Design Framework for Video-on-Demand a Prototype of Academic Workstation Using Web RTC Technology

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Abstract

WebRTC (Web Real-Time Communication) is technology that enables web browsers with real-time communications capabilities to operate files such as audio, video and data communications using JavaScript APIs (Application Programming Interfaces). In this paper, we design a web base application which supports live Video and Audio streaming protocols via WebRTC technology. The application aid the distribution of video content to end users as required. Though, specialised programs exist to distribute video content efficiently, web pages have up until recently not been able to leverage these technologies. WebRTC technology serves as a solution by enabling peer-to-peer communication directly between browsers without any needs of server as an intermediary. Prototype design was accompanied by a practical implementation of a peer-to-peer streaming protocol using WebRTC technology. The application runs natively in fewer browsers like (Firefox, Chrome). Our work highlights economic importance of the technology in line with multimedia technology for video-on-demand (VoD) service in center of leaning in Nigeria. Finally, we provide preliminary experimental data on WebRTC technology which enable saving of information on web server for reviewing at users convenience. Keywords: Real Time Communication, Video and Audio streaming, Web Browser, Data distribution, Multimedia support.

Keywords: Framework, Video-on-Demand, Academic Workstation, WebRTC Technology