



TECHNOLOGY

Joint Optimization for Social Content Delivery in Heterogeneous Wireless Networks

OVERVIEW

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.

Researchers at the University of Maryland have developed a centralized system that selects the content for delivery based on user rewards given wireless capacity constraints and delivers the selected content via a wireless network comprising of different types of base stations. Researchers developed a scalable two-phase scheduling framework which consists of distributed delivery decisions by each base station, and centralized resource consolidation by the system. This scheduling framework improves user experience for those who use mobile devices to access social networks, and relieves capacity constraints of the wireless networks. This framework is scalable and requires minimal information exchange between social networks and wireless networks.

APPLICATIONS

- Heterogeneous wireless networks
- System design
- Social networks

ADVANTAGES

- Enhanced user experience for mobile devices
- Improved spectrum efficiency
- Scalable framework

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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