parties
Lost sense of place-time relationship	<ul style="list-style-type: none"> - Losing heritage - Decreasing rituals and shared time 	<ul style="list-style-type: none"> - Create time-based architecture - Link places with time again with rituals - Situationist 	<ul style="list-style-type: none"> - Pop-ups/ temporary structures - Tactical approach - Building process and duration become as important as forms
Outsider of place-making	<ul style="list-style-type: none"> - Top-down planning - Street vendors and loose space discouraged by the government 	<ul style="list-style-type: none"> - Bottom-up approach - Bring people to sites that are common in Hong Kong 	<ul style="list-style-type: none"> - Appropriate scaffoldings, alleyways, coasts.

A summary of this thesis' theme and directions.

Chapter 7: Conclusion

While the thesis began with the research of bamboo as a material for temporary and permanent architecture, the opportunities for temporary architecture did not come to play until a later stage. In fact, temporary structures are often not considered as 'Design' or 'Architecture,' with the capitalized 'D' and 'A.' Temporary uses such as street vendors and squatting often bring tensions while being looked down and related to illegal acts and lower social classes. However, their flexibility and close-knit relationship to everyday lives of people are missing opportunities to bring back the sense of place and improve the living situations under the current housing crisis and problems in lack of public space.

Having spent my first two decades of my life in Hong Kong, it is not common to see designs or policies that are intended to fundamentally improve the daily lives of people. Instead, most architecture is equivalent to economic benefits to government and private groups, and assets of the rich. More often than not, new buildings and developments are seen by common people as the destruction of collective memory and existing communities. This thesis recognizes the urgency for designers and architects, planners and decision-makers to design for ordinary people and their values instead of merely profits.

The design of a phone application called *BOO!* together with three scales of temporary structures, namely 'spawn', 'larva,' and 'cocoon,' respond to the challenges in the current spatial, cultural and social conditions in Hong Kong. Through the accessible network, people become active participants in the making of their personal, community and urban places. Each structure appears and disappears in the city

on their own rhythm, adding playfulness to the urban lives. The thesis argues that temporality is a spectrum, blurring the boundary between permanent and temporary structures. It is important for architects to design for the everyday life of people and local places while considering intangible issues like collective memory, identity, social values.

Although there is a resemblance with the Situationist, this tactical approach of the design is, indeed, inspired by the on-going protests in Hong Kong since June in 2019. Protestors, a lot of them being younger generations, developed online networks through forums and phone apps to update real-time street conditions during protests and on normal days, to debate and exchange ideas and vote. When they are on the streets and have clashes, their 'water' tactics means to avoid permanently occupy the field and be fluid and flexible like water.

While professionals from various fields spoke out during the city-wide protests, such as lawyers, medical sectors, social workers, and teachers and professors, I could not refrain from questioning: where are the architects? This thesis reflects on the role of architecture as well as its designers. In this thesis, not only do architects connect people from different groups but also design around time and manipulate the rhythms of each design and bring them to harmony. As Hong Kong shows extreme urban conditions of contemporary cities, the proposed approach 'temporary city' may be adopted by other megacities in the world with the adaptation and consideration of local cultures materials.

