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Artificial Intelligence Powered Brand Identification and Attribution for On Screen Content

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ARTIFICIAL INTELLIGENCE POWERED BRAND IDENTIFICATION AND ATTRIBUTION FOR ON SCREEN CONTENT

When a user watches content (e.g., advertisements, movies, shows) on a television (TV), they often see various brands and/or products that they may wish to investigate further or purchase. For example, in movies, specific product placement of cars may be present which a user may be interested in. As another example, a user may be impressed by a particular advertisement for a video game that they may want to see more information on. While brands may appear frequently in viewed content on a television, the interaction between a viewer and the brands or products is limited.

A user may benefit from a method that provides the user with additional information for products that the user views on a television. The proposed method provides a user with further information for products, people, or locations shown in television content via the analysis of particular frames of the content. A user may indicate (e.g., via voice commands) to a smart TV that they are interested in a particular product, person, or place shown in the content they are watching. The smart TV may be a TV with Internet connection that can provide Internet based video and/or music streaming. In some embodiments, the TV is connected to a media device (e.g., a set top box, a game console, a Blu-ray player, and/or any other device or software program that provides smart features to the TV e.g., an application based on a software development kit (SDK)) that facilitates Internet based video and/or audio streaming.

The smart TV (or the media device connected to the TV) can then capture one or more frames and/or audio and send the frames and/or audio to a cloud platform for processing (e.g., image processing, video processing, audio processing, speech processing e.g., natural language

processing (NLP), optical character recognition (OCR), etc.). The method may use Artificial Intelligence (AI) along with various mobile operating systems and/or other computing platforms to provide content and brand interactions for a smart TV.

The method can use AI to identify brands appearing in on-screen content (or advertisements) and provide a second screen experience and/or an offline experience (e.g., an email message) to users with relevant information about these brands, persons of interest, and/or items of interest on the screen. For content, the method can identify everything from any existing branded item identified on screen such as the brand of shoe, clothing, car, or any other brand commodity appearing on screen. For advertisements, the method can identify the brand in the video advertisement and as a result provide the unique ability for brand attribution for linear, live, and/or on demand on screen content (e.g., TV, over-the-top (OTT) box, mobile, etc.) to advertisers.

The method can use AI aided brand attribution for both content and advertisements wherever the content and/or advertisements appear (e.g., on a television, on an OTT box application, on a mobile device, and/or any other screen for any type of content including linear TV, live TV, on demand video, etc.). The method can provide brand attribution for such content using machine learning and can create engaging second screen and/or offline (e.g., email based) experiences.

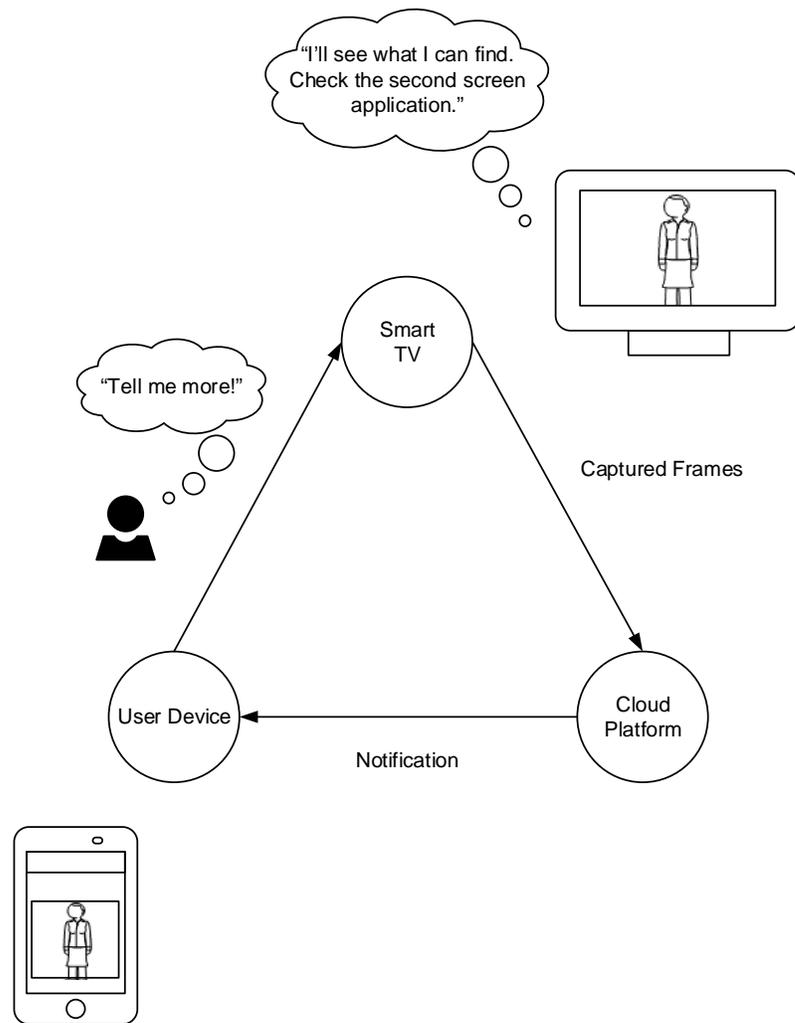


Figure 1 Analysis System With Cloud Platform, Smart TV, and Mobile Device

The smart television can be configured to transmit one or more frames, portions of a video, audio clips, etc. to a cloud platform via an Internet connection. The Internet connection may be a high speed Internet connection e.g., a fiber based Internet connection. The cloud platform of FIG. 1 can be configured to identify products, people, and/or locations shown in the one or more frames. The cloud platform can further be configured to identify websites or keywords associated with the captured images. Based on the identified products, people, or

locations, the cloud platform can then send a notification to a mobile device of a user that originally requested the information. The notification may give the user information pertaining to the captured frames. FIGS. 2-3 below illustrates the proposed method for capturing frames of TV content at the request of a user and displaying information for the captured frames on a mobile device of the user.

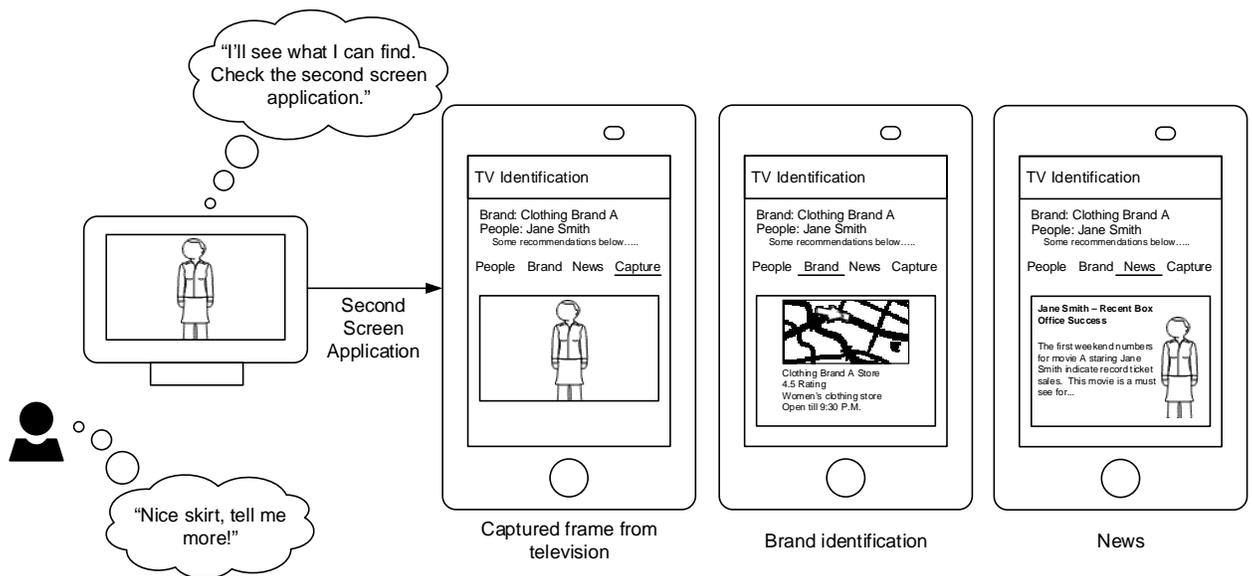


Figure 2 Frame Capturing And Mobile Phone Notifications

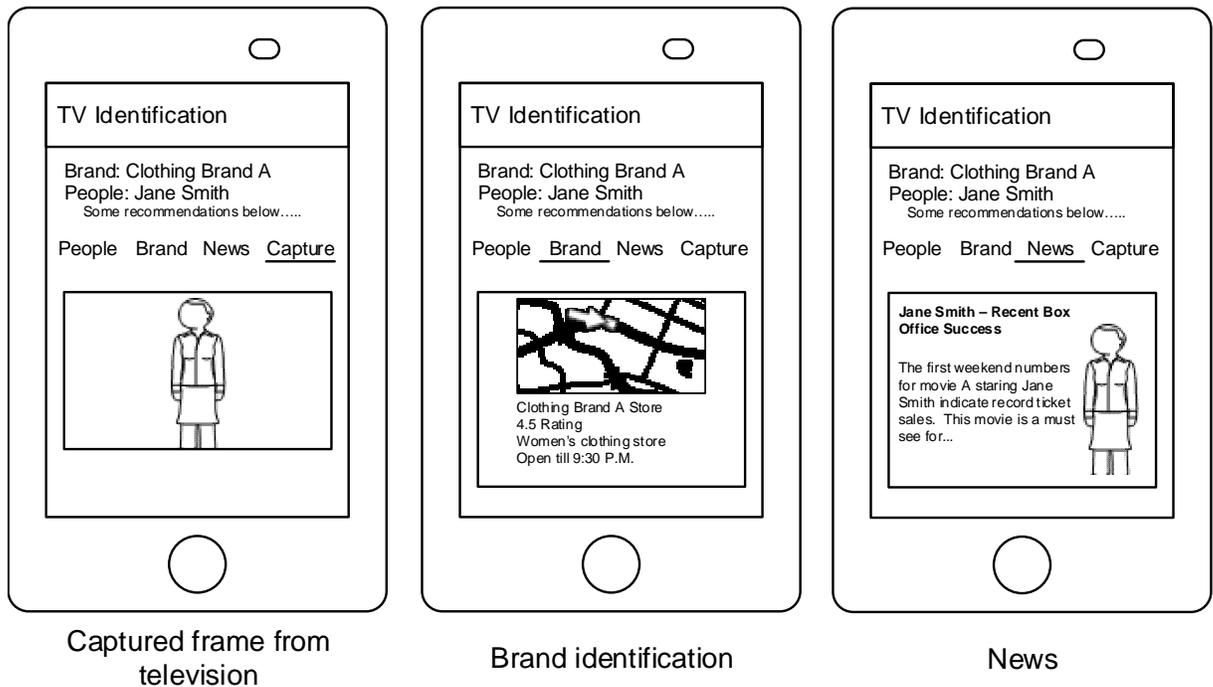


Figure 3 Mobile Phone Notifications

When the cloud platform sends the notification to the user, the notification may include a header with selectable categories. The categories may be “People,” “Brand,” “News,” and “Capture” and are illustrated in FIG. 3. The capture category may show one of the captured frames to the user. The people category may provide a search interface related to any people identified in the frames while the brand category may provide a search interface related to any product brands associated with the captured images. As another example, the proposed method can identify particular brands for an advertisement. The cloud platform of the proposed method can identify the brand associated with the advertisement by determining the products featured in the advertisement or can alternatively determine what advertisement the frames belong to.

An example of providing a user with more information for a TV advertisement is shown in FIG. 4.

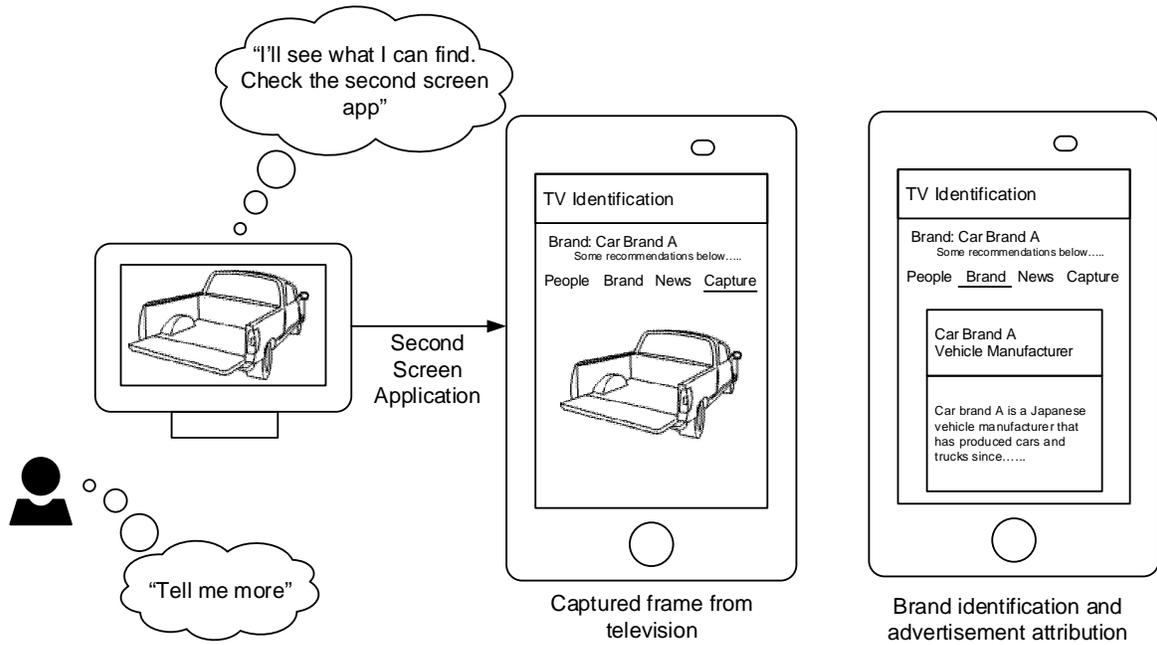


Figure 4 Advertisement Analysis

ABSTRACT

The method detailed herein relates to second screen experiences for a smart television (TV). The method includes capturing one or more frames from a video (e.g., movie, television show, advertisement) playing on the smart TV and sending the captured frames to a cloud platform for image processing. The method further includes using machine learning, via the cloud platform, to identify objects (e.g., people, products, brands, and places) in the received frames. The method includes pushing, from the cloud platform, a notification to a mobile device including information relating to the identified objects.