

# How Much Are You 'Smoking' by Breathing Urban Air?

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April 25, 2018

A heavy layer of smog over Paris Philippe  
Wojazer/Reuters

A heavy layer of smog over Paris

## 1. Martín Echenique

8:00 AM ET

A new app can tell you (and it's not pretty).

Have you ever wondered how many cigarettes you're passively smoking while walking through the streets of a polluted, smog-infused city? No?

Well, a pair of digital developers just invented an app that will definitely (and accurately) answer that question. (Attention, smokers: You might want to quit after reading this.)

*Shit, I Smoke!* was created by Brazilian-born designer Marcelo Coelho and Paris-born app developer Amaury Martiny in just a week, after they read a study that analyzed air pollution and its equivalent to cigarette smoking. The article—co-written by Richard Mueller, a MacArthur fellow and physics professor at the University of California, Berkeley—explains a mathematical model that compares smoking and tobacco-related deaths to levels of PM2.5, a microscopic particle that is a dangerous, cancerous pollutant after combustion.

“Here is the rule of thumb: one cigarette per day is the rough equivalent of a PM2.5 level of 22  $\mu\text{g}/\text{m}^3$  (...) Of course, unlike cigarette smoking, the pollution reaches every age group,” the study reads. It finds that Beijing has on average a PM2.5 level of 85  $\mu\text{g}/\text{m}^3$ , which makes for four cigarettes; Los Angeles County registered an average of half a daily cigarette, or 12  $\mu\text{g}/\text{m}^3$ , in 2016.

Using the formula in the article, Coelho and Martiny designed an ad-free interface that uses live pollution data from hundreds of air quality stations in cities around the globe and converts the station's PM2.5 number into the number of cigarettes being inhaled by a person in real time. The app launched on April 1 and can be downloaded for free through Google Play or App Store (scroll down for links).

“The interface is pretty straightforward: It geolocates your phone, connects to the database, and shows the number of cigarettes smoked that day,” said Coelho.

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The idea to develop the app is tied to Martiny's experience living in Beijing, specifically during the years prior to the 2008 Olympic Games. “I personally saw a huge transformation of the city,” Martiny said. “In the beginning, I could see big blue skies, and there were not so many cars. It was quite pleasant.” But, according to Martiny, everything changed after the Chinese government started to emit a large number of pollutants from coal-burning plants, amid construction projects and other investments related to fast-paced industrialization in Beijing.

“The city changed its face, right before I decided to leave. It was really not livable; the air was horrible to breathe, and I just couldn’t stand to live there any longer.”

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The app reveals that Parisians can effectively inhale between three and six cigarettes per day, while a person in Delhi could be smoking up to 20 cigarettes—without even touching one—on a bad day. Other urban agglomerations have worrying numbers, too (6.5 cigarettes daily in Mexico City).

“I was also surprised to see that Buenos Aires and São Paulo have the best air quality in all Latin America, despite the fact these are heavily populated cities,” said Coelho, who’s originally from the latter, Brazil’s largest city.

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For both Coelho and Martiny, the app isn’t only a useful tool to inform users about their city’s air quality; it also makes this information more accessible and easier to comprehend. “These air-quality monitoring stations are just numbers, numbers that are very specific to professionals who work in environmental issues,” Martiny said. “So when you make this conversion to cigarettes, it makes it easier to understand what people are dealing with and the consequences air quality has in their daily lives.”

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The developers’ plan now is to keep working on and enhancing the app’s features. This will most likely include monthly average cigarette rates, and enabling users to get data from cities other than the one they’re in.

*You can download [Shit, I Smoke!](#) at the [App Store](#) or [Google Play](#).*

## About the Author

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Martín Echenique

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[Martín Echenique](#) is an editorial fellow at [CityLab Latino](#). His work has been featured by [The Huffington Post](#), [The Atlantic](#), [Clarín](#), [Univision](#), [El Espectador](#), [La Tercera](#), [El Nuevo Herald](#), and other outlets.

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