

METHOD AND SYSTEM FOR ENABLING AN INTERACTION OF A USER WITH ONE OR MORE ADVERTISEMENTS WITHIN A PODCAST

FIELD OF THE INVENTION

5 The present invention relates to a field of advertisement technology, and in particular, relates to method and system for enabling an interaction of a user with one or more advertisements within a podcast.

BACKGROUND OF THE INVENTION

10 Podcasts are becoming popular for content distribution over the internet. Podcasts are audio or video files which are made in episodic series. The podcasts are prepared for downloading and listening purpose by a user on a media device. Generally, audio and visual advertisements are inserted into the podcasts by podcast provider websites or applications. The user takes the media device in order to interact with the advertisement displayed or played during the podcast on the media device.
15 The user performs touch on the display screen of the media device in order to download or interact with the advertisement. In an example, a user may get redirected to an online store for downloading an application displayed in an advertisement during a podcast. In the current scenario, there is no platform to detect trigger points during the advertisement to initiate interaction between the user and the advertisement.

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SUMMARY OF THE INVENTION

 In accordance with one aspect of the present invention, there is provided a computer-implemented method. The computer-implemented method enables an interaction of a user with one or more advertisements within a podcast. The computer-implemented method includes a first step to
25 receive a first set of data associated with the podcast at an advertisement interaction system with a processor. The first set of data is received from a podcast publisher. The podcast is uploaded by the podcast publisher. In addition, the computer-implemented method includes a second step to collect a second set of data associated with the one or more advertisements at the advertisement interaction system with the processor. The second set of data is collected from an advertiser. Further, the
30 computer-implemented method includes a third step to fetch a third set of data associated a communication device of the user at the advertisement interaction system with the processor. The user accesses the podcast using the communication device in real-time. Furthermore, the computer-implemented method includes a fourth step to gather a fourth set of data associated the user accessing

the podcast through the communication device at the advertisement interaction system with the processor. Moreover, the computer-implemented method includes a fifth step to analyze the first set of data, the second set of data, the third set of data, and the fourth set of data using one or more machine learning algorithms. The analysis is performed based on training of a machine learning model. The analysis is performed to identify one or more triggers. The analysis is performed in real time. Also, the computer-implemented method includes a sixth step to identify the one or more triggers to enable the interaction of the user with the one or more advertisements within the podcast in real-time. The one or more triggers include at least one of system generated triggers, user generated triggers and advertiser generated triggers. Also, the computer-implemented method includes a seventh step to initiate the interaction between the user and the one or more advertisements in real-time. The interaction between the user and the one or more advertisements is initiated based on the identification of the one or more triggers.

Preferably, the first set of data includes audio data, video data, image data, subject matter of the podcast, theme of the podcast, keywords associated with the podcast, podcast publisher profile, and topics covered in the podcast.

Preferably, the second set of data includes audio data of the one or more advertisements, video data of the one or more advertisements, and image data of the one or more advertisements. In addition, the second set of data includes subject matter of the one or more advertisements, theme of the one or more advertisements, and keywords associated with the one or more advertisements.

Preferably, the third set of data includes real-time location of the communication device, a location history of the communication device, sound data from a microphone of the communication device, and image data from a camera of the communication device. In addition, the third set of data includes accelerometer data from an accelerometer of the communication device, gyroscope data from a gyroscope of the communication device, and sensor data from a sensor of the communication device.

Preferably, the fourth set of data is associated with a profile of the user. The fourth set of data includes name data, age data, e-mail identity data, contact number data, gender data, geographic location data, demographic data, relationship status data, and past podcast search keywords data. In addition, the fourth set of data includes real-time podcast search keywords data, past podcast reviews data, past podcast interactions data, past advertisement interactions data, and user verbal commands. Further, the fourth set of data includes user text, user image data, communication device operated commands, past gestures data, and real-time gestures data.

Preferably, the computer-implemented method enables a multi-modal natural language analysis on the one or more advertisements, the podcast and the user verbal commands using a natural

language processing module for dynamic transcription of the one or more advertisements, the podcast and the user verbal commands in a transcript data. In addition, the transcript data includes a speech-based transcription and a non-speech-based transcription.

5 Preferably, the computer-implemented method identifies a plurality of attributes associated to the one or more advertisements, the podcast and the user based on the analysis performed based on the one or more machine learning algorithms and the natural language processing module. The plurality of attributes includes one or more keywords associated with the one or more advertisements and the podcast, topic transitions within the podcast, and halts in the one or more advertisements and the podcast. In addition, the plurality of attributes includes relevant context of the one or more
10 advertisements, an optimal time for the one or more triggers, and an optimal position for the one or more advertisements. Further, the plurality of attributes includes a threshold time of the halt within the one or more advertisements and the podcast, interests of the user, and user attentiveness throughout the podcast.

15 Preferably, the system generated triggers facilitate triggering of the interaction between the user and the one or more advertisements. The system generated triggers include at least one of a significant keyword within the one or more advertisements, the halt within the one or more advertisements above the threshold time, referring to topics of the interests of the user within the one or more advertisements according to the profile of the user and the user attentiveness throughout the one or more advertisements.

20 Preferably, the user generated triggers facilitate triggering of the interaction between the user and the one or more advertisements by the user. The user generated triggers include at least one of the user verbal commands, the user text, user facial expressions, user gestures, and hardware button commands associated with the communication device

25 Preferably, the advertiser generated triggers facilitate triggering of the interaction between the user and the one or more advertisements by the advertiser. The advertiser generated triggers include at least one of an advertiser defined time in the one or more advertisements, an advertiser defined keyword in the one or more advertisements, and podcast publisher commands to an podcast publisher interaction trigger button.

30 In accordance with a second aspect of the present invention, there is provided a computer system. The computer system includes one or more processors, a signal generator circuitry embedded inside a computing device for generating a signal, and a memory. The memory is coupled to the one or more processors. The memory stores instructions. The instructions are executed by the one or more processors. The execution of the instructions causes the one or more processors to perform a

method to enable the interaction of the user with the one or more advertisements within the podcast. The method includes a first step to receive the first set of data associated with the podcast at the advertisement interaction system. The first set of data is received from the podcast publisher. The podcast is uploaded by the podcast publisher. In addition, the method includes a second step to collect the second set of data associated with the one or more advertisements at the advertisement interaction system. The second set of data is collected from the advertiser. Further, the method includes a third step to fetch the third set of data associated the communication device of the user at the advertisement interaction system. The user accesses the podcast using the communication device in real-time. Furthermore, the method includes a fourth step to gather the fourth set of data associated the user accessing the podcast through the communication device at the advertisement interaction system. Moreover, the method includes a fifth step to analyze the first set of data, the second set of data, the third set of data, and the fourth set of data using the one or more machine learning algorithms. The analysis is performed based on training of the machine learning model. The analysis is performed to identify the one or more triggers. The analysis is performed in real time. Also, the method includes a sixth step to identify the one or more triggers to enable the interaction of the user with the one or more advertisements within the podcast in real-time. The one or more triggers include at least one of the system generated triggers, the user generated triggers and the advertiser generated triggers. Also, the method includes a seventh step to initiate the interaction between the user and the one or more advertisements in real-time. The interaction between the user and the one or more advertisements is initiated based on the identification of the one or more triggers.

