

KELLY: Hey Bob.

BOB: Hey Kelly.

KELLY: It's us again doing another minisode without Alia. Minisodes are the listeners' opportunity to have their burning tech questions answered. And if you have any tech questions, shoot us an email at [sobob@spokemedia.io](mailto:sobob@spokemedia.io) or DM us on Twitter @SoBobPod. We've already received so many great questions, so keep them coming. This is today's question.

LISTENER: Hey, this is Maggie from Washington DC. So Bob, why does Google Maps ask me to have my WiFi enabled to improve location accuracy? Thanks.

KELLY: Thanks for that question, Maggie.

BOB: There's a pretty straightforward answer, and I'll give you an experiment so you can answer this question yourself. Next time you're in a city walking around, and you need to know where to go, and you're using your map app, turn off WiFi and see what happens. So GPS works great, but it's hardly foolproof. And in fact, WiFi networks augment almost everybody's location tracking for a whole bunch of reasons. But in order for Google to be as accurate as it is, I mean, I do this all the time when I'm in a city, I start walking down the block and you can tell in four steps that you're going in the wrong direction, you turn around and walk the other way. That's incredibly accurate. Google could not do that with GPS alone, nor could Apple and nor could at any of these other companies. So they augment their location information with all sorts of things. WiFi, Bluetooth. The WiFi networks are particularly useful for companies like Google because for the most part they are in a fixed spot. So let's back up for a second. Your home router, you know it broadcasts a name, Kelly's home router, don't hack me, and it's sending that name out all the time. So when a friend comes over to your house and asks for WiFi, you say, oh yeah, connect, to Kelly's home WiFi. Here's the password. There is a password, right Kelly?

KELLY: Yeah, oh Bob. You know that there's going to be a password on my WiFi router, and it has nothing to do with the name, it has nothing to do with anything.

BOB: Great, but it's still telling, telling the world who it is all the time. And so these services that go around collecting information, that provides a fixed point. So we know where Kelly's router is, even if we can't use it to access data, but we know physically where it is. And so when you put a whole bunch of those different points on a map, you can start to get really, really accurate. As you're walking around the city, your phone is, if you have WiFi turned on, constantly asking, are you a WiFi network? Are you a WiFi network? And every time it does that and it connects to one, boom, Google, and lots of other companies too, know where a new WiFi node is. Right before I got on this call, I looked up a service called Wiggle, which has people voluntarily announcing the WiFi networks they have found and they have found 450 million of them and put them all on a map so that anyone can look at them. So you can try this yourself if you want. The WiFi networks provide this incredibly accurate map of almost the whole planet. And so these

services like Google Maps tap into them to make sure that you're accurate. Now the real question is, is this safe or is this hurting me somehow? So almost 10 years ago, Google was driving around and it started its street view project taking pictures of everybody's house. We all felt weird about that, but what was even weirder was they were collecting WiFi information as they did that. Again because Google has been hungry for this location data for a long, long time because they were doing that and not telling people. And, and there are folks who believe they also were deceptive about it. They ended up facing a lot of government fines and criticism for that. So this collection of WiFi information has always had kind of a gray cloud over it, and you might feel personally like you don't want to do this, and so you can elect out. Yeah, if you have an iPhone and privacy settings, you can just turn off the sharing of WiFi data. You can turn off location data entirely too, you can do this with an Android as well, but I'm here to warn you like so many other privacy dilemmas, the minute you turn off WiFi, you might feel good about yourself for a moment, but then all sorts of other things on your phone are either not going to work at all or they're going to start to degrade a little bit. Your location information will degrade. The direction you get won't be as good. Your phone won't know where you are as much and so it's very, very hard to be the person that... it's not 1% it's more like 3%, the 3% of privacy paranoiacs out there who turn off all of these things. The consequences of doing so mean you know that you are behind, that you can't take advantage of all this technology. So you'll hear me saying the same sorts of things, Kelly, over and over and I apologize, but the truth is if you are a person who wants to not share WiFi information and not have as accurate maps in your life, then I honor that. I cheer that actually. But for most people that penalty is going to be prohibitive and the real answer is not to let individual people have to make these crazy choices but to set very strict guard rules around how this data is used and how easy it is to access it and delete it or just make sure that it's accurate as a consumer.

KELLY: Yeah, I, I think I tried to turn off the like WiFi or location tracking on Google maps once and then I realized what it was actually for. I was like, oh, I literally can't get around well without it. So I had to turn it back on.

BOB: Yeah, I mean it's basically like giving up your smart phone, right. And, and this is what annoys me with so many of these discussions, before this recording, I went and looked at Apple's privacy policy and their location discussion and there, you know, it was a very clear explanation uh of how to turn this off in settings, and they tried to make it sound as if you have a choice as a consumer, but what you just expressed, you don't, you don't really have a choice. And the choice is to have an iPhone that's, you know, dumb instead of this being a smart phone, if you turn off this information. So the, the, I don't actually think it's, it's even fair to characterize this as a choice.

