ABSTRACT:

Video sharing has been an increasingly popular application in online social networks (OSNs). However, its sustainable development is severely hindered by the intrinsic limit of the client/server architecture deployed in current OSN video systems, which is not only costly in terms of server bandwidth and storage but also not scalable with the soaring amount of users and video content. The peer-assisted Video-on-Demand (VoD) technique, in which participating peers assist the server in delivering video content has been proposed recently. Unfortunately, videos can only be disseminated through friends in OSNs. Therefore, current VoD works that explore clustering nodes with similar interests or close location for high performance are suboptimal, if not entirely inapplicable, in OSNs. Based on our long-term real-world measurement of over 1,000,000 users and 2,500 videos on Facebook, we propose SocialTube, a novel peer-assisted video sharing system that explores social relationship, interest similarity, and physical location between peers in OSNs. Specifically, SocialTube incorporates four algorithms: a social network (SN)-based P2P overlay construction algorithm, a SN-based chunk prefetching algorithm, chunk delivery and scheduling algorithm, and a buffer management algorithm. Experimental results from a prototype on PlanetLab and
an event-driven simulator show that SocialTube can improve the quality of user experience and system scalability over current P2P VoD techniques.

**EXISTING SYSTEM:**

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 (e.g., GridCast and Vanderbilt VoD). With each peer contributing its bandwidth to serving others, the P2P architecture provides high scalability for large user bases. Previous P2P VoD systems either randomly cluster peers for video inquiry or form certain peers into a distributed hash table (DHT) for chunk indexing.

**DISADVANTAGES OF EXISTING SYSTEM:**

Videos can only be disseminated through friends in OSNs

**PROPOSED SYSTEM:**

We propose SocialTube, a system that explores the social relationship, interest similarity and location to enhance the performance of video sharing in OSNs. Specifically, an OSN has a social network (SN)-based P2P overlay construction
algorithm that clusters peers based on their social relationships and interests. Within each cluster, nodes are connected by virtue of their physical location in order to reduce video transmission latency. SocialTube also incorporates an SN-based chunk prefetching algorithm to minimize video playback startup delay.

**ADVANTAGES OF PROPOSED SYSTEM:**

To our knowledge, this work is the first that studies the distinct characteristics of OSN video sharing that vary from other content-based system-wide video sharing, and builds a P2P-based video sharing system in an OSN by leveraging those characteristics for higher performance.

**SYSTEM ARCHITECTURE:**
MODULES:

1. OSN Server Module
2. Social Distance and interest of video Module
3. Physical location of video Module
4. Active life time of videos in OSN Module

MODULES DESCRIPTION:

1. OSN Server Module:

In this module, first implement the basic concepts and strategies used in SocialTube. In Facebook, each node can upload a video to the Facebook video server or an external link to a video from an external server. In this paper, we use server to represent all video source servers, including both Facebook and external video servers. Similar to current peer-assisted content delivery mechanisms, the peers in SocialTube store videos they have watched previously for video re-distribution. In SocialTube, a video is divided into small chunks with a fixed size. Thus, a video viewer only needs to download the corresponding chunks of the video segment (s)he wants to watch.
2. Social Distance and interest of video viewing:

Social distance between two users in the social network graph represents the closeness of their relationship. If two users are directly connected in the social network, their social distance is 1; if one user is a friend of another user’s friend, then the social distance between them is 2, and so on. Note that a user may own more than one video. To further identify the impact of social relationships on video viewing patterns, we selected the users who have multiple videos from our dataset and inspected the viewer group of each video owner.

We classified the viewers of a video owner based on the percentage of the owner’s videos they watched and calculated the distribution of different viewer classes in a viewer group. And then next, we explore the correlation between user interests and video viewing patterns. We selected a sample of 118 distinct users that watched more than one video from our dataset and manually classified the videos they watched into 19 interest groups based on video content. The 19 interest groups were determined based on the video categories in YouTube such as gaming, rock music and action movie. For each user, we calculated the percentage of viewed videos of each interest group. Then, we ranked these 19 interest groups in descending order of the percentage values.
3. Physical location of video viewing

In this module, we also analyze the geographical locations of users who view the same videos in order to see whether location can also be leveraged for video sharing in OSNs. In Facebook, some users input their current resident city in their profiles. To investigate the location distribution of viewers, we calculated the percentage of viewers in each viewer group corresponding to different location distances between the viewer and video owner. We plot the average value of all viewer groups. We can see that most users watching the same video are physically close to each other. Because many friend relationships in Facebook are connected by offline relationship, such as classmates or colleagues, this produces a strong location clustering effect. This result conforms to the observation in that most of the wall posts are sent within local physical region. This effect could make P2P video sharing systems in OSNs more efficient by enabling geographically close nodes to share videos between each other.

4. Active life time of videos in OSN:

In this module, we measured the percentage of views of a video in each month after the video is uploaded out of all views. We found that videos in Facebook have an active life period of about one month. Views in this period account for more than 90 percent of all views. After one month, there are only occasional views. The small figure inside more clearly shows the decreasing active life over days in the first month. We find that it follows a power-law distribution.
SYSTEM CONFIGURATION:-

HARDWARE CONFIGURATION:-

- Processor - Pentium –IV
- Speed - 1.1 Ghz
- RAM - 256 MB(min)
- Hard Disk - 20 GB
- Key Board - Standard Windows Keyboard
- Mouse - Two or Three Button Mouse
- Monitor - SVGA

SOFTWARE CONFIGURATION:-

- Operating System : Windows XP
- Programming Language : JAVA/J2EE.
- Java Version : JDK 1.6 & above.
- Database : MYSQL