

## Space Collapse: Reinforcing, Reconfiguring and Enhancing Chinese Social Practices through WeChat

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### Abstract

WeChat (a.k.a., WeiXin) is a popular mobile instant messenger (MIM) with various social features and has most of its users in China. Whereas recent scholarship suggests that MIMs could support users to “dwell” together with close friends and family members and to have “fleeting” encounters with strangers, little else is known about WeChat use. In this paper, we present findings from a qualitative investigation of WeChat use and its impact on Chinese social practices. Drawing from 36 interviews conducted between 2013 and 2015, we provide a contextualized account of how WeChat use reinforces, reconfigures, and enhances existing Chinese social practices. We propose a new theoretical concept, *space collapse*-that denotes the emergence of a fourth space where public, private and parochial social spaces are collapsed together in a socio-technical system. We discuss how these results deepen our understanding of MIMs.

### Introduction

Mobile instant messengers (MIMs) such as WeChat, WhatsApp, Line, Kakao Talk and Facebook Messenger are gaining popularity worldwide. MIMs are designed to support users’ interpersonal communication in a more flexible way. MIMs have transformed relationship maintenance from offline to online environments and have provided more opportunities for users to keep in touch with their close friends and family members (O’Hara et al. 2014).

WeChat (a.k.a., *WeiXin* in Chinese PinYin) is a popular mobile instant messenger (MIM) with most of its users in Mainland China. By Nov. 2015, it had retained more than 650 million users (Tencent 2015). WeChat provides a mixture of functionalities that go beyond what is offered by any of the other MIMs. WeChat includes regular communication features such as text messages, voice messages, audio and video calls, and chat groups; common SNS features such as friending, posts/comments, Moments (like Facebook newsfeed); and novel social features such as *Shake* that enable opportunistic interactions among strangers.

In this paper, we present how WeChat uses reinforce, reconfigure and enhance existing Chinese social practices, drawing from 36 semi-structured interviews of WeChat users. Our work was motivated by several factors. First,

MIMs have emerged as a popular outlet for social interaction, but their uses are still under-studied. Second, the dearth of prior literature on MIM studies are dominated by popular MIMs in North America such as WhatsApp. The fact that China has the world’s largest Internet population and has become a key part of the global MIM market calls for more research on this under-studied user population. Third, and most importantly, unlike other MIMs, WeChat juxtaposes features supporting user interactions with their known ties and complete strangers. These characteristics make WeChat a theoretically interesting case to study MIM use.

Our work makes two primary contributions. First, we provide a highly contextualized account of WeChat uses, highlighting how WeChat reinforces and challenges existing social practices, but also enables new practices. Second, using WeChat as a case study, we propose a new theoretical concept, *space collapse*, which denotes the emergence of a fourth space where public, private and parochial social spaces are collapsed together in a socio-technical system. This concept can potentially be used to understand social computing systems in other contexts.

### WeChat Opportunistic Social Features

WeChat provides three novel social features: *Shake*, *Drift Bottle*, and *Look Around*<sup>1</sup> that enable opportunistic interactions between random users on the platform.

*Shake*, as shown in Fig. 1, matches a pair of users who shake their phones at the same time. A user literally shakes his / her phone. While shaking the phone, WeChat plays a crisp, rifle shooting sound. Then another user who also shook his or her phone is matched and shown on the phone screen. The user can choose to send a greeting to the other (matched) user or ignore their match altogether. *Shake* helps users initiate a conversation with another user, coincidentally, by time.

*Drift Bottle*, as shown in Fig. 2, helps users start a conversation with a stranger by throwing or picking up a bottle from a message pool. When a user picks up a drift bottle that contains a text or audio message created by another WeChat user, the user can read/hear the message and choose to reply to the original creator.

<sup>1</sup>The latest English version of WeChat calls it *People Nearby*.

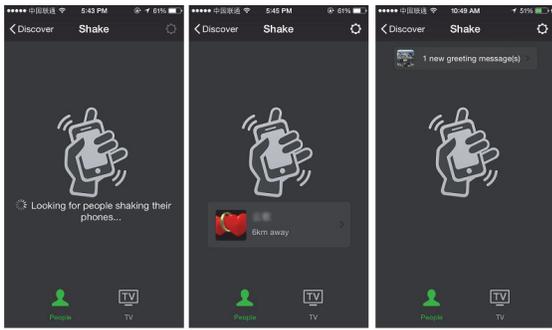


Figure 1: Using “Shake”: step 1, shake your phone; step 2, find another user who also just shook his/her phone; step 3, can choose to message the other user.

