

Video sharing site busts the quality barrier

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(PhysOrg.com) -- When you upload video to a sharing site like YouTube, something gets lost in the translation: quality. Such services heavily compress files, often blurring out fine details and sprinkling the video with the scattering of small rectangles known as pixelation. Most sites also limit the length of videos.

FlixQ, a new video-sharing service created by Cornell [computer scientists](#), tosses those restrictions aside and removes artificial limits on quality and length without increasing [bandwidth](#) or storage costs.

"People don't know what they're missing. Once you've seen [high definition](#) it's a different ballgame," said Gün Sirer, associate professor of computer science, who co-founded United Networks LLC, the startup company behind FlixQ, with graduate students Ryan Peterson and Bernard Wong.

The technology enabling FlixQ has the potential to drastically reduce the costs of distributing many kinds of data, Sirer said, by reducing the amount of central server space needed. At the same time, he said, it can empower small groups outside the mainstream.

"FlixQ was designed from the start to give the users complete control over who can see their videos," Sirer said. Users can share videos publicly or make them available only to a specified group. FlixQ already has special subsites for a dozen universities, including Cornell, where videos are available only to members of the particular university community.

After about a year of operation, FlixQ hosts several thousand videos, ranging from parades to Cornell Glee Club doings to a cat washing its face.

The key to cost-effectively serving high-quality [video](#) is "hybrid peer-to-peer" technology that teams a central server with a distributed network. In peer-to-peer file sharing, a user downloading a file gets it piece by piece from others on the network. After part of the file has been received, the downloader also becomes an uploader, sharing the pieces already received. That works fine for such popular items as last night's episode of "Glee," but for, say, the Intercollegiate Ultimate Frisbee Championships or a fastidious cat, the "swarm" of possible sources may be small or nonexistent. So FlixQ caches its files; the viewer may get everything from peers, everything from the server, or parts from both.

The FlixQ server also acts as an overseer, allocating peer and cache resources to give all users a roughly equal speed. "It's like God in the sky saying, 'Steer over here,'" Sirer explained. "People have tried peer-to-peer before, but hybrid peer-to-peer combines the efficiency of peer-to-peer with the centralized control and management of traditional systems."

The technology has tremendous potential for both commercial and private use, Sirer said. For the corporate world it can reduce the power requirements of huge data centers, he said, but it also can help small groups share information efficiently and privately. "If you're not into Ultimate Frisbee it's incredibly boring, but if you're on the team it's incredibly important," he explained, adding that the system would work the same way for families sharing videos of their kids.

"We'd love to get more users," Sirer added. "Our service showcases a much more efficient and private style of video distribution than what most people are used to."

More information: The public site is at flixq.com .

Provided by Cornell University

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