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Bandwidth Efficient Advertising With P2p Asset Retrieval Using Bluetooth

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BANDWIDTH EFFICIENT ADVERTISING WITH P2P ASSET RETRIEVAL USING BLUETOOTH

ABSTRACT

A system and method are disclosed for sharing advertisement content by distributed delivery via peer-to-peer connections. The system has multiple devices that are interconnected via a localized communications protocol such as NFC, Bluetooth or Wi-Fi. The system uses an algorithm to identify the top requested advertisements from the ad server's database and then sends it to a subset of devices that are geographically close to each other. A few among the users are selected as seed users who then receive the ad content directly over the Internet from the server. The seed users then broadcast the received ad content via the localized communication protocol.

BACKGROUND

Data costs in the developing world are high. Ad networks and other tracking companies use a lot of bandwidth. It has been estimated that video ads or other rich advertising content may occupy as much as half the bandwidth in use. A large portion of data consumption comes from downloading static assets such as images, videos, assets that construct the ad url, assets that are used for measuring viewability, etc. These assets tend to be updated frequently, consuming a significant amount of bandwidth." Currently peer-to-peer technologies for reducing bandwidth such as bittorrent exist, but operate only for download of files on request.

DESCRIPTION

A system and method are disclosed in which distributed delivery via peers is used to share advertisements among connected users. The system, as illustrated in FIG. 1 has multiple devices that are interconnected via a localized communications protocol such as NFC, Bluetooth

or Wi-Fi. A few of the devices among clusters may be considered seed devices for an ad server that connects through the Cloud. The method of distributed delivery using the system is illustrated in FIG. 2.
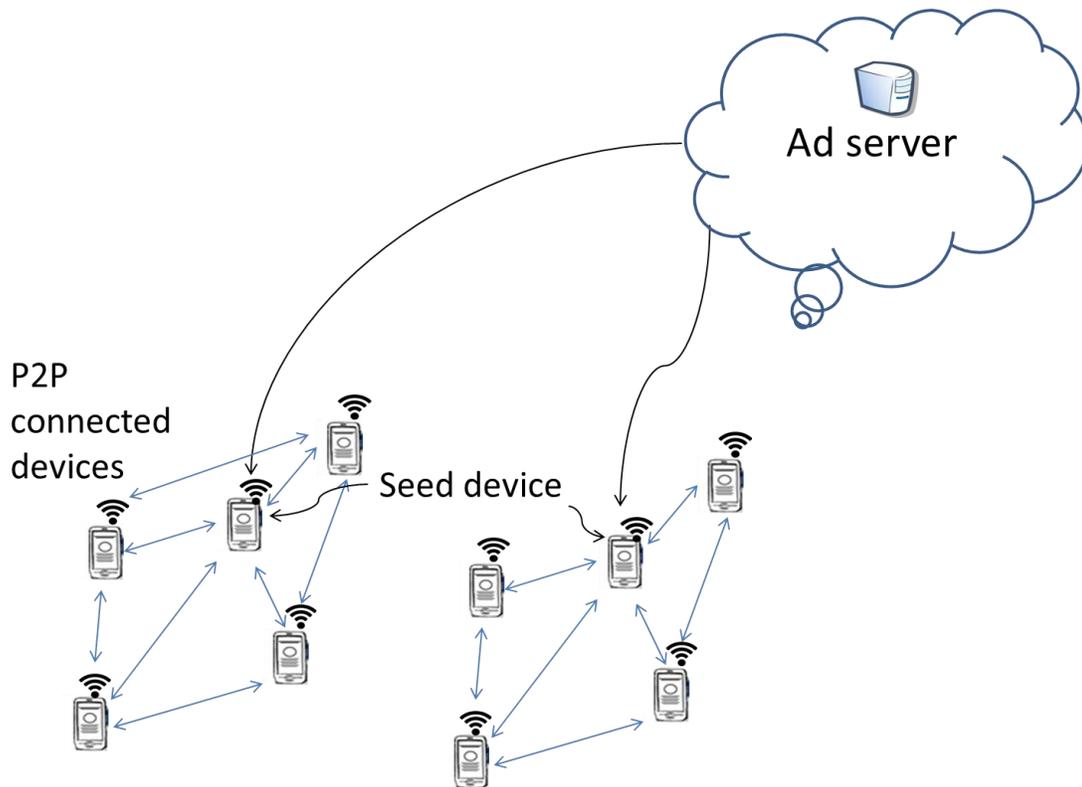