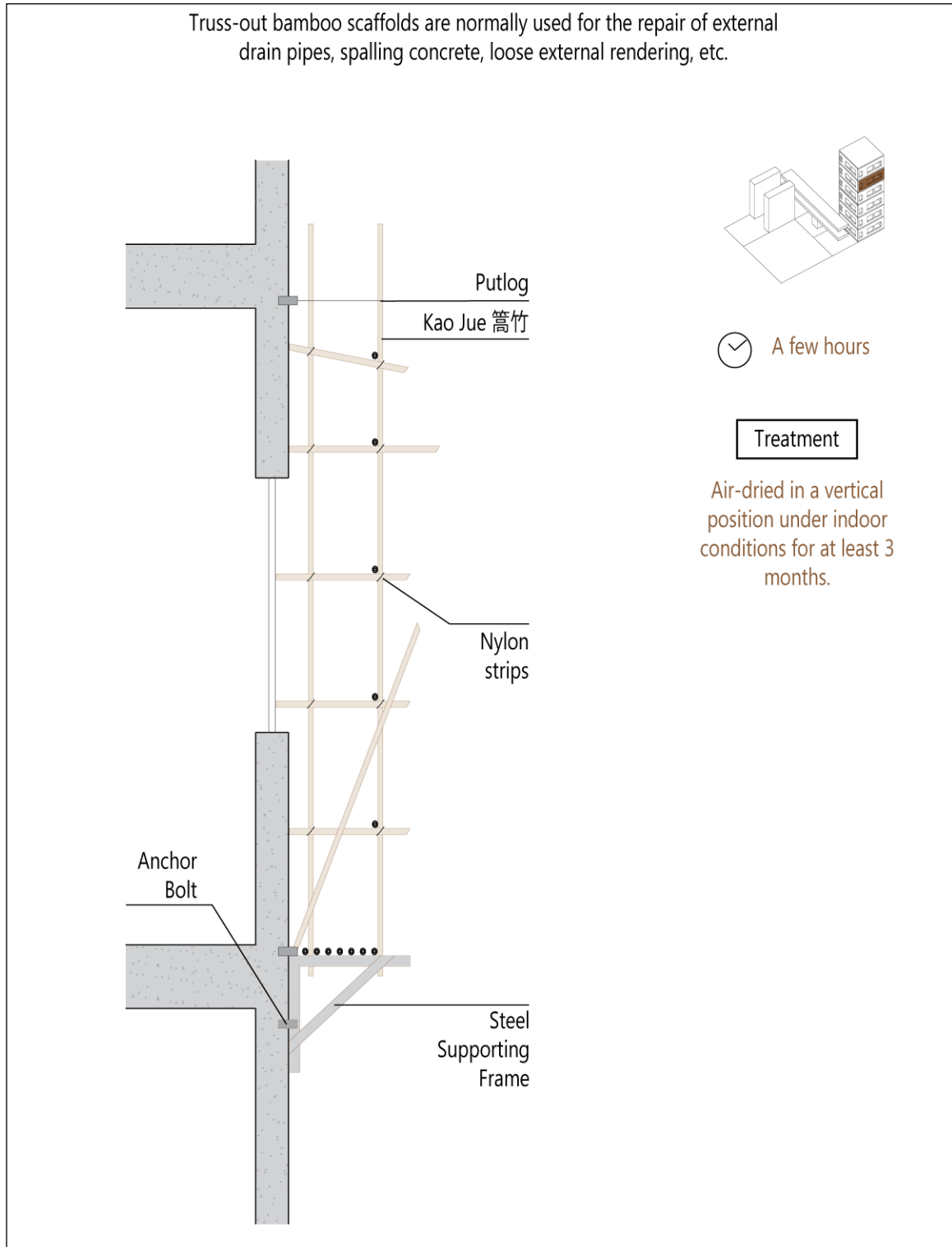
Future research will be benefited from extensive field trips and interviews for a longer time period. This thesis research is based on a two-week trip sponsored by Bruce and

Dorothy Rosetti Scholarship, online and printed sources, and personal experience. However, site-visits and in-person investigations and interviews will be helpful parallel to research, as temporary structures may appear one day and disappear on another day. As temporary structures in Hong Kong is not widely recorded by scholars, interviews would enrich the study by gathering everyday life stories from the locals.

