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# Cloud-Based Mobile Multimedia to Design a Distributed Recommendation Cache

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**Abstract:** ***As we know that cloud is upcoming technology in the world. It provide several types of services for the user, one of them is Storage as a Service. Our project is related to the Saas services of the cloud. Multimedia is the way to collection of several types of media within a single unit. Our paper Cloud Based mobile multimedia to design a distributed recommendation cache narrates the storage the multimedia files on the cloud and access it. Generally accessing the multimedia files from the internet becomes time taken for the user. Recommendation cache is the way which access the files in short time and also keeps the use details and access via the shortest memory location cache, which makes the faster assessment. It also removes the unwanted result of multimedia storage which becomes the user burden to select the original data. Generally tagging of video creates the problem for user to select the original files, our proposal describes and eliminates the conditions which makes the user process extensive and provide the fast and reliable search over the multimedia storage.***

**Keywords:** Cloud Computing, Storage Server, Cloud multimedia, Recommendation Cache

## 1. Introduction

Internet user uploads a large number of video on video-sharing websites and social network applications every day. The video satisfied may be copy, similar, related, or quite different. Facing millions of social websites and multimedia Website Pages. Online users are usually having a so many time for searching their favorites. This condition is even worse for mobile users because of screen limit and low bandwidth. How to help mobile users obtain their desired content lists from billions of Webpages in a short time is very challenging. Some video-sharing websites recommend video lists for end users according to video categorization, video description tags, or watching history. However, these recommendations are not accurate and are always not consistent with the end users' interests. To improve this, some websites also provide users with search engine to search their desired videos quickly. However, searching is based on the keywords. For most cases, mobile users do not have any keyword when they process the search. Favorite video recommendation techniques are commercially driven and are important for mobile multimedia applications. There are several successful video recommendation algorithms and systems that have been developed and exploited. For example, Google has adopted content-based filtering recommended cache in its Ad Words services. The Google search engine returns search results with keyword-related advertisements. However, those advertisements are always neglected by end users. This is mainly because of the biased decisions of users' favorite content .Unfortunately, Google Ad Words had been removed from the right side of the page. Amazon and Taobao have achieved great success in recent years. They have introduced collaborative filtering recommender systems into their e-commerce websites to help users find their interested goods .The users' interests are identified by matching the click and concern patterns among a group of users. The basic concept is to use the large group people's behavior to predict the individual interests. Therefore, the highly popular contents are considered as the common users' interests, while the less popular contents are always not judged as users' interests. As a result, the less popular but users' interest content will be never recommended to them. Another famous recommender system based on social network filtering is exploited by Face book. On Facebook, the social network is formed according to social signals, such as space links, user concerns, content forwards, and user interactions. Users can recommend content to their social network. That becomes a trend of content recommendation. However, recommendation satisfaction, cold start, and timeliness in content recommendation are still three challenging issues.

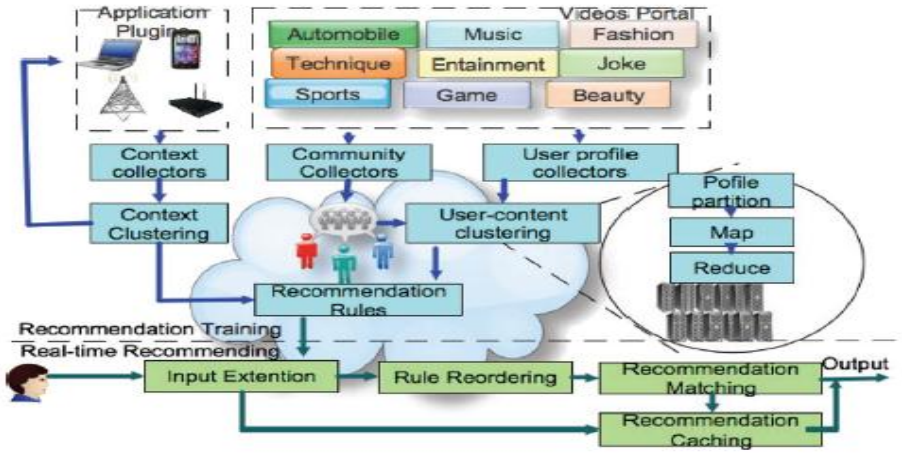
## 2. Motivation

Our motivation deals with how this mechanism work with our mechanism. Generally our motivation deals with the user and the owner. Owner has to work with his portal to store the multimedia data on the cloud server. Administrator will also responsible for categorization of data and files on cloud. Advantages behind it that user will easily find out the desired multimedia from the storage. The user side advantages is it will not confused with desired favorite video. As the admin effort it will not show the tag video by which user may confused to show or download the actual files. Our effort saves the internet expenditure and actual file assessment from the cloud server.

