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Survey on Contents Delivery Network Providers

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ABSTRACT: Modern studies illustrates that a important part of Internet traffic is delivered through Web-based applications. Recently Content providers (CPs) are constructing their own content delivery networks (CDNs) to provide a variety of content services to their users. To cope with the increasing demand for Web content, large scale content hosting and delivery infrastructures, such as data-centers and content distribution networks, are continuously being deployed. In traditional content delivery, after being produced by the content provider, contents are delivered directly to a group of users via a CDN, which serves as a connectivity pipe oblivious to the context and user activity under which contents are consumed, since users are merely receivers at the end of the content flow there is no feedback information from users to the CDN.

This survey focused on various content based retrieval techniques from large datasets. As per literature, need to develop a novel technique to retrieve required content based on user requirements. In this paper we proposed a novel technique called feature based extraction on basis of downloads. Proposed approach is more efficient that existing approach.

KEYWORDS: Content delivery, data mining, user behaviour

I. INTRODUCTION

Today's demand for Web content in the Internet is enormous, reflecting the value Internet users give to content. Web-based applications are again very popular. To cope with this demand, Web-based applications and Web content producers use scalable and cost-effective hosting and content delivery infrastructures. Content providers (CPs) are building their own content delivery networks (CDNs) to provide a variety of content services to their users.

Online social network has constructed new way how video contents are generated, distributed and consumed on today's Internet. Given the enormous number of videos generated and shared in online social networks, it has been popular for users to directly access video contents in their preferred social network services.

Recommender systems have been researched and deployed extensively over the last decade in various application areas, including e-commerce and e-health. Several recommendation algorithms are content-based filtering, collaborative filtering, knowledge-based filtering and their hybridizations.

In the online social network, users create and maintain different social connections, e.g., friending their friends in real life, following celebrities or even liking virtual social entities. Such social connections determine which videos can reach a user in the online social network. The unique propagation properties make the video access pattern in the online social network quite different from that in the traditional centralized video service systems, in that first video contents are no longer produced by a few centralized content providers, but by all individual users; and second social connections and social activities determine the propagation of the videos among the users.

II. LITERATURE SURVEY

In paper [2], author proposed a lightweight and fully automated approach called Web content cartography to determine Web content hosting and delivery infrastructures. Proposed approach is based only on DNS measurements and BGP



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routing table snapshots. Author is first person who develop the scheme to recognize hosting infrastructures based on DNS replies and routing information instead of relying on pre-identified signatures such as CNAMEs. The benefit of proposed technique is that is general enough to discover new hosting infrastructures as well as cluster them based on their operation as revealed by DNS. Results illustrates that proposed approach is feasible limited number of well-distributed vantage points.

Main objective of author is to investigate Identification of hosting infrastructures, Classification of hosting infrastructures, Content replication and Revisiting AS rankings.

In this paper [3], author proposed twofold approach for heuristics to place replicas first, offline and static algorithms based on past user request patterns and second online-static and online-dynamic algorithms triggered by each request. Author proposed a algorithms for replica placement for a cloud CDN and it is manufacture mainly for a Web site whose owner signs a SLA with the cloud CDN. Author indentified the problem of placing Web server replicas in storage cloud-based CDNs and building distribution paths among them to minimize the cost incurred on the CDN providers while fulfilling QoS needs for user requests. They consider problem as Integer Program and presented various offline and online greedy heuristics. Proposed approach is suitable for a offline, online-static and online dynamic heuristic algorithms that take as input network topology and work load information such as user location and request rates. Storage cloud-based CDNs have the advantage of cost effectively offering hosting services to Web content providers without owning infrastructure.

In paper [4], author proposed an approach for granular, proxy-based caching of dynamic content. Proposed approach merges the advantages of existing proxy-based and back end caching techniques, without considering their disadvantages. Proposed approach allows a critical requirement for modern Web applications that is content and layout of Web pages to be dynamic. Proposed system is capable of providing significant reductions in bandwidth on the site infrastructure. Performance of Web site is improved by reducing content generation delays, firewall processing delays, and bandwidth requirements.

Proposed scheme is capable of providing order-of-magnitude reductions in bandwidth requirements and order-of-magnitude reductions in end-to-end response times.

In paper [5], author proposed a novel framework which allows adapted content delivery for different target contexts. Proposed framework is based on a Universal Profiling Schema UPS for describing the environment characteristics and on an profile exchange protocol. Author discussed many challenges at different levels of the current infrastructure. Author also offered a protocol and a negotiation and the adaptation strategy which allows the delivery of the final content to the user agent. Proposed a dynamic adaptation approach is based on XSLT for structural transformation and resource aware transcoders for the media adaptation. Proposed UPS approach is flexible model for describing not only the client but also the content and the server or the proxy capabilities.

Many advantages of proposed scheme are, it allows minimizing the profiles size by separating the information according to its type ad it also allows optimizing the exchanged information between the server and the client.

