



## WeChat

Messaging Apps and New Social Currency  
Transaction Tools

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App: WeChat / Weixin / 微信

Developer: Tencent

Release Date: January 2011 (Current Version 6.3.31)

Category: Instant messaging

Price: Free

Platform: Cross-platform

Tags: social, messaging, payments

Tagline: N/A

Related Apps: WhatsApp, Allo, Facebook Messenger

To say “a brief review of WeChat” is like promising a brief review of the fifteenth century CE, trees in general, or the city of Mumbai. (The fall of Constantinople and the end of the Byzantine Empire? Two stars. The Sengoku period of civil war? One star. Luca Pacioli’s development of double-entry bookkeeping? A+++++). Where would we begin? It’s an app, yes. It runs on the common smartphone operating systems. It’s produced by the company Tencent in China, where it has better market penetration than Facebook does in the United States. It’s used by more than 700 million people.

Then the litany begins, sounding like the amphetamine gabble of a desperate salesperson adding features in a failing meeting: It’s a messaging app. And a ride-hailing service. A lot of the interaction involves short voice messages, but they’re not voicemails. There are games. You can make an appointment with your doctor and pay your rent. There’s a Facebook-esque social validation Skinner box called “Moments.” There’s a video-capture and sharing function (“Sights”), custom stickers, QR code recognition, Yelp-style reviews, video-conferencing, photos with Instagram-style filters and Snapchat-style captions, real-time-location applications, and machine translation. You can clock in, log your hours, and track reimbursement expenses for your job. Renew a visa; shake your phone to message with a random person; get a date; report a traffic

violation and get a reward from the police; buy movie tickets; book a hotel room and then set the room to “sleep,” closing the blinds and dimming the lights; start a business; shop; pay and get paid; gift and receive holiday money. (More on that later.) In this comprehensiveness, it hearkens back to the undeliverable, all-encompassing software projects of yore, vaporware glaciers like Xanadu and Chandler whose remit kept expanding as their production grew more dysfunctional. Chandler, as chronicled in Scott Rosenberg’s *Dreaming in Code* (2008), would turn calendaring, emailing, notes, and an indeterminate number of other things into peer-to-peer networks; Ted Nelson’s decades-in-development Xanadu, the original hypertext platform, would transform reading, writing, graphics, music, and intellectual property, creating a universal user interface with a global franchise empire. Such projects end up mired in whiteboard diagrams of universal application, like Lope de Aguirre, stuck on the coast of Venezuela in 1561 with no support and two hundred soldiers, announcing himself king of “Peru, Terra Firme, and Chile”: tragic fantasies of conquest. Except that WeChat is real, and it works.

*How* it works is where we begin to review such a massive chunk of function. In the two sections of this review, I make four arguments about what we can learn from WeChat. First, that we can understand some apps as an emerging form of infrastructure, and, second, that messaging apps are particularly suited to this infrastructural role because they are adaptable technologies within a social “typeform.” Third, that the most powerful expression of WeChat’s expansion into an infrastructural role can be seen in how it became a payment platform, making money conversational. To make this argument about the “chatification” of money, I look at how the WeChat team transformed *hongbao* holiday money into something specifically suited to the affordances of a smartphone app. Finally, I close with a warning to the reader: the very properties that make WeChat such a fascinating study—a messaging app turning into an infrastructural component for many aspects of everyday life—makes it, and other apps, into a system with a new kind of capacity for emergent coercion.

## Iterative Infrastructure

WeChat is, or is becoming, an infrastructural app. “Infrastructure” is a tricky term to precisely define; Susan Leigh Star famously framed it as a “call to study boring things,” and when we invoke the word, we often tend to mean some

class of essential services and large-scale *stuff*: electrical pylons and gas pipelines, freeways and subways, satellites and logistics—things “big, ubiquitous, and foundational,” as Sanford Kwinter puts it (Star 1999, 337; Kwinter 2008, 29). Even that sketchy list mixes wildly disparate items, though, and what’s “essential” is the furthest thing from a fixed category. An “emerging essential,” Christian Sandvig’s phrase for the internet viewed as infrastructure, perfectly captures this (2013).

