Abstract: Systems, apparatuses, methods and devices are provided for a collaborative online advertisement system for targeting users based on comments read by the user. The system displays targeted advertisements to users based on users' interaction with certain reviews, comments, and/or ratings regarding a particular product or service offered online. The system is directed to using data regarding online reviews and user perusal of online reviews to create targeted advertisements. Using an online tool on a mobile device to browse online stores that sells consumer products. The tool recognizes and consolidates user reviews written by previous buyers of the product or products. The tool takes into account different features of the reviews such as article/comment title, review characteristics and any ratings given to a product.
ADVERTISING MOBILE EQUIPMENT FOR READERS

FIELD OF THE INVENTION

[001] The present invention generally relates to advertising methods and systems and more particularly to displaying targeted advertisements to web users based on user-accessed content.

BACKGROUND OF THE INVENTION

[002] Online shopping is often carried out by people who value other users’ evaluations of a particular product. As such, many internet commerce sights have implemented review and/or ratings systems for different products. In the context of online shopping, people would give priority to products which have received favorable ratings and reviews by trusted users. It is widely believed that more than 85% of people who shop online will make reference to a product review, and over 80% of those users will be influenced by a review.

[003] User evaluation value is not only limited to the contents of a review. Potential buyers reading a review may pay attention to a few particularities with respect to the review. These include: i) the title of the comment in the article, ii) characteristics described and/or reviewed, and/or iii) the relevant rating for the seller.
of a product. Different users may value different features and/or comments of a review.

[004] For example, some may value a number-based rating scale (e.g. 4 out of 5 stars), while others may pay particular attention to a reviewer's age and/or expertise. The present invention contemplates these variations and provides ratings systems and/or advertisements based on user preferences and habits.

[005] In view of the foregoing an advertising system is disclosed for displaying targeted advertisements to users based on users' interaction with certain reviews, comments, and/or ratings regarding a particular product or service offered online.

SUMMARY OF THE INVENTION

[006] According to embodiments of the invention, systems, apparatuses, methods and devices are provided for a collaborative online advertisement system for targeting users based on comments read by the user. The system is directed to using data regarding online reviews and user perusal of online reviews to create targeted advertisements (hereinafter referred to as "ads" or "advertisements"). The disclosed technology involves using an online tool on a mobile device to browse online stores that sell consumer products. The tool recognizes and
consolidates user reviews written by previous buyers of the product or products. The tool takes into account different features of the reviews such as article/comment title, review characteristics and any ratings given to a product.

[007] In one embodiment of the disclosed technology, a collaborative online advertisement system is used for targeting users based on comments read by the user. The system employs one or more of the following components: a) a mobile device having a touch display screen; b) an online viewer tool stored within the mobile device showing sale items from an online store, wherein the online store provides a display area showing a list of past buyer comments of a given product, each comment being associated with at least one feature and a rating of the given product; c) an eye tracking component in the mobile device for identifying which words of text the user is reading by approximating current focus area of the user on the display screen, wherein the approximating of the current focus area of the user is carried out by prompting the user to indicate a preferred eye level position by having the user tap a portion of the screen that is indicative of a preferred eye level of the user; d) a keyword generator to collect keywords from the list of past buyer comments that are most interesting to users; and/or e) a target product generator, which produces product advertisements that are displayed to the user through the display screen in view of the interests of the user as reflected by the received keywords of multiple levels.
[008] The keywords are collected and stored by: i) measuring a duration of time spent reading a line of text at the preferred eye level position by the user by measuring how frequently the user scrolls down; ii) if time spent by the user on the line of text exceeds an average read time of the user, the words contained in the line of text are deemed to be comments of particular interest to the user; iii) categorizing the words that are of particular interest to the user into keywords of multiple levels, which include: i) product level, ii) feature level, and iii) rating level; and/or; iv) reporting the categorized keywords of multiple levels back to the collaborative online advertisement system.

[009] In a further embodiment of the disclosed system, the approximation of the current focus area accommodates certain users having a wide reading scope by facilitating user definition of a wider or longer preferred eye level area by leading the user to define the preferred eye level area with multiple touches.