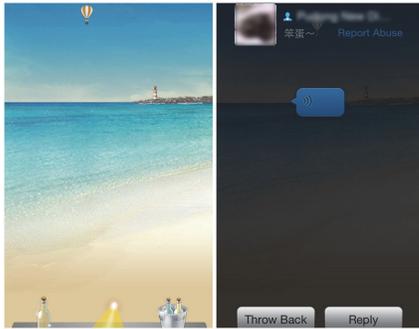


Figure 2: Using “Drift bottle”: step 1, pick a bottle; step 2, read/hear the message in the bottle and can reply



Figure 3: “Look Around” results sorted by distance

*Look Around*, as shown in Fig. 3, allows a user to find other nearby users who have also used this feature. The results page provides a list of users sorted by geographical distance. The user can choose to send messages to others who can be strangers. When enabling the *Look Around* feature, the system has access to a user’s geographical locations and may present his or her profile in other users’ *Look Around* results pages.

## Related Work

### Social Interactions in Urban Environments: Public, Private and Parochial Space

Social scientists have long been interested in understanding social interactions that emerge in urban environments. How we understand and experience urban spaces are largely based on who is present relative to how we engage socially within them – that is, different spaces have varying social features (Lofland 1998). Lofland identifies three kinds of urban social spaces - private, public and parochial - and their distinct features, as derived based on the relationships within them (Lofland 1998).

The first type of social space, the *private* realm, is characterized by relationships with known others. In this space, people often interact with close family and friends. Examples include people socializing in their home or apartment.

The second type of social space, the *public* realm, is defined as non-private sectors outside of private residences, where individuals in co-presence do not know one another, or only know one another categorically (e.g., taxi driver). Although people in the public realm may not share the same history or perspectives, they still interact according to well-established social norms (Goffman 2008). For example, people typically do not bump into or stare at other people, or listen in on other people’s conversations.

The third type of social space, the *parochial* realm, is a space in-between the public and private. It is defined as a social realm where there is some commonality between the people within that space. The work place is an example of this type of parochial space, as people may not know one another, but they have a sense of commonality in that they work in the same building. As such, the parochial realm can be defined as relationships between people and place.

### MIMs and the Social Realms: Towards the Conceptualization of a Fourth “Space”

Most relevant to our study are investigations of Mobile Instant Messengers (MIMs), such as WhatsApp and Grindr, as they begin to blur the line between the public, private and parochial realms. MIMs are mobile and can be used in any realm, but also have features that are public, private and/or parochial. For example, the mobile phone can be used in any realm, e.g. at home, work, or malls, but its use is in line with the ways in which people typically interact in the private realm, as people use their mobile phone to interact with close ties such as family members (Humphreys 2010).

Studies of MIMs have mostly focused on their use in either the public, private or parochial realms (Humphreys 2010). This leads to the question: How are MIMs changing the way we conceptualize relationships in these social realms? Recent studies of MIMs such as WhatsApp (O’Hara et al. 2014), Facebook (Viswanath et al. 2009), Grindr (Blackwell, Birnholtz, and Abbott 2015), and Dodgeball (Humphreys 2010), have started to address this gap.

On the one hand, these studies have found that these technologies augment and reinforce typical social dynamics that characterize the private sphere. For example, WhatsApp users often use the technology because of its low cost,

and due to peer pressure from their close circle of friends (Church and de Oliveira 2013). One of its primary uses is “dwelling” with their close ties by exchanging tidbits of their lives in a casual and continuous manner (O’Hara et al. 2014). Similarly, Facebook is used primarily to maintain relationships (Ellison, Steinfield, and Lampe 2007), promote feelings of belonging (Valenzuela, Park, and Kee 2009), to maintain connectivity, and for entertainment (Park, Kee, and Valenzuela 2009). In other words, whether people are using WhatsApp or Facebook in private, public or parochial spaces, they use them to maintain strong ties and interact with other people who typically comprise the private realm. What is changing is that this form of interaction can take place in lieu of time and space constraints.

On the other hand, the use of the mobile phone - a technology with features from the private realm - creates a tension in public space. Humphreys, in examining the use of mobile phones in public settings, describes various issues that emerge, including: eavesdropping and the inability to control who is listening (Humphreys 2005). Most importantly, mobile phone use in public settings makes people less “socially minded” - that is, as they navigate the public and engage in voice conversations, they are not respecting the norms that typically govern interaction. This implies that some technologies may be changing the social dynamics that characterize the public, private and parochial realms.

The changing characteristics of the social realm, as a by-product of mobile technology use, may be most salient amongst newly emerging MIMs, such as Grindr and Dodgeball. Blackwell et al. (Blackwell, Birnholtz, and Abbott 2015) in a study of Grindr discuss how MIMs are “co-situation technologies” in that they aggregate individuals into a single virtual space based on geographic proximity. In a case study of Dodgeball, Humphreys found that Dodgeball enables its users to parochialize otherwise public spaces by allowing friends to share their locations and facilitate coordination of congregation (Humphreys 2010). She notes that “when Dodgeball members congregated in public spaces, they could experience such places as parochial realms instead of public realms because of their familiar social relations therein” (Humphreys 2010).