The internet used to be something that ran on the infrastructure of telephony, all those copper lines and ceramic insulators and creosote-smelling poles and switching systems, socketing a Dreyfus-model Ma Bell handset into the rubber cups of a modem, a “modulator-demodulator” whose very name implies its purpose—to make digital signals transmissible over the (actual) infrastructure. Now the internet has itself become enormous, spatially and financially and physically and socially, something without which large, brittle swaths of contemporary society would simply and entirely collapse. Furthermore, as Sandvig’s phrase suggests, it is still emerging globally and in new domains of human activity. Sandvig draws on Paul Edwards’s excellent negative definition: “perhaps ‘infrastructure’ is best defined negatively, as those systems without which contemporary societies cannot function” (2003, 187). While it’s too much to say that metropolitan Chinese society would fail if WeChat suddenly disappeared, many components of civic life—from parking tickets, to trains, to businesses and access to money—would be plunged into chaos. It’s not quite infrastructure yet, but it’s edging toward that condition.

“Bridges are, with skyscrapers and dams and similar monumental structures, the visual representation of our technical mastery over the physical universe,” writes Rosenberg in his history of Chandler—a software project bucking for an infrastructural role—nose-diving into the landscape. “In the past half century software has emerged as an invisible yet pervasive counterpart to such world-shaping human artifacts” (2008, 8). There is something more significant than invisibility at play in software, though, that is particularly salient to understanding apps: iteration and agility. If you’ve never seen it, the WeChat I’ve described above sounds like a user interface nightmare, recalling the interfaces of 1990s cyberpunk movies and anime—an eyestrain metropolis of tiny related icons, or a fractal abyss of submenus inside submenus. How would you familiarize new users with such a system?

When you launch WeChat—and, more to the point, when WeChat originally launched—you don’t see a wall of complexity. You see a stream of messages from different people. You know the format: a bar above, with naviga-

tion and utilities (search, return from a particular conversation) and a bar at the bottom: Chats, Contacts, Discover, Me. Chats is . . . chats, a timeline of activity. The rest are equally obvious. It is a typeform.

In the history of industrial design, a “typeform” describes the archetypal expression of a particular manufactured object: it’s what you think of when I write “toaster” or “barstool” (Gantz 2014, 89). It’s the way a thing “*should* look,” in some particular moment, and creates a kind of useful inertia, mingling the conservative choices of manufacturers, who need to work with the established typeform, and the tacit knowledge of customers, who know what they’re looking at and where the handle is (Gantz 2012, 163). WeChat epitomizes the *typeform* of a messaging app, as, say, the Brooklyn Bridge does a bridge, or the wall outlet, whatever its plug configuration, says “electricity.”

What is different is that WeChat, like other apps-as-infrastructure, can constantly change inside its typeform seams. An app can update in ways that a bridge, a hospital, or a high-tension power line cannot. WeChat didn’t emerge as a Platonic solid from the mind of Tencent executive Xiaolong Zhang, president of the WeChat group; it shipped as a messaging app and then incrementally, update by update, filled with implicit complexity. Google Chrome offers another example of this—arriving as a stripped-down typeform of a browser that checked for new updates and, day by day, became a RAM-hungry hulk with hundreds of additional features, as though you’d bought a weed whacker and somehow, four years later, ended up with a combine harvester. Clay Shirky wrote of Lei Jun, founder of Xiaomi—a mobile phone company whose phone software is updated every week—that “if you want to sell a complex object to the general public, then the interface is the product,” and behind the interface you can add upgrades as you go (2015). You can build a novel kind of reciprocal infrastructural role on this basis: an “emerging essential” that becomes more ubiquitous and vital by modifying itself in response to what emerges as most essential about it.

The fact that it’s a messaging app comes to the fore here. WeChat is protean, iterative, not the same app it was earlier this summer or last year—but so are other apps. Everything running on a smartphone with a data connection can be assumed to be regularly updating and incrementally changing, what Jonathan Zittrain calls a “contingent” connection (2008). But the use of WeChat is primarily not between a user and the app, but between the user and whomever they are in conversation with, and in that lies the possibility for an enormous sleight-of-hand and explains how WeChat’s tangle of possi-

ble utility can actually be used—with a strategy reminiscent of Alan Turing’s “imitation game.”

