

Where Are We Now?

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Abstract

Where Are We Now? is an interactive physical computing artwork that contrasts moments throughout a recent period of intense changes in Hong Kong. Recalling the use of weaving in early computing and image creation, it is a mechanical display made up of urban landscape images on looped, woven ribbons that expressively rub up against one another. Pulling, snagging and fraying, their tension brings out complications in daily life amid societal shifts. This difficult movement expresses the complex and conflicted nature of Hong Kong's recent history, specifically between 2018 and 2024, the years when the collaged 360-degree/panoramic urban landscape photographs which are printed onto the ribbons were made.

CCS Concepts

• **Applied computing** → *Fine arts*; • **Social and professional topics** → *Cultural characteristics*; • **Hardware** → *Sensors and actuators*;

1. Hong Kong, a complex history and present

Hong Kong is a place of rapid reinvention, an environment where dramatically different cultures, economies and politics mix in unexpected ways. Established as a British colony in 1842, its economic rise throughout the late 20th Century was marked with consequential challenges including the Sino-Japanese war in the 1940s, and widespread social unrest and labor disputes in the 1960s[19]. Following the establishment of "One Country Two Systems," the British Handover to Chinese rule in 1997, and especially since 2018, its people are experiencing some of the city's most significant changes in several generations.

2. Recording, and reflecting on the in-between

The artists have an ongoing practice of documenting and interpreting urban environments through 360-degree photography. Hong Kong, with its relatively dense, diverse and dynamic built environment and rapidly-changing social and political conditions, has been a frequent subject for the collaborators. Following their 2018 visit, they experienced a prolonged interval in this activity. The COVID-19 pandemic and other conditions kept them from revisiting the city until 2024, six years later. However, it is often through gaps and absences that different perspectives and insights emerge. In the context of advancing social policies and changing economic conditions, the contrasts seen and referenced in the artists' 360-degree images from 2018 and 2024 give pause for reflection.

3. Expressing through the deconstructed panoramic image

Panoramic and 360-degree imagery is frequently used to produce vast, navigable and immersive experiences - to situate the viewer in continuous, convincing representational spaces[Ben01].

In recent decades, the methods and creative possibilities of panoramic images have expanded through the integration of digital, spatial and geographic information system technologies. Many artists have explored surprising expressive and conceptually interesting effects that can result through experimentation with these techniques, such as glitches, splicing and distortion[Vyg17]. The artists' prior works in this area include *Conglomerate Distortions* (2015) and *Wandering World* (2019).

4. *Where Are We Now?* - A mashup of time and place

The woven surface of *Where Are We Now* draws on precursors to modern computing and programmable machines such as the Jacquard loom[Del07]. Panoramic landscapes and vertically-oriented collages, all derived from 360-degree photographs, are printed onto horizontal and vertical scrolls which are woven together, evoking a kind of mechanical warp and weft in which image fragments evoke the passage of time in a shifting visual field.

The vertical scrolls are filled with expressive and interpretive photographic collages that emphasize significant landmarks and the artist's impressions of social dynamics in a variety of public locations throughout Hong Kong. The photographs seen throughout these compositions were all made during the artists' visit to Hong Kong in 2018. High end fashion brand signage is prominent alongside the entrance to The People's Bookstore in its last few months

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Figure 1: *Where Are We Now?* View from front.

of operation[Dot18] and well-known areas of Hong Kong Polytechnic University less than a year prior to its Campus Conflict[Sch20].

The horizontal scrolls are filled with cropped areas of singular 360-degree photographs, all made during the artists' most recent visit to Hong Kong in 2024. In contrast with the busy and prosperous looking street scenes of 2018, here the sidewalks are mostly empty, and shop windows vacant.

5. Mechanical expression

Ten independent servo motors drive the horizontal and vertical scrolling of the ribbons in *Where Are We Now?* This scrolling is controlled by an Arduino microcontroller with servo driver and ADPS 9960 sensor. Gallery visitors can activate scrolling in four directions using the sensor: waving one's hand up, down, left or right results in corresponding direction of movement. With each activation or change in direction, each corresponding motor is set to a randomly-selected speed in that direction. The use of randomized speeds results in endlessly-changing juxtapositions and compositions seen in the woven imagery.

Tightly weaving scrolls with independent movement inevitably introduces friction and wear-and-tear on the ribbons themselves. As a result, the ribbons can be seen snagging on one another, and their edges become frayed over time. This physical tension in turn becomes a part of the overall visual experience along with the imagery itself. Thus, while panoramic and 360-degree imagery is typically used to produce vast, navigable and immersive experiences, as a relatively small, dense, directionless object, the difficult movement seen in *Where Are We Now?* expresses the current situation by entangling Hong Kong's past and present.



Figure 2: Viewer interacting with hand gesture.

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