In this paper, we shift our analytic attention to WeChat. To our knowledge, few studies have examined the use of this platform. Our prior work found that WeChat users not only dwell together with their close ties, but also have fleeting encounters with strangers on WeChat (Wang, Li, and Tang 2015).

WeChat is unique in that it has built in social features that afford public, private and parochial interaction. Whereas previous work has focused on technologies that are either distinctly public, private or parochial, or the use of technology in the public, private or parochial realms, WeChat creates a new space where the lines between the social spheres become blurred. This leads to our main research question: **How is WeChat reinforcing or challenging existing social interactions and enabling new interactions?**

## Methodology

We conducted a total of 36 semi-structured interviews in two rounds from 2013 to 2015. The research team consists of native English and Chinese speakers. We are WeChat users ourselves, but do not have any connection with Tencent, the developer of WeChat. We started with 25 semi-structured interviews to explore why and how people use WeChat, then followed up with 11 interviews focusing on the three social features as their use continued to emerge during our first round and we wanted to explore their uses more deeply.

In the first-round of 25 interviews, we started by asking how informants heard about WeChat, how long they have used WeChat, and why they use WeChat. We then asked them about the features they usually use in WeChat, and asked them to give us examples of their recent use of the platform. Next, we asked them to show us their WeChat contact list, tell us who these people are, and what kinds of topics they chat about. We then asked questions about any issues or concerns they have regarding WeChat. Lastly, we asked them if a friend of theirs just started using WeChat, what suggestions they would give to this friend.

Preliminary results of the first-round interviews suggested that there are a wide range of uses of the novel social features of WeChat. To uncover uses of these social features, we conducted a second-round of 11 interviews focusing on the use of *Shake*, *Drift Bottle*, and *Look Around*. We asked participants questions about whether they used those three social features and why. If they said yes, we asked them to provide an in-depth account of the last time they used each social feature (if applicable), why they used that feature, what they found, what they did in response, etc.

Both interview protocols were designed in Chinese. Three researchers conducted interviews with 36 Chinese WeChat users, 19 living in Mainland China and 17 living in the US. We conducted interviews in both locales as a way to diversify our sample. The study was approved by the IRB.

Each interview lasted between 30-60 minutes and was conducted in Mandarin Chinese. The three researchers who conducted interviews are native Chinese speakers and followed the same interview protocol. We recruited our participants through personal and professional connections as well as “snowball” sampling technique (Biernacki and Waldorf 1981) where, after each interview, we asked if the interviewee could recommend other WeChat users to participate in our study. By finding informants through multiple seeds our intent was to limit sampling bias. We did not provide monetary remuneration to interviewees for their participation.

Most interviewees were college students or young professionals in their early 20’s except for three interviewees in China, two of them were managers in their early 40’s and the third was in her 50’s and retired. 76% of interviewees were female. All interviewees use WeChat regularly and most of them had been using WeChat for at least six months.

We took notes during the interviews. In addition, most interviews were audio recorded upon participants’ permissions and transcribed in Chinese and then translated into English (not everyone on our team was a native Chinese speaker). The research team held several analysis sessions to review and discuss the interview results and three re-

searchers iteratively coded the data through an open coding process (Lofland et al. 2005). We had about 70 initial codes covering different types of contacts such as parent and strangers, use of WeChat features such as QR codes and profile pictures, types of behavior such as chatting and stealing WeChat accounts, and types of feelings related to WeChat usage such as fun and risky. We then categorized post-hoc and grouped these initial codes into a set of high-level themes (Lofland et al. 2005), which in turn were refined using evidence from the interview data to develop the categories presented in this paper.

## Findings

We present our findings illustrating how WeChat reinforces, reconfigures, and enhances social practices of Chinese users within this fourth and collapsed social space: dwelling with close friends and family members, meeting strangers, finding communities, searching for romantic partners, and seeking local information.

### WeChat Use in Private Space

The private space is characterized by relationships with known others such as friends and family (Lofland 1998). Our findings corroborate prior research that MIM users “dwell” with their close friends and families by continuously sharing tidbits of their lives on MIMs (e.g., WhatsApp (O’Hara et al. 2014), WeChat (Wang, Li, and Tang 2015)).

**Reconfiguration of Guanxi maintenance** What is unique, however, is observing the use of WeChat in private space relative to the Chinese concept of *Guanxi* (personal connection). *Guanxi*, at its core, refers to a highly personal and particularistic connection - one based on similar background, or commonalities - between two individuals (Chen and Chen 2004). The building of *Guanxi* relationships usually starts with identification of common ground such as sharing the same birthplace, or working at the same company (Chen and Chen 2004).

Traditionally, family members and close friends often stay in touch via in-person meetings, letters, emails, phone calls, text messages, and more recently social networking services (SNS). We found that WeChat serves to reinforce *Guanxi* by offering a cheap and convenient alternative to maintaining strong ties. Seven informants reported that WeChat facilitates their ties with friends and family members.