As a mode of interaction, texting produces the perfect format for both machines and humans to interpret. It’s far easier for software than spoken voice, where recent breakthroughs are still constrained by acoustic and discursive challenges (and WeChat will, paradoxically, automatically transcribe short voice messages into text to pass along to software as needed). Users are already thoroughly and reliably familiar with the techniques involved in texting and messaging. Every SMS notification, every moment of blocking a stairwell or lurching into traffic while captivated by WhatsApp or Line or Viber or Facebook Messenger, is effectively training for the use of the common interface. New applications of the same interaction style are proliferating. From fitness (Lark), to personal finance (Digit), to personal assistants (Magic), to games (Lifeline), to logistics (Taobao’s 阿里小蜜), to news (Quartz), to payment (many) and customer service (Rhombus and more), whole categories of media activity that at one time would have implied custom software platforms, tools, or programs, instead work through messaging. In those environments, the handoffs between humans and machines can be seamless: an exchange that triggers an automated response and one that pops up as a thread on a person’s desktop or device, eliciting their response, are indistinguishable.

WeChat, therefore, did not start building custom pages or controls for all of those diverse functions listed above—there is no “Pay my Shenzhen parking ticket” button set by default. Instead, they created a category of “official accounts,” which were less a shift of functionality than a shift of context. You added them to your contacts knowing they were not people but businesses, organizations, and government agencies, and opening their channel enables different kinds of possible actions. This blurs seemingly distinct categories of communication: depending on what you follow, you can get notifications from a hospital, a train line, a fellow dieter you’ve never met, a business promoting to you, and your mother. Yet it also renders them more distinct by keeping them in the main flood of messages and separate from “Moments,” which is for intimate social activity alone and has no branded company or media content, auto-posts from games, and similar clutter.

This is a striking arrangement: rather than Facebook or Twitter, which frame themselves as social networks and then expand the scope of “social” to include thoughts from Kanye, brand updates, sponsored content, and viral campaigns, WeChat is a front end of anything that can be texted (or sent

as a brief audio message), of which socializing is a *subset*. Rather than social activities adapting to environments developed for business collaboration, everything else—contact with institutions, shopping, traveling, employment—becomes just another chat, another mundane mobile interaction.

## Money Talks

Businesses can therefore be run more or less entirely inside WeChat: clients, payments, scheduling, reservations, announcements and advertising, mediating between employers and employees. That's only possible because of the chatification of another conversational technology, one of the oldest and most powerful: money—or, as Nigel Dodd restated Viviana Zelizer's work, "diffuse social media" (Dodd 2014, 8). Zelizer is an economic sociologist, and her work refutes the way many people, including economists, tend to think of money as a neutral, abstract, uniform technology for denominating prices and facilitating exchange. Zelizer documented and studied many ways that money is "earmarked," or valued differently for different purposes and people—think of allowances; money set aside, payments in intimate relationships or as life insurance, gifts and handouts and charity and compensation for wrongs and windfalls. "I arrived at a clearer distinction among three components of money: accounting systems, media representing those accounting systems, and practices that govern people's use of accounting systems and media," she wrote of the conversations following her book *The Social Meaning of Money*, and how all those components "vary with, respond, and inform people's negotiation of interpersonal relations" (Zelizer 1997; Zelizer 2016) That is, with some institutional exceptions, we make sense of money in practice by understanding it in terms of other people, our relationships, and the future and the past.

Electronic forms of money, though they may sometimes purport to be somehow more rational or abstract, amplify this tendency. Zelizer puts it nicely, reflecting on her earlier work: "If writing the book today, I would expand the last chapter's prediction of the paradoxical ways in which new electronic technologies would facilitate rather than blot out the sort of monetary differentiation and personalization the book documents. Consider what is happening with mobile money and multiple payment systems, from Bitcoin to Venmo, Apple Pay, Square, M-Pesa, local currencies, and more" (2016). These mobile technologies and digital currency systems, each with their own also integrate with WeChat and allow trading and transaction by text. Money,

managed through the WeChat wallet system, becomes another kind of emoji, another set of stickers—a messaging practice and a way of texting. You can trade Bitcoin, buy tickets, and make gifts with precisely the same back-and-forth used to confirm whether someone is at the restaurant already. This may not seem that surprising to those of us used to electronic payment systems, but to understand its significance, let's consider, for example, the gamification of *hongbao* on WeChat.

Chinese “holiday money” is a tradition running back to the Qin Dynasty, a rich example of Zelizerian earmarking—coins on red strings given by grandparents to children. It is money understood not just as abstract, depersonalized “market money,” perfectly interchangeable (in the language of Karl Polanyi [1957]), but as a gesture of family connection and hierarchy. It goes from old to young, married to unmarried, earners to nonearners, in a ceremony of respect and obedience and the promise of the prosperous, happy lunar new year to come. *Hongbao* places a particular premium, therefore, on money as a specific artifact. It concerns units of money with certain physical properties: crisp new notes, unspent, sometimes with lucky serial numbers and given in a quantity ending with an even number, in decorated red envelopes. *Hongbao* may be the most culturally powerful and widespread expression of physical-cash-as-earmarked-artifact in the world. In 2014 WeChat tried to make it digital.

