University project takes snapshot of New York communications links to rest of world

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NEW YORK: For the past two months, 24 hours a day, MIT researchers have been collecting the electronic communications of millions of New Yorkers but not for salacious gossip or to protect national security.

They've been building a census that shows, neighborhood by neighborhood, New York's telephone and Internet links to other cities across the planet and how those connections change over time.

"Our cities and the globe are blanketed with flowing bits of digital data, and looking at this data, we're able to better understand the physical world," said Carlo Ratti, director of the SENSEable City Laboratory at the Massachusetts Institute of Technology.

Visualization from the New York Talk Exchange (NYTE) project are part of a new exhibit at the Museum of Modern Art called "Design and the Elastic Mind." Open through May, the exhibition examines how designers use technology in ways that change lives.

Researchers stress that no information about individuals or actual conversations and messages are being collected. AT&T Inc. is giving MIT only aggregate data from its switches in the city.

The information reveals a trove of interesting population patterns. By looking at the neighborhoods where the data came from, researchers determined that New Yorkers who engage in global gab tend to be on the high end of the socio-economic scale or struggling to make ends meet. Translation: international business and professional people or poor immigrants.

"The striking piece of evidence coming out of this project is that global talk happens both at the top of the economy and at its lower end," Saskia Sassen, a Columbia University professor and globalization expert, wrote for the project catalog. "The vast middle layers of our society are far less global. The middle talks mostly nationally and locally."

The MIT team started monitoring billions of electronic streams flowing to and from New York about two months ago, relying on information provided by AT&T, one of the world's largest providers of communications services.

AT&T Labs, based in Murray Hill, New Jersey, collects the data on phone calls, e-mail messages, cyberphone connections and Web browsing, then transfers only that information which has no personal identifying details to MIT in Cambridge, Massachusetts, for processing and analysis.

As the data accumulate over the next few months, the team hopes to see a reflection of human migration essentially, a snapshot of globalization.

Already, graphs on display at MoMA and on the Web show clusters of intense activity from New York to South America, the Caribbean, Canada, and parts of Europe and Africa, matching neighborhoods across the city with more than 170 ethnic groups.

Nayan Chanda, an expert on globalization, said such research "is absolutely worthwhile."

"This fast communication that links the world has made globalization much more intense and much more visible. It gives you a very valuable footprint of the extent to which a country is involved in global communications. It's interesting for demographers, for people studying economics, telecommunications and business," said Chanda, director of publications at the Yale Center for the Study of Globalization.
The first graph Globe Encounters uses 3-D real-time animations to show New York's links to world cities. The second Pulse of the Planet shows how those connections change as day turns to night across the planet. The third World Inside New York zooms into New York's five boroughs and explores how the global connections vary from neighborhood to neighborhood.

Among the findings:

- Communication between Manhattan and the world surges each morning after the New York Stock Exchange opens.

- From Manhattan, the most-called city is London, which represents about 8 percent of all calls overseas. The second most-called city from Manhattan is Santo Domingo, Dominican Republic, with more than 5 percent of all calls.

- Half of all calls from Manhattan are to Canada, Britain, the Dominican Republic, Germany and Japan.

- In Queens' ethnically diverse Flushing, almost 12 percent of data went to and from Seoul, South Korea, while 8 percent were with Porto, Portugal.

As other data flood in, the team hopes to answer questions like: How are global cities evolving? How does electronic communication across the globe affect travel? Can digital activity signal financial and other upheavals?

"In the end, the NYTE project reveals as much about the city of New York as it does about its worldwide counterparts, in areas such as business, culture and immigration," Ratti said. "In other words, our visualizations demonstrate that in the information age, urban life is as global as it is local."

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