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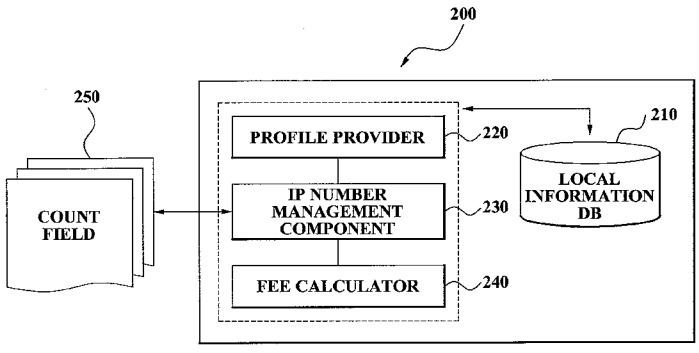
(54) **Title:** METHOD AND SYSTEM FOR CALCULATING ADVERTISING-FEE OF LOCAL ADVERTISING INFORMATION



(57) **Abstract:** A method and system for calculating an advertising fee, which can calculate an advertising fee by using a characteristic of an advertising target region of an advertiser and a number of Internet Protocols (IPs), which are allocated to a corresponding region, and thereby can charge the advertiser with a reasonable advertising fee in proportion to advertising effects expected in the region is provided. Also, there is provided a method and system of calculating an advertising fee, which can calculate an advertising fee in portion to advertising effects, and charge an advertiser with the calculated advertising fee. In this instance, the advertising effects are expected from a region and a keyword associated with a local advertising service.

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METHOD AND SYSTEM FOR CALCULATING ADVERTISING-FEE OF LOCAL ADVERTISING INFORMATION

Technical Field

The present invention relates to a method and system for calculating an advertising fee of local advertising information, which can calculate an advertising fee by using a number of Internet Protocols (IPs) allocated to a particular region that an advertiser desires to utilize a local advertising service, and thereby charge the advertiser with an advertising fee corresponding to advertising effects expected in the region.

Also, the present invention relates to a method and system for calculating an advertising fee of local advertising information, which can calculate an advertising fee in proportion to advertising effects, expected from a region and a keyword associated with a local advertising service, and thereby charge an advertiser with the calculated advertising fee.

Background Art

Generally, a local advertising service indicates an advertising service which provides advertising/promotion information of an advertiser, which has a business base in a particular region, for people that are interested in the particular region, and readily displays the advertising/promotion information for the people. Particularly, in a local advertising service interoperating with a keyword search, when a keyword, entered by a searcher accessing a search engine, is associated with a particular region, the local advertising service displays local advertising information for the searcher. In this instance, the local advertising information is enrolled by the advertiser of the particular region.

Also, the local advertising service provides a searcher with advertising/promotion information of an advertiser. The searcher is interested in a particular region and enters a keyword. Specifically, the local advertising service is being widely utilized since the searcher may be readily acquired as the advertiser's customer.

In a conventional art, when charging an advertiser with an advertising fee with respect to the local advertising service, a server operator arbitrarily calculates the

advertising fee, and the calculated advertising fee is charged to the advertiser. However, in the conventional advertising fee calculation method, the server operator simply calculates the advertising fee. Specifically, advertising effects, which are expected in each region by using the local advertising service, are not reflected and thus, a comparatively greater advertising fee than substantial advertising effects may be charged to the advertiser. As described above, according to the conventional advertising fee calculation method, optimal advertising effects may not be provided for the advertiser in comparison to the advertising fee paid by the advertiser.

Accordingly, there is a need for a new advertising fee calculation model capable of calculating an advertising fee in proportion to expected advertising effects by considering a commercial power in a region where the advertiser substantially utilizes the local advertising service.

Also, there is a need for an advertising fee calculation model capable of charging an advertiser with a reasonable advertising fee in proportion to advertising effects, which are expected in a region where the advertiser substantially utilizes a local advertising service or from a keyword which causes the advertiser's local advertising information to be displayed for a searcher.

Disclosure of Invention

Technical Goals

The present invention provides a method and system for calculating an advertising fee, which can calculate an advertising fee by using a characteristic of an advertising target region of an advertiser and a number of Internet Protocols (IPs), which are allocated to a corresponding region, and thereby can charge the advertiser with a reasonable advertising fee in proportion to advertising effects expected in the region.