In paper [6], author proposed Cloud Transcoder which uses an intermediate cloud platform to bridge the format resolution gap by performing video transcoding in the cloud. Particularly Cloud Transcoder only requires the user to upload a video request rather than the video content. After getting the video request, Cloud Transcoder downloads the original video from the Internet, transcodes it as per user requirement, and delivers the transcoded video back to the requested user. The mobile device only consumes energy in the last step but generally with much less energy consumption than downloading the original video from the Internet, due to faster delivery of transcoded video from the Cloud Transcoder cloud platform.

In paper [7], author proposed a novel, efficient algorithm to compute assignments of content objects to content distribution networks for content publishers, considering both cost and performance. Results illustrates that proposed content multihoming algorithms reduce publishing cost by up to 40%, and reduce viewer QoE degradation by 51%. They also proposed a novel lightweight client adaptation algorithm executing at individual content viewers to achieve scalable, fine-grained, fast online adaptation to optimize the quality of experience (QoE) for individual viewers. Author successfully proved optimality of proposed optimization algorithms and conduct systematic, extensive evaluations,



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using real charging data, content viewer demands, and performance data, to demonstrate the effectiveness of proposed algorithms.

III. RELATED WORK

Table 1: Survey Table

Sr. no.	Paper	Proposed	Advantage
1	Web content cartography [2]	Author proposed a lightweight and fully automated approach called Web content cartography to determine Web content hosting and delivery infrastructures.	The benefit of proposed technique is that is general enough to discover new hosting infrastructures as well as cluster them based on their operation as revealed by DNS.
	Intra-cloud lightning: Building CDNs in the cloud [3]	Author proposed twofold approach for heuristics to place replicas first, offline and static algorithms based on past user request patterns and second online-static and online-dynamic algorithms triggered by each request	Storage cloud-based CDNs have the advantage of cost effectively offering hosting services to Web content providers without owning infrastructure.
	Proxy-based acceleration of dynamically generated content on the worldwideweb: An approach and implementation [4]	Author proposed an approach for granular, proxy-based caching of dynamic content.	Proposed system is capable of providing significant reductions in bandwidth on the site infrastructure.
	Adapted content delivery for different contexts [5]	Author proposed a novel framework which allows adapted content delivery for different target contexts.	Proposed UPS approach is flexible model for describing not only the client but also the content and the server or the proxy capabilities
	Cloud transcoder: Bridging the format and resolution gap between internet videos and mobile devices [7]	Author proposed Cloud Transcoder which uses an intermediate cloud platform to bridge the format resolution gap by performing video transcoding in the cloud	Faster delivery of transcoded video from the Cloud Transcoder cloud platform.

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IV. ARCHITECTURAL VIEW

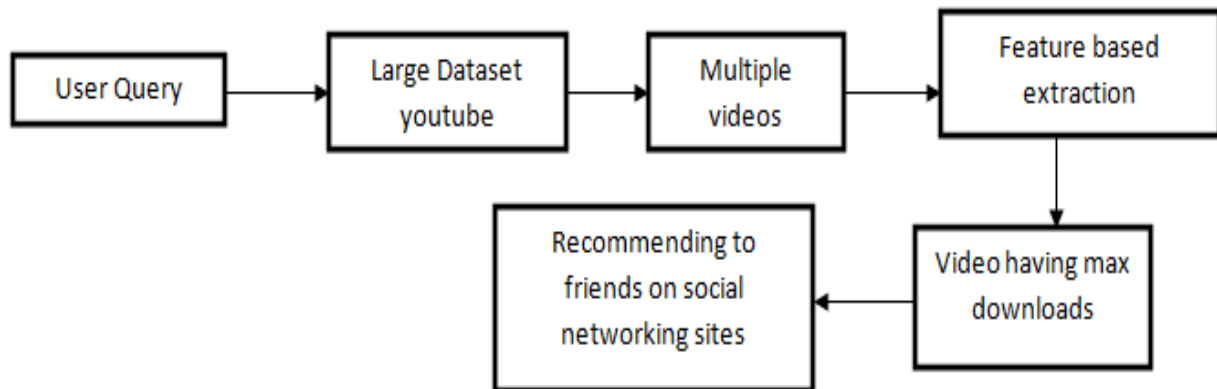


Fig1: System Architecture.

V. CONCLUSION

This paper presented an all-inclusive survey on the content based retrieval techniques. The main features, the advantages and disadvantages of each technique are described. In traditional content delivery, after being produced by the content provider, contents are delivered directly to a group of users via a CDN, which serves as a connectivity pipe oblivious to the context and user activity under which contents are consumed, since users are merely receivers at the end of the content flow there is no feedback information from users to the CDN.

This survey focused on various content based retrieval techniques from large datasets. As per literature, need to develop a novel technique to retrieve required content based on user requirements. In this paper we proposed a novel technique called feature based extraction on basis of downloads. Proposed approach is more efficient than existing approach.

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