P2P based video file swarming in Online Social Network

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***Abstract*—this paper presents a systematic literature review of P2P VOD networking. Online social networks (OSNs) (e.g., Facebook, Twitter) are now among the most popular sites on the Web. An OSN provides a powerful means of establishing social connections and sharing, organizing, and finding content. For example, Facebook presently has over 500 million users. Unlike current file or video sharing systems (e.g., BitTorrent and YouTube), which are mainly organized around content, OSNs are organized around users. OSN users establish friendship relations with real world friends or virtual friends, and post their profiles and content such as photos, videos, and notes to their personal pages.**

***Index Terms*—vod,osn,p2**

I. INTRODUCTION

Online social networks (OSNs) (e.g., Facebook, Twitter) are now among the most popular sites on the Web. An OSN provides a powerful means of establishing social connections and sharing, organizing, and finding content. For example, Facebook presently has over 500 million users. Unlike current file or video sharing systems (e.g., BitTorrent and YouTube), which are mainly organized around content, OSNs are organized around users. OSN users establish friendship relations with real-world friends or virtual friends, and post their profiles and content such as photos, videos, and notes to their personal pages. Video sharing have been an increasingly popular application in OSNs, enabling users to share their personal videos or interesting videos they found with their friends. Indeed, according to comScore Releases in August 2010, Facebook is now the second-largest online video viewing platform. The total time spent on video viewing on Facebook increased 1,840% year-over-year, from 34.9 million minutes in October 2008 to 677.0 million minutes in October 2009. During the same time period, the number of unique video viewer increased by 548% and total number of streams grew by 987% [1]. The recent rapid development of OSN video sharing applications illustrates the evolution of OSNs from simply communication focused tools to a media portal.OSNs are transforming from a platform for catching up with friends to a venue for personal expression and for sharing a full variety of content and information. In recent years, much effort has been devoted to improving the client/server architecture for video sharing, with the peer-to-peer (P2P) architecture being the most promising. P2P-based video sharing has been used in on demand video streaming. With each peer contributing its bandwidth to serving others, the P2P architecture provides high scalability for large user bases.

II. RELATED WORK

Several approaches have been proposed for automation of shopping mall. However most of them focused on one aspect of the problem. In [1 **:** Peer-to-peer (P2P) content distribution is able to greatly re- duce dependence on infrastructure servers and scale up to the demand of the Internet video era. However, the rapid growth of P2P applications has also created immense burden on service providers by generating significant ISP-unfriendly traffic, such as cross-ISP and inter-POP traffic In [2], Video-on-demand in the Internet has become an immensely popular service in recent years. But due to its high band- width requirements and popularity, it is also a costly service to provide. We consider the design and potential benefits of peer-assisted video-on-demand, in which participating peers assist the server in delivering VoD content.. In [3], Video-on-Demand streaming on Peer-to-Peer(P2P) networks has been an emerging technique in recent years. This paper presents a systematic literature review of P2P VOD networking In [4], pared to P2P live streaming, due to higher peer dynamics and less buffer overlap. The situation is further complicated when we consider the selfish nature of peers, who in general wish to download more and upload less, unless otherwise motivated In [5 **:** In nowadays network group, the Peer-To-Peer (P2P) network is exploring as a good environment for resource sharing over the Internet. Compared with traditional file sharing workloads, continuous streaming of multimedia content provokes a significant amount of today's internet traffic.

III. THE DESIGN OF SOCIALTUBE

We first introduce the basic concepts and strategies used in Social Tube

User Interface Design

This is the first module of our project. User Interface Design plays an important role for the user to move login window to user window. This module has created for the security purpose. In this login page we have to enter login user id and password. It checks username and password whether matched or not. If we enter any invalid username or password we can't enter into login window to user window it will shows error message. So we are preventing from unauthorized user entering into the login window to user window. It will provide a good security for our project.

Creating Social Relationship

This is the second module of our project in this we are going to collecting the all registered user details from database and matching with currently registering user details based upon that we can specifies the some related friends when he his login to our SN. After users in other video sharing websites are driven to watch videos by interests, while in Social Network, the followers of a source node (i.e., video owner) are driven to watch almost all of the source's videos primarily by social relationship, and non-followers watch a certain amount of videos mainly driven by interest (I2). According to these differentiating aspects, we design the P2P overlay structure.

