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# Click-to-call conversion measurement based on transcribing conversation

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## Click-to-call conversion measurement based on transcribing conversation

ABSTRACT

The conversion metric, which is the ratio of sales (or other predefined result) to advertisement impressions or clicks, is a key measure for advertisers to assess the value derived from digital advertising. In click-to-call ads, which show a link for mobile users to initiate a call to an advertiser, conversions, if any, occur over the phone after the user clicks the ad. Conversions that occur over the phone are difficult to document, in turn making it difficult to accurately measure the conversion metric. This disclosure describes use of machine learning techniques to transcribe, with user and advertiser permission, the call between a user and an advertiser and to use the transcript to determine conversions that happen during the call.

KEYWORDS

- conversion metric
- click-to-call
- cost-per-click
- sales conversion
- ad conversion
- call transcript

BACKGROUND

The conversion metric, or goal state measure, is the ratio of sales made to ad impressions or clicks. Depending on the context, a conversion need not be a sale; rather, a conversion can correspond to any predefined goal state for the advertisement. Such a goal state can include, e.g., non-sale objectives such as app install, email sign-up, site visit, etc. The conversion metric is a key measure for advertisers to assess the value they derive from digital advertising. Click-to-call

ads show a link for mobile users to initiate a call to an advertiser. In click-to-call ads, the

advertiser is charged a cost-per-click (CPC) if a user clicks on the ad, but conversions e.g.,

reservation booked, purchase made, account created, email sign-ups, etc., if any, occur over the

phone after the user clicks the ad. This makes it difficult to accurately measure the conversion

metric.

DESCRIPTION

This disclosure describes use of machine learning techniques to transcribe, with user and

advertiser permission, the call between a user and an advertiser and to use the transcript to

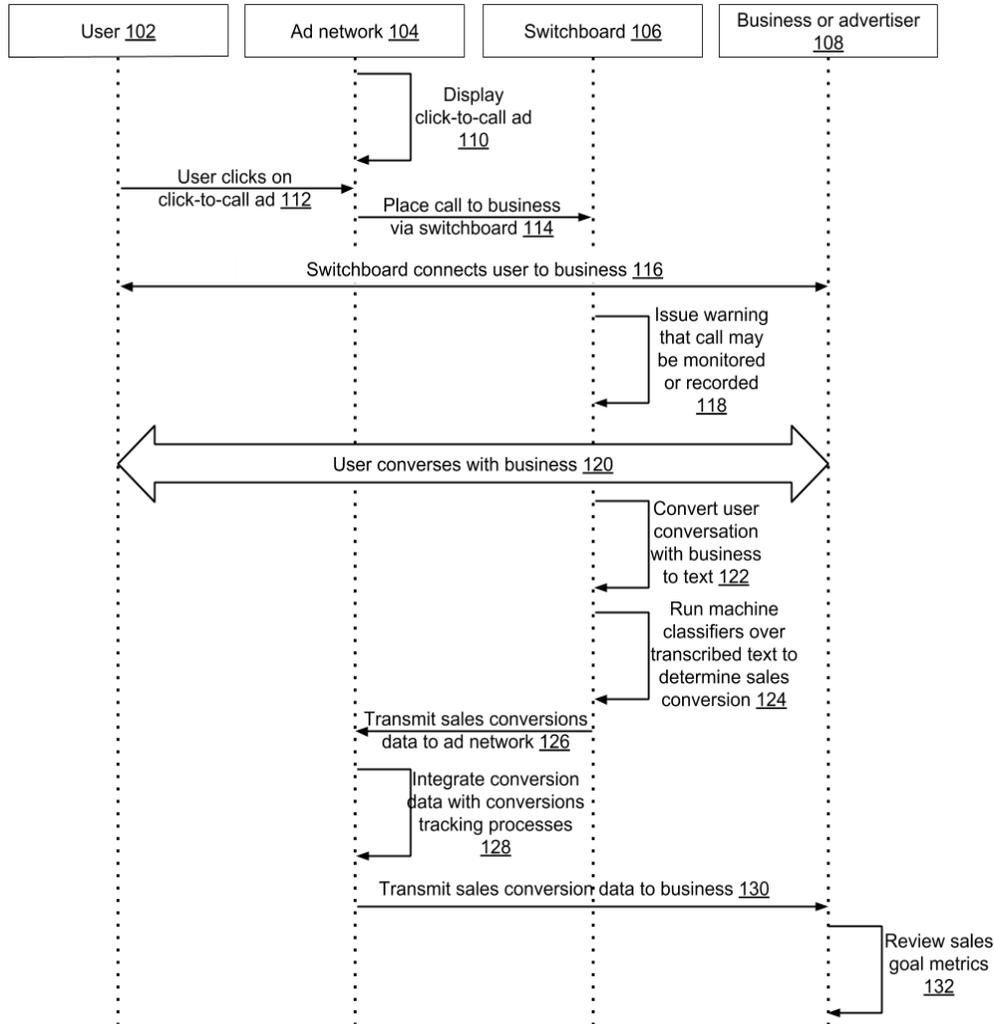determine conversions that happen during the call.