For example, Yue, a retired Chinese informant in her 50’s, described usually using the phone to call her co-workers if she had something to tell them. After starting a WeChat chat group, however, if someone wanted to initiate a casual hang-out, they would inform everyone via the group chat. She commented: *“I could get the messages immediately in WeChat. Everyone is sending voice messages. It is so much faster than typing. I don’t have to follow up with them all the time. As long as I spent one hour or two every day checking WeChat, I’d know what my friends were doing.”*

It is important to note that unlike SNS services such as Facebook, WeChat was designed such that its users cannot see their friends’ contact lists (or *Guanxi* network) on WeChat. This aligns with traditional *Guanxi* practice where

one’s personal *Guanxi* network is considered as a private resource (Ai 2006). However, through the chat group feature (maximum 100 group members, group content only accessible to members), people can be in the same group chat even if they are not connected as friends. This effectively creates an ephemeral social network for WeChat users, which serves as a re-configuration of how *Guanxi* is typically enacted.

WeChat users also use other social features with their friends. For instance, one informant, Qiang, talked about using Shake with his friends in a party. Qiang is a young male graduate student, pursuing his master degree in US. He said *“It was very convenient to add my friends using Shake when we were physically together as we didn’t bother entering or searching IDs. We “shook” together after a short time countdown and then matched with each other. It is cool since you don’t have to search, or type each other’s number, or scan QR code.”* Qiang’s story illustrates that this type of WeChat usage not only provides convenience and fun, but also enhances how *Guanxi* is enacted, paradoxically, via computer-mediated interactions in face-to-face settings.

Liang is a master student in the US. He talked about how he used WeChat to keep his parents updated about his daily life. He illustrated to us, *“I post a moment almost everyday, which is actually what they want me to do because they want to know what I am doing here. Since we usually only call each other on weekends, posting moments would make them not worry about me. After I post, they just read. They won’t reply or thumb up. But when we call each other, they would ask me why you posted this, why you posted that, where you have been, etc.”* What we see here is a reconfiguration of the parent-child *Guanxi* through an ensemble of WeChat features where Liang provided his parents peace of mind about his life in a foreign country and his parents expressed their care about their son.

### WeChat Use in Public Space

Unlike private space, public space is typified by strangers. One distinct characteristic of the three novel WeChat social features is that they enable random encounters among strangers without any commonality.

#### Opportunistic encounters: forming instrumental ties

In understanding the interpersonal relationships in China, Hwang talks about the notion of *instrumental ties*, which serve only as a means to attain certain goals, which, for example, happen between salesmen and customers, or bus drivers and passengers (Hwang 1987). Such relationships are often unstable and temporary. Traditionally, instrumental ties are often formed by participating in public events or when interacting in public spaces.

Whereas instrumental ties are typically developed in public spaces, Chinese sociologists have noted the “stayed home” phenomenon in China in recent years. The “stayed home” phenomenon refers to how people (particularly young people) prefer to stay at home and surf the Internet rather than going out to socialize (Ping Jiang 2009).

WeChat, however, enables new ways of meeting with strangers where people do not have to physically travel to public spaces to meet and interact with strangers, thus serv-

ing to reconfigure this form of interaction. The desire to meet with people was indeed a common reason reported by five of our informants. The WeChat social features spontaneously match people with strangers virtually. Thus, WeChat allows people to form instrumental ties with strangers.

For example, Jiayi, a graduate student in China, has used all three social features to meet with strangers. She wanted to know different people and make more friends through WeChat. She recalled *“I met a friend through Drift Bottle. I sent out a message [in a bottle] and he responded. In the next two months, we chatted quite often about our past and current situations. He then said he liked me and wanted to see me in person. But, I felt it’s too far between us and unrealistic to have a relationship with him. So, I only chatted with him on WeChat, but we are still in touch.”*

While this relationship did not cement as a serious romantic relationship, Jiayi still found value in this relationship, fulfilling her need to talk to people even on private topics. She elaborated, *“I feel it is really magical to meet someone interesting via WeChat. I actually like to talk about some private things to those ‘friends’ because they won’t get into my real-life social networks.”* Jiayi did not know who uses these social features nor what to expect from these social features. But, the invisibility and ambiguity of the larger user community coupled with the sense of randomness and serendipity in WeChat contribute to the “magical” appeal.

### Romance seeking and intention clashes

WeChat also influences how some people seek romantic relationships. Marriage was traditionally arranged as a family business by the parents to align with the social hierarchy. In modern China, the young generation is given more freedom in choosing their own partners. They develop romantic relationships with their classmates, colleagues, or friends, or through introductions made by others.

The three novel WeChat social features allow a user to get “matched” to another random user. At least some WeChat users take advantage of these features to seek romantic partners, serving as a reconfiguration of traditional practices. While none of our informants reported doing this themselves, five of them reported receiving such romance seeking messages.

