

Spy software can see smartphone texting realtime (w/ Video)

November 4 2011, by Nancy Owano

(PhysOrg.com) -- Last month, there was news from video provider Qumu of their discomfoting survey that at least half of Americans would use smartphones to secretly spy on others. Now there is rattling news that spy software can easily do that kind of job. The software can reveal what others are texting in their personal emails or text messages sent forth on their smartphones just by the snooper using a smartphone camera or advanced camera like a digital SLR that shoots HD video, which could read a screen up to 60 metres away.

Researchers from the University of North Carolina Chapel Hill have used iSpy, the program, as proof that keying a private email message or text message in public, whether on a near-empty train or at the far end of a park bench away from everyone else, is still risky business.

They successfully were able to compromise the privacy of users typing on virtual keyboards with iSpy. They say iSpy can identify all the text typed on a smartphone display using [video footage](#) of the screen.

The UNC research team, Rahul Raguram, Andrew White, Dibenyendu Goswami, Fabian Monroe and Jan-Michael Frahm, discovered they could be on the second floor of a building and read a phone on the ground, leave alone sitting on a bus and catching all the text of a nearby passenger.

How much text at how far a distance depends on the spy device used, whether it is a regular smartphone camera or more advanced camera

with lenses.

The team report their findings in the paper, “iSpy: Automatic Reconstruction of Typed Input From Compromising Reflections” and presented their work at the Conference on Computer and Communications Security (CCS) in Chicago.

One of the nice features in smartphones, designed to help users type on small touchscreens, is magnified keys. Letters on the virtual keyboard rise up in bubbles. That is also one of the features that made it so easy for the snoopers to view footage and identify the letters based on the bubble locations. The program correctly identified letters over 90 percent of the time.

Obviously, the UNC team did not do their research in order to promote a mass rush for technology that can spy on what people are saying on their mobile devices.

Their aim is to call attention to the fact that with the freedom of mobile technologies comes the burden of adjusting to the digital life, where special privacy measures may be needed.

“Using footage captured in realistic environments (e.g., on a bus), we show that we are able to reconstruct fluent translations of recorded data in almost all of the test cases, correcting users’ typing mistakes at the same time. We believe these results highlight the importance of adjusting privacy expectations in response to emerging technologies,” say the researchers.

The direction of topics and discussions at this year’s CCS 2011 of the ACM, the world’s largest educational and scientific computing society, is squarely on the side of examining privacy in response to emerging technologies. The event proceedings recognized smartphone security as

an emerging area ripe venues where researchers can swap ideas.

“Mobile devices such as smartphones and Internet tablets have achieved computing and networking capabilities comparable to traditional personal computers. Their successful consumerization has also become source of pain for adopting users and organizations,” said the CCS in program notes.

The goal of its [workshop](#) on security and privacy goal, said the ACM, was "to deepen our understanding to various security and privacy issues on smartphones, specifically the platforms such as iOS and Android.”

More information: iSpy: Automatic Reconstruction of Typed Input from Compromising Reflections, ACM Conference on Computer and Communications Security (CCS), 2011,
cs.unc.edu/~rraguram/papers/CCS2011.pdf

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Citation: Spy software can see smartphone texting realtime (w/ Video) (2011, November 4)
retrieved 28 April 2024 from
<https://phys.org/news/2011-11-spy-software-smartphone-texting-realtime.html>

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