[0010] In still further embodiments of the disclosed system, another collaborative online advertisement system is used for targeting users based on comments read by the user. Such a device may employ one or more of the following components: a) a mobile device having a touch display screen; b) an online viewer tool stored within the mobile device showing sale items from an online store, wherein the online store provides a display area showing a list of past buyer
comments of a given product, each comment being associated with at least one feature and a rating of the given product; c) an eye tracking component in the mobile device for identifying which words of text the user is reading by approximating current focus area of the user on the display screen, wherein the approximating of the current focus area of the user is carried out by prompting the user to indicate a preferred eye level position by having the user tap a portion of the screen that is indicative of a preferred eye level of the user, further wherein approximation of the current focus area accommodates certain users having a wide reading scope by facilitating user definition of a wider or longer preferred eye level area by leading the user to define the preferred eye level area with multiple touches; d) a keyword generator to collect keywords from the list of past buyer comments that are most interesting to users; e) a target product generator that produces product advertisements to another affiliated networked user with similar interests based on i) the product level, ii) the feature level, and iii) the rating level; and/or f) a target product identifier, where a capturing device is configured to capture, in real-time, products that are in a vicinity of the mobile device that match identified criteria in the i) product level, ii) feature level, and ii) rating level, and notifying the user instantly.

[0011] In still another embodiment of the disclosed technology, another collaborative online advertisement system is used for targeting users based on comments read by the user. The system may employ one or more of the following
components and/or actions: a) a mobile device with a touched display screen
allowing a user to navigate the display screen; b) an online viewer tool stored within
the mobile device showing sales items from an online store, wherein the online
store provides a display area showing a list of past buyer comments of a given
product, each comment is associated with at least one feature and a rating of the
given product; c) an eye tracking component in the mobile device without using
cameras, wherein the eye tracking component can identify which words of text the
user is reading by approximating current focus area of a user on the display screen;
d) wherein the approximating of the current focus area of the user is achieved by: i)
prompting the user to indicate a preferred eye level area by having the user to touch
a surface area of the mobile phone where the user feels that the height of the
touched area is comfortable for viewing or browsing text so that words included on
the preferred eye level area would be deemed as the line of text currently read by
the user; and ii) accommodating certain users having wide reading scope with an
ability to read multiple lines of text by allowing the user to define a wider or longer
preferred eye level area by leading the user to define the preferred eye level area
with multiple touches; e) a keyword generator to collect keywords from the list of
past buyer comments that are most interesting to users by: i) measuring time of
reading the multiple lines of text on the preferred eye level area by the user, as
indicated by how frequent the user scroll downs the screen and the time stayed on
the line of text before scrolling down to the next line; ii) if time spent by the user on
the multiple lines of text exceeds an average read time by the user, the words
contained in the multiple lines of text contains past buyer's comments are of particular interests to the user; iii) categorizing the words that cause various levels of slow down of the reading of the user into keywords of multiple levels, which include: 1) product level, 2) feature level, and 3) rating level; and iii) reporting the categorized keywords of multiple levels back to the collaborative online advertisement system; and f) a target product generator, which produces product advertisements to the user through the display screen in view of the interests of the user as reflected by the preferences through the received keywords of multiple levels.

[0012] A better understanding of the disclosed technology will be obtained from the following brief description of drawings illustrating exemplary embodiments of the disclosed technology.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] Figure 1 shows a diagram generally overviewing a mobile device display with pinpointed eye level tracking according to an embodiment of the disclosed technology.
[0014] Figure 2 shows the mobile device of Figure 1 with a touch gesture being performed according to embodiments of the disclosed technology.

[0015] Figure 3 is a high-level block diagram of a microprocessor device that may be used to carry out the disclosed technology.

[0016] A better understanding of the disclosed technology will be obtained from the following detailed description of embodiments of the disclosed technology, taken in conjunction with the drawings.

DETAILED DESCRIPTION

[0017] References will now be made in detail to the present exemplary embodiments, examples of which are illustrated in the accompanying drawings. Certain examples are shown in the above-identified figures and described in detail below. In describing these examples, like or identical reference numbers are used to identify common or similar elements. The figures are not necessarily to scale and certain features and certain views of the figures may be shown exaggerated in scale or in schematic for clarity and/or conciseness.
[0018] Referring now to the figures, a collaborative online advertisement system is provided for targeting users based on comments read by the user. The system displays targeted advertisements to users based on users' interaction with certain reviews, comments, and/or ratings regarding a particular product or service offered online. The system is directed to using data regarding online reviews and user perusal of online reviews to create targeted advertisements (hereinafter referred to as "ads" or "advertisements"). The disclosed technology involves using an online tool on a mobile device to browse online stores that sells consumer products. The tool recognizes and consolidates user reviews written by previous buyers of the product or products. The tool takes into account different features of the reviews such as article/comment title, review characteristics and any ratings given to a product.