## 3. Problem Statement

Internet user uploads a lots of video on video-sharing websites and social network applications every day. The video satisfied may be copy, similar, related, or quite different. Facing millions of social websites and multimedia Website Pages. Online users are usually having a so many time for searching their favorites. As a know that for Recommendation cache mainly focus on content filtering and Context-aware filtering. So content filtering for user

interaction with in multimedia application and social network internet.




Recommendation systems focus on a specific domain. For example, Google News provides modified news recommendation services for a substantial amount of online readers. Amazon uses the recommender system to help users find their desired products. YouTube uses user watching history to forecast and advocate videos for users. The systems make recommendation based on the similarity of content titles, tags, or imagery. Some systems find user-interested objects based on user's character reading history in term of content. CB recommender systems are easy to implement. However, in some scenario, simply representing the user's profile information by a bag of words is not adequate to capture the accurate benefit of the user. The existing System is several disadvantages in our Project. I.e.

- Online Trading is being hosted on Stand Alone Server.
- So many memory of consume.
- Spammer detection
- Slow process
- Causes bottleneck in the process of system implementation.
- Difficult to reuse video-tag module.
- Payment for combination of Physical Hosting and Hardware is demanded by the Web Hosting.
- Lack of scalability in Dedicated Servers.
- Difficult to identify the Spammers in online.
- Noise and inconsistencies inherent to the data, and illustrates the difficulty of the task.
- Provider on monthly basis, increasing total cost.

## 4. Research-Methodology

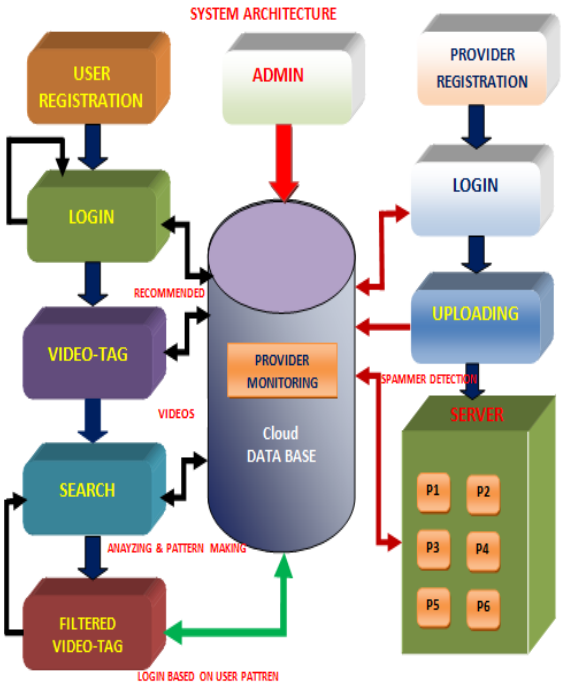
Cloud-based mobile multimedia recommendation system which can reduce network overhead and speed up the recommendation process The users are classified into several groups according to their context types and values. With the accurate classification rules, the context details are not necessary to compute, and the huge network overhead is reduced. Moreover, user contexts, user relationships, and user profiles are collected from video-sharing websites to generate multimedia recommendation. That the proposed approach can recommend desired services with high precision, high recall, and low response delay**.** User clusters are collected instead of detailed user profiles. To avoid the explosion of network overhead, user-behavior-based clustering is performed first, and the collectors calculate user clusters according to the clustering rules and then report the user cluster to the recommender only.

### 4.1 Advantages of Proposed System

- Proposed tag-cloud recommendation approaches.
- A computing platform distributed in large-scale data center.
- Computing and storage resources.
- A search system ranked lists of top videos.
- Reusability and extensibility of this framework component.
- Private Storage space for each and every Provider.
- Detection video spammers and promoters Process is easy.
- A search system ranked lists of top videos.
- Reusability and extensibility of this framework component.
- Detecting users who disseminate video pollution, instead of classifying the content itself.

