The Media Cup and the RAUM-1 System

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The Media Cup is one of the many components that may work efficiently and economically in a room and/or house environment. The Media Cup is a regular mug with a removable rubber bottom. In the rubber bottom is a not-so complicated piece of hardware that is capable of sensing information (acceleration, movement, temperature) and transmitting it to other pieces of hardware and a network via IrDA compatible infrared. Each cup is not personalized, but it does have a unique IPv4 address. Entire offices, homes and rooms can be easily networked with a combination of wireless and wired technologies already in existence. By using currently available hardware and software, objects can sense and communicate with one another and users can monitor their behavior.

RAUM (location-based Relation of Application objects for communicating Ubiquitous Computing event Messages) is a communication model that defines the regions that peripherals reside in. Right now it is a stacked architecture with the communication occurring on the first layer. The RAUM communication system is bound to the physical objects therefore all objects that enter into that ‘realm’ or region become part of the system (PDA’s, laptops, appliances). Each object sends a ’datagram’ to the RAUM that they are a part of. On the web site are instructions on how to build your own Media Cup and other RAUM devices. Perhaps the best quality of this system is its simplicity and economy. Also on the web site are detailed specifications, including microprocessor brands and technologies and sensor information.

http://mediacup.teco.edu/frames/engl/index_engl.html

Image showing a possible layout in a room and the important elements of a RAUM system.

An example of another peripheral device; a watch capable of giving the user information from other objects, in this case it tells the user the temperature of the beverage. It is the combination of these peripherals which fill RAUM. Other devices include a smart door plate and a coffee pump.