[0019] Referring now to Figure 1, a diagram is depicted generally overviewing a mobile device display with pinpointed eye level tracking according to an embodiment of the disclosed technology. The mobile device 10 has a touch display 20 for displaying content and receiving touch gesture inputs. The display 20 may alternatively not have touch capability in which case another input/output interface would be employed by a user, such as a mouse & keyboard. The mobile device may be any computing device, including, but not limited to, a computer, a laptop, a tablet, a mobile phone, any other type of mobile device, a smart watch, any other type of wearable computer, DVD players, blu-ray players,
MP3 players, cable boxes, satellite television boxes, multi-media streaming devices, satellite television receivers, digital video and/or photo cameras, and so on.

[0020] A product web page and accompanying review 30 is displayed on the display 20 of the device 10. Presumably a user (not shown) is reading the review 30 based on the duration of time during which the user is on the product review site without scrolling. The shadowed dot 40 represents the particular user's line of sight on the display 20. That is, the dot 40 is the level at which the user typically reads text displayed on the device 10. This level may be obtained through observation of the user using one or more sensors such as a camera, the touch screen and/or other input mechanisms. Alternatively, this level may be calibrated by the user by way of a simple touch gesture. Thus, the user may simply press, when prompted, the portion of the screen where the user's eyes are focused when the user is reading.

[0021] A software tool or add-on device is installed on the mobile device or accessed remotely via a data network. Based on the user's preferred eye focus area, the tool uses OCR (optical text recognition) to read, store and analyze the portions of text on which the user is most interested. This is carried out by first stipulating an average duration during which the user stays on a given page without scrolling. Different factors such as text size, amount of text, sophistication of text, addition of images, and any other variables are taken into account in quantifying this
average. Once the average is determined, it is used as a benchmark by which future user actions are compared. Thus, if a user spends on average 2 minutes on a product review, but that same user spends 4 minutes on the product review for 'Product X', then it will be deemed that the user is more interested in Product X and/or the accompanying review.

[0022] Figure 2 shows the mobile device of Figure 1 with a touch gesture being performed according to embodiments of the disclosed technology. The gesture 50 is being performed by a finger 100 of the user. The gesture 50 may be used as an input mechanism for defining a preferred eye focus area for a user. In this example, the user presumably is a faster reader and focuses on a large portion of a webpage or text when browsing the web. As such, the user may use multiple touches or gesture motions to define this particular preferred focus area.

[0023] The system uses this collected data regarding online reviews and user perusal of online reviews to create targeted advertisements (hereinafter referred to as "ads" or "advertisements"). Based on the keywords, the tool recognizes and consolidates user reviews written by previous buyers of the product or products. The tool takes into account different features of the reviews such as article/comment title, review characteristics and any ratings given to a product.
The tool is stored within the mobile device and may show sale items from an online store, wherein the online store provides a display area showing a list of past buyer comments of a given product, each comment being associated with at least one feature and a rating of the given product. The OCR component and a keyword generator continues to collect keywords from the list of past buyer comments that are most interesting to users. As a result, a target product generator on the device produces product advertisements that are displayed to the user through the display screen in view of the interests of the user as reflected by the received keywords of multiple levels. The advertisement may be, for example, a variation of a product for which the user is browsing reviews. This may occur if the user is spending a large duration of time reading a review which is pointing out a particular feature which may be missing in the product. As such, the advertisement may be directed to a similar product which employs the missing feature. This is merely one example of the endless possibilities for targeted ad display.

Referring specifically to the keyword aspect of the technology, the keywords are collected and stored by: i) measuring a duration of time spent reading a line of text at the preferred eye level position by the user by measuring how frequently the user scrolls down; ii) if time spent by the user on the line of text exceeds an average read time of the user, the words contained in the line of text are deemed to be comments of particular interest to the user; iii) categorizing the words
that are of particular interest to the user into keywords of multiple levels, which include: a) product level, b) feature level, and c) rating level; and/or; d) reporting the categorized keywords of multiple levels back to the collaborative online advertisement system.

[0026] In further embodiments, a target product identifier may be used by the mobile device. The identifier may use a camera or other peripheral sensor of the mobile device to capture sounds, imagery and/or movement in the vicinity of the device. For example, a capturing device may be configured to capture, in real-time, products that are in a vicinity of the mobile device that match identified criteria in the i) product level, ii) feature level, and iii) rating level. The existence of such products in the vicinity of the device may be brought to the attention of the user via a pop up or other message displayed on the device.

[0027] Figure 3 is a high-level block diagram of a microprocessor device that may be used to carry out the disclosed technology. The device 500 comprises a processor 550 that controls the overall operation of a computer by executing the reader's program instructions which define such operation. The reader's program instructions may be stored in a storage device 520 (e.g., magnetic disk, database) and loaded into memory 530 when execution of the console's program instructions is desired. Thus, the device 500 will be defined by the program instructions stored
in memory 530 and/or storage 520, and the console will be controlled by processor 550 executing the console’s program instructions.

