

Tagged Umbrellas to Provide Market Research to Merchants

Philadelphia startup Dutch Umbrella provides RFID-tagged courtesy umbrellas to local businesses, and tracks those umbrellas borrowed by customers.

By Claire Swedberg

June 14, 2007—When it rains in Philadelphia, a hometown startup has the local businesses covered. [Dutch Umbrella](#) provides tagged courtesy umbrellas to local merchants, then uses an RFID interrogator to track those borrowed by the merchants' customers.

Dutch Umbrella launched a pilot of its system two months ago. According to cofounders Joseph Carlson and Karen Rostmeyer, the company expects to move to a full-scale deployment in July, in Philly's Center City District, eventually extending to other neighborhoods and municipalities. The vendor has begun its service with about 300 umbrellas and eight sponsors—all businesses within the six-block neighborhood of Fairmount Park and the Philadelphia Museum of Art.

A sponsor's logo and/or address and phone number are printed on one panel of each umbrella. With eight panels per umbrella, up to eight sponsors can advertise on each. Although participating sponsors purchased advertising only for 100 umbrellas, Dutch Umbrella printed about 200 extras to make the pilot more effective.

Six of the eight sponsors also have been given RainDrops—umbrella stands located by the door of each sponsor's place of business. Customers are free to borrow an umbrella stored in the stand, or return one they have finished using. When a shower strikes, patrons of stores and restaurants in the area can grab a Dutch Umbrella and continue shopping. At sites with RainDrops, they can then deposit an umbrella while they shop, taking another as they leave.

To track the umbrellas' movements, Dutch Umbrella uses a combination of RFID technology and old-fashioned manpower. Each umbrella is equipped with a passive EPC Gen 2 RFID inlay provided by [Motorola](#). The read-write inlay, encased in a plastic tag hanging from a plastic ring attached to the umbrella's handle, is encoded with a unique ID number linked to that umbrella. One side of the tag is printed with a sponsor's name, while the other features Dutch Umbrella's logo and Web site address, as well as the umbrella's tag ID number. The Web site carries information about happenings in the area, and lists the sponsoring merchants.

When it rains, Dutch Umbrella employees walk the streets of Philadelphia with Motorola handheld RFID readers. "We envision doing it on a regular basis," Rostmeyer says, "depending a whole lot on how many people we have with readers." For the pilot, Rostmeyer and Carlson traverse the area with a handheld reader, so the number of reads occurring is not currently as high as what they expect in the future.

The company founders visit each of six RainDrops, capturing the tag ID numbers of the umbrellas found at

those locations. They also remove any excess umbrellas and redistribute them to sponsoring businesses that need more. Upon returning to the Dutch Umbrella office, Carlson and Rostmeyer place the reader in a cradle connected to a PC and download the RFID tag data using SQL-based software provided by systems integrator [Concept2 Solution](#). The software associates the umbrella tag ID numbers with the RainDrop location where they were read, thus creating an inventory list showing each umbrella's location.

Eventually, Rostmeyer says, the company intends to outfit the RainDrops with fixed RFID readers connected to the Internet via Wi-Fi. A Web-based server will then collect and store data about the umbrellas. However, she says, such a reader has not yet been released by any of the RFID hardware vendors Dutch Umbrella has contacted. Noting that the manufacturers are now developing small Wi-Fi-based readers that would fit into retail establishments, she says she hopes an affordable reader will be available within the next year.

With a Web-linked real-time RFID system, data could be made available to the sponsors via Dutch Umbrella's Web site. "We plan to have fun with this," Rostmeyer says, including possible giveaways and awards for specific umbrellas when patrons bring them to a particular RainDrop.

Dutch Umbrella plans to use the RFID data to create reports for sponsors that chronicle where the umbrellas have traveled. This will let the sponsors know where their customers are coming from. "It lets the businesses know if they are getting people from a particular part of town," says Rostmeyer, since Dutch Umbrella regularly captures reads of umbrella locations during rain showers.

The umbrellas themselves, she and Carlson explain, offer advertising for stores and encourage umbrella users to revisit the businesses on rainy days and to return the ones they have borrowed. Carlson says a certain amount of lost umbrellas is expected, but adds that the advertising on the panels continues to serve the sponsors, no matter where the umbrella may be used. Pilot sponsors include a coffee shop, hair salon, restaurant and real estate agent. Each paid about \$1 per umbrella per month to have its logo featured on a panel, with the option of having a RainDrop located at their business as part of the umbrella fee. For the duration of the pilot, each sponsor paid to have its logo placed on 100 umbrellas. The cost will increase at end of the trial.

According to one sponsor—Troy Musto, owner of Flying Saucer Café, located at 26th and Brown—lost umbrellas are not a problem. If a downpour causes customers to grab umbrellas on their way to the bus stop across the street, he says, they are that much more likely to return later to drop them off and make another purchase. Musto himself uses the Dutch Umbrella occasionally to ward off rain. He says he sees more customers coming to his business now from other neighborhoods, either because they saw the name on the umbrella, or to drop the umbrella off. "Surprisingly, everyone is bringing them back," he says. "We'll have a heavy downpour, and all the umbrellas are cleared out, and in the next day or two, people start bringing them back."

RELATED_ARTICLES Musto says he's still awaiting his first RFID-generated report. When it comes to deploying a fixed RFID reader in his shop, he states, "Anything that would make it a better service, I'm willing to try."

According to Carlson, Dutch Umbrella is launching the pilot in Philadelphia because it's the founders' home city. "Our plan," he says, "is to have hundreds of locations across Center City." Eventually, the company intends to branch out to other cities across the United States as well.