FIG. 1: System for using peer-to-peer networking for reducing advertising bandwidth

As illustrated in FIG. 2, the method uses an algorithm to identify the top requested advertisements from the ad server's database. The server then sends it to a subset of n devices that are geographically close to each other. A few among the n users are selected as seed users. The seed users receive the ad content directly over the Internet from the server. The seed users then broadcast the received ad content via the localized communication protocol. While broadcasting the ad content, the seed users start broadcasting the list of files to other users. The other user devices compare the file timestamps with the broadcasted time stamps and decide whether to download the new files or not. Optionally, the time stamping may be

cryptographically verified using public/private key data signing algorithms. If a user's device decides to download the ad, it initiates a NFC, Bluetooth or Wi-Fi connection with the list of files to download, which then downloads the ad to the target device. Seed users may be selected at random in turns so that download costs average out for all users.

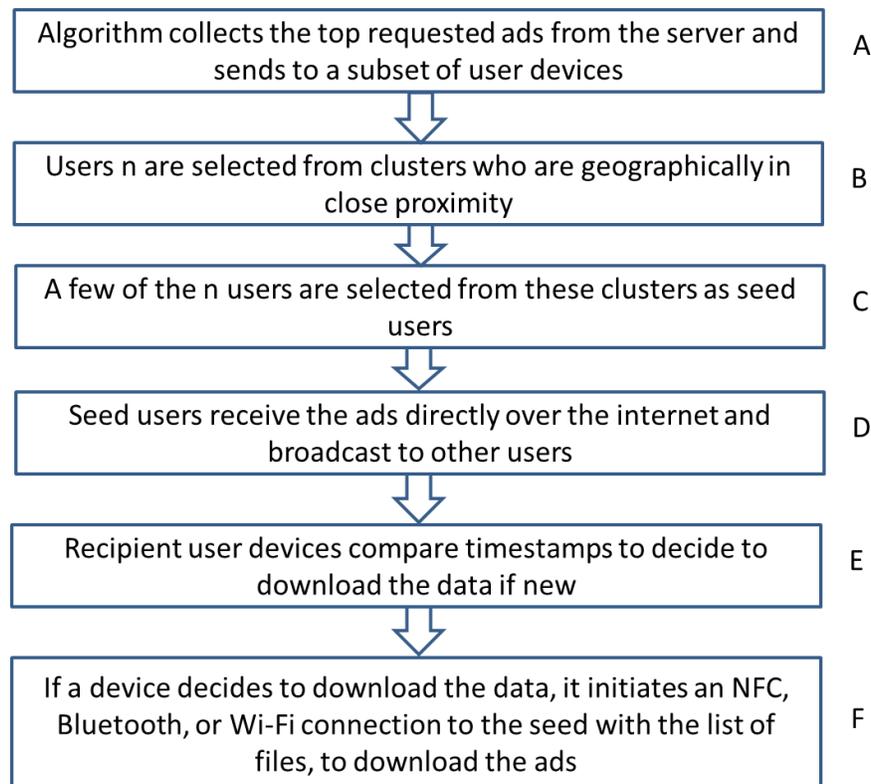|	
Algorithm collects the top requested ads from the server and sends to a subset of user devices	A
Users n are selected from clusters who are geographically in close proximity	B
A few of the n users are selected from these clusters as seed users	C
Seed users receive the ads directly over the internet and broadcast to other users	D
Recipient user devices compare timestamps to decide to download the data if new	E
If a device decides to download the data, it initiates an NFC, Bluetooth, or Wi-Fi connection to the seed with the list of files, to download the ads	F

FIG. 1: Method of using peer-to-peer networking for reducing advertising bandwidth

Advantages of the system include the great savings in bandwidth and costs for the user compared to existing methods of delivering ads.