For example, Mei, who lives in China said that she used *Look Around* and got a number of matched people from the results list. She told us *“I shaked my phone and there was a sound, then I got a bunch of people in my list. Those people were probably nearby. They looked like those in dating websites and sent messages like ‘hi pretty girl, add me.’ It was so scary and I turned it off immediately. I care about people’s appearances. I look at their profile pictures. When I saw profile pictures where I knew they were the kind of people who used cameras in very dark Internet Cafes to take selfies, I couldn’t tolerate that. So, there’s no need to take a closer look at their profiles. No interest at all.”* The social features of WeChat that connect people with strangers served as a departure from and reconfiguration of traditional social practices and norms as this use is counter to how Guanxi is typically enacted. As such, Mei developed new practices to

vet for matched users for further interactions, e.g. by checking their profile pictures.

Another Chinese female informant, Qi, shared a similar story, *“I first learned about the Shake feature from a Chinese dating TV show called Love Battle and many couples on this show got to know each other via Shake. I became really curious about the Shake feature. It sounded like a new version of Momo [another popular Chinese MIM known for hook-ups]. I took a bystander’s attitude to try it. But I got matched with people that I had no interest to talk to.”* In this case, the popular TV show to some extent legitimizes the use of the WeChat *Shake* feature to seek romantic relationships. Qi continued, *“Those people were like uncle-aged and young Chinese guys. However, I didn’t add any of them [as a friend]. Basically every time I was matched with people who looked horny in their photos, I was scared away.”*

Qi’s experience highlights that different people may have varying intentions in using WeChat. Since a formal technical mechanism or a set of social practices around proper use does not exist and, as such, there is not an easy way to make intentionality visible. Moreover, individual norms dictating appropriate use or expectations of use differ and even clash. While Qi did not use WeChat to seek romantic partners, others did. As a result, their intentions and expectations misaligned and Qi got scared away.

### WeChat Use in Parochial Space

The parochial space is in-between the public and private spaces and is defined by a sense of commonality among people within that space (Lofland 1998).

**Location-based Guanxi development** The novel social features of WeChat, such as *Shake* and *Look Around*, can help users find people that share commonalities with them. In other words, the platform supports the construction of Guanxi ties. Here we report how five informants used the novel social features of WeChat to establish Guanxi ties in unfamiliar environments where the platform both reinforces and enhances traditional practices.

One informant, Lu, moved from China to earn her master’s degree in the US. After two years of studying, she moved to a new city in the US for an internship. Lu used both *Shake* and *Look Around* to determine if there were any Chinese colleagues in her new company because, as she described: *“I only knew few people in my company. So I wanted to meet some Chinese colleagues.”*

Although she found Chinese users in the *Look Around* results list, she chose not to initiate conversations with them through WeChat because she did not want to friend strangers that she had not yet met in the company. *“I could find Chinese people every time I use Shake. But I did not interact with any of them because their photos were horny and I did not want to talk with stranger. I had never met them in the company. They might be in the companies next door.”*

She further checked their profiles, particularly their profile pictures, even if they were in the same company. Lu recalled *“One of them looked familiar to me. He might work in my company. I thought I knew him. But I was not sure. So I*

Space	Interactions	Affordances of WeChat
Private	Relationships with known others, e.g. family	Can use IM and SNS features to maintain relationships or “dwell” with close ties
Public	Individuals in co-presence do not know one another Interact via well-established norms	Can use social features for opportunistic interaction <i>Look Around</i> can connect people together in public spaces and lead to unexpected types of interaction
Parochial	Commonality between people People to people and people to place relationships	Can use social features for opportunistic interaction Can locate information and resources using <i>Look Around</i>

Table 1: Interactions and affordances supported by WeChat in different types of spaces

checked his WeChat profile. His photo looked weird. Not my type. So I lost the motivation to talk with him.”

While in the study of Dodgeball Humphreys proposed the idea of parochialization of public space (Humphreys 2010), here, Lu’s experience illustrates *location-based Guanxi building* where the people may not know each other previously. Lu predicted where it was likely to find the people that she hoped to connect (in this case, Chinese colleagues at her new workplace) and selectively used the Shake and Look Around features for the purpose of building Guanxi. One value of these social features is then to allow users to more easily establish commonality when transitioning into new settings.

Cranshaw et al. propose the notion of *location entropy* to measure the diversity of people who visit a certain location (Cranshaw et al. 2010). They found that locations with high entropy are more likely to be shared in location sharing systems than locations with low entropy (Cranshaw et al. 2010). Our study illustrates an important counter-example whereby we found that people like Lu wanted to use *Shake* and *Look Around* in a location with low entropy. In other words, she wanted to find people that have certain characteristics (Chinese colleagues), i.e., low diversity of the people around a location, using the novel feature of WeChat to filter the population in her local context.