I've argued above that we can see the application of WeChat to domains as different as employee time cards, hotel reservations, and policing as an app as “emerging essential,” a kind of infrastructure still taking shape—at first, by acting as a kind of de facto interface for many other kinds of infrastructure. Money (cash and otherwise), payment networks, and systems of finance are infrastructures, and with the *hongbao* strategy we can see a worrying implication for app-as-infrastructure, one we should consider carefully. Faced with the challenge of inserting their app into a centuries-old tradition built on the physical properties of banknotes, the WeChat team remade the act of exchange as something suited to the particular experience of apps and mobile phones. They reinvented *hongbao* as a game, one played across social networks, with new forms of interaction. Along with sending *hongbao* money to one specific person, you can send it to a group; you can choose how much will be given, and—most important—in how many “envelopes.” Choosing a number of envelopes fewer than the number of people means that only the first to check their phones will get the gift. While you have to choose the lump sum (¥0.01 to ¥200), you can let the *hongbao* platform decide how it's divided between envelopes—some recipients will get a token gift, and someone will

get something big. (Notice that the first-come game element rewards keeping your phone on and readily available and constantly checking your WeChat notifications.) You can also send automatically generated small sums in culturally significant lucky amounts. You can include text, and your recipients can send thank-you notes.

As probably goes without saying, recipients of WeChat *hongbao* can't send their own gifts—or receive gifts they've been sent—without linking their bank account or credit card to WeChat's wallet. The game structure is a kind of loss leader for getting people to add their account information, rendering it more frictionless the next time they may have an opportunity to make or receive a payment passed through WeChat; it's a clever approach to making WeChat the automatic, reflexive interface for yet another infrastructure—the movement of money. Once the connection has been set up, the WeChat wallet becomes an inclined plane toward other kinds of financial services, from getting paid to investing and managing wealth.

One aspect of infrastructure I've waited until the end to bring up is *neutrality*: that the roads are open to all, the subways cannot decide whom they will or will not carry, public utilities operate by shared standards, freight rail will carry your grain and mine without discriminating between us. This neutrality is far more complex than it may at first seem, of course, both in theory and in practice, especially once the complexity of digital technology is added to the mix. WeChat's project of absorbing payments into its overarching system of chat—of appifying money—is indicative of a larger event: an infrastructural “emerging essential” that can be easily and invisibly changed after the fact. This is the speculative—but, I think, not improbable—warning with which I would like to close my review.

Apps metamorphose, and they don't have even the contingent, embattled version of neutrality that holds for, say, the US Post Office. At the level of design and modification inside the app messaging typeform, WeChat could subtly incline certain kinds of activities over others, pushing particular models of social engagement, interpersonal interaction, and work-life balance. It can try things out, see what the market will bear, make tweaks. Once it has become the default access point and interface for infrastructural elements—from your job to contact with your family or the police to the way you pay for things—it can begin to change their experience and use. In my view, payments are a particularly dangerous set of technologies to be thus incorporated. An app can reward you with discounts for buying more time and data on your phone through their wallet, for instance, make some choices more affordable



and attractive than others, and gather and consolidate purchase data for as-yet-unknown forms of surveillance, soft coercion, and price discrimination.

“The payments game, in other words, is being played over databases: who shall collect, fence, own, leverage the commons of transactional data currently locked up in cash purchases?” Thus ask Bill Maurer and Lana Swartz in their study of new payment systems seeking to capture the infrastructural common space of transacting money. “Who will bring purchase histories together with payment information together with locational, credit, social network, or other histories?” (2015, 226) It’s a very important question, and the development of an app like WeChat suggests that for payments and many other pieces of app-mediated civic infrastructure, the answer will be subtle and pervasive and taking place at least in part by an over-the-air update—seemingly happening not out in the world, but on the screen in your pocket, which is *everyone’s* pocket.

*I would like to highlight an MA student at New York University, Xijie Rui, whose excellent research for my spring 2016 digital money class—on digitizing hongbao gifts—provided the starting point for the latter third of this essay.*