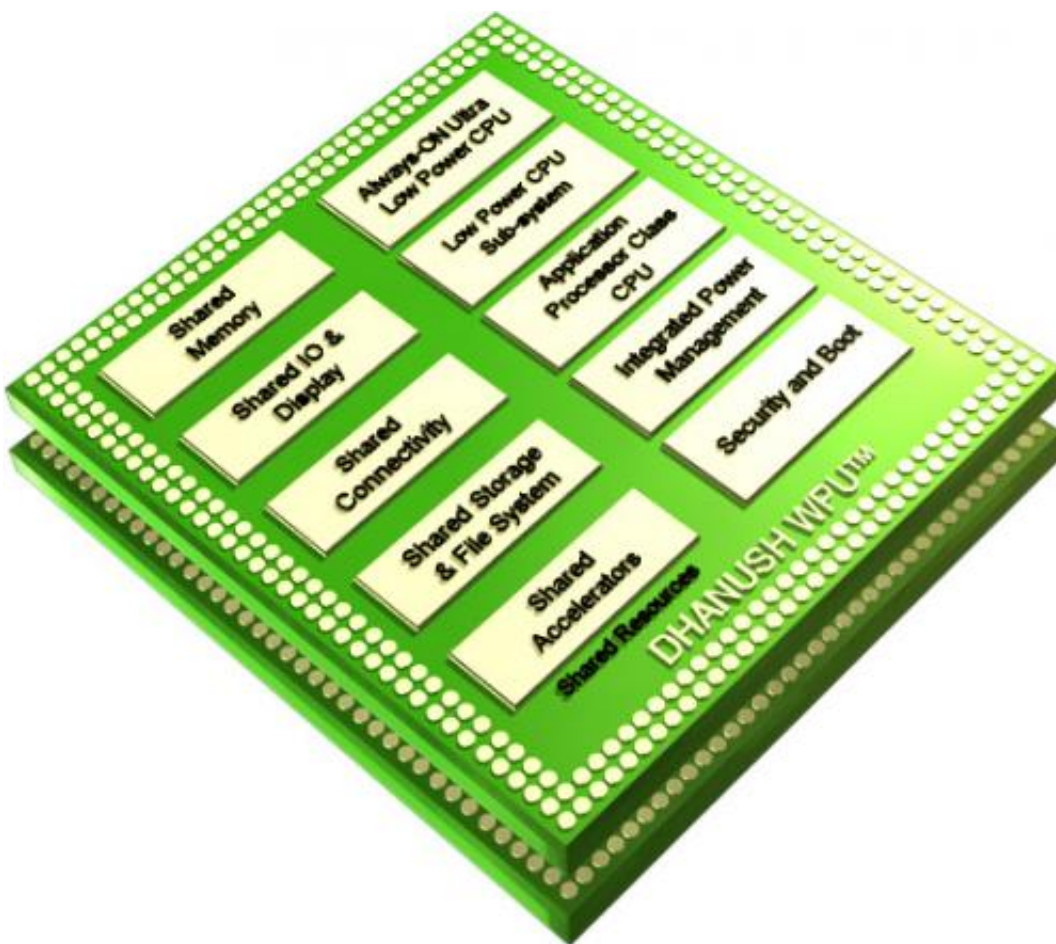# Ineda developing low power companion processors to increase battery life for wearables

August 28 2014, by Bob Yirka

Credit: Ineda Systems

Recent startup Ineda Systems is reportedly developing two new kinds of

processing chips for wearable devices, both designed to extend battery life. The new chips are being designed to work as companion chips for the main processor, handling simple tasks and using very little power while doing so, thus allowing for reduced overall power consumption and longer battery life.

Though annoyed, people have grown used to having to recharge their cell phones—a necessary part of using such devices—their usefulness makes it worth the effort. The same cannot always be said for wearable devices, such as smart-watches or perhaps Google's Glass. They're not catching on as quickly as some industry watchers have predicted and battery life might be one of the reasons why. But that reason may become obsolete if the chips by Ineda work out as planned.

The company has two chip designs in the works, with two or three processor cores. They are looking at ways to use just one core when possible, such as for sensing motion, or listening for a single phrase such as "Ok Google." The second or third cores would come into play when more complicated tasks need to be conducted, e.g. playing music or running simple apps. When the user wants to run more serious apps, the new chips would hand off processing to the main, more energy intensive chip.

Ineda points out on its web site that wearable devices reside in ambient mode or are running very simple apps, approximately 90 percent of the time, thus, it makes little sense for the main processor to be running all the time. Allowing companion chips to handle the more mundane tasks has the potential to allow wearable devices to run for days, or perhaps weeks at a time before needing a recharge.

The company is moving quickly with its new chips and is expecting to move to mass production as early as sometime next year. There is one very dark cloud on the horizon, however, and that is the chips are based

on the MIPS architecture, rather than the industry standard ARM. Currently MIPS chips are generally only used on single purpose low power devices, such as sensors. In order for Ineda's chips to work in most wearable devices, changes would have to be made to the hardware and software to support them.

More information: Ineda Systems: inedasystems.com/index.html

via TechnologyReview

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