The present invention also provides a method and system for calculating an advertising fee, which can calculate an advertising fee by considering a commercial power in a region where an advertiser substantially utilizes a local advertising service, or a keyword associated with displaying local advertising information, and charge the advertiser with the advertising fee in proportion to advertising effects expected by using the local advertising service.

The present invention also provides a method and system for calculating an advertising fee, which can change each of a region and a keyword, designated by an advertiser in association with a local advertising service, into a grade, and calculate an advertising fee, including a fee corresponding to the grade, and thereby can reflect advertising effects in the advertising fee. In this instance, the advertising effects may change according to the region or the keyword.

Technical solutions

According to an aspect of the present invention, there is provided a method of calculating an advertising fee of local advertising information, the method including the steps of: providing an advertiser with local profile information in response to a local advertising enrollment request from the advertiser; receiving the advertiser's selection on the local profile information, and acquiring information about a number of Internet Protocols (IPs) which are allocated to a region associated with the selected local profile information; and calculating the advertising fee of the local advertising information based on the acquired number of IPs.

According to another aspect of the present invention, there is provided a method of calculating an advertising fee of local advertising information, the method including the steps of: collecting a local identifier and a keyword identifier in response to a local advertising enrollment request from an advertiser; changing each of the collected local identifier and keyword identifier into a local grade and a keyword grade; and calculating the advertising fee of the local advertising information by utilizing the local grade and the keyword grade.

According to still another aspect of the present invention, there is provided a system for calculating an advertising fee of local advertising information, the system including: a profile provider providing an advertiser with local profile information in response to local advertising enrollment request from the advertiser; an IP number management component receiving the advertiser's selection on the local profile information, and acquiring information about a number of IPs which are allocated to a region associated with the selected local profile information; and a fee calculator calculating the advertising fee of the local advertising information based on the acquired number of IPs.

According to yet another aspect of the present invention, there is provided a system for calculating an advertising fee of local advertising information, the system including: an identifier collector collecting a local identifier and a keyword identifier in response to a local advertising enrollment request from an advertiser; a grade changing component changing the collected local identifier and keyword identifier into a local grade and a keyword grade; and a fee calculator calculating the advertising fee of the local advertising information by utilizing the local grade and the keyword grade.

Brief Description of Drawings

FIG. 1 illustrates an advertising fee calculation system of local advertising information according to an exemplary embodiment of the present invention;

FIG. 2 is a block diagram illustrating a configuration of an advertising fee calculation system according to an exemplary embodiment of the present invention;

FIG. 3 illustrates an example of local profile information provided for an advertiser according to an exemplary embodiment of the present invention;

FIG. 4, parts I), II), and III), illustrate an example of calculating an advertising fee in association with providing a local advertising service according to an exemplary embodiment of the present invention;

FIG. 5 is a block diagram illustrating a configuration of an advertising fee calculation system according to another exemplary embodiment of the present invention;

FIG. 6, parts I) and II), illustrate an example of classifying a region and a keyword according to an exemplary embodiment of the present invention;

FIG. 7 illustrates an example of a fee table according to an exemplary embodiment of the present invention;

FIG. 8 is a flowchart illustrating a method of calculating an advertising fee according to an exemplary embodiment of the present invention;

FIG. 9 is a flowchart illustrating a process of providing an advertiser with local profile information according to an exemplary embodiment of the present invention;

FIG. 10 is a flowchart illustrating a process of updating a number of IPs for each region according to an exemplary embodiment of the present invention;

FIG. 11 is a flowchart illustrating a process of operating a search engine to

realize a local advertising service according to an exemplary embodiment of the present invention;

FIG. 12 is a flowchart illustrating a method of calculating an advertising fee according to another exemplary embodiment of the present invention;

FIG. 13 illustrates an example of an input interface according to an exemplary embodiment of the present invention;

FIG. 14 is a flowchart illustrating a process of determining an advertising fee according to an exemplary embodiment of the present invention; and

FIG. 15 is a flowchart illustrating a process of operating a search engine to realize a local advertising service according to another exemplary embodiment of the present invention.

Best Mode for Carrying Out the Invention

Reference will now be made in detail to embodiments of the present invention, examples of which are illustrated in the accompanying drawings, wherein like reference numerals refer to the like elements throughout. The embodiments are described below in order to explain the present invention by referring to the figures.