[0028] The device 500 may also include one or a plurality of input network interfaces for communicating with other devices via a network (e.g., the internet). The device 500 further includes an electrical input interface for receiving power and data. The device 500 also includes one or more output network interfaces 510 for communicating with other devices. The device 500 may also include input/output 540 representing devices which allow for user interaction with a computer (e.g., display, keyboard, mouse, speakers, buttons, etc.).

[0029] One skilled in the art will recognize that an implementation of an actual device will contain other components as well, and that Figure 3 is a high level representation of some of the components of such a device for illustrative purposes. It should also be understood by one skilled in the art that the method and devices depicted in Figures 1 through 2 may be implemented on a device such as is shown in Figure 3.

[0030] While the disclosed invention has been taught with specific reference to the above embodiments, a person having ordinary skill in the art will recognize that changes can be made in form and detail without departing from the spirit and the scope of the invention. The described embodiments are to be considered in all
respects only as illustrative and not restrictive. All changes that come within the meaning and range of equivalency of the claims are to be embraced within their scope. Combinations of any of the methods, systems, and devices described hereinabove are also contemplated and within the scope of the invention.
WHAT IS CLAIMED

1. A collaborative online advertisement system for targeting users based on comments read by the user, comprising:
   a. a mobile device having a touch display screen;
   b. an online viewer tool stored within the mobile device showing sale items from an online store, wherein the online store provides a display area showing a list of past buyer comments of a given product, each comment being associated with at least one feature and a rating of the given product;
   c. an eye tracking component in the mobile device for identifying which words of text the user is reading by approximating current focus area of the user on the display screen, wherein the approximating of the current focus area of the user is carried out by prompting the user to indicate a preferred eye level position by having the user tap a portion of the screen that is indicative of a preferred eye level of the user;
   d. a keyword generator to collect keywords from the list of past buyer comments that are most interesting to users by:
      i. measuring a duration of time spent reading a line of text at the preferred eye level position by the user by measuring how frequently the user scrolls down;
ii. if time spent by the user on the line of text exceeds an average read time of the user, the words contained in the line of text are deemed to be comments of particular interest to the user;

iii. categorizing the words that are of particular interest to the user into keywords of multiple levels, which include: i) product level, ii) feature level, and iii) rating level; and

iv. reporting the categorized keywords of multiple levels back to the collaborative online advertisement system; and

e. a target product generator, which produces product advertisements that are displayed to the user through the display screen in view of the interests of the user as reflected by the received keywords of multiple levels.

2. A system of claim 1, wherein the approximation of the current focus area accommodates certain users having a wide reading scope by facilitating user definition of a wider or longer preferred eye level area by leading the user to define the preferred eye level area with multiple touches.

3. A collaborative online advertisement system for targeting users based on comments read by the user, comprising:
   a. a mobile device having a touch display screen;
b. an online viewer tool stored within the mobile device showing sale items from an online store, wherein the online store provides a display area showing a list of past buyer comments of a given product, each comment being associated with at least one feature and a rating of the given product;

c. an eye tracking component in the mobile device for identifying which words of text the user is reading by approximating current focus area of the user on the display screen, wherein the approximating of the current focus area of the user is carried out by prompting the user to indicate a preferred eye level position by having the user tap a portion of the screen that is indicative of a preferred eye level of the user further wherein approximation of the current focus area accommodates certain users having a wide reading scope by facilitating user definition of a wider or longer preferred eye level area by leading the user to define the preferred eye level area with multiple touches;

d. a keyword generator to collect keywords from the list of past buyer comments that are most interesting to users by:

   i. measuring a duration of time spent reading a line of text at the preferred eye level position by the user by measuring how frequently the user scrolls down;
ii. if time spent by the user on the line of text exceeds an average read time of the user, the words contained in the line of text are deemed to be comments of particular interest to the user;

iii. categorizing the words that are of particular interest to the user into keywords of multiple levels, which include: i) product level, ii) feature level, and iii) rating level; and

iv. reporting the categorized keywords of multiple levels back to the collaborative online advertisement system; and

e. a target product generator that produces product advertisements to another affiliated networked user with similar interests based on i) the product level, ii) the feature level, and iii) the rating level.

4. The system of claim 3, further comprising:

a. a target product identifier, where a capturing device is configured to capture, in real-time, products that are in a vicinity of the mobile device that match identified criteria in the i) product level, ii) feature level, and ii) rating level, and notifying the user instantly.