**Fig. 1: Conversation transcription for conversion measurement**

Fig. 1 illustrates an example of conversion measurement via conversation transcription, per techniques of this disclosure. An ad network (104) displays a click-to-call ad (110) on behalf of a business or advertiser (108), e.g., a travel agency. A user (102) visits the ad, e.g., via a search results page from a search engine, and clicks on it (112).

The ad network places a call (114) to the business or advertiser via a switchboard (106). The switchboard connects the user to the business (116). With user and advertiser permission, the switchboard monitors the call for the purposes of analysis. For example, the switchboard

issues a warning that the call may be monitored or recorded (118). The user converses with the business (120), possibly making a purchase, e.g., for a cruise, over the phone.

The conversation between the user and the business is transcribed to text via a speech-to-text module (122). A machine classifier analyzes the transcribed text to identify conversions (124), if any. The machine learner can detect, e.g., positive sentiment, proofs of transaction, etc., in order to identify conversions. Conversion data are shared with the ad network (126), which integrates such data in conversion tracking processes (128). Conversion data is also provided (130) to the business or advertiser, which can review goal metrics of the ad through analytics front-ends (132).

The transcript of the conversation between the user and the business is not viewed by humans. This preserves privacy and also enables the conversion measurement to scale to the large volumes of click-to-call ads.

The describe techniques overcome the traditional disadvantages of over-reporting or under-reporting in order to arrive at an accurate estimate of conversions. The techniques also applicable to calls linked from organic search results or to verify that a phone number provided via search results is correct.

Alternatively, a conversion event can be documented by having the salesperson utter a predetermined phrase, e.g., "goal met," during the call. Such a predetermined phrase can  be recorded after the call is disconnected, such that the entire user-business conversation need not be transcribed. Still alternatively, a conversion event can be identified by having the user press a button to indicate satisfaction or goal met (or not), e.g., after the call is disconnected.

Further to the descriptions above, a user may be provided with controls allowing the user to make an election as to both if and when systems, programs or features described herein may

enable collection of user information (e.g., information about a user's social network, social actions or activities, profession, a user's preferences, or a user's current location), and if the user is sent content or communications from a server. In addition, certain data may be treated in one or more ways before it is stored or used, so that personally identifiable information is removed. For example, a user's identity may be treated so that no personally identifiable information can be determined for the user, or a user's geographic location may be generalized where location information is obtained (such as to a city, ZIP code, or state level), so that a particular location of a user cannot be determined. Thus, the user may have control over what information is collected about the user, how that information is used, and what information is provided to the user.

CONCLUSION

This disclosure describes use of machine learning techniques to transcribe, with user and advertiser permission, the call between a user and an advertiser and to use the transcript to determine sales or other predetermined results that indicate conversion during the call. The voice call can occur, e.g., after the user clicks on a click-to-call ad inserted by the advertiser.