The novel social features of WeChat support the enactment of traditional Guanxi practices, albeit in new ways. Whereas people typically form Guanxi ties through recommendations from family and friends, here people were able to use WeChat to filter people within a given location in an effort to establish commonality and expand their social networks by forming weak ties.

**Seeking local information** Traditionally in China, people rely on mass media to receive local news, advertisements, etc. In addition, they often walk around in their local communities or talk with neighbors to seek interesting information about various things, e.g., local events (Wang and Wang 2014).

The social features of WeChat, however, reconfigures how Chinese citizens typically seek information within local communities. Using *Shake* and *Look Around* allowed our informants to tap into their local communities thus providing an alternative channel to address their information needs. Three informants reported that WeChat facilitated them to

seek information locally.

For example, Na, a 27 year-old informant, reported her use of *Shake* to receive posts about local cafes and accessory stores. “I just wanted to get updates from those stores, so that if I saw something interesting, I would like to buy. It is really convenient and helpful to get information.”

Similarly, Chao told us how he used WeChat for very specific purposes. He explained, “I wanted to buy used furniture or books locally, and people advertised these on online forums and left their WeChat accounts, so I added them in WeChat to negotiate.”

However, seeking information via the social features of WeChat also comes with a cost. Di, a female informant, used *Look around* to seek information about her lost cat. She explained, “I lost my cat and wanted to use *Look Around* to find my cat, but I ended up getting harassing messages for hook-ups.” While Di’s example highlights the potential risks of seeking information this way, Na and Chao’s uses of the social features suggest that WeChat affords an alternative way to seek information in the local community, reconfiguring how Guanxi is developed between local residents as well as the relationship between people and local businesses.

## Discussion

Our findings highlight how public, private, and parochial spaces collapse into WeChat, a single socio-technical system which is filled with users’ varying and sometimes conflicting intentions. The results also suggest that WeChat reinforces, reconfigures, and enhances many social practices of Chinese users. Reinforcement refers to the ways in which traditional social practices were manifested through the technology. Reconfiguration refers to the ways in which new and emergent uses were counter to traditional social practices. Enhancement refers to how the technology was used to improve how traditional social practices were enacted.

### Uniqueness of WeChat

WeChat is one of the many MIMs in the market. However, what is it about WeChat that makes it unique? First, the juxtaposition of various features provides different affordances for social interactions and permeates different spaces: public, private, and parochial. Table 1 lists the different types of interactions and affordances provided by WeChat. The communication and SNS features are often used by our informants to “dwell” with their close ties, which characterize

the private space. The opportunistic social features are used for seeking people with commonality (e.g., employees in the same company) and interacting with strangers. These practices characterize parochial and public spaces, respectively.

Second, the co-presence and blurring of different spaces in WeChat comes with ambiguity and lack of clear norms. Most MIMs have relatively clear purposes and uses, and thus have a set of social norms dictating use. For instance, WhatsApp is primarily intended for close relationships (O'Hara et al. 2014) while Grinder is used for dating and hook-ups amongst the gay community (Blackwell, Birnholtz, and Abbott 2015). In comparison, WeChat affords many types of interactions and can be used for different purposes (e.g., dwelling with family and friends, seeking romantic relationships). As such, a confluence of actors with varying motivations co-exist on the platform and we propose that this is leading to "space collapse."

### Characteristics of Space Collapse

WeChat collapses together the three social spheres (public, private, and parochial) into one, bounded technical system. Space collapse, then, happens when the systems is used in any given space in the real world. In other words, the intersection between WeChat and uses at home, at work/in the neighborhood, or in the public realm, create a fourth space. We refer to the emergence of a fourth space as space collapse. There are two characteristics of space collapse.

The first is the aforementioned confluence of different intentions and as such, a lack of universally accepted norms and expectations, and in turn potential *intention clashes*. The social matching system in WeChat does not know people's true intentions. As a result, people have to navigate the murky water of conflicting intentionality themselves. But, when the intentions matched, it felt like magic as one informant suggested. This points to an important design question: should the system be socially translucent (Erickson and Kellogg 2000) or opaque? Or, in other words, should systems make users and their activities visible to each other? Socially translucent systems promote awareness and accountability (Erickson and Kellogg 2000), but the social opaqueness of the social features (e.g., *Drift Bottle*) in WeChat also contributes to its "magical" appeal. Our goal here is not to offer prescriptive de-contextualized design suggestions, but to highlight potential implications of these design choices.

The second characteristic of space collapse is the co-existence and collapse of *spaces*. Marwick and boyd describe how social media users tend to collapse multiple audiences into a single context, and as such, it is challenging for them to maintain different faces as they interact with these different audiences in the offline world (Marwick and Boyd 2011). Similarly, we believe that WeChat performs a similar function, where WeChat usage tends to collapse multiple spaces. In this view, the three kinds of urban spaces and the typical norms dictating social interaction therein, are all collapsed together in a socio-technical system. When the norms and structures that dictate interaction in the physical world environment are all joined together, this leads to an important question-what are the implications of space collapse?

