Adaptive mobile video streaming and sharing by wireless links to reduce waiting time

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Abstract— From the past few years the mobiles play a major role where in users are using it for different purpose. The demands for watching video on the mobile are increasing day by day from many users this leads to, more traffic while we are streaming the video. So, the request for video goes on increasing than serving the request for the video this result in, the poor service of video streaming such as, it takes more time for buffering, disturbances in the middle. By using cloud computing technology, we propose a new design for streaming that is adaptive mobile video streaming and social video sharing this will construct private agent to provide video streaming service efficiently. And this private agent will provide streaming and share video.

Keywords— Adaptive streaming, private agents, cloud, wireless networks, sharing of video.

I. INTRODUCTION

As the usage of the mobile has been increased from past few years more traffic is noticed by the streaming of the video or by downloading. The streaming of the video on the mobile has become more challenging but, this is not the case in wired network. Whenever we are trying to watch the videos on mobile by using the 3G/4G networks the user is facing long time for buffering the video and also disturbances in the middle this is because of the bandwidth limitation and also due to the mobility of the user [2]-[4] so it is difficult to improve the quality of video streaming on mobile while using networks [5]-[8].

The streaming of video on mobile has to support different mobile devices because they have different resolution of video, different wireless links. We use the scalable video coding technique of H.264 AVC video compression standard [9]-[11]. In olden days they use to design the streaming techniques by assuming that they will have the stable traffic links between the server and user. But this is not the case now [2]. So to solve this issue we need to adapt video bit rate to each user. In social network services users may post something, they can share the video, they can comment on the video, they can post video among friends and members in the group in social network we can do direct recommendation, public sharing or posting.

II. RELATED WORK

Adaptive streaming can be done in 2 types based on that whether it is controlled by the client or the server.. An adaptive bit rate algorithm is introduced [12].Now a day's H.264 SVC technique has gained popularity [10].The cloud computing will improve the performance of SVC coding. Cloud computing is good to provide services in wired internet. But in case of mobile we need to consider some factors that is user mobility, limits of mobile devices [13], [14]. But new designs for mobile users are proposed in cloud computing, which uses private agents. By using the SVC encoding techniques, the server does not need to concern the client side or the link quality. Even if some packets are lost, the clients still can decode the video and display. But this is still not bandwidth efficient because of the unnecessary packet loss. So it is necessary to control the SVC based video streaming at the server side with the rate adaptation method to efficiently utilize the bandwidth. Regarding rate adaptation controlling techniques, TCP friendly rate control methods for streaming services over mobile networks are proposed, where TCP throughput of a flow is predicted as a function of packet loss rate, round trip time, and packet size Social network services is one in which we can make new friends, follow famous people and in this we can share the video, we can do postings on the timeline etc,. and we can also recommend a video for our friends and if we follow the famous people or anyone then we will get all the updates that what they are making.

III. EXISTING SYSTEM

Whenever we are giving the URL in the browser it will take us to that page and if that page is having the embedded video in the url it starts streaming using wireless links(WI-FI,3G/4G) based on the strength it will stream the video and will also play if there is high resolution it take time to stream and play at that time user get paused till it stream and play the disadvantage of this is that the user cannot control the resolution, unnecessary traffic increase to overcome this we proposed a system.

IV. PROPOSED SYSTEM

We have proposed a system in that we will reduce the traffic. The advantage of this system is the user never gets paused while watching video, the constancy is always maintained. We are using the H.264 AVC video compression standard.

V. DESIGN

Modules are as shown below

1. Player that supports HLS streaming.
2. Adaptive video streaming.
3. Social media sharing of the urls from player.
4. Bandwidth utilization and analysis.

Player that supports HLS streaming: We are going to use android player which supports streaming on the mobile. HLS is a streaming protocol and this will work by breaking the overall stream into a sequence of small HTTP based file downloads.

Adaptive video streaming: Whenever the video is found that video will be converted to the user requirement that is it will adapt the video to the user availability.

Social media sharing of the urls from player: In social network services user will share the videos recommend a video etc. We are passing URL of the video to the player which takes the data from the corresponding address and stream it on to the mobile.

Bandwidth utilization and analysis: It will be able to play the video and will keep on changing the resolution based on the bandwidth here we are comparing bandwidth utilization.

In the cloud we have a part called video base where the popular videos will be stored for the service providers. The cloud will be having a collector to get the videos which are popular in service providers the collected videos will be encoded into the svc format and stored. So whenever there is a demand for the video by the user the sub cloud will be created. The sub cloud will have a subvideobase which store the video that are used recently and it is important to note that when we make a request to the sub cloud, It will take videos from the cloud and this is just a link but not a copy. In this we have a cloud which stores all content, sub video which will be operating between the user and the cloud, we have a H.264 encoder, and we have the video service provider. In the scalable video encoding that is H.264 AVC video compression standard it will encode the high quality video bit stream that contains one or more subset bit streams.

In the case of social network services the user subscribe to his friends, celebrities and to some other products and the user can message directly to his friends and also they can do the postings publically that is we can do the direct recommendation and public postings. In the direct recommendation we can send the message to our friend and we can recommend a video to them, so that they can watch it. In the public posting part the user can post the video on the timeline so that people can see it.

VI. CONCLUSION

In this paper, we discussed about streaming and sharing. As the request for the video on mobile has increased we are creating a private agent which will reduce the traffic and we are using the adaptive bit rate streaming which considerably dropped the delay and the user can enjoy the video streaming for weeks together. As of now, we are not concentrating on the cost factor in future will carry out it and will also try to carry out this work in large scale.

VII. RESULT

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