

New app puts idle smartphones to work for science

23 July 2013



A new Android app called BOINC allows smartphone users to contribute their phone's processing power to scientific research.

Android smartphone users will soon have a chance to participate in important scientific research every time they charge their phones. Using a new app created by researchers at UC Berkeley, users will be able to donate a phone's idle computing power to crunch numbers for projects that could lead to breakthroughs ranging from novel medical therapies to the discovery of new stars.

The [app](#) was created by a Berkeley project called BOINC (Berkeley Open Infrastructure for Network Computing), which is known for its computer software that supports more than 50 volunteer computing projects around the world. BOINC software allows projects to tap unused processing power donated by computer owners around the world to analyze data or run simulations that would normally require cost-prohibitive supercomputers.

The new Android app, also called BOINC, will be available Monday, July 22, from the Google Play Store and works on Android versions 2.3 or later. The app currently supports several popular computing projects, including Einstein@Home, which searches radio telescope data for spinning stars called pulsars, and FightAIDS@Home, which searches for more effective AIDS therapies as part of IBM's World Community Grid. Android, owned by Google Inc., is the operating system used by two-thirds of all smartphones today.

"There are about a billion Android devices right now, and their total computing power exceeds that of the largest conventional supercomputers," said BOINC creator David Anderson, a research scientist at UC Berkeley's Space Sciences Laboratory. "Mobile devices are the wave of the future in many ways, including the raw [computing power](#) they can provide to solve computationally difficult problems."

Creation of the app was funded by the Max Planck Institute, which runs Einstein@Home; Google Inc.; and the National Science Foundation, which has supported BOINC since 2002. IBM assisted in the design of the user interface and organized beta testing of the app.

"Our main goals are to make it easy for scientists to use BOINC to create volunteer computing projects to further their research, and to make it easier for volunteers to participate," Anderson said.

Anderson noted that the app will run only when the phone is plugged in and charging and after the battery is more than 95 percent charged, since computing can slow the recharge rate. It will only communicate with computing projects through the Internet when connected via WiFi, to avoid burning through users' data plans. These default settings can be customized by users, however.

Other projects now available through the BOINC

app are Asteroids@home, operated by Charles University in Prague; OProject@Home; and Yoyo@home.

Among the projects slated to be adapted to the Android BOINC app is the first and most successful volunteer computing project, UC Berkeley's SETI@home, which analyzes radio telescope data in search of intelligent signals from space.

Owners of iPhones should stay tuned. A BOINC app for Apple products like iPhone and iPad may be Anderson's next project.

More information:

[play.google.com/store/apps/det ...
d=edu.berkeley.boinc](https://play.google.com/store/apps/details?id=edu.berkeley.boinc)

Provided by University of California - Berkeley

APA citation: New app puts idle smartphones to work for science (2013, July 23) retrieved 4 December 2021 from <https://phys.org/news/2013-07-app-idle-smartphones-science.html>

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