

## A demonstration of Tribler : peer-to-peer television

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# A Demonstration of Tribler: Peer-to-Peer Television

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## Abstract

The success of Peer-to-Peer Television (P2P-TV) systems depends on the inducement of users to cooperate massively and voluntarily. To operationalize our proposed applications of incentives based on psychological backgrounds, we discuss a demonstration of our own P2P-TV system called Tribler. It is a system for downloading, video-on-demand (VoD), and live streaming of Television content. This paper discusses the demonstration of Tribler version 4.0 as the first operationalization of relevant psychological backgrounds.

**Keywords:** Peer-to-peer television, inducing cooperation.

## Background

We present a Peer-to-Peer Television (P2P-TV) system called Tribler. In (Pouwelse *et al.*, 2007) it was introduced as a novel social-based P2P system that exploits social phenomena by maintaining social networks and using these in content discovery, content recommendation, and collaborative downloading. In (Fokker *et al.*, 2007) the advantages of P2P technology for broadcasters and viewers were discussed. These advantages are 1) low cost of ownership for content, 2) one-click uploading and distribution to a large audience, 3) smart use of existing infrastructure, distributing cost and maintenance over the users, and 4) large video files can be distributed to large amounts of viewers at the same time.

However, for the success of any P2P-TV system it is essential that users are induced to contribute massively and voluntarily on four identified aspects: Peer uptime, donate bandwidth, injection, and moderation. To induce this cooperation, we listed relevant psychological backgrounds that can be used, along with possible applications to the graphical user interface. Aiming to verify the effectiveness, this concept is being implemented in future versions of Tribler. A number of proposed cooperation inducing mechanisms from our work

(Fokker *et al.*, 2007) will be operationalized based on the visibility of behavior: reputation, esteem, sharing ratio, friends, and community. This paper describes the demonstration of Tribler version 4.0, to be publicly released on May 23<sup>rd</sup> 2007.

## Tribler Graphical User Interface

The design of the graphical user interface of Tribler 4.0 (2007), is equally based on two fundamental elements (Fig. 1): the content and the users. For both elements, a large amount of information is available, which can be searched, browsed, and filtered (e.g. 'best rated' or 'most popular'). The user interface gives access to all discovered content and users in the network, but also provides the means to browse personalized content with the distributed recommendation engine and the advanced social network each user creates implicitly and explicitly. Tribler consists of six main entities:

- 1 **Content.** Users have access to all discovered files. By means of several filters it is possible to narrow it down to find interesting content.  It can be watched through downloading, live streaming, and video-on-demand (VoD). For each selected item detailed information is available.
- 2 **Persons.** The 'persons' button gives access to all discovered peers (unknown peers, neighbors, and friends). Again it is possible to narrow it down with filters. For each selected person detailed information is available.
- 3 **Library.** Through this button the user has access to his personal library. It contains his downloads that are in progress and finished. Viewed items can be archived. By clicking on an item its details are displayed at the right. For video and audio content a play button is available.
- 4 **Messages.** Users are able to recommend files to friends. They can also participate in groups and communicate with each other.



Fig. 1. Screenshots of Tribler, showing two fundamental elements: content (top) and users (bottom). With credits to Maarten ten Brinke.

- 5 **Friends.** Users will create a network of trusted friends by inviting them into Tribler. For each friend dynamical information about his activity is available (e.g. his status for moderation or injection). □□□□□□□□□□□□
- 6 **Profile.** A user's profile basically consists of a nickname, avatar and e-mail address. This information is visible to others. □□□□□□□□

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