

Patent talk: Relax, nobody would be disturbed by your voice commands in public space

January 5 2019, by Nancy Cohen

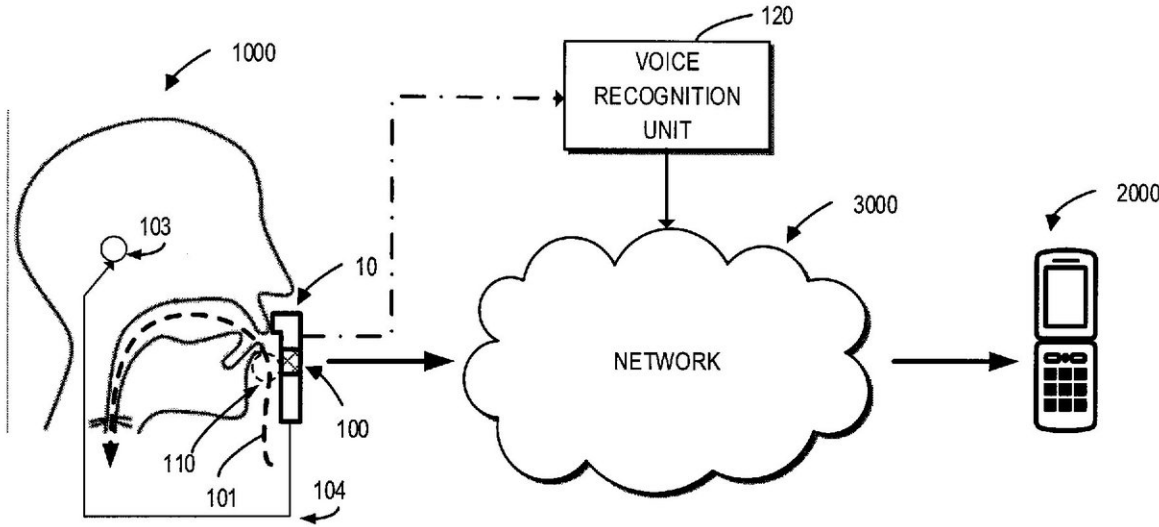


FIG. 1

Credit: PCT/CN2017/087767

Silent voice commands? Microsoft is on it, thank you very much. They have filed a patent "Silent Voice Input." Microsoft is, in this patent, looking at a module that can detect a user's voice commands that cannot be detected by anyone around the user.

Siri and Cortana have kept going from strength to strength but, as *Windows Central* remarked, "no company seems to have considered how awkward it can be to issue commands in public."

In whispering, we deploy egressive speech, in that we breathe out. In this idea, a [voice](#) input is not noticed at all by surroundings. Compared with conventional voice solutions based on normal speech or whispering, the silent voice input method involves the use of "ingressive voice" during the user's breathing-in process.

Think about it. Using talk-aloud commands in a [public space](#) tends to make the user self-conscious. There is a technical issue and there is a "mental" issue, said Masaaki Fukumoto, at a presentation in October in Berlin.

One might be self-conscious about leaking [private information](#); one might be self-conscious about annoying people in closest proximity who are strangers; and one may be self-conscious about being mistaken for talking to nobody else around.

"Hello, everyone, this is silent voice." In a video of a presentation, those were words on a screen. But you could not hear the same words coming from his mouth. Applause. "So," he continued, "this is ingressive speech."

A module can detect "silent" voice commands—silent is in quotes. OK, it is not the kind of whispering your friend slides into at the cinema and it doesn't say "Psst!"

Mallory Locklear in *Engadget*: "Rather than a typical whisper, during which your breath moves out of your mouth, with silent voice [input](#), you're supposed to inhale while you whisper. It's called ingressive airflow and Microsoft says it will prevent users' whispered voices from

being distorted. And that's an issue because for this method to work, you have to put your mouth really close to the microphone. We're talking one to two millimeters close."

This idea is all about an "apparatus" placed close to the mouth.

This is how the patent discusses it:

"By placing the apparatus very close to the user's mouth with a ultra-small gap formed between the microphone and the apparatus, the proposed silent voice input solution can realize a very small voice leakage, and thereby allowing the user to use ultra-low voice speech input in public and mobile situations, without disturbing surrounding people."

In other words, as from Jez Corden in *Windows Central*, "the 'silent' input method can detect whispers and extrapolate voice commands from the airflow created while mouthing [words](#)."

The module, said Corden, could belong to various devices such as smart watches, phones, headset microphones and TV remote.

Imagine holding a ring to your mouth—at least other people would at first glance assume you are holding a ring to your mouth; you tell it to check mail.

Well, this is the very example that bolsters Cal Jeffrey's point in *TechSpot*: Is the patent proposing something that would be less burdensome for the self-conscious attempting voice commands?

Jeffrey wrote, "It is debatable whether someone would feel more or less [comfortable](#) holding their watch right up to their mouth rather than just issuing an audible verbal command. Alternatively, it could be useful for

times when normal voice levels are not quite appropriate, like when others are sleeping."

Moreover, patent filings may or may not become actual "voice input" solutions.

Patent developments is not the only issue; there is one more point about this patent filing. Laurent Giret at *OnMSFT* commented that it was not clear if the "silent voice" approach as described in the [patent](#) "could really change how we interact with digital [assistants](#)."

He said that most users probably will just "continue to behave in public and continue to do things the old-school way. And as of today, it still often faster to use touch input than voice commands that don't always get understood properly."

Fundamentally, the good news at least is that computer scientists are aware that the opportunity beckons to come up with a solution that will help the self-conscious feel better about issuing voice commands in public.

More information: SILENT VOICE INPUT, [International Application No.: PCT/CN2017/087767](#)

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