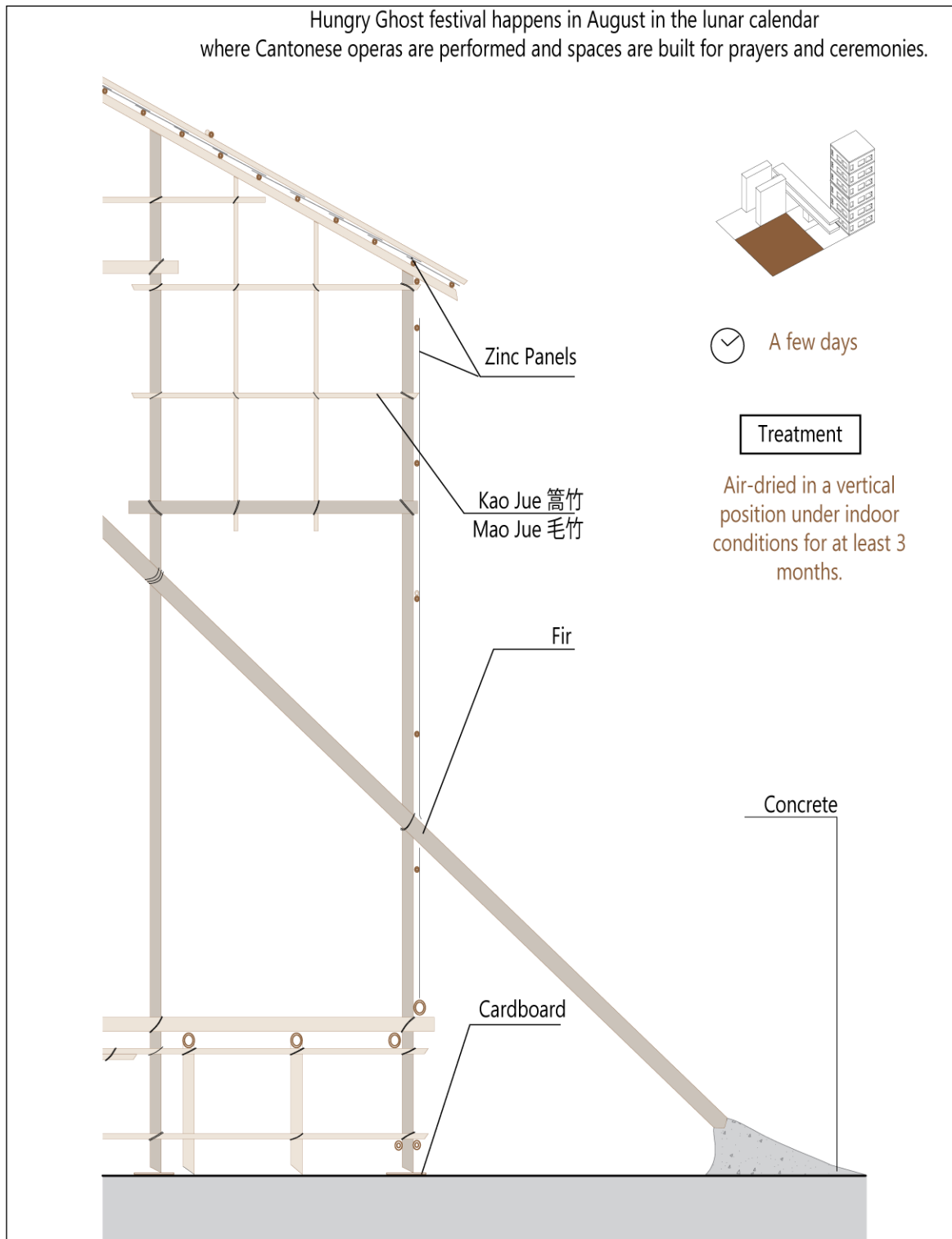


Thesis defense on March 17, 2020.

