

Could HYCCUPS boost phone battery life?

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A new system that goes by the name of "hybrid contextual cloud in ubiquitous platforms comprising of smart phones" or HYCCUPS for short, has been developed by Romanian computer scientists. The system discussed in a forthcoming research paper in the *International Journal of Intelligent Systems Technologies and Applications*, boosts phone battery life by booting power-consuming computational tasks on to an on-the-fly ad-hoc cloud in which smart phones are both clients and computing resources.

Radu-Corneliu Marin of the University Politehnica of Bucharest, explains how the advent of the smart phone gives almost everyone a very powerful computer for communications, watching and editing videos, taking photographs, browsing the web and even making phone calls. However, computer power usually comes at a price in the form of massively increased [power consumption](#). This means that users who switch from older phones that lasted a week on a single charge are soon frustrated by how quickly the battery drains on their new device, usually in a matter of hours rather than days if it is used intensively.

Much of the computational activity used by a smart phone to carry out various tasks could be offloaded on to other mobile devices, just as it now often is with a desktop or [laptop computer](#). The device itself then becomes an interface to applications running on other phones "in the cloud" and simply uploads raw data and downloads the processed material as and when it is needed. As more and more functionality can be ported to the cloud in this way, so the central processing unit (CPU) of the device requires less power, which means longer [battery life](#).

HYCCUPS is, Marin explains, middleware - software that sits between the end-user device, the smart phone in this case, and the mobile cloud. The system creates a hybrid cloud allowing smart phones to schedule and offload process execution on to other resources and so reduce [energy consumption](#) to save battery life. The scheduling process itself is assisted by a contextual search technology that works behind the scenes without user intervention to predict the availability and mobility of mobile resources - such as other [smart phones](#) on a user's high-speed wireless, Wi-Fi, network - so that the whole power-saving process can be optimised without loss of service or slowing down applications.

More information: *Int. J. Intelligent Systems Technologies and Applications*, 2013, 12, 4-17 [DOI: 10.1504/IJISTA.2013.055101](https://doi.org/10.1504/IJISTA.2013.055101)

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