The term "local advertising information" used throughout the present specification indicates advertising/promotion information associated with a particular region. Also, the local advertising information may indicate advertising/promotion information prepared by an advertiser that has a commercial interest in the region. The local advertising information may include promotion information about the advertiser, item information of the advertiser, purchase price information of the item, and the like.

In the present exemplary embodiment, when a keyword, entered by a searcher accessing a search engine, is determined to be associated with a particular region, the search engine displays local advertising information of an advertiser, which has a commercial interest in the region, for the searcher. Accordingly, it is possible to improve advertising marketing effects about the advertiser or the advertiser's item. For example, local advertising information of the advertiser, which runs a clothing shop in KANGNAM-GU, may be retrieved via a search keyword and displayed for the searcher. The search keyword includes 'KANGNAM-GU' and 'clothing shop' which are entered into the search engine.

Also, a search engine supporting a local advertising service may display local advertising information for the searcher that is interested in a particular region. In this instance, an advertiser may acquire the searcher, which reads the displayed local advertising information, as the advertiser's customer. Examples of the local advertising information may include promotion information about the advertiser, item information of the advertiser, purchase price information of the item, event information, and the like.

Also, a search engine may identify a searcher's geographical location via an Internet Protocol (IP) address, and display local advertising information of an advertiser corresponding to the identified geographical location, for the searcher. In this instance, the IP address is used when the searcher accesses the search engine.

As described above, the advertiser may utilize the local advertising service, displaying local advertising information, and thus may acquire advertising effects, such as acquiring the searcher, having interest in a corresponding region, as the advertiser's customer.

FIG. 1 illustrates an advertising fee calculation system 100 of local advertising information according to an exemplary embodiment of the present invention.

The advertising fee calculation system 100 calculates a reasonable advertising fee and charges the calculated advertising fee to an advertiser 130 which desires to utilize a local advertising service. Specifically, the advertising fee calculation system 100 calculates the advertising fee based on a number of IPs allocated to each region. More specifically, the advertising fee calculation system 100 acquires information about the number of IPs, which a predetermined communication provider allocates to a particular region where local advertising information is displayed. Also, the advertising fee calculation system 100 calculates a reasonable advertising fee in proportion to the number of IPs, and charges the advertiser 130 with the calculated advertising fee.

Also, the advertising fee calculation system 100 calculates the advertising fee based on a grade about a region, i.e. a local grade, or a grade about a keyword, i.e. a keyword grade. In this instance, the region corresponds to a region where the local advertising service is substantially provided, and the keyword causes the advertiser's 130 local advertising information to be displayed for a searcher 120. Specifically, the

advertising fee calculation system 100 calculates the advertising fee in proportion to advertising effects expected in the region associated with the local advertising service or from the keyword, and thus charges the advertiser 130 with a more reasonable advertising fee.

A search engine 110 may indicate a search web server or a search program which helps the searcher 120 to readily access a website holding a desired content material. Specifically, the search engine 110 displays brief information about a content provider (CP), capable of providing the searcher's 120 desired information, in response to a search request from the searcher 120. Also, when the searcher 120 clicks the brief information, the search engine 110 connects the searcher 120 and the CP, so that the searcher 120 may utilize the content material. In the present exemplary embodiment, the CP indicates the advertiser 130.

Particularly, in the present exemplary embodiment, the search engine 110 analyzes a keyword entered by the searcher 120. In this instance, when the keyword is associated with a particular region, the search engine 110 displays the advertiser's 130 local advertising information, which corresponds to the region and is pre-stored in an advertising information database 115, for the searcher 120. Specifically, the advertising fee calculation system 100 may provide the advertiser 130 with the local advertising service which can display the advertiser's 130 local advertising information, associated with a particular region, for the searcher 120 when the searcher 120 enters a keyword.

When displaying the local advertising information, the search engine 110 may identify the searcher's 120 geographical local via an IP address, search the advertising information database 115 for local advertising information corresponding to the identified geographical location, and display the retrieved local advertising information for the searcher 120. In this instance, the IP address is utilized when the searcher 120 accesses the search engine 110. For example, when an IP address '210.100.96.1' is allocated to the searcher 120 positioned in 'SEOUL KANGNAM-GU', and the searcher 120 accesses the search engine 110 using the IP address '210.100.96.1', the search engine 110 may identify the searcher's 120 geographical location as 'SEOUL KANGNAM-GU' from the IP address, search the advertising information database 115 for local advertising information corresponding to the identified geographical location

'SEOUL KANGNAM-GU', and display the retrieved local advertising information for the searcher 120.

