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METHOD OF BLOCK CHAIN VERIFICATION TO AUTHENTICATE ADVERTISING PAYMENT CHAINS

ABSTRACT

A block chain method of verification to authenticate advertising payment chains is disclosed. The online advertisement transactions are registered on a public ledger so that the middle reselling layers are available. Cryptographic validation is used here. The information in the public ledger could be used to establish reselling nodes between advertisers and content publishers. The computation is done either by the advertisement network or the advertisers themselves. The method is intended to establish valid ownership chains for advertising. The advantages of the method are that this method can be performed across the entire advertisement ecosystem and there is no restriction to any central owner or authentication committee to map buyers to sellers. Through this, at any given time a buyer could also validate acceptable buyers and could either remove or block nodes to those the buyer wants to permanently blacklist.

BACKGROUND

Block chain methods are in use throughout Bitcoin and other crypto technologies to identify owners and transactions of value and goods. The block chain is a public ledger that uses cryptography to modify transaction chains to show the transfer of ownership. In the advertising domain, when buying online digital advertisements, advertisers would like to know where their advertisements would be shown. Knowing the eventual advertisement location is important for brand safety, return on investment (ROI) measurement and general fraud prevention. The issue with identifying this traffic is that ad inventory, and the location in which the ad is shown is often obfuscated through multiple layers of resellers. This creates a chain of sellers with the buyer often unaware of the advertisement’s final location. In terms of fraudulent actors, there
may be incentive to hide these layers of ownership or otherwise obfuscate the final location in which the advertisement is shown. This disclosure works towards authenticating advertisement payment chains using the block chain method.

**DESCRIPTION**

A system and method for block chain verification for authentication of advertising payment chains is disclosed. Accordingly, for each buyer/seller relationship, the advertisement is represented as the goods to be transferred and the transaction is registered on a public ledger using cryptographic validation. The middle reselling layers are thus available for reference. The information in the public ledger could be used to establish reselling nodes between advertisers and content publishers.

The computation is done either by the advertisement networks or could be offloaded to the advertisers themselves. However, adding new entries to this block chain graph could be computationally expensive. So, the method is best used to establish valid ownership chains, and thus every ad render need not be represented as a transaction.

The advantages of this method are that it can be performed across the entire advertisement ecosystem and there is no restriction to any central owner or authentication committee to map buyers to sellers. Also, at any given time, a buyer can view the block chain to validate acceptable buyers of advertisements and either remove or block nodes to those it wants to permanently blacklist.