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A FRAMEWORK OF SCALABLE AND ADAPTIVE VIDEO STREAMING AND SHARING OVER THE MOBILE USERS USING THE CLOUD

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ABSTRACT

There is great increase in the usage of smart phones and social networks. Sharing of Videos is the trend followed now-a-days but the problem is with traffic demand and management. The service providers are not able to deliver the videos properly and timely. There is a problem of long buffering time. Disruptions of service using bandwidth like 3g, 4g is encountered. In order to solve this issue a Framework is suggested having two parts. 1) Adaptable 2) Scalable Video Streaming and Sharing of Videos. A Private Agent is being constructed using above framework. The link capacity is assessed using scalable video technique and based on that, the streaming flow is adjusted. In the same way the Sharing of Videos in the social network is done by bringing the Video in Advance (i.e. prefetching some part of the video). This Framework gives the best solution and provides desired Reliable Services to the End Users.

INTRODUCTION

As there is lot of advancement in the technology of hardware .Devices are becoming smaller but smarter using latest software's and technologies, so the mobility of the devices is increased but the way of accessing the data is outdated. The problem of having a lot of Hardware is with the maintenance of the hardware resources like providing space, air conditioned rooms and other items. Another problem is faced is to utilize the resources efficiently. Cloud has given solution for such problems. It has the ability to provide storage, platform, virtualization, infrastructure and other services. Cloud helps in lowering costs, easier to maintain, readily be available at all times and places. Long Buffering Time and Disturbances usually occur in

the middle of streaming due to limited bandwidth and fluctuation of the links. Hence, a solution is proposed in the form of a Framework to solve the problems faced in the Existing System.

Scalability: Now days there are various types of Mobile Devices. The Framework should support all kinds of devices with various Computing Powers, Communication, Wireless links and Video Resolutions which support 3G and 4G. The obtainable Bandwidth varies upon the Time, Signal Strength and Traffic in its surroundings. So "Scalable Video technique" (SVC coding) is used. "AVC Video Compression" suggests that Multiple Enhancement Layers works along with Base layer (BL) as per the need. This technique is divided into 3 phases, which are Layering of Image Compression, Layering of Frame Rate and Image Resolution Layering. Using these, we can play the video with low quality.

Adaptability: In The Mobile Environments, the problem of packet loss will be there .To avoid this Video Bit Rate should adapted to the varying Bandwidth of the mobile users. SVC layers are updated frequently based on the current link status. Every user must give feedback about Packet Loss, Delay and Signal Quality. In Social network Services (SNS), popular videos are identified and prefetched. Using the above concepts best Streaming and Sharing Experience can be obtained.

PROPOSED WORK

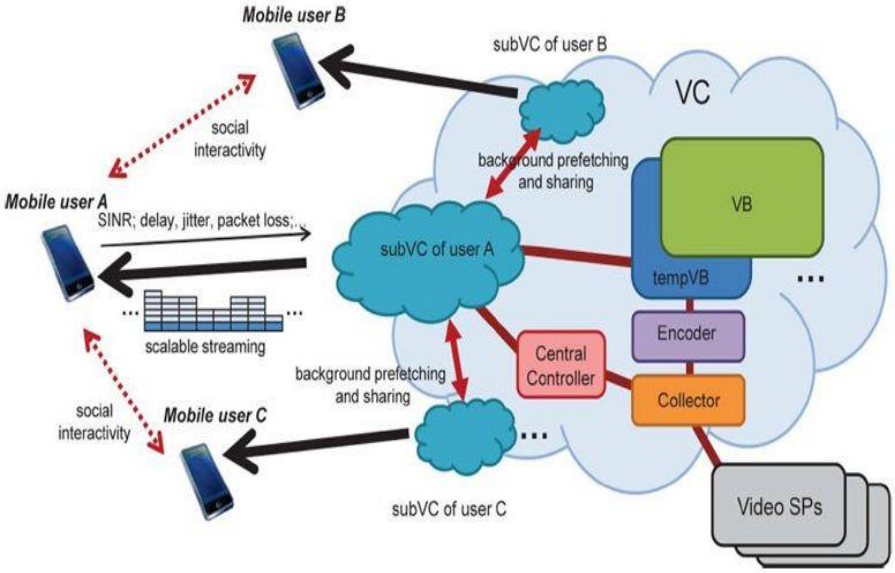

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Illustration of the Proposed Work:

- Video Service Providers (VSP): Video Service providers are the Providers of videos.
- Video Cloud (VC): It is the Complete Streaming and Storage of Videos System.
- Video Base (VB): it is the large video database which Stores all the Popular Videos.
- Temp VB: It stores all recently accessed videos by the users and also it sends popular videos to the new candidates.

- Collector: Collector will collect the videos that are famous in VSPs (Video Service Providers) and stores in the temp VB.
- Encoder: the Videos collected will be encoded using the SVC and stored in the Temp Video base.
- Sub VCs: Sub Video Clouds are those which are created for every mobile user, the video segments fetched will be stored in the sub VCs. The sub VCs will store just the links of the videos.
- Mobile user: mobile users are the different users connected in the cloud environment.

Any video which is not available in the sub VCs will be brought encoded and served to the mobile user. The sub Video cloud will be reported by the Mobile User regarding the Link Capacity, Packet Loss and Available Band width and Signal Quality. Based on that, Services will be provided. The pre-fetching of the content is used so that users will not see any delay while accessing the videos.

IMPLEMENTATION:

1. Admin Module
2. User1 Module
3. User2 Module

1. Admin Module:

In this module, Admin have three sub modules. They are,

- **Upload Video:** Admin adds a new video. The Video is posted on the main page.
- **User Details:** With the help of it Admin can be able to See the User details
- **New Videos:** Admin can see Accept or Reject the New Videos uploaded by the users

2. User1 Module:

In this module, it contains the following sub modules and they are,

- **News Feed:** Users can see the Status like messages and videos shared
- **Search Friends:** Friends can be Searched and Send Friend request.
- **Share Video:** Status like messages can be updated and also videos can be shared.
- **Update Details:** User can also update details

3. User2 Module:

In this module, user registers with the cloud with their details like name, password, gender, age, and then. Users can accept friend Request. Users can watch the Shared Videos and also comment on them.

CONCLUSION

In this paper, for "Adaptable Mobile Video Streaming and Sharing" a Framework is used. A Private Agent (sub Video Cloud) is constructed, which efficiently serves the mobile user on video streaming in the non-terminating fashion adaptively based on Link Quality. It also gives the Non Buffering Experience to the end user using Background Functions like pushing the VBs, Sub VBs and Local VBs. Improvement in Adaptability and Pre-fetching of Videos is focused mainly. Less importance has been given for Encoding Video Procedures. Future wok is to implement the same in the large scale, considering the factors like energy constraints, pricing and security issues.

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(Cont.)

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