Implementing P2P overlay construction

This is the third module of our project in this we are going construct P2P overlay, for each source node. It consists of peers within 2 hops to the source that watch at least a certain percentage of the source's videos. Other peers can still fetch videos from the server. In this peers of a source node *S* in the social network constitute a P2P overlay for the source node. We aim to achieve an optimal tradeoff between P2P overlay maintenance costs and video sharing efficiency. Some nodes within 2 hops may watch only a few videos in a source. Including these nodes and users beyond 2-hops into the overlay generates a greater structure maintenance cost than video sharing benefits. Based on I2, we build a hierarchical structure that connects a source node with its socially-close followers, and connects the followers with other non-followers. Thus, the followers can quickly receive chunks from the source node, and also function as a pseudo-source to distribute chunks to other friends.

Video Sharing to Social Network

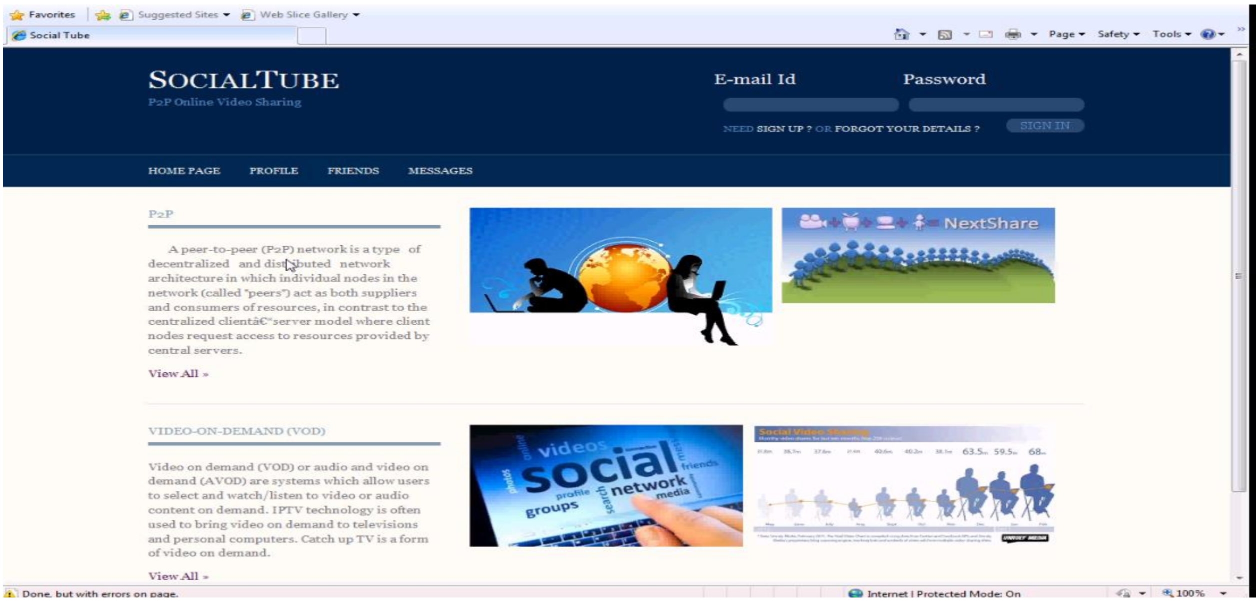
In this module user videos uploaded to Social Network, social relationships are the primary consideration when viewers decide whether to watch a video. For external videos, interest gains more weight in influencing the watching probability. However, no matter if it is a video uploaded to Social Network or an external link, we assume that the video owner, the video up loader, or the one who shared the external video link would have the video in his/her local cache. This assumption is reasonable because in the case of uploaded videos, the uploaders have the original videos, while in the case of external links, a user usually shares a video after (s)he has watched the video (or at least part of it) and hence has the video in cache. Therefore, both types of videos are applicable in P2P video sharing, in which videos are prefetched from users' local cache instead of the video server.