In accordance with a third aspect of the present invention, there is provided a non-transitory computer readable medium. The non-transitory computer readable medium encodes computer executable instructions that, when executed by at least one processor, performs a method to enable the interaction of the user with the one or more advertisements within the podcast. The method includes a first step to receive the first set of data associated with the podcast. The first set of data is received from the podcast publisher. The podcast is uploaded by the podcast publisher. In addition, the method includes a second step to collect the second set of data associated with the one or more advertisements. The second set of data is collected from the advertiser. Further, the method includes a third step to fetch the third set of data associated the communication device of the user. The user accesses the podcast using the communication device in real-time. Furthermore, the method includes a fourth step to gather the fourth set of data associated the user accessing the podcast through the communication device. Moreover, the method includes a fifth step to analyze the first set of data, the second set of data, the third set of data, and the fourth set of data using the one or more machine

learning algorithms. The analysis is performed based on training of the machine learning model. The analysis is performed to identify the one or more triggers. The analysis is performed in real time. Also, the method includes a sixth step to identify the one or more triggers to enable the interaction of the user with the one or more advertisements within the podcast in real-time. The one or more triggers
5 include at least one of the system generated triggers, the user generated triggers and the advertiser generated triggers. Also, the method includes a seventh step to initiate the interaction between the user and the one or more advertisements in real-time. The interaction between the user and the one or more advertisements is initiated based on the identification of the one or more triggers.

BRIEF DESCRIPTION OF THE DRAWINGS

Having thus described the invention in general terms, reference will now be made to the accompanying drawings, which are not necessarily drawn to scale, and wherein:

In the Figures:

FIG. 1 illustrates an interactive computing environment for enabling an interaction of a user with one or more advertisements within a podcast, in accordance with various embodiments of the present disclosure;

FIG. 2 illustrates a flowchart of a method for enabling the interaction of the user with the one or more advertisements within the podcast, in accordance with various embodiments of the present disclosure; and

FIG. 3 illustrates a block diagram of a computing device, in accordance with various
25 embodiments of the present invention.

It should be noted that the accompanying figures are intended to present illustrations of exemplary embodiments of the present disclosure. These figures are not intended to limit the scope of the present disclosure. It should also be noted that accompanying figures are not necessarily drawn
30 to scale.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

In the following description, for purposes of explanation, numerous specific details are set forth in order to provide a thorough understanding of the present technology. It will be apparent, however, to one skilled in the art that the present technology can be practiced without these specific details. In other instances, structures and devices are shown in block diagram form only in order to avoid obscuring the present technology.

Reference in this specification to “one embodiment” or “an embodiment” means that a particular feature, structure, or characteristic described in connection with the embodiment is included in at least one embodiment of the present technology. The appearance of the phrase “in one embodiment” in various places in the specification are not necessarily all referring to the same embodiment, nor are separate or alternative embodiments mutually exclusive of other embodiments. Moreover, various features are described which may be exhibited by some embodiments and not by others. Similarly, various requirements are described which may be requirements for some embodiments but not other embodiments.

Reference will now be made in detail to selected embodiments of the present disclosure in conjunction with accompanying figures. The embodiments described herein are not intended to limit the scope of the disclosure, and the present disclosure should not be construed as limited to the embodiments described. This disclosure may be embodied in different forms without departing from the scope and spirit of the disclosure. It should be understood that the accompanying figures are intended and provided to illustrate embodiments of the disclosure described below and are not necessarily drawn to scale. In the drawings, like numbers refer to like elements throughout, and thicknesses and dimensions of some components may be exaggerated for providing better clarity and ease of understanding.

It should be noted that the terms "first", "second", and the like, herein do not denote any order, quantity, or importance, but rather are used to distinguish one element from another. Further, the terms "a" and "an" herein do not denote a limitation of quantity, but rather denote the presence of at least one of the referenced items.

FIG. 1 illustrates an interactive computing environment 100 for enabling an interaction of a user 102 with one or more advertisements within a podcast, in accordance with various embodiments of the present disclosure. The interactive computing environment 100 includes a user 102, a

communication device 104, a communication network 106, an advertisement interaction system 112 and a natural language processing module 114. In addition, the interactive computing environment 100 includes a podcast publisher 108, an advertiser 110, a server 116, and a database 118. The components of the interactive computing environment 100 work in conjunction with each other to enable the interaction of the user 102 with one or more advertisements within the podcast.

The interactive computing environment 100 includes the user 102. In an embodiment of the present disclosure, the user 102 is any person who accesses the podcast. In another embodiment of the present disclosure, the user 102 is any person who watches the one or more advertisements within the podcast. In yet another embodiment of the present disclosure, the user 102 is any person who wants to interact with the one or more advertisements within the podcast. In yet another embodiment of the present disclosure, the user 102 is any person who wants to download the podcast. In yet another embodiment of the present disclosure, the user 102 is any person who wants to visit a webpage based on the one or more advertisements within the podcast. In yet another embodiment of the present disclosure, the user 102 is any person who wants to install an application based on the one or more advertisements within the podcast. In yet another embodiment of the present disclosure, the user 102 is any person who wants to subscribe to a collection of services based on the one or more advertisements within the podcast.

The podcast corresponds to a broadcast that is uploaded on one or more podcast platforms by the podcast publisher 108 for the user 102 to access. In an embodiment of the present disclosure, the podcast is a pre-recorded podcast. In another embodiment of the present disclosure, the podcast is a live podcast. In an embodiment of the present disclosure, the podcast is a pre-recorded enhanced podcast. In another embodiment of the present disclosure, the podcast is a live enhanced podcast. In yet another embodiment of the present disclosure, the podcast is a pre-recorded novel podcast. In yet another embodiment of the present disclosure, the podcast is a live novel podcast. In yet another embodiment of the present disclosure, the podcast is a pre-recorded video podcast. In yet another embodiment of the present disclosure, the podcast is a live video podcast. In addition, the podcast is associated with a subject matter and a theme. Further, the subject matter and the theme of the podcast correlate to topics and content of the podcast. Furthermore, the podcast is created by the podcast publisher 108 for any one of knowledge, advertisement, discussion and the like.

The interactive computing environment 100 includes the user 102. In addition, the user 102 may be any person or individual accessing the communication device 104. In an embodiment of the present disclosure, the user 102 is an owner of the communication device 104. In another embodiment of the present disclosure, the user 102 is not the owner of the communication device 104. In an embodiment of the present disclosure, the user 102 accesses the communication device 104 at home. In another embodiment of the present disclosure, the user 102 accesses the communication device 104 at a cafe. In yet another embodiment of the present disclosure, the user 102 accesses the communication device 104 in an office. In an example, a user U1 accesses a smartphone S1 to listen a pre-recorded podcast while sitting in a living room. In another example, a user U2 accesses a laptop L1 to listen a live podcast while travelling from one place to another. In yet another example, a user U3 accesses a desktop computer D1 to listen a podcast while working in the office. The user 102 is any person present at any location and accessing the podcast. The user 102 is any legal person or natural person who accesses the podcast and need an IP based network to access the podcast. In addition, the user 102 is an individual or person who accesses the podcast on the communication device 104.

The interactive computing environment 100 includes the communication device 104 that enables the user 102 to access the one or more advertisements and the podcast. The communication device 104 is internet-enabled device to allow the user 102 to access the one or more advertisements and the podcast. The podcast publisher 108 and the one or more podcast platforms may provide one or more advertisement slots in the podcast to inserting the one or more advertisement in the podcast to be delivered to the user. The one or more podcast platforms display the one or more advertisements on the communication device 104 when the user 102 is accessing the podcast.

The one or more advertisements are part of one or more marketing campaigns run by the advertiser 110. In addition, the one or more marketing campaigns are initiated based on a profile of the user 102. In addition, the profile of the user 102 includes name of the user 102, age of the user 102, interests of the user 102, podcast search keywords by the user 102, podcast reviews by the user 102, podcast interactions of the user 102, and advertisement interactions of the user 102. The one or more advertisements are graphical or pictorial representations of information to promote a product, an event, a service and the like. In general, advertisement is a medium for promoting a product, service, or an event. The one or more advertisements include audio advertisements, text advertisements, video advertisements, graphic advertisements, and the like. The one or more

advertisements are presented or played to attract the user 102 based on the profile. The one or more advertisements are displayed or played within the podcast in order to generate revenue. The one or more advertisements are played or displayed for a specific period of time within the podcast.