### The Implications of Space Collapse

As articulated through our work, Chinese social structures are dominated by hierarchal relationships, and the ways in which people interact in private, public and parochial spaces conform to the norms and structures present within Chinese society. For example, Guanxi ties are traditionally enacted through friends and family; romantic relationships are typically established through formal processes whereby parents negotiate relationships for their children; information is typically acquired through formal news agencies; etc.

On the one hand, people were using WeChat in such a way where they were reproducing Chinese social structures by tapping into different and separate spaces characterized by the social relationships therein. For example, some of our informants were maintaining Guanxi ties by dwelling with close friends and family members over each other's Moments or walls. As such, people might give precedence to different spaces. In our sample, some people focused on the private space over public or parochial spaces. Some of the social features in WeChat are location-based such as the Look Around feature. Troshynski et al. discuss the notion of accountability of presence where sharing location is not merely sharing where one is or went, but as a form of cultural production or social participation of some social groups or relationships (Troshynski, Lee, and Dourish 2008). In other words, the sharing of location conveys not only where you are but also an aspect of who you are (Troshynski, Lee, and Dourish 2008). Similarly, WeChat users' precedence of one type of space over others contribute to who they are.

Moreover, WeChat use also served to re-configure Chinese social structures when typical interactions in one space (e.g., the private sphere) were reshaped by the actions typical of another space (e.g., the public sphere). In this sense, whereas Chinese social structures are typically hierarchical, when these spaces were collapsed this signaled a shift to more horizontal structures that are atypical of Chinese social structures. For example, people were interacting with strangers in ways they normally would not; and people were seeking romantic partners without going through traditional, familial structures.

Lastly, going beyond the Chinese cultural context that situate WeChat uses, we note that when designers create MIMs or other social technologies, they should be mindful about the implications of combining different social features in a single platform. In WeChat's case, the mixture of different communication and social features targeted at known ties and strangers provides a powerful social application, but also introduces space collapse. Not everyone has the same values. Friedman and colleagues propose value-sensitive design as a generic design approach that supports values, such as user autonomy and privacy, in system design (Friedman 1996; Friedman, Kahn, and Borning 2008). Dourish and Bell describe collective imagining, where the design process leads to technological progress that brings about alternative futures (Dourish and Bell 2014). Moreover, this collective imagining happens prior to design, embedding our cultural and social interpretations of the world into what is being designed (Dourish and Bell 2014). While we are not aware of whether or not Tencent used the value-sensitive design ap-

proach or embedded the ensemble of WeChat features as a way to bring about an alternative future in Chinese society, the implications, from our sample, are rather compelling.

### Limitations

There are several limitations of our study. First, we used a snowball sampling technique to recruit participants and thus the results are subject to self-selection bias. Second, our results are self-reported which might be affected by social desirability bias (Arnold and Feldman 1981) where people withhold reporting certain behaviors that may seem inappropriate (e.g., “hook-ups”). Third, our empirical research focuses on one MIM, WeChat, and its novel social features. Therefore, our research findings may not be generalizable to other MIMs particularly because they do not have the opportunistic social features that WeChat has. However, future research can examine whether other MIMs or social computing systems exhibit signs of space collapse. Fourth, our participants were all Chinese WeChat users. Since there are a large number of non-Chinese WeChat users, our results may only present part of the phenomenon. Future studies can investigate how users of different cultural background interact in such a social MIM environment. Lastly, most of our interviews were conducted in 2013 and 2015. The significant time gap may have some impact on our results, for example, the evolving user behaviors in WeChat.

### Conclusion

While mobile instant messengers (MIMs) are getting popular around the world, relatively little research studies their usage. We studied a particular MIM, WeChat. Our findings suggest that WeChat creates a *fourth space* - one that is public, private and parochial - as it collapses various social spheres together. Within this fourth space there exists a confluence of people with different intentions and needs, and typical Chinese social practices and Guanxi were reinforced, reconfigured or enhanced as a result. The notion of space collapse which refers to the emergence of a fourth space offers a complementary perspective to understand MIM uses.

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### References

Ai, J. 2006. Guanxi Networks in China: Its Importance and Future Trends. *China & World Economy* 14(5):105–118.

Arnold, H. J., and Feldman, D. C. 1981. Social desirability response bias in self-report choice situations. *Academy of Management Journal* 24(2):377–385.

Biernacki, P., and Waldorf, D. 1981. Snowball Sampling: Problems and Techniques of Chain Referral Sampling. *Sociological Methods & Research* 10(2):141–163.

Blackwell, C.; Birnholtz, J.; and Abbott, C. 2015. Seeing and being seen: Co-situation and impression formation using Grindr, a location-aware gay dating app. *New Media & Society* 17(7):1117–1136.

