

Peer-to-peer (P2P) file-sharing systems have already become one of the most efficient tools for individuals to exchange digital goods over Internet. However, it is still a challenge to provide streaming contents to a large-scale number of users over the P2P networks at a reasonable cost. The difficulties come from not only the stringent requirements on delivering time-sensitive streaming data to users, but also the self-interested peers on over-consuming and under-supplying resources. Meanwhile, the popularity of the P2P systems cause all involved parties to be unsatisfied with the current business model.

We address the above issues as the free-riding problems at two different levels of the P2P streaming systems and aim to design profitable business models for such systems. Specially, the project will investigate incentive mechanisms, business models and pricing schemes that can work in the P2P streaming applications.

The project's possible outcomes are a prototype of the P2P streaming system that supports both on-demand and live streaming contents, a framework of the business model that benefits all parties in the P2P systems, and a pricing scheme that optimizes the social welfare of the P2P system. These outcomes are the keys to turn a self-interested P2P network into a profitable business.