5 In an embodiment of the present disclosure, the communication device 104 is a portable communication device. The portable communication device includes but may not be limited to a laptop, a smartphone, a tablet, and a smart watch. In an example, the smartphone may be an iOS-based smartphone, an android-based smartphone, a windows-based smartphone and the like. In another embodiment of the present disclosure, the communication device 104 is a fixed
10 communication device. The fixed communication device includes but may not be limited to a desktop, a workstation, a smart TV and a mainframe computer. In an embodiment of the present disclosure, the communication device 104 is currently in the switched-on state. The communication device 104 is any type of device having an active internet.

15 In an embodiment of the present disclosure, the communication device 104 performs computing operations based on a suitable operating system installed inside the communication device 104. In general, the operating system is system software that manages computer hardware and software resources and provides common services for computer programs. In addition, the operating system acts as an interface for software installed inside the communication device 104 to interact with
20 hardware components of the communication device 104. In an embodiment of the present disclosure, the communication device 104 performs computing operations based on any suitable operating system designed for the portable communication device. In an example, the operating system installed inside the communication device 104 is a mobile operating system. Further, the mobile operating system includes but may not be limited to windows operating system, android operating system, iOS
25 operating system, and Sailfish. However, the operating system is not limited to above mentioned operating systems. In an embodiment of the present disclosure, the communication device 104 operates on any version of particular operating system corresponding to above mentioned operating systems.

30 In another embodiment of the present disclosure, the communication device 104 performs computing operations based on any suitable operating system designed for fixed communication device. In an example, the operating system installed inside the communication device 104 is windows. In another example, the operating system installed inside the communication device 104 is

Mac. In yet another example, the operating system installed inside the communication device 104 is Linux based operating system. In yet another example, the operating system installed inside the communication device 104 is Chrome OS. In yet another example, the operating system installed inside the communication device 104 may be one of UNIX, Kali Linux, and the like. However, the operating system is not limited to above mentioned operating systems.

In an embodiment of the present disclosure, the communication device 104 operates on any version of windows operating system. In another embodiment of the present disclosure, the communication device 104 operates on any version of Mac operating system. In yet another embodiment of the present disclosure, the communication device 104 operates on any version of Linux operating system. In yet another embodiment of the present disclosure, the communication device 104 operates on any version of Chrome OS. In yet another embodiment of the present disclosure, the communication device 104 operates on any version of particular operating system corresponding to above mentioned operating systems.

The communication device 104 enables the user 102 to access the one or more advertisements and the podcast. The communication device 104 is internet-enabled device that allows the user 102 to access the podcast of the podcast publisher 108 on the one or more podcast platforms. In an embodiment of the present disclosure, the one or more podcast platforms are installed on the communication device 104. The one or more podcast platforms allow the user 102 to access the podcast. In another embodiment of the present disclosure, the one or more podcast platforms are run on a plurality of web browsers installed on the communication device 104. In an example, the plurality of web browsers include but may not be limited to Opera, Mozilla Firefox, Google Chrome, Internet Explorer, Microsoft Edge, Safari and UC Browser. Further, the plurality of web browsers installed on the communication device 104 runs on any version of the respective web browser of the above mentioned web browsers. In an embodiment of the present disclosure, the user 102 installs the one or more podcast platforms on the communication device 104. In another embodiment of the present disclosure, the user 102 accesses the one or more podcast platforms on the plurality of web browsers installed on the communication device 104.

In an example, a user U1 accesses a podcast P1 (let's say economy related podcast) through a communication device D1 (let's say a smartphone). In another example, a user U2 accesses a podcast P2 (let's say development of fifth generation fighter jets related podcast) through a communication

device D2 (let's say a desktop computer) at home. In yet another example, a user U3 accesses a podcast P3 (let's say propulsion technology of submarines related podcast) through a communication device D3 (let's say a tablet) while driving. In yet another example, a user U4 accesses a podcast P4 (let's say material science related podcast) through a communication device D4 (let's say a laptop) while travelling in a metro. In yet another example, a user U5 accesses a podcast P5 (let's say artificial intelligence with Python related podcast) through a communication device D5 (let's say a workstation) at office. In yet another example, a user U6 accesses a podcast P6 (let's say Integrated Circuits related podcast) through a communication device D6 (let's say an iPad). In yet another example, a user U7 accesses a podcast P7 (let's say Civil laws related podcast) through a communication device D7 (let's say a smartphone).

The communication device 104 comprises of a memory. In general, the memory includes computer-storage media in the form of volatile and/or nonvolatile memory. The memory may be removable, non-removable, or a combination thereof. Exemplary hardware devices include solid-state memory, hard drives, optical-disc drives, etc. The memory is coupled with one or more processors. In general, the one or more processors read data from various entities such as memory or I/O components. The one or more processors execute the one or more instructions which are stored in the memory. The one or more processors provide execution method for one or more instructions provided by the advertisement interaction system 112.

The communication device 104 is a media device. The communication device 104 enables the user 102 to perform a plurality of activities on the one or more podcast platforms. The communication device 104 supports various multimedia contents. The user 102 performs the plurality of activities in real-time through the communication device 104. The plurality of activities include but may not be limited to searching the podcast, listening the podcast, watching the podcast, posting one or more queries related to the podcast, and interacting with the podcast publisher 108.

The interactive computing environment 100 includes the communication network 106. The communication device 104 is connected to the communication network 106. The communication network 106 provides a medium for the user 102 accessing the one or more advertisements and the podcast to connect with the advertisement interaction system 112. In an embodiment of the present disclosure, the communication network 106 is an internet connection. In another embodiment of the present disclosure, the communication network 106 is a wireless mobile network. In yet another

embodiment of the present disclosure, the communication network 106 is a wired network with a finite bandwidth. In yet another embodiment of the present disclosure, the communication network 106 is a combination of the wireless and the wired network for the optimum throughput of data transmission. In yet another embodiment of the present disclosure, the communication network 106 is an optical fiber high bandwidth network that enables a high data rate with negligible connection drops. The communication network 106 includes a set of channels. Each channel of the set of channels supports a finite bandwidth. Moreover, the finite bandwidth of each channel of the set of channels is based on capacity of the communication network 106. The communication network 106 connects the communication device 104 to the advertisement interaction system 112 using a plurality of methods. The plurality of methods used to provide network connectivity to the communication device 104 includes 2G, 3G, 4G, 5G, Wifi and the like.

The interactive computing environment 100 includes the podcast publisher 108. The podcast publisher 108 corresponds to a person that is host or producer of the podcast. The podcast publisher 108 generates revenue if the user 102 interacts with the one or more advertisements. In an embodiment of the present disclosure, the podcast publisher 108 is an uploader of the podcast. In another embodiment of the present disclosure, the podcast publisher 108 is a host of the podcast. In yet another embodiment of the present disclosure, the podcast publisher 108 is a participant of the podcast. The podcast publisher 108 may be an individual, a group or a company to publish or upload the podcast on the one or more podcast platforms by creating an account.

In an embodiment of the present disclosure, the one or more podcast platforms correspond to android operating system compatible application. In another embodiment of the present disclosure, the one or more podcast platforms correspond to windows operating system compatible applications. In yet another embodiment of the present disclosure, the one or more podcast platforms correspond to iPhone operating system compatible applications. In yet another embodiment of the present disclosure, the one or more podcast platforms correspond to mac operating system compatible applications. In yet another embodiment of the present disclosure, the one or more podcast platforms correspond to webpages. However, the one or more podcast platforms are not limited to the above-mentioned online platforms.