Control the Buffer Space

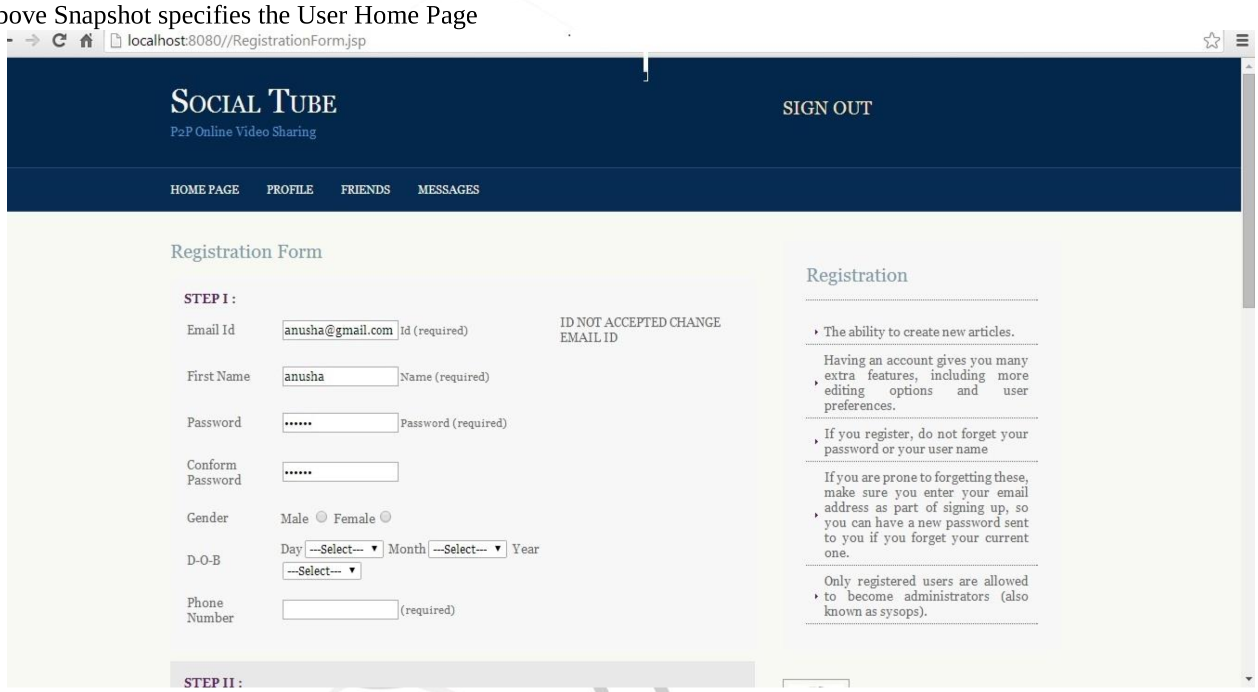
This is the last module of our project in this the source node and followers are involved in every interest cluster for providing video content, we call the group formed by the source, followers, and interest cluster- peers in an interest cluster swarm, and call all nodes in a swarm swarm-*peers*. As I1 indicates, the cluster size of each interest cluster should be small. O9 indicates that many viewers of a video are physically close peers. Therefore, in order to reduce delay, physically close interest-cluster-peers are randomly connected with each other. The peers find their physically close peers based on their ISP (Internet Service Provider), subnet information In current video sharing in SN, a node always requests the server for videos uploaded by source nodes. We let the server keep track of the video watching activities of viewers of a specific source node in order to identify and update its followers and non-followers based on Social Tube's pre-defined thresholds.

IV. IMPLEMENTATION

In computer science, an implementation is a realization of a technical specification or algorithm as a program, software component, or other computer system through computer programming and deployment. Many implementations may exist for a given specification or standard. For example, web browsers contain implementations of World Wide Web Consortium-recommended specifications, and software development tools contain implementations of programming languages.



The above Snapshot specifies the User Home Page



V. CONCLUSION

Video sharing is an increasingly popular application in OSNs. However, the client/server architecture deployed by current video sharing systems in OSNs costs a large amount of resources (i.e. money, server storage) for the service provider and lacks scalability. Meanwhile, because of the privacy constraints in OSNs, the current peer-assisted Video-on-Demand (VoD) techniques are suboptimal if not entirely applicable to the video sharing in OSNs. In this paper, we crawled video watching trace data in one of the largest online social network websites Facebook, from Jul. 2007 to Aug. 2010 and explored the users' video viewing patterns. We found that in a user's viewer group, 25% viewers watched all videos of the user driven by social relationship, and the viewing pattern of the remaining nodes is driven by interest. Based on the observed social and interest relationship in video watching activities, we propose Social Tube, which provides efficient P2P-assisted video sharing services. Extensive simulation results show that Social Tube can provide a low video startup delay and low server traffic demand. We also implemented a prototype in Planet Lab to evaluate the performance of Social Tube. The experimental results from the prototype further confirm the efficiency of Social Tube.

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