

Never forget keys or phone ever again: Intelligent system keeps track of your items

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RFID tags are becoming ubiquitous, shops, warehouses, libraries and others use them for stock and inventory control and to reduce the risk of theft. Now, a team in Dubai has developed the concept of an IPURSE, a mobile platform that keeps track of tiny RFID tags you stick to or insert into your personal possessions, mobile phone, camera, laptop, keys other gadgets and even mundane objects such as notebooks and cosmetics.

Writing in the *International Journal of Intelligent Systems Technologies and Applications*, Mohamed Watfa of the University of Wollongong in Dubai and his research team in the faculty of Computer Science and Engineering, Manprabhjot Kaur and Rashida Daruwala, explain how "IPURSE", an intelligent [system](#) built on a [mobile platform](#) can keep track of items a user carries in their purse or bag and alerts them when any item is removed or simply missing from the bag. Never forget your door keys again when leaving the house and get an alert if someone "borrows" your diary or other personal effect.

IPURSE uniquely merges RFID ([radio frequency identification](#)) and NFC (near-field communication) technologies together into a single system. It thus gives users a "smart" monitoring system that can remind them of overlooked items as well as providing alerts when a tagged item is removed from their bag. The system can also incorporate additional smart features such as a weather check coupled to the RFID tag on one's umbrella or rain coat or reminders set for different occasions when different items are needed. The team adds that future developments might link the system to online social networks so that friends and

contacts might be alerted if one's mobile phone goes missing or a family member notified when door keys are lost, for instance.

The team explains that the RFID tag is a [tiny chip](#) that can store and send information using radio frequency signals and even with an appropriate adhesive backing is small enough and unobtrusive enough to be stuck to or inserted into almost any gadget or personal effect. An RFID reader acts as an antenna for receiving and transmitting signals to the tags. The NFC technology is a short -range wireless connectivity technology that enables simple and safe two-way interaction among electronic devices and is faster and more secure (by virtue of its limited range) than Bluetooth. Moreover, the NFC reader can also read [RFID tags](#) allowing the team to couple RFID and NFC into a single smart system for intelligent monitoring of personal items.

"We are yet to approach manufacturers," Watfa says, "We were more concerned with the research challenges and getting a working prototype which was successful at this stage but we will probably look into that in the near future."

More information: Mohamed K. Watfa et al,"An intelligent RFID system" in *Int. J. Intelligent Systems Technologies and Applications*, 2012, 10, 377-395

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