The interactive computing environment 100 includes the advertiser 110. The advertiser 110 corresponds to a person who wants to advertise any product or service and the like. The advertiser

110 approaches the podcast publisher 108 and provides the one or more advertisements to be displayed or played within the podcast for the user 102. In addition, the advertiser 110 pays the podcast publisher 108 or the one or more podcast platforms based on number of users interacting with the one or more advertisements. Further, the advertiser 110 purchases the one or more advertisement slots from the
5 podcast publisher 108 associated with the one or more podcast platforms. In an embodiment of the present disclosure, the advertiser 110 corresponds to the podcast publisher 108. In another embodiment of the present disclosure, the advertiser 110 corresponds to an advertising individual. In yet another embodiment of the present disclosure, the advertiser 110 corresponds to an advertising company. In yet another embodiment of the present disclosure, the advertiser 110 corresponds to an
10 organization. In an embodiment of the present disclosure, the one or more advertisements correspond to pre-recorded advertisements. In another embodiment of the present disclosure, the one or more advertisements correspond to live advertisements. In yet another embodiment of the present disclosure, the one or more advertisements correspond to podcast publisher run advertisements.

15 In an embodiment of the present disclosure, the one or more advertisements may be inserted dynamically in real time during the broadcasting or playing of the podcast by the user 102. In another embodiment of the present disclosure, the one or more advertisements may be inserted during uploading of the podcast by the podcast publisher 108. In addition, the one or more marketing campaigns are initiated by the advertiser 110. Further, the one or more advertisements are displayed
20 on the communication device 104 in real-time. In an embodiment of the present disclosure, the one or more advertisements displayed are associated with the interests of the user 102. Furthermore, the one or more advertisements include text advertisements, video advertisements, audio advertisements, audio-video advertisements, pictorial advertisements, pop-up advertisements, hyperlinked advertisements, and the like.

25 The interactive computing environment 100 includes the advertisement interaction system 112. The advertisement interaction system 112 includes the natural language processing module 114. In an embodiment of the present disclosure, the advertisement interaction system 112 may be integrated with the one or more podcast platforms as a plugin. In another embodiment of the present
30 disclosure, the advertisement interaction system 112 may be an android operating system compatible application. In yet another embodiment of the present disclosure, the advertisement interaction system 112 may be a windows operating system compatible application. In yet another embodiment of the present disclosure, the advertisement interaction system 112 may be an iPhone operating system

compatible application. In yet another embodiment of the present disclosure, the advertisement interaction system 112 may be a mac operating system compatible application.

5 The advertisement interaction system 112 receives a first set of data associated with the podcast. Further, the first set of data is received from the podcast publisher 108. Furthermore, the podcast is uploaded by the podcast publisher 108. Moreover, the first set of data includes audio data, video data, image data, subject matter of the podcast, the theme of the podcast, keywords associated with the podcast, podcast publisher profile, and topics covered in the podcast. In an embodiment of the present disclosure, the first set of data is received from the podcast publisher 108. In another
10 embodiment of the present disclosure, the first set of data is received from the one or more podcast platforms.

The advertisement interaction system 112 collects a second set of data associated with the one or more advertisements. In addition, the second set of data is collected from the advertiser 110.
15 Further, the second set of data includes audio data of the one or more advertisements, video data of the one or more advertisements, image data of the one or more advertisements, and subject matter of the one or more advertisements. Furthermore, the second set of data includes but may not be limited to theme of the one or more advertisements, and keywords associated with the one or more advertisements. In an embodiment of the present disclosure, the second set of data is collected from
20 the advertiser 110. In another embodiment of the present disclosure, the second set of data is collected from the one or more podcast platforms.

The advertisement interaction system 112 fetches a third set of data associated with the communication device 104 of the user 102. In addition, the user 102 accesses the podcast using the
25 communication device 104 in real-time. Further, the third set of data includes real-time location of the communication device 104, a location history of the communication device 104, and sound data from a microphone of the communication device 104. Furthermore, the third set of data includes image data from a camera of the communication device 104, and accelerometer data from an accelerometer of the communication device 104. Moreover, the third set of data includes gyroscope
30 data from a gyroscope of the communication device 104, real-time movement data, and sensor data from a sensor of the communication device 104. Also, the third set of data may include data of a plurality of external wearable devices. Also, the plurality of external wearable devices may be connected with the communication device 104. Also, the plurality of external wearable devices

include but may not be limited to smart headset devices, smart headphones, smart spectacles, smart watches, and smart shoes. Also, the sensor includes but may not be limited to a proximity sensor, a light sensor, a barometer, a magnetometer, a fingerprint sensor, an image sensor, and a touch sensor.

5 The advertisement interaction system 112 gathers a fourth set of data associated the user 102 accessing the podcast through the communication device 104. In addition, the fourth set of data is associated with the profile of the user 102. Further, the fourth set of data includes name data, age data, e-mail identity data, contact number data, gender data, geographic location data, demographic data, relationship status data, and past podcast search keywords data. Furthermore, the fourth set of
10 data includes real-time podcast search keywords data, past podcast reviews data, past podcast interactions data, past advertisement interactions data, comments done for past podcasts and user verbal commands. Moreover, the fourth set of data include but may not be limited to user text, user image data, communication device operated commands, past gestures data, and real-time gestures data.

15 The advertisement interaction system 112 analyzes the first set of data, the second set of data, the third set of data, and the fourth set of data using one or more machine learning algorithms. In addition, the analysis is performed based on training of a machine learning model. Further, the analysis is performed to identify the one or more triggers. In an embodiment of the present disclosure,
20 the one or more machine learning algorithms include a decision tree algorithm and a random forest algorithm. In another embodiment of the present disclosure, the one or more machine learning algorithms include but may not be limited to prediction algorithms, deep learning algorithms, natural language processing algorithm and the like. However, the one or more machine learning algorithms are not limited to the above-mentioned algorithms. The analysis of the first set of data, the second set
25 of data, the third set of data, and the fourth set of data based on the one or more machine learning algorithms is done in real-time.

 In addition, the advertisement interaction system 112 creates the machine learning model to perform analysis of the first set of data, the second set of data, the third set of data, and the fourth set
30 of data. The machine learning model is trained to identify the one or more triggers, and a plurality of attributes. The machine learning model is trained to analyze the first set of data, the second set of data, the third set of data, and the fourth set of data. In an embodiment of the present disclosure, the machine learning model is trained using supervised machine learning model. In another embodiment

of the present disclosure, the machine learning model is trained using un-supervised machine learning model. In addition, the machine learning model predicts behavior and journey of the user 102.

5 The advertisement interaction system 112 identifies the one or more triggers to enable the interaction of the user 102 with the one or more advertisements within the podcast in real-time. The one or more triggers include at least one of system generated triggers, user generated triggers and advertiser generated triggers. In addition, the advertisement interaction system 112 enables a multi-modal natural language analysis on the one or more advertisements, the podcast and the user verbal commands. Further, the multi-modal natural language analysis is run using the natural language
10 processing module 114 for dynamic transcription of the one or more advertisements, the podcast and the user verbal commands in a transcript data. Furthermore, the transcript data includes a speech-based transcription and a non-speech-based transcription. In an embodiment of the present disclosure, the advertisement interaction system 112 creates the speech-based transcription and the non-speech-based transcription of the one or more advertisements. In another embodiment of the present
15 disclosure, the advertisement interaction system 112 creates the speech-based transcription and the non-speech-based transcription of the podcast.

The advertisement interaction system 112 identifies the plurality of attributes associated with the one or more advertisements, the podcast and the user 102 based on the analysis performed based
20 on the one or more machine learning algorithms and the natural language processing module 114. In addition, the plurality of attributes includes one or more keywords associated with the one or more advertisements and the podcast, topic transitions within the podcast, and halts in the one or more advertisements and the podcast. Further, the plurality of attributes includes relevant context of the one or more advertisements, an optimal time for the one or more triggers, and an optimal position for
25 the one or more advertisements. Furthermore, the plurality of attributes include but may not be limited to a threshold time of the halt within the one or more advertisements and the podcast, interests of the user 102, and user attentiveness throughout the podcast.

