

PASSERBY: A New Carrier for Mobile Communication

Overview

PASSERBY[®] is a novel zero-infrastructure communication technology. Deployable in a wide variety of portable devices, such as cellphones, PDAs or Pencil's own products, it exploits the “social infrastructure” of people moving about their everyday business to provide the backbone for message and file exchange, so that messages are delivered automatically by passers-by.

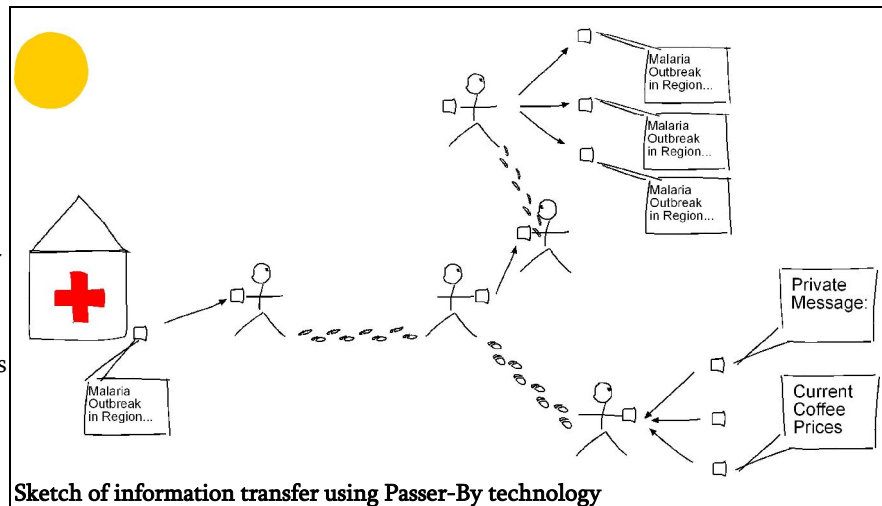
The Challenge

Despite near-ubiquitous access to communication, costs and coverage still limit when, where and how users can exchange information when on the move. For instance, outside cellphone coverage, a user may be completely out of touch. Even when in coverage, distributing a large document by cellphone may be expensive. In many rural areas access to a phone may be limited, and in blackouts and disasters, much infrastructure is inoperable. Communicating with everyone in a local community is often expensive or laborious.

The Solution

PASSERBY is a novel communication technology that uses everyday human activity to provide flexible, free-to-use, mobile communications.

As each person carrying a PASSERBY enabled device passes another, their device determines which of its shared files the other device can help distribute and copies those files over. Step-by-step, messages reach their destinations, just like an electronic form of “word-of-mouth”.



Sketch of information transfer using Passer-By technology

Messages can be targeted to individuals, groups or any interested recipient (even those unknown to the sender). PASSERBY retains all information, such as copyright protection, originally attached to a file, and privacy can be maintained by using encrypted files.

PASSERBY runs on cellphones, PDAs and on Pencil's own low-cost devices designed for the rural poor.

Example Usage Scenarios

- In a rural area, a schoolchild records a lesson. As he walks home, the lesson is distributed to children he passes on the way, many of whom may not go to school.
- A teenager distributes a home music video via their PASSERBY[®] device, for all interested music video fans. Soon, the video is the talk of the town's teenagers.
- In a blackout, a mother receives an “I'm OK” message from her child via a PASSERBY.

Further Information

Please visit <http://www.pencil-in.com> for further details.