### 4.2 System Architecture

System Architecture is simply defined for the how work the system. First users register the information and store the media in cloud it is use the recommendation system because it is filtered the videos and store the data in server for particular user id. It is providing the so many platforms for upload the videos and every time admin proving the services for agent and monitoring the user behaviors. Provider registration and login the web page for through the internet and upload the videos and spammer detection. The using cloud for online videos upload and multimedia using the particular user for show the video and decrease the overhead of the network. It is explain the system work for this flow and store the media easy ways and recommendation system.




### 4.3 Problem as a Solution

K-means (is one of the simplest unsupervised learning algorithms that solve the well-known clustering problem. The procedure follows a simple and easy way to classify a given data set through a certain number of clusters (assume k clusters) fixed a priori. The main idea is to define k centroids, one for each cluster. These centroids should be placed in a cunning way because of different location causes different result. So, the better choice is to place them as much as possible far away from each other. The next step is to take each point belonging to a given data set and associate it to the nearest centroid. When no point is pending, the first step is completed and an early group age is done. At this point we need to re-calculate k new centroids as barycenters of the clusters resulting from the previous step. After we have these k new centroids, a new binding has to be done between the same data set points and the nearest new centroid. A loop has been generated. As a result of this loop we may notice that the k centroids change their location step by step until no more changes are done. In other words centroids do not move any more. Finally, this algorithm aims at minimizing an *objective function*, in this case a squared error function. The objective function

### 4.4 Algorithm as a Solution

**Step 1**: Start the Process

**Step** 2: Given some training data $\mathcal{D}$, a set of *n* points of the form

$$\mathcal{D} = \{(\mathbf{x}_i, y_i) \mid \mathbf{x}_i \in \mathbb{R}^p,\ y_i \in \{-1, 1\}\}_{i=1}^{n}$$

**Step 3**: where the $y_i$ is either 1 or −1, indicating the class to which the point $\mathbf{x}_i$ belongs. Each $\mathbf{x}_i$ is a *p*-dimensional vector.

**Step 4**: $\mathbf{w} \cdot \mathbf{x} - b = 0$, The parameter $\frac{b}{\|\mathbf{w}\|}$ determines the offset of the hyper plane from the origin along the normal vector $\mathbf{w}$.

**Step 5**: The region bounded by them is called "the margin". These hyper planes can be described by the equations $\mathbf{w} \cdot \mathbf{x} - b = 1$ and $\mathbf{w} \cdot \mathbf{x} - b = -1$.

**Step 6:** We add the following constraint: for each $i$ either

$$\mathbf{w} \cdot \mathbf{x}_i - b \geq 1 \qquad \text{for } \mathbf{x}_i \text{ of the first class}$$

Or

$$\mathbf{w} \cdot \mathbf{x}_i - b \leq -1 \qquad \text{for } \mathbf{x}_i \text{ of the second.}$$

**Step 7**: Primal form: The optimization problem presented in the preceding section is difficult to solve because it depends on ||w||, the norm of w, which involves a square root.

**Step 8**: Fortunately it is possible to alter the equation by substituting $\|\mathbf{w}\|$ with $\frac{1}{2}\|\mathbf{w}\|^2$ (the factor of 1/2 being used for mathematical convenience) without changing the solution (the minimum of the original and the modified equation have the same w and b).

**Step 9:** End the Process

## 5. Conclusion

To storing the data into the drive or local server, it becomes lengthy process to fetch the data. Here cloud recommendation system used for storing and categorized of data and provide all fulfillment of user.it provide simple facility to access the actual data from the cloud server. Generally at the time of uploading files on any multimedia server we need to provide full information, so any one provide false information and tag this video on server. At the time of fetching the data user may confused to see high volume of same data.so to eliminate this problem using cloud computing, this mechanism is used.

## 6. Future Enhancement

As we know that very well today cloud is the leading technology and each and every mechanism support to the cloud. Future of this mechanism is as bright as plumbum because of recommendation system stores and fetch the data from little memory space called cache. This mechanism will be very helpful to access the media files from cloud server.

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