[AD BREAK]

KELLY: So Maggie also asks what other companies are doing this? I've noticed other location-enabled apps ask me the same question. Are they all using Google's WiFi network information?

BOB: There are companies that can access Google's information. There are other companies that are creating these maps. In fact, I mentioned the site Wiggle that is doing this in an open source way. So the data is available to researchers, or to, you can go to a website and type in an address and see what WiFi networks are near you. So Google isn't the only one doing this. It's actually pretty typical behavior right now. Although Google is probably doing it best. I do always think it's useful to look at what your phone is sharing about you, and you can hand select what apps you will allow to access your particular handset's location information and which ones can't. So you know, maybe you trust Google and Apple, but you don't trust that app you just downloaded because your kid wanted to play games, which would be smart. And that's not exactly the same discussion as whether or not you're sharing the name of a, a WiFi router at home with Google Earth. But these issues are related. But one point I'd like to stress, you can't just do this once, you have to do it on an ongoing basis. There's research that has shown, and of course this makes sense. You might tell an app, no, you can't have my location data. No, you can't have my location data. No, you can't have my location data, over and over. But then one day when you're busy, you accidentally hit yes, and then you forget. So now you're sharing your location information with this app that you never wanted to share it with, all the time. People have a really bad habit of consenting to something once and then forgetting they've consented to it. And now forevermore this company has your information. And that's just human behavior. So I think it's one of those things periodically, every time you think about it, you know, if you're sitting at a coffee shop, you have five idle minutes and you hopefully you're listening to this podcast and you're suddenly thinking, I do care about my privacy, just pop up settings for a second and, and double check. Make sure you haven't accidentally toggled something away that you didn't intend to. Privacy is not a sort of a one-time opt in question. It's, it's a, it's an all the time, and and it is pretty easy to tell specific applications, no, you can't have my location data. So it's worth doing.

KELLY: Yeah, because they'll usually just ask you over and over again every time you use their app, that's what you're referring to, right?

BOB: Yes. Then sometimes you have to actively use the app to do that, sometimes it's doing this in the background, and you know there are a lot of apps that share location information even when you're not using them. So these are all things that, you know, this is how you get worn down as a consumer, and you kind of give up and that's what we don't want, right? So there's a great study by Carnegie Mellon about how people tend to make a privacy choice initially and then you know, maybe intend to go back and think about it and never do, which you know, you download an app because you need a coupon at a store, right? And so you do it in 30 seconds and it asks you five or six things you say, yes, yes, yes, you get 50 cents off and then you never think about it again. Well, I want you to think about it again.

KELLY: As we're talking, I'm going through all of my apps and making sure my location isn't used. Hey, I have, Facebook has never. Good, past Kelly was smart.

BOB: Good for you. So, Facebook is a good example. I mean I, I obviously I care about this and I have had the experience several times where I've told Facebook, no, I don't want to share my location. And then there's some sort of update, and all of a sudden I'm sharing my location. And I don't, I was like, I'm pretty sure I didn't check that. It accidentally got toggled in the other direction. Oops. So you have to stay on top of these things.

KELLY: So Bob, can you give me the TLDR on Google location tracking?

BOB: I would like to say the turning off Google tracking you is a good idea. But unfortunately I think there are so many uses that you get out of it that it's not practical for most people. Unless you want to basically go back having a dumb phone or flip phone instead of a smart phone, it's going to be very difficult for you to just tell Google, no, you can't have my data. You know, I, I'd like for people to just spend a few minutes on a regular basis noticing who is and isn't getting their information and fine tuning that. But you know, as a practical matter, that's difficult too. So I mean if you're a person who is very, very privacy paranoid, one of that small percentage of people who's willing to genuinely suffer for the sake of privacy, I applaud you, and I think that's great. But for most people it's going to be too hard to turn off all this information and then be able to use their phones.

KELLY: If this were the X Files and location tracking was any new creepy phenomenon, then Bob Sullivan is a Special Agent Fox Mulder always uncovering our crazy questions. Thank you. Special Agent Bob Sullivan. Special thanks again to Maggie for today's question. Next week, have you ever wondered why and how Instagram ads seem to know you better than you know you or how Netflix suggestions are eerily accurate? We talk about all of that and more in next week's episode? So Bob is a Spoke Media production. It's hosted by Alia Tavakolian and Bob Sullivan. It's produced by me Kelly Kolff, with help from Reyes Mendoza and Carson McCain. This episode was mixed by Will Short. The songs you hear in this episode come from FirstCom. Our executive producer is Keith Reynolds. If you have questions about your digital life write to us or send us a voice memo at [sobob@spokemedia.io](mailto:sobob@spokemedia.io) or tag us on Twitter or Instagram at [@SoBobPod](https://twitter.com/SoBobPod). You may be featured in our next minisode. Thanks for listening.