5. A collaborative online advertisement system for targeting users based on comments read by the user, comprising:

a. a mobile device with a touched display screen allowing a user to navigate the display screen;
b. an online viewer tool stored within the mobile device showing sales items from an online store, wherein the online store provides a display area showing a list of past buyer comments of a given product, each comment is associated with at least one feature and a rating of the given product;

c. an eye tracking component in the mobile device without using cameras, wherein the eye tracking component can identify which words of text the user is reading by approximating current focus area of a user on the display screen;

d. wherein the approximating of the current focus area of the user is achieved by:

i. prompting the user to indicate a preferred eye level area by having the user to touch a surface area of the mobile phone where the user feels that the height of the touched area is comfortable for viewing or browsing text so that words included on the preferred eye level area would be deemed as the line of text currently read by the user; and

ii. accommodating certain users having wide reading scope with an ability to read multiple lines of text by allowing the user to define a wider or longer preferred eye level area by leading the user to define the preferred eye level area with multiple touches;
e. a keyword generator to collect keywords from the list of past buyer comments that are most interesting to users by:

i. measuring time of reading the multiple lines of text on the preferred eye level area by the user, as indicated by how frequent the user scroll downs the screen and the time stayed on the line of text before scrolling down to the next line;

ii. if time spent by the user on the multiple lines of text exceeds an average read time by the user, the words contained in the multiple lines of text contains past buyer's comments are of particular interests to the user;

iii. categorizing the words that cause various levels of slow down of the reading of the user into keywords of multiple levels, which include: i) product level, ii) feature level, and iii) rating level;

iv. reporting the categorized keywords of multiple levels back to the collaborative online advertisement system; and

f. a target product generator, which produces product advertisements to the user through the display screen in view of the interests of the user as reflected by the preferences through the received keywords of multiple levels.
INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2015/053988

A. CLASSIFICATION OF SUBJECT MATTER
G06Q ...

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
G06Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
CNPAT;WIPO;EPODOC;CNKI;GOOGLE SCHOLAR;JEBE; online, shopping, ads, advertise?, comment?, review?, critic +, evaluation, evaluation with value, rat+, keyword

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>US 2014358731 A1 (ORACLE INTERNATIONAL CORPORATION) 04 December 2014 (2014-12-04) the whole document</td>
<td>1-5</td>
</tr>
<tr>
<td>A</td>
<td>US 2012290606 A1 (SEARCHREVIEWS LLC.) 15 November 2012 (2012-11-15) the whole document</td>
<td>1-5</td>
</tr>
<tr>
<td>A</td>
<td>US 2012084143 A1 (XEROX CORPORATION) 05 April 2012 (2012-04-05) the whole document</td>
<td>1-5</td>
</tr>
<tr>
<td>A</td>
<td>US 2006282336 A1 (HUANG, IAN TZEUNG) 14 December 2006 (2006-12-14) the whole document</td>
<td>1-5</td>
</tr>
</tbody>
</table>

Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:
  "A" document defining the general state of the art which is not considered to be of particular relevance
  "E" earlier application or patent but published on or after the international filing date
  "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
  "O" document referring to an oral disclosure, use, exhibition or other means
  "P" document published prior to the international filing date but later than the priority date claimed
  "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention of the claimed invention
  "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
  "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
  "Q" document member of the same patent family

Date of the actual completion of the international search 04 January 2016
Date of mailing of the international search report 26 February 2016

Name and mailing address of the ISA/CN

STATE INTELLECTUAL PROPERTY OFFICE OF THE P.R.CHINA
6, Xitucheng Rd., Jimen Bridge, Haidian District, Beijing 100088, China

Authorized officer JIN,Xia

Facsimile No. (86-10)62019451 Telephone No. (86-10)62414438

Form PCT/ISA/210 (second sheet) (July 2009)
<table>
<thead>
<tr>
<th>Patent document cited in search report</th>
<th>Publication date (day/month/year)</th>
<th>Patent family member(s)</th>
<th>Publication date (day/month/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>WO 2013016503 A1</td>
<td>31 January 2013</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TW 201305944 A</td>
<td>01 February 2013</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CN 102903047 A</td>
<td>30 January 2013</td>
</tr>
<tr>
<td></td>
<td></td>
<td>JP 2737445 A1</td>
<td>04 June 2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HK 1176446 AO</td>
<td>26 July 2013</td>
</tr>
<tr>
<td>US 2014358731 A1</td>
<td>04 December 2014</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>US 2012290908 A1</td>
<td>15 November 2012</td>
</tr>
<tr>
<td></td>
<td></td>
<td>US 2012290622 A1</td>
<td>15 November 2012</td>
</tr>
<tr>
<td>US 2012084143 A1</td>
<td>05 April 2012</td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>