The local advertising information may be displayed for the searcher 120 by a method similar to a method of displaying brief information. In the present exemplary embodiment, brief information and local advertising information corresponding to an entered keyword may be displayed on a single screen, so that the advertiser 130 may simultaneously read both the brief information and the local advertising information.

The local advertising information may include commercial information about the advertiser 130, and items that the advertiser 130 sells. Also, the local advertising information may include link information to access a commercial website of the advertiser 130. Accordingly, when the searcher 120 clicks the displayed local advertising information, the search engine 110 induces the searcher 120 to access the website using the link information.

Also, the local advertising information may be displayed for the searcher 120 by a method similar to a method of displaying brief information, for example, summary information of a content material. In the present exemplary embodiment, brief information and local advertising information corresponding to an entered keyword may be displayed on a single screen, so that the advertiser 130 may simultaneously read both the brief information and the local advertising information. A reference fee may be set according to an ease of accessibility of the information for the searcher 120, a click ratio after the display, and the like, with respect to a display area where the local advertising information is displayed. In this instance, the reference fee is included in an advertising fee. For example, an operator of the search engine 110, providing the local advertising service, may set a comparatively high reference fee to a top portion of the screen where many searchers 120 click.

The local advertising information may include commercial information about the advertiser 130, items that the advertiser 130 sells, a purchase event, and the like. Also, the local advertising information may include link information to access a commercial website of the advertiser 130. Accordingly, when the searcher 120 clicks the displayed local advertising information, the search engine 110 induces the searcher 120 to access the website using the link information.

The searcher 120 may indicate an Internet user which maintains a user terminal

140 to access the search engine 110, enters a keyword into the search engine 110, and thereby creates a request for retrieving a desired content material or a CP that maintains the desired content material.

Also, the searcher 120 may enter a keyword and a search keyword, associated with a particular region, into the search engine 110 and thereby receive local advertising information of the advertiser 130 which has a business base in the region.

The advertiser 130 may indicate a service user which accesses the search engine 110 or the advertising fee calculation system 100 via the user terminal 140, pays an advertising fee, and thereby utilizes an advertising service of displaying the advertiser's 130 advertising/promotion information for the searcher 120. In this instance, the advertising fee is calculated in the advertising fee calculation system 100. Particularly, in the present invention, the advertiser 130 may provide the searcher 120, which is determined to have an interest in a particular region, with advertising/promotion information of the advertiser 130 that has a commercial interest in the region, i.e. the advertiser's 130 local advertising information corresponding.

Also, the advertiser 130 is enabled to display the local advertising information, corresponding to advertising/promotion information associated with the region, for the searcher 120 via the local advertising service supporting the search engine 110.

The user terminal 140 maintains a connection state with the search engine 110 or the advertising fee calculation system 100 via a network 150, such as the Internet, and displays various types of information associated with the local advertising service on a predetermined screen for the searcher 120 or the advertiser 130. Particularly, the user terminal 140 of the advertiser 130 realizes local profile information about a region, designated as an advertising candidate target region by the advertiser 130, displays the local profile information for the advertiser 130, and waits for the advertiser's 130 selection on the local profile information. The local profile information includes information about a commercial power, a settled population, a moving population, and the like, with respect to the region. When the advertiser's 130 selection is completed, a selection signal is generated in association with the advertiser's 130 selection and the user terminal 140 may transmit the selection signal to the advertising fee calculation system 100.

Also, the user terminal 140 of the advertiser 130 may realize a fee table 510, as

shown in FIG. 5, and display the fee table 510 for the advertiser 130. In this instance, the fee table 510 stores a grade fee with respect to a region and a keyword, selected by the advertiser 130 in association with the local advertising service. Accordingly, the advertiser 130 may estimate an approximate advertising fee.

In the present exemplary embodiment, the advertising fee to be charged to the advertiser 130 in association with the local advertising service may be defined as a fee which is acquired by summing up a grade fee according to a local grade and a keyword grade and a reference fee according to a display location of the local advertising information.