Chen, X.-P., and Chen, C. C. 2004. On the Intricacies of the Chinese Guanxi: A Process Model of Guanxi Development. *Asia Pacific Journal of Management* 21(3):305–324.

Church, K., and de Oliveira, R. 2013. What’s up with what-sapp?: comparing mobile instant messaging behaviors with traditional SMS. In *Proceedings of the 15th International Conference on Human-Computer Interaction with Mobile Devices and Services*, 352–361.

Cranshaw, J.; Toch, E.; Hong, J.; Kittur, A.; and Sadeh, N. 2010. Bridging the Gap Between Physical Location and Online Social Networks. In *Proceedings of the 12th ACM International Conference on Ubiquitous Computing*, UbiComp ’10, 119–128. New York, NY, USA: ACM.

Dourish, P., and Bell, G. 2014. “Resistance is Futile”: Reading Science Fiction Alongside Ubiquitous Computing. *Personal Ubiquitous Comput.* 18(4):769–778.

Ellison, N. B.; Steinfield, C.; and Lampe, C. 2007. The benefits of facebook “Friends”: social capital and college students use of online social network sites. *Journal of Computer-Mediated Communication* 12(4):1143–1168.

Erickson, T., and Kellogg, W. A. 2000. Social Translucence: An Approach to Designing Systems That Support Social Processes. *ACM Trans. Comput.-Hum. Interact.* 7(1):59–83.

Friedman, B.; Kahn, P. H.; and Borning, A. 2008. Value Sensitive Design and Information Systems. In Associateessor, JD, K. E. H., and scholar/ethicist, H. T. T. L. v., eds., *The Handbook of Information and Computer Ethics*. John Wiley & Sons, Inc. 69–101.

Friedman, B. 1996. Value-sensitive Design. *Interactions* 3(6):16–23.

Goffman, E. 2008. *Behavior in Public Places*. Simon and Schuster.

Humphreys, L. 2005. Cellphones in public: Social interaction in a wireless era. *New Media & Society* 7(6):810–833.

Humphreys, L. 2010. Mobile social networks and urban public space. *New Media & Society* 12(5):763–778.

Hwang, K.-k. 1987. Face and Favor: The Chinese Power Game. *American Journal of Sociology* 92(4):944–974.

Lofland, J.; Snow, D. A.; Anderson, L.; and Lofland, L. H. 2005. *Analyzing Social Settings: A Guide to Qualitative Observation and Analysis*. Belmont, CA: Cengage Learning, 4 edition edition.

Lofland, L. H. 1998. *The Public Realm: Exploring the City’s Quintessential Social Territory*. Transaction Publishers.

Marwick, A. E., and Boyd, D. 2011. I Tweet Honestly, I Tweet Passionately: Twitter Users, Context Collapse, and the Imagined Audience. *New Media & Society* 13(1):114–133.

O’Hara, K. P.; Massimi, M.; Harper, R.; Rubens, S.; and Morris, J. 2014. Everyday Dwelling with WhatsApp. In *Proceedings of the 17th ACM Conference on Computer Supported Cooperative Work & Social Computing*, 1131–1143.

Park, N.; Kee, K. F.; and Valenzuela, S. 2009. Being Immersed in Social Networking Environment: Facebook

- Groups, Uses and Gratifications, and Social Outcomes. *CyberPsychology & Behavior* 12(6):729–733.
- Ping Jiang. 2009. The "Stayed Home Men and Women" Phenomenon in China. *China Youth Study* 8:81–83.
- Tencent. 2015. Tencent Announces 2015 Third Quarter Results.
- Troshynski, E.; Lee, C.; and Dourish, P. 2008. Accountabilities of Presence: Reframing Location-based Systems. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, CHI '08, 487–496. New York, NY, USA: ACM.
- Valenzuela, S.; Park, N.; and Kee, K. F. 2009. Is There Social Capital in a Social Network Site?: Facebook Use and College Students' Life Satisfaction, Trust, and Participation. *Journal of Computer-Mediated Communication* 14(4):875–901.
- Viswanath, B.; Mislove, A.; Cha, M.; and Gummadi, K. P. 2009. On the evolution of user interaction in facebook. In *Proceedings of the 2nd ACM workshop on Online social networks*, WOSN '09, 37–42. New York, NY, USA: ACM.
- Wang, B., and Wang, J. 2014. Communication and Collective Action within Neighbors: An Explorative Investigation of Chinese Urban Citizens' Media Use in Community Context. *News and Communication Research (Chinese)* 12:90–121.
- Wang, Y.; Li, Y.; and Tang, J. 2015. Dwelling and Fleeting Encounters: Exploring Why People Use WeChat - A Mobile Instant Messenger. In *Proceedings of the 33rd Annual ACM Conference Extended Abstracts on Human Factors in Computing Systems*, CHI EA '15, 1543–1548. New York, NY, USA: ACM.