

Measuring Broadband America's FCC Speed Test App for Android and iOS: Crowdsourcing Mobile Broadband Performance

Case Study Overview

The Federal Communication Commission's *Measuring Broadband America* Program resulted from a recommendation in the National Broadband Plan to improve the availability of information for consumers about their broadband service. The FCC works with industry, academia, public interest organizations and others to develop open and transparent ways to measure broadband performance. The *FCC Speed Test App* is a crowd-sourced smartphone app that measures mobile broadband performance throughout the United States. Volunteers share information about their handsets and operating systems, and the app measures the speed and performance of their broadband connection.



Project Description

FCC Speed Test

By SamKnows

Open iTunes to buy and download apps.



Description

What does it do?
The FCC Speed Test app accurately measures yo
its factors (e.g. download and upload speed, lat

[SamKnows Web Site](#) • [FCC Speed Test Suppo](#)

What's New in Version 1.93

Fixed issues related to iOS 8.

[View in iTunes](#)

Volunteers install the *FCC Speed Test App*, either directly or through an app store such as Google Play or iTunes. The app is available for *Android* phones from Google Play and for *iPhone* from the Apple App Store. It is free, but carrier charges may apply. The app runs continuously in the background, periodically performing measurements.

The app measures mobile broadband performance in four categories: download speed, upload speed, latency and packet loss. To better analyze

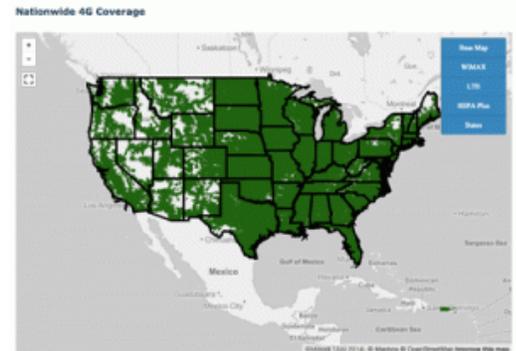
performance, the app also records passive metrics, such as signal strength of the connection and device manufacturer and model.

The default setting for the app is to use 100 megabytes of data or less per month, but the data cap is configurable. The app is also designed not to interfere with the user's broadband Internet use, and it can be configured not to do any automated background testing at all.

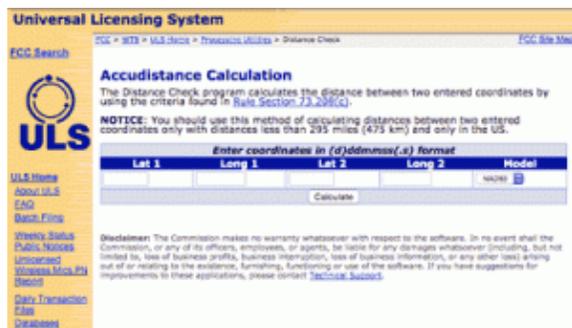
Before each measurement, the app checks the volunteer's mobile broadband use. It does no testing if the device is transferring more than 64 kilobytes. Skipped tests are rescheduled.

Challenges

The privacy of volunteers is a top priority. The app collects data anonymously, without any personally identifiable information. Users do not register or sign up to install the app. No unique or persistent identifier is associated with any data collected, and datasets are processed to protect volunteers' privacy before public release. All participation is voluntary, and volunteers may quit at any time.



Benefits and Outcomes



The FCC makes the data collected by Measuring Broadband America available to the public consistent with its [privacy policy](#), developed and reviewed with Federal Trade Commission officials and academic privacy experts to ensure that volunteers' privacy interests are protected. The FCC ensures that only network data is collected.

More than 250,000 volunteers have joined Measuring Broadband America, offering broadband performance test data, comments and feedback on improving Internet connectivity. The project does rigorous broadband performance testing for 13 of the largest wireline broadband providers, which serve well over 80 percent of the U.S. residential market, as well as wireless broadband providers serving crowdsourcing volunteers across the nation. Data collected through the FCC Speed Test App are a rich source of information for mobile broadband consumers as well as industry and policymakers; volunteers can also use the app to test their own mobile broadband service on demand. The project's data, reports and other products have helped improve Internet service nationwide.

Crowdsourcing was key to the FCC's ability to expand the scope of the program to include mobile broadband testing across the nation. The mobile crowdsourcing program provides data that is unavailable from other sources at a cost that would be unaffordable using traditional collection methods. The program's data supports the FCC's mission to enable consumer choice and data-driven policymaking regarding broadband and Internet services for consumers everywhere.

Tips

The *FCC Speed Test App* case study illustrates the following steps in the Federal Citizen Science and Crowdsourcing Toolkit:

- **Design a Project — List Your Resources**

The project's procurement approach ensures that its open data goals can be achieved. The smartphone app software [source code](#) is made available under an open source license to ensure transparency and consistency with the project's privacy policy.

- **Manage Your Data — Think of Your Data as an Asset**

The project protects user privacy through its technical approaches, [privacy policy](#) and privacy review of collected data before their release. The project works with consumers, researchers, industry and other stakeholders to ensure that it is thoroughly transparent in developing and documenting the technical aspects of how data is collected, processed and shared.

Learn More

- [Website: Measuring Broadband America](#)
- [Data Dictionary Describing the Open Data Collected](#)
- [FCC Speed Test App for Android](#)
- [FCC Speed Test App for iPhone](#)
- [GitHub Repository With Source Code for Android and iOS Smartphone App](#)
- [Mobile Terms and Conditions and Privacy Policy](#)

Contact Information

James Miller
Email: james.miller@fcc.gov