

Kong as Open Garden makes its chat app more secure

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As tensions between protesters and police increase in Hong Kong, more people have begun [turning to FireChat as a communications tool](#). Open Garden's messaging app has been downloaded 200,000 times and has played host to 2 million chat sessions in Hong Kong in just two days — and those are just the sessions Open Garden knows about.

The beauty of FireChat is that it [works off the internet grid](#). Nearby phones connect directly using their Bluetooth and Wi-Fi radios, linking together to create an ad hoc communications network with no internet connection acting as an intermediary (and therefore no connection back to Open Garden's servers). With cellular networks congested in protest zones and the looming possibility of Chinese authorities blocking specific apps or internet access, FireChat is acting as a kind of safety valve ensuring protestors can communicate

But much to Open Garden's chagrin, its network is also being used to spread false information, exposing one of the weaknesses of FireChat's open community. Open Garden CMO Christophe Daligault said he's heard numerous reports of people using FireChat to cause panic or confusion, and he's witnessed two examples himself in the app's chatrooms. In one instance he saw someone posting messages that Hong Kong police had started firing real bullets. Another message stated that the Chinese Army was descending on protest centers with assault rifles, Daligault said.

Open Garden doesn't know if those messages were sent by government or police agent trying to break up the protests or just by someone with a sick sense of humor. "We have no way of knowing," Daligault said.

FireChat's open community model means anyone can participate in a conversation and hide their identity if they fear retribution, making an ideal organization tool for protesters and dissidents. But as the Hong Kong situation shows, it can be used just as easily by authorities to listen in on protesters and even anonymously spread disinformation. Open Gardens is hoping to rectify that situation by adding features that will make FireChat more secure, Daligault said.

First, Open Garden plans to launch a verified identity program similar to Twitter's. Anyone public persona can get their real name linked to their FireChat user name, lending accountability to any message posted by that user. Daligault said that the update won't be ready for another

Comment [RT1]: This would sell Hiveware as well. No link to servers. Bluetooth and WiFi don't have to be secure technologies, and they aren't, but the messages that get sent back and forth do. Each message has standard PKI security. Open Garden and FireChat apps are random recipient apps where physical proximity defines participants contextually. Hiveware could protect the messages from hop to hop, but since the ultimate recipient isn't known at send time (usually) then end to end protection cannot be established like in a default hive group. Just as good, however, is the chain of secure messages.

Comment [RT2]: Hivewares synchronous push establishes accountability. There is always a paper trail. One can be anonymous, but that is not the default. Readers can then dismiss anonymous messages if they want.

Comment [RT3]: See previous note

three to four weeks, but anyone interested can start the process by sending an email request to verified@opengarden.com.

An example of how FireChat's ad hoc networking connects attendees at Burning Man (Photo credit Steve Jurvetson. Licensed under the Creative Commons Attribution 2.0 Generic license. Modified by Open Garden.)

More significantly, Open Garden is developing a private chatroom feature for FireChat, allowing a user to take conversations off of the open forum and into an encrypted channel. The project is a much longer term one, though, Daligault said. The problem is maintaining encryption for both off-grid and on-grid messaging. For this to work Off-grid, the devices will have to set up encryption between themselves on the fly, which is a technical issue Open Garden still has to solve, Daligault said.

The protests in Hong Kong are drawing a lot of attention to FireChat around the world. In the last two days, FireChat has seen 290,000 downloads (about 90,000 outside of Hong Kong), and it's being used to discuss and express support for the protests both within and without Hong Kong.

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Comment [RT4]: Open Garden will not be able to solve this without servers. In contrast, for Hiveware messages configured for random groups, the HW2HW messages would contain information about the previous sender. This may sound scary, but the answer is not to shy away from sending user information, but rather make the digital communication process secure once and for all by design.