The advertising fee calculation system 100 may identify a number of IPs which are allocated to a local advertising service region by a communication provider, and calculate an advertising fee associated with the local advertising service by using the number of IPs, and thereby charge the advertiser 130 with the calculated advertising fee in proportion to advertising effects which are expected by displaying the local advertising information.

Also, the advertising fee calculation system 100 may calculate the advertising fee by considering a local grade of a region where the local advertising service is provided, and a keyword grade about a keyword which causes the local advertising information to be displayed. Accordingly, it is possible to charge the advertiser 130 with the advertising fee in proportion to advertising effects expected from the local advertising service.

Hereinafter, a configuration of an advertising fee calculation system 200 will be described with reference to FIG. 2.

FIG. 2 is a block diagram illustrating a configuration of an advertising fee calculation system 200 according to an exemplary embodiment of the present invention.

The advertising fee calculation system 200 may include a local information database 210, a profile provider 220, an IP number management component 230, and a fee calculator 240.

The local information database 210 stores local profile information corresponding to each region. In this instance, the local profile information includes various types of local data, which may be utilized as reference materials to determine whether a particular region is appropriate for the advertiser's 130 advertising marketing

strategy. Also, the local profile information is displayed for the advertiser 130. For example, the local profile information may include data capable of determining the size of a commercial power about the particular region, such as a population distribution, a sex distribution, an age distribution, an income distribution, and an occupation distribution. Also, the local profile information may be pre-generated by, for example, an operator of the present system. The operator may collect information, which will be included in the local profile information about the particular region, at a predetermined time interval or every season, and generate the local profile information by using the collected information.

The profile provider 220 provides the advertiser 130 with local profile information in response to a local advertising enrollment request from the advertiser 130. To generate the local advertising enrollment request, the search engine 110 may include, for example, 'an enrollment procedure algorithm' associated with the local advertising service. For example, the search engine 110 may set an activation area 'if you want to enroll in local advertising, please click this' on a search page displayed for the advertiser 130. When the advertiser 130 clicks the activation area, the search engine 110 may perform 'the enrollment procedure algorithm', generate the local advertising enrollment request, and transmit the generated local advertising enrollment request to the profile provider 220.

The search engine 110 may include information about the advertising candidate target region, which is collected from the advertiser 130 while performing 'the enrollment procedure algorithm', in the local advertising enrollment request. In this instance, the profile provider 220 identifies information about the advertising candidate target region from the local advertising enrollment request that is received form the advertiser 130 via the search engine 110.

Specifically, the profile provider 220 identifies a candidate region, initially designated by the advertiser 130 to display the advertiser's 130 local advertising information, from information about the advertising candidate target region included in the local advertising enrollment request, and retrieves the local information database 210 for local profile information corresponding to the identified candidate region. The retrieved local profile information may be transmitted to the advertiser 130 in response to the local advertising enrollment request from the advertiser 130. The user terminal

140 of the advertiser 130 realizes the local profile information in a form that the advertiser 130 may view, and displays the realized local profile information on a screen.

The IP number management component 230 receives the advertiser's 130 selection on the local profile information, and acquires information about a number of IPs which are allocated to a region associated with the selected local profile information. In this instance, IP indicates a network address system which is required to connect at least two hosts via the network 150. Also, IP may be assigned to each of Internet users which make a contract with a communication provider or a network provider. Accordingly, the number of IPs allocated to the particular region may be in proportion to a number of Internet users in the region. Also, the number of IPs may be utilized as data to estimate the commercial power in the region. A plurality of communication providers may allocate IPs in a single region. In this instance, the IP number management component 230 makes a count field 250 correspond to each region, and sums up and stores the number of IPs, allocated to the region by each of the communication providers, in the count field 250.

Specifically, the IP number management component 230 determines an optimal region for the advertiser's 130 advertising marketing strategy from candidate regions, initially designated by the advertiser 130, by referring to the local profile information. Also, the IP number management component 230 identifies a finally selected advertising target region, and reads the number of IPs from the count field 250 corresponding to the identified advertising target region.

Also, the IP number management component 230 may receive change information about the number of IPs, allocated to the particular region, from each of the communication providers at a predetermined time interval or periodically. Also, the IP number management component 230 may update the number of IPs by utilizing the received change information. In this instance, the number of IPs is stored in the count field 250 associated with a corresponding region. Accordingly, the IP