Appendix 1: Section of a Typical Scaffolding for Small-Scale Renovation

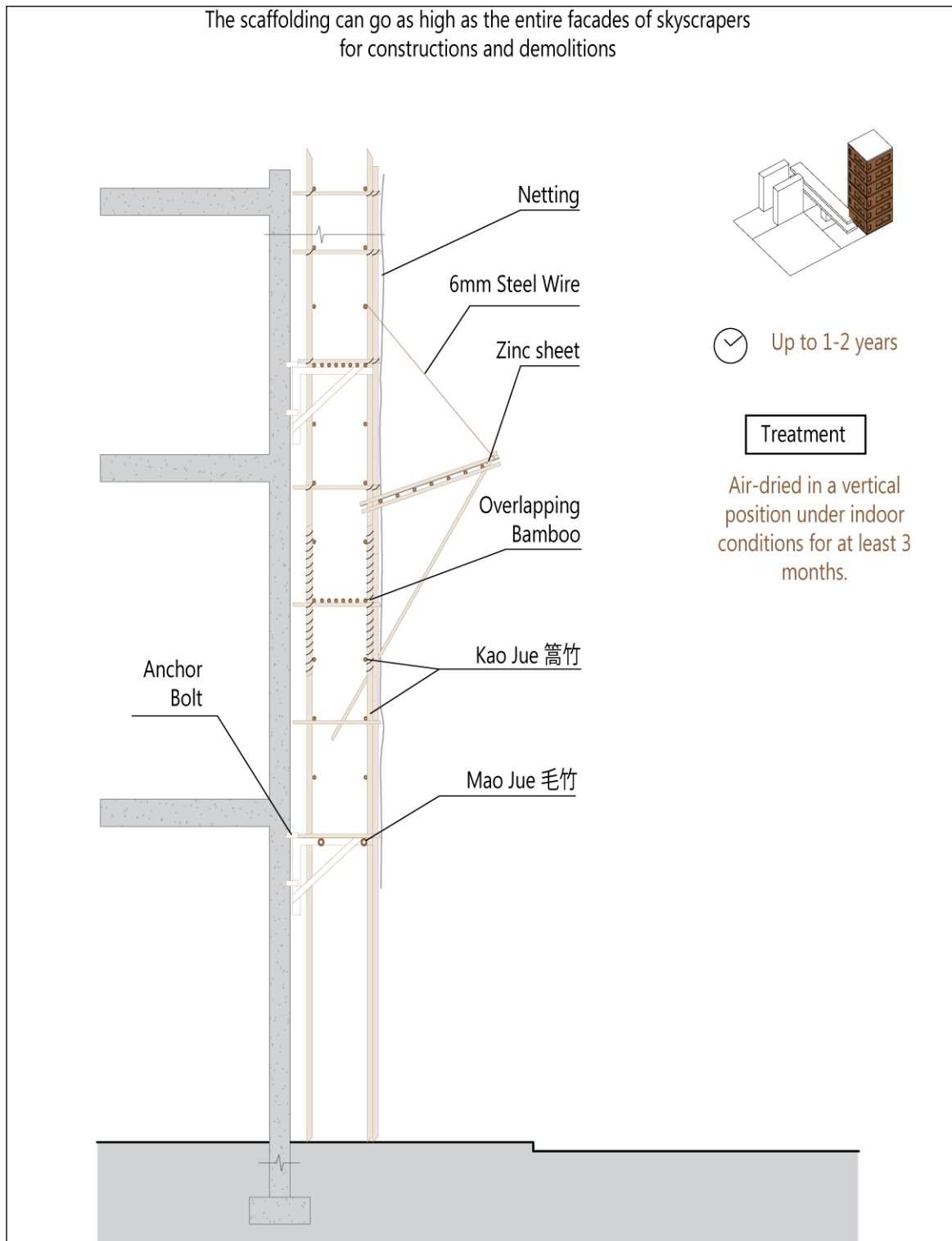


Appendix 2: Section of a Typical Cantonese Opera Theatre

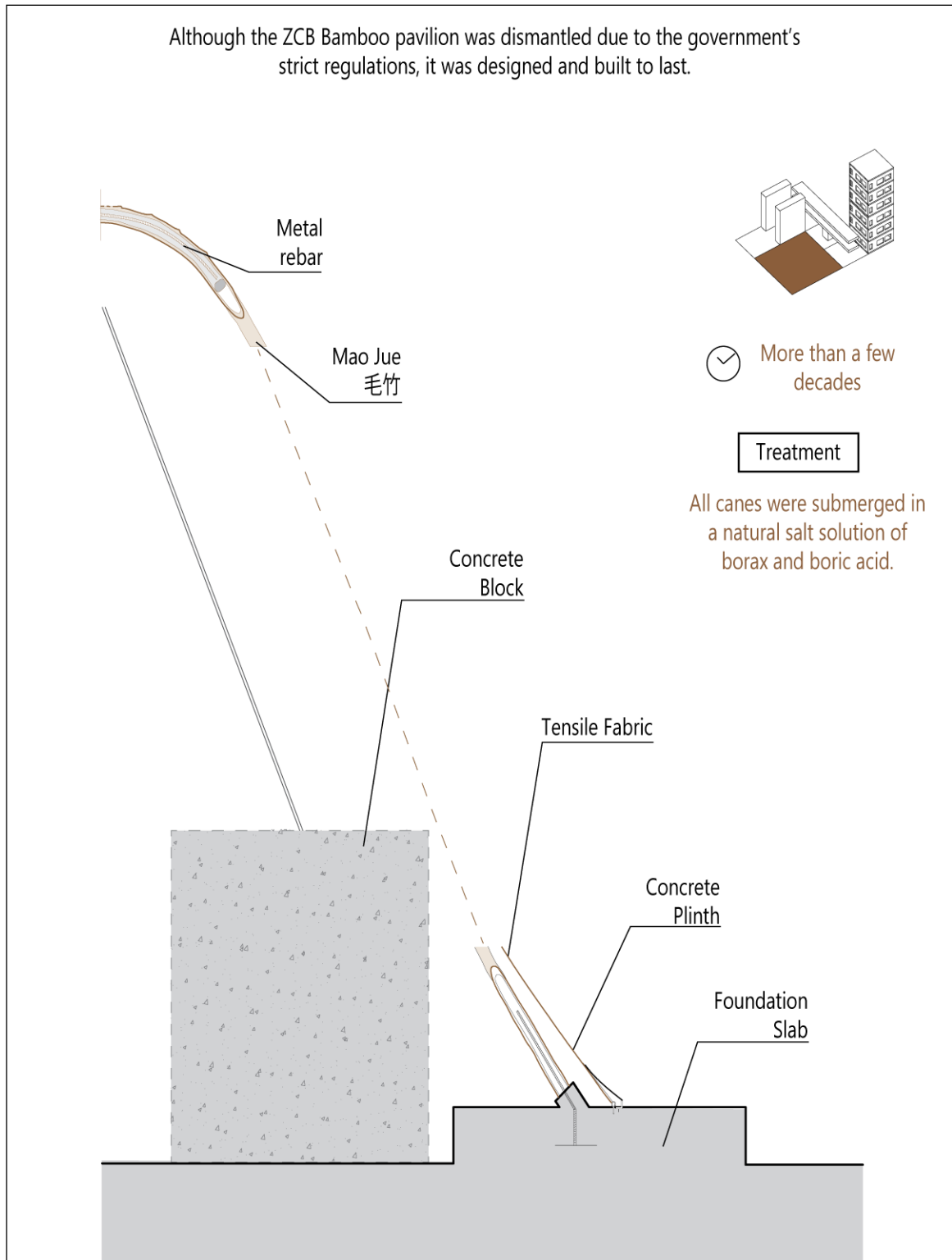


These bamboo opera theatres are built during traditional events throughout the year in various urban and rural sites, such as the Hungry Ghost Festival.

Appendix 3: Section of a Typical Scaffolding on a Building Facade



Appendix 4: Section of a Permanent Pavilion



The ZCB bamboo pavilion was designed and built by the team in the School of Architecture in Chinese University of Hong Kong (CUHK). It was lead by Kristof Crolla.

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