The advertisement interaction system 112 updates the profile of the user 102 in real-time based
30 on a plurality of real-time actions of the user 102. In addition, the profile of the user 102 is dynamic. Further, the plurality of real-time actions include but may not be limited to real-time podcast searches, real-time liked podcast, real-time feedback on the podcast, real-time advertisement interactions, real-time advertisement actions, and real-time queries. Furthermore, the advertisement interaction system

112 triggers the one or more advertisements within the podcast based on a plurality of factors associated with the podcast. Moreover, the plurality of factors include but may not be limited to keyword recognition within the podcast relevant to the one or more advertisements, user attentiveness throughout the podcast, the profile of the user 102, and the threshold time of the halt within the
5 podcast.

The advertisement interaction system 112 initializes the interaction between the user 102 and the one or more advertisements in real-time. In addition, the interaction between the user 102 and the one or more advertisements is initiated based on the identification of the one or more triggers. Further,
10 the system generated triggers facilitate triggering of the interaction between the user 102 and the one or more advertisements. The system generated triggers include at least one of a significant keyword within the one or more advertisements, the halt within the one or more advertisements above the threshold time, and referring to topics of the interests of the user 102 within the one or more advertisements according to the profile of the user 102. The advertisement interaction system 112
15 recognizes the significant keyword within the one or more advertisements based on the analysis of the second set of data using the one or more machine learning algorithms and the natural language processing module 114. In an example, the significant keyword within the one or more advertisements include but may not be limited to install now, visit website, subscribe now, watch now, click here, and buy now. The advertisement interaction system 112 recognizes the halt within the one or more
20 advertisements above the threshold time based on the analysis of the second set of data using the one or more machine learning algorithms and the natural language processing module 114. The advertisement interaction system 112 recognizes the user attentiveness throughout the one or more advertisements based on the analysis of the second set of data, the profile of the user 102 and the third set of data using the one or more machine learning algorithms.

25 In an embodiment of the present disclosure, the interaction may include subscribing to a service of the advertiser 110. In another embodiment of the present disclosure, the interaction may include installing an application of the advertiser 110. In yet another embodiment of the present disclosure, the interaction may include enrolling for a program advertised by the advertiser 110. In
30 yet another embodiment of the present disclosure, the interaction may include visiting a webpage of the advertiser 110. In yet another embodiment of the present disclosure, the interaction may include subscribing for the podcast advertised by the podcast publisher 108. In yet another embodiment of the present disclosure, the interaction may include receiving a feedback from the user 102. In yet

another embodiment of the present disclosure, the interaction may include buying a product advertised by the advertiser 110.

5 The user generated triggers facilitate triggering of the interaction between the user 102 and the one or more advertisements by the user 102. In addition, the user generated triggers include at least one of the user verbal commands, the user text, user facial expressions, user gestures, and hardware button commands associated with the communication device 104. The hardware button commands associated with the communication device 104 include phone tapping, phone twist, biometric, phone shaking, phone movements, pressing volume buttons, and pressing power button of the communication device 104. Further, the user gestures may include but may not be limited to thumbs up, wrist roll, eye-blink, clapping, waving hands, foot movement, neck movement, wagging finger, head movement, and finger touch. Furthermore, the user verbal commands, the user text, user facial expressions, user gestures, and hardware button commands may be defined by any of the user 102, the advertisement interaction system 112, and the podcast publisher 108. Moreover, the user verbal commands, the user text, user facial expressions, user gestures, and hardware button commands may be customized by the user 102.

In an example, a user U1 accesses a podcast P1 using a communication device D1 (Let's say a smartphone) while walking. In addition, the user U1 encounters an advertisement A1 within the podcast P1 on the communication device D1. Further, the user U1 uses user generated triggers based on data received from microphone and accelerometer of the communication device D1. In another example, a user U2 accesses a podcast P2 using a communication device D2 (Let's say a tablet) at home. In addition, the user U2 encounters an advertisement A2 within the podcast P2 on the communication device D2. Further, the user U2 uses user generated triggers (Let's say gestures such as thumbs up, wrist roll or movement of hands) based on data received from gyroscope, accelerometer and camera of the communication device D2. In yet another example, a user U3 accesses a podcast P3 using a communication device D3 (Let's say a smartphone) at office. In addition, the user U3 encounters an advertisement A3 within the podcast P3 on the communication device D3. Further, the user U3 uses user generated triggers (Let's say shake the communication device D3) based on data received from gyroscope, and accelerometer of the communication device D3.

The advertiser generated triggers facilitate triggering of the interaction between the user 102 and the one or more advertisements by the advertiser 110. In addition, the advertiser generated

triggers include at least one of an advertiser defined time in the one or more advertisements, an advertiser defined keyword in the one or more advertisements, and podcast publisher commands to a podcast publisher interaction trigger button. The podcast publisher commands include but may not be limited to voice commands, text commands, gestures-based commands, and facial expressions.

5

The advertisement interaction system 112 recommends the one or more advertisements for the podcast based on analysis of the first set of data, the second set of data and the fourth set of data. In addition, the advertisement interaction system 112 recommends the one or more advertisements for the podcast based on context of the podcast, subject matter of the podcast, context of the one or more
10 advertisements, and the profile of the user 102. Further, the advertisement interaction system 112 facilitates determination of interests of the user 102 based on past activities and real-time activities on the one or more podcast platforms for the podcast.

The advertisement interaction system 112 identifies the optimal time for the one or more
15 triggers, the optimal position for the one or more advertisements and the threshold time of the halt within the one or more advertisements. In addition, the advertisement interaction system 112 identifies the optimal time, the optimal position, and the threshold time based on the analysis of the first set of data, the second set of data, the third set of data, and the fourth set of data. Further, the advertisement interaction system 112 performs identification of one or more insertion points and the
20 one or more advertisement slots based on the halt in the podcast, and contextual relevance of the subject matter of the podcast.

In an example, a user U1 visits a podcast platform P1 on a webpage W1 using a communication device D1 (Let's say a desktop). In addition, the user U1 searches for a podcast C1 (let's say entropy
25 related podcast) using a keyword K1 (Let's say thermodynamics) on the podcast platform P1. Further, the user U1 listens to the podcast C1 published by a podcast publisher B1. Furthermore, the user U1 encounters an advertisement A1 (Let's say enroll for Masters in Thermal Engineering) of an advertiser K1 (Let's say a university) while listening the podcast C1 of the podcast publisher B1 on the podcast platform P1. Moreover, the user U1 uses a user trigger T1 (Let's say a voice command of "Apply for
30 the program") to enable interaction with the advertiser K1. Also, the user U1 is redirected to a webpage of the advertiser K1. Also, an advertisement interaction system S1 is integrated with a web browser on which the podcast platform P1 is accessed. Also, the advertisement interaction system S1 receives data from the user U1, the communication device D1, the podcast publisher B1, and the

advertiser K1. Also, the advertisement interaction system S1 creates a user profile, an advertiser profile, and a publisher profile. Also, the advertisement interaction system S1 dynamically updates the user profile, the advertiser profile, and the publisher profile in real-time.

5 In another example, a user U2 visits a podcast platform P2 (Let's say an android application) using a communication device D2 (Let's say a tablet). In addition, the user U2 integrates an advertisement interaction system S2 with the podcast platform P2. Further, the advertisement interaction system S2 receives data from the user U2, the communication device D2, each of podcast publishers of the podcast platform P2, and each of advertisers. Furthermore, the advertisement
10 interaction system S2 creates a user profile, an advertiser profile, and a publisher profile. Moreover, the user U2 searches for a podcast C2 (let's say object-oriented algorithms implementation related podcast) using a keyword K2 (Let's say OOP implementation) on the podcast platform P2. Also, the user U2 listens to the podcast C2 published by a podcast publisher B2. Also, the user U2 encounters an advertisement A2 (Let's say download object-oriented programming application) of an advertiser
15 K2 (Let's say an application developer) while listening the podcast C2 of the podcast publisher B2 on the podcast platform P2. Also, the user U2 uses a user trigger T1 (Let's say a hand gestures of "waving") to enable interaction with the advertiser K2. Also, the object-oriented programming application of the advertiser K2 is installed on the communication device D2 of the user U2. Also, the advertisement interaction system S2 dynamically updates the user profile, the advertiser profile,
20 and the publisher profile in real-time.

 In yet another example, a user U3 visits a podcast platform P3 using a communication device D3 (Let's say a smartphone) at home. In addition, the user U3 integrates an advertisement interaction system S3 with the podcast platform P3. Further, the advertisement interaction system S3 receives
25 data from the user U3, the communication device D3, each of podcast publishers of the podcast platform P3, and each of advertisers. Furthermore, the advertisement interaction system S3 creates a user profile, an advertiser profile, and a publisher profile. Moreover, the advertisement interaction system S3 identifies static location of the user U3 at the home based on analysis of data of the communication device D3. Also, the advertisement interaction system S3 is conscious that the user
30 U3 may use any user generated triggers due to the static location of the user U3. Also, the user U3 searches for a podcast C3 (let's say Home Decor related podcast) using a keyword K3 (Let's say "decoration of home") on the podcast platform P3. Also, the user U3 listens to the podcast C3 published by a podcast publisher B3. Also, the user U3 encounters an advertisement A3 (Let's say

Buy latest designed draped curtains) of an advertiser K3 (Let's say an e-commerce company) while listening the podcast C3 of the podcast publisher B3 on the podcast platform P3. Also, the user U3 uses a user trigger T3 (Let's say a text command of "Buy Now") to enable interaction with the advertiser K3. Also, the advertisement interaction system S3 redirects the user U3 to website of the e-commerce company. Also, the advertisement interaction system S3 dynamically updates the user profile, the advertiser profile, and the publisher profile in real-time.

In yet another example, a user U4 visits a podcast platform P4 using a communication device D4 (Let's say a smartphone) while driving. In addition, the user U4 integrates an advertisement interaction system S4 with the podcast platform P4. Further, the advertisement interaction system S4 receives data from the user U4, the communication device D4, each of podcast publishers of the podcast platform P4, and each of advertisers. Furthermore, the advertisement interaction system S4 creates a user profile, an advertiser profile, and a publisher profile. Moreover, the advertisement interaction system S4 identifies dynamic location of the user U4 at based on analysis of data of the communication device D4. Also, the advertisement interaction system S4 is conscious that the user U4 may not use all user generated triggers due to the dynamic location of the user U4. Also, the user U4 searches for a podcast C4 (let's say how to make Red Velvet Cake) using a keyword K4 (Let's say "Red Velvet Cake") on the podcast platform P4. Also, the user U4 listens to the podcast C4 published by a podcast publisher B4. Also, the user U4 encounters an advertisement A4 (Let's say Learn how to bake online) of an advertiser K4 (Let's say a baking training application) while listening the podcast C4 of the podcast publisher B4 on the podcast platform P4. Also, the user U4 uses a user trigger T4 (Let's say a voice command of "Install Now") to enable interaction with the advertiser K4. Also, the advertisement interaction system S4 starts installation of the baking training application on the communication device D4 of the user U4. Also, the advertisement interaction system S4 dynamically updates the user profile, the advertiser profile, and the publisher profile in real-time.

In yet another example, a user U5 visits a podcast platform P5 using a communication device D5 (Let's say a laptop) at office. In addition, the user U5 integrates an advertisement interaction system S5 with the podcast platform P5. Further, the advertisement interaction system S5 receives data from the user U5, the communication device D5, each of podcast publishers of the podcast platform P5, and each of advertisers. Furthermore, the advertisement interaction system S5 creates a user profile, an advertiser profile, and a publisher profile. Moreover, the user U5 searches for a podcast C5 (let's say how to use Microsoft Excel) using a keyword K5 (Let's say "Microsoft Office")

on the podcast platform P5. Also, the user U5 accesses to the podcast C5 published by a podcast publisher B5. Also, the user U5 encounters an advertisement A5 (Let's say complete Microsoft office training program) by the podcast publisher B5 within the podcast C5 on the podcast platform P5. Also, the advertisement interaction system S5 identifies a system trigger T5 (Let's say identification of keyword "Microsoft office training program" within the advertisement A5) to enable interaction with the podcast publisher B5. Also, the advertisement interaction system S5 dynamically updates the user profile, the advertiser profile, and the publisher profile in real-time.

In yet another example, a user U6 visits a podcast platform P6 using a communication device D6 (Let's say a desktop) at home. In addition, the user U5 integrates an advertisement interaction system S6 with the podcast platform P6. Further, the advertisement interaction system S6 receives data from the user U6, the communication device D6, each of podcast publishers of the podcast platform P6, and each of advertisers. Furthermore, the advertisement interaction system S6 creates a user profile, an advertiser profile, and a publisher profile. Moreover, the user U6 searches for a podcast C6 (let's say How Psychologists Define Persuasion) using a keyword K6 (Let's say "Persuasion in Psychology") on the podcast platform P6. Also, the user U6 accesses to the podcast C6 published by a podcast publisher B6. Also, the user U6 encounters an advertisement A6 (Let's say Advance Certification course on Psychology) of an advertiser K6 (Let's say a Psychology Institution) while listening the podcast C6 of the podcast publisher B6 on the podcast platform P6. Also, the advertisement interaction system S6 identifies an advertiser trigger T6 (Let's say the advertiser K6 defines the advertiser trigger T6 when "Visit Website of the Psychology Institution" comes in the advertisement A6) to enable interaction with the podcast publisher B6. Also, the advertisement interaction system S6 dynamically updates the user profile, the advertiser profile, and the publisher profile in real-time.

The interactive computing environment 100 includes the server 116 and the database 118. The advertisement interaction system 112 is associated with the server 116. In general, server is a computer program or device that provides functionality for other programs or devices. The server 116 provides various functionalities, such as sharing data or resources among multiple individuals, or performing computation for the individuals. However, those skilled in the art would appreciate that the advertisement interaction system 112 is connected to more number of servers. Furthermore, it may be noted that the server 112 includes the database 118. However, those skilled in the art would appreciate that more number of the servers include more numbers of database.

In an embodiment of the present disclosure, the advertisement interaction system 112 is located in the server 116. In another embodiment of the present disclosure, the advertisement interaction system 112 is connected with the server 116. In yet another embodiment of the present disclosure, the advertisement interaction system 112 is a part of the server 116. The server 116 handles each operation and task performed by the advertisement interaction system 112. The server 116 stores one or more instructions for performing the various operations of the advertisement interaction system 112. The server 116 is located remotely from the advertisement interaction system 112. The server 116 is associated with an administrator. In general, administrator manages the different components in the advertisement interaction system 112. The administrator coordinates the activities of the components involved in the advertisement interaction system 112. The administrator is any person or individual who monitors the working of the advertisement interaction system 112 and the server 116 in real-time. The administrator monitors the working of the advertisement interaction system 112 and the server 116 through a communication device. The communication device includes the laptop, the desktop computer, the tablet, a personal digital assistant and the like.

The database 118 stores different sets of information associated with various components of the advertisement interaction system 112. In general, database is used to hold general information and specialized data, such as characteristics data of users, data of communication devices, data of the advertiser 110, data of the podcast publisher 108 and the like. The database 118 stores the first set of data, the second set of data, the third set of data, the fourth set of data, demographic information of the user 102 and the like. The database 118 organizes the data using model such as relational models or hierarchical models. Further, the database 118 stores data provided by administrator.

FIG. 2 illustrates a flowchart 200 of a method for enabling the interaction of the user 102 with the one or more advertisements within the podcast, in accordance with various embodiments of the present disclosure. It may be noted that in order to explain the method of the flowchart 200, references will be made to the elements explained in Fig. 1. The flow chart 200 starts at step 202. At step 204, the advertisement interaction system 112 receives the first set of data associated with the podcast. At step 206, the advertisement interaction system 112 collects the second set of data associated with the one or more advertisements. At step 208, the advertisement interaction system 112 fetches the third set of data associated the communication device 104 of the user 102. At step 210, the advertisement interaction system 112 gathers the fourth set of data associated the user 102 accessing the podcast

through the communication device 104. At step 212, the advertisement interaction system 112 analyzes the first set of data, the second set of data, the third set of data, and the fourth set of data using the one or more machine learning algorithms. At step 214, the advertisement interaction system 112 identifies the one or more triggers to enable the interaction of the user 102 with the one or more advertisements within the podcast in real-time. At step 216, the advertisement interaction system 112 initializes the interaction between the user 102 and the one or more advertisements in real-time.

The flow chart 200 terminates at step 218. It may be noted that the flowchart 200 is explained to have above stated process steps; however, those skilled in the art would appreciate that the flowchart 200 may have more/less number of process steps which may enable all the above stated embodiments of the present disclosure.

FIG. 3 illustrates a block diagram of a computing device 300, in accordance with various embodiments of the present disclosure. The computing device 300 includes a bus 302 that directly or indirectly couples the following devices: a memory 304, one or more processors 306, one or more presentation components 308, one or more input/output (I/O) ports 310, one or more input/output components 312, and an illustrative power supply 314. The bus 302 represents what may be one or more busses (such as an address bus, data bus, or combination thereof). Although the various blocks of FIG. 3 are shown with lines for the sake of clarity, in reality, delineating various components is not so clear, and metaphorically, the lines would more accurately be grey and fuzzy. For example, one may consider a presentation component such as a display device to be an I/O component. Also, processors have memory. The inventors recognize that such is the nature of the art, and reiterate that the diagram of FIG. 3 is merely illustrative of an exemplary computing device 300 that can be used in connection with one or more embodiments of the present invention. Distinction is not made between such categories as “workstation,” “server,” “laptop,” “hand-held device,” etc., as all are contemplated within the scope of FIG. 3 and reference to “computing device.”

The computing device 300 typically includes a variety of computer-readable media. The computer-readable media can be any available media that can be accessed by the computing device 300 and includes both volatile and nonvolatile media, removable and non-removable media. By way of example, and not limitation, the computer-readable media may comprise computer storage media and communication media. The computer storage media includes volatile and nonvolatile, removable

and non-removable media implemented in any method or technology for storage of information such as computer-readable instructions, data structures, program modules or other data.

5 The computer storage media includes, but is not limited to, RAM, ROM, EEPROM, flash memory or other memory technology, CD-ROM, digital versatile disks (DVD) or other optical disk storage, magnetic cassettes, magnetic tape, magnetic disk storage or other magnetic storage devices, or any other medium which can be used to store the desired information and which can be accessed by the computing device 300. The communication media typically embodies computer-readable instructions, data structures, program modules or other data in a modulated data signal such as a carrier
10 wave or other transport mechanism and includes any information delivery media. The term “modulated data signal” means a signal that has one or more of its characteristics set or changed in such a manner as to encode information in the signal. By way of example, and not limitation, communication media includes wired media such as a wired network or direct-wired connection, and wireless media such as acoustic, RF, infrared and other wireless media. Combinations of any of the
15 above should also be included within the scope of computer-readable media.

Memory 304 includes computer-storage media in the form of volatile and/or nonvolatile memory. The memory 304 may be removable, non-removable, or a combination thereof. Exemplary hardware devices include solid-state memory, hard drives, optical-disc drives, etc. The computing
20 device 300 includes one or more processors that read data from various entities such as memory 304 or I/O components 312. The one or more presentation components 308 present data indications to a user or other device. Exemplary presentation components include a display device, speaker, printing component, vibrating component, etc. The one or more I/O ports 310 allow the computing device 300 to be logically coupled to other devices including the one or more I/O components 312, some of which
25 may be built in. Illustrative components include a microphone, joystick, game pad, satellite dish, scanner, printer, wireless device, etc.

The foregoing descriptions of specific embodiments of the present technology have been presented for purposes of illustration and description. They are not intended to be exhaustive or to
30 limit the present technology to the precise forms disclosed, and obviously many modifications and variations are possible in light of the above teaching. The embodiments were chosen and described in order to best explain the principles of the present technology and its practical application, to thereby enable others skilled in the art to best utilize the present technology and various embodiments with

various modifications as are suited to the particular use contemplated. It is understood that various omissions and substitutions of equivalents are contemplated as circumstance may suggest or render expedient, but such are intended to cover the application or implementation without departing from the spirit or scope of the claims of the present technology.

5

While several possible embodiments of the invention have been described above and illustrated in some cases, it should be interpreted and understood as to have been presented only by way of illustration and example, but not by limitation. Thus, the breadth and scope of a preferred embodiment should not be limited by any of the above-described exemplary embodiments.

CLAIMS

We Claim:

- 5 1. A computer-implemented method for enabling an interaction of a user with one or more advertisements within a podcast, the computer-implemented method comprising:

10 receiving, at an advertisement interaction system with a processor, a first set of data associated with the podcast, wherein the first set of data is received from a podcast publisher, wherein the podcast is uploaded by the podcast publisher;

15 collecting, at the advertisement interaction system with the processor, a second set of data associated with the one or more advertisements, wherein the second set of data is collected from an advertiser;

 fetching, at the advertisement interaction system with the processor, a third set of data associated a communication device of the user, wherein the user accesses the podcast using the communication device in real-time;

20 gathering, at the advertisement interaction system with the processor, a fourth set of data associated the user accessing the podcast through the communication device;

25 analyzing, at the advertisement interaction system with the processor, the first set of data, the second set of data, the third set of data, and the fourth set of data using one or more machine learning algorithms, wherein the analysis is performed based on training of a machine learning model, wherein the analysis is performed for identifying one or more triggers, wherein the analysis is performed in real time;

30 identifying, at the advertisement interaction system with the processor, the one or more triggers for enabling the interaction of the user with the one or more advertisements within the podcast in real-time, wherein the one or more triggers comprising at least one of system generated triggers, user generated triggers and advertiser generated triggers; and

initializing, at the advertisement interaction system with the processor, the interaction between the user and the one or more advertisements in real-time, wherein the interaction between the user and the one or more advertisements is initiated based on the identification of the one or more triggers.

5

2. The computer-implemented method as recited in claim 1, wherein the first set of data comprising audio data, video data, image data, subject matter of the podcast, theme of the podcast, keywords associated with the podcast, podcast publisher profile, and topics covered in the podcast.

10 3. The computer-implemented method as recited in claim 1, wherein the second set of data comprising audio data of the one or more advertisements, video data of the one or more advertisements, image data of the one or more advertisements, subject matter of the one or more advertisements, theme of the one or more advertisements, and keywords associated with the one or more advertisements.

15

4. The computer-implemented method as recited in claim 1, wherein the third set of data comprising real-time location of the communication device, a location history of the communication device, sound data from a microphone of the communication device, image data from a camera of the communication device, accelerometer data from an accelerometer of the communication device,
20 gyroscope data from a gyroscope of the communication device, real-time movement data, and sensor data from a sensor of the communication device.

5. The computer-implemented method as recited in claim 1, wherein the fourth set of data is associated with a profile of the user, wherein the fourth set of data comprising name data, age data, e-mail identity data, contact number data, gender data, geographic location data, demographic data,
25 relationship status data, past podcast search keywords data, real-time podcast search keywords data, past podcast reviews data, past podcast interactions data, past advertisement interactions data, user verbal commands, user text, user image data, communication device operated commands, past gestures data, and real-time gestures data.

30

6. The computer-implemented method as recited in claim 1, further comprising enabling, at the advertisement interaction system with the processor, a multi-modal natural language analysis on the one or more advertisements, the podcast and the user verbal commands using a natural language

processing module for dynamic transcription of the one or more advertisements, the podcast and the user verbal commands in a transcript data, wherein the transcript data comprising a speech-based transcription and a non-speech-based transcription.

5 7. The computer-implemented method as recited in claim 1, further comprising identifying, at the advertisement interaction system with the processor, a plurality of attributes associated to the one or more advertisements, the podcast and the user based on the analysis performed based on the one or more machine learning algorithms and the natural language processing module, wherein the plurality of attributes comprising one or more keywords associated with the one or more advertisements and
10 the podcast, topic transitions within the podcast, halts in the one or more advertisements and the podcast, relevant context of the one or more advertisements, an optimal time for the one or more triggers, an optimal position for the one or more advertisements, a threshold time of the halt within the one or more advertisements and the podcast , interests of the user, and user attentiveness throughout the podcast.

15 8. The computer-implemented method as recited in claim 1, wherein the system generated triggers facilitate triggering of the interaction between the user and the one or more advertisements, wherein the system generated triggers comprising at least one of a significant keyword within the one or more advertisements, the halt within the one or more advertisements above the threshold time,
20 referring to topics of the interests of the user within the one or more advertisements according to the profile of the user, and the user attentiveness throughout the one or more advertisements.

9. The computer-implemented method as recited in claim 1, wherein the user generated triggers facilitate triggering of the interaction between the user and the one or more advertisements by the
25 user, wherein the user generated triggers comprising at least one of the user verbal commands, the user text, user facial expressions, user gestures, and hardware button commands associated with the communication device.

10. The computer-implemented method as recited in claim 1, wherein the advertiser generated
30 triggers facilitate triggering of the interaction between the user and the one or more advertisements by the advertiser, wherein the advertiser generated triggers comprising at least one of an advertiser defined time in the one or more advertisements, an advertiser defined keyword in the one or more advertisements, and podcast publisher commands to an podcast publisher interaction trigger button.

11. A computer system comprising:

one or more processors; and

a memory coupled to the one or more processors, the memory for storing instructions which, when executed by the one or more processors, cause the one or more processors to perform a method for enabling an interaction of a user with one or more advertisements within a podcast, the method comprising:

receiving, at an advertisement interaction system, a first set of data associated with the podcast, wherein the first set of data is received from a podcast publisher, wherein the podcast is uploaded by the podcast publisher;

collecting, at the advertisement interaction system, a second set of data associated with the one or more advertisements, wherein the second set of data is collected from an advertiser;

fetching, at the advertisement interaction system, a third set of data associated a communication device of the user, wherein the user accesses the podcast using the communication device in real-time;

gathering, at the advertisement interaction system, a fourth set of data associated the user accessing the podcast through the communication device;

analyzing, at the advertisement interaction system, the first set of data, the second set of data, the third set of data, and the fourth set of data using one or more machine learning algorithms, wherein the analysis is performed based on training of a machine learning model, wherein the analysis is performed for identifying one or more triggers, wherein the analysis is performed in real time;

identifying, at the advertisement interaction system, the one or more triggers for enabling the interaction of the user with the one or more advertisements within the podcast in

real-time, wherein the one or more triggers comprising at least one of system generated triggers, user generated triggers and advertiser generated triggers; and

5 initializing, at the advertisement interaction system, the interaction between the user and the one or more advertisements in real-time, wherein the interaction between the user and the one or more advertisements is initiated based on the identification of the one or more triggers.

12. The computer system as recited in claim 11, wherein the first set of data comprising audio
10 data, video data, image data, subject matter of the podcast, theme of the podcast, keywords associated with the podcast, podcast publisher profile, and topics covered in the podcast.

13. The computer system as recited in claim 11, wherein the second set of data comprising audio
15 data of the one or more advertisements, video data of the one or more advertisements, image data of the one or more advertisements, subject matter of the one or more advertisements, theme of the one or more advertisements, and keywords associated with the one or more advertisements.

14. The computer system as recited in claim 11, wherein the third set of data comprising real-time
20 location of the communication device, a location history of the communication device, sound data from a microphone of the communication device, image data from a camera of the communication device, accelerometer data from an accelerometer of the communication device, gyroscope data from a gyroscope of the communication device, real-time movement data, and sensor data from a sensor of the communication device.

25 15. The computer system as recited in claim 11, wherein the fourth set of data is associated with a profile of the user, wherein the fourth set of data comprising name data, age data, e-mail identity data, contact number data, gender data, geographic location data, demographic data, relationship status data, past podcast search keywords data, real-time podcast search keywords data, past podcast reviews data, past podcast interactions data, past advertisement interactions data, user verbal
30 commands, user text, user image data, communication device operated commands, past gestures data, and real-time gestures data.

16. The computer system as recited in claim 11, further comprising enabling, at the advertisement interaction system, a multi-modal natural language analysis on the one or more advertisements, the podcast and the user verbal commands using a natural language processing module for dynamic transcription of the one or more advertisements, the podcast and the user verbal commands in a transcript data, wherein the transcript data comprising a speech-based transcription and a non-speech-based transcription.

17. The computer system as recited in claim 11, wherein the system generated triggers facilitate triggering of the interaction between the user and the one or more advertisements, wherein the system generated triggers comprising at least one of a significant keyword within the one or more advertisements, a halt within the one or more advertisements above a threshold time, referring to topics of interests of the user within the one or more advertisements according to the profile of the user, and user attentiveness throughout the one or more advertisements.

18. The computer system as recited in claim 11, wherein the user generated triggers facilitate triggering of the interaction between the user and the one or more advertisements by the user, wherein the user generated triggers comprising at least one of the user verbal commands, the user text, user facial expressions, user gestures, and hardware button commands associated with the communication device.

19. The computer system as recited in claim 11, wherein the advertiser generated triggers facilitate triggering of the interaction between the user and the one or more advertisements by the advertiser, wherein the advertiser generated triggers comprising at least one of an advertiser defined time in the one or more advertisements, an advertiser defined keyword in the one or more advertisements, and podcast publisher commands to a podcast publisher interaction trigger button.

20. A non-transitory computer-readable storage medium encoding computer executable instructions that, when executed by at least one processor, performs a method for enabling an interaction of a user with one or more advertisements within a podcast, the method comprising:

receiving, at a computing device, a first set of data associated with the podcast, wherein the first set of data is received from a podcast publisher, wherein the podcast is uploaded by the podcast publisher;

collecting, at the computing device, a second set of data associated with the one or more advertisements, wherein the second set of data is collected from an advertiser;

5 fetching, at the computing device, a third set of data associated a communication device of the user, wherein the user accesses the podcast using the communication device in real-time;

10 gathering, at the computing device, a fourth set of data associated the user accessing the podcast through the communication device;

15 analyzing, at the computing device, the first set of data, the second set of data, the third set of data, and the fourth set of data using one or more machine learning algorithms, wherein the analysis is performed based on training of a machine learning model, wherein the analysis is performed for identifying one or more triggers, wherein the analysis is performed in real time;

20 identifying, at the computing device, the one or more triggers for enabling the interaction of the user with the one or more advertisements within the podcast in real-time, wherein the one or more triggers comprising at least one of system generated triggers, user generated triggers and advertiser generated triggers; and

25 initializing, at the computing device, the interaction between the user and the one or more advertisements in real-time, wherein the interaction between the user and the one or more advertisements is initiated based on the identification of the one or more triggers.