



TECHNOLOGY

Joint Optimization for Social Content Delivery in Wireless Networks

OVERVIEW

Background

Social networks such as Facebook, Twitter, Google+ and others use their users' profiles to recommend content. Relevance of the recommended content to the user is extremely important as it determines the quality of user experience, and thus user's willingness to continue to utilize the network. Another important factor of user experience is ability to download content fast and without interruptions. Unfortunately most social network applications were designed for wired connections assuming unlimited capacity and reliable transmission. Wireless networks have significant constraints on the ability to transmit data, and since a large portion of desired content consists of multimedia (photos, videos, audio), the disparity between the network capacity constraints and expectation of seamless deliver results in poor user experience for users of mobile devices.

Innovative Technology

Researchers at the University of Maryland have developed a centralized system that both selects the content for users according to rewards given wireless capacity constraints and delivers the content to users via a wireless network. This system maximizes overall user experience by improving spectrum efficiency due to the scheduling framework incorporating content deliverability. Results indicate that this novel joint optimization approach for a single base station outperforms existing systems, which separate recommendation and delivery, especially when wireless network is operating at maximum capacity.

APPLICATIONS

Application

- Wireless networks
- Single base station
- System design

ADVANTAGES

Advantages

- Enhanced user experience for mobile devices
- Improved spectrum efficiency
- Reduced wireless bandwidth need

CONTACT INFO

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Additional Information

INSTITUTION

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PATENT STATUS

Pending

CATEGORIES

- Software + Algorithm
- Information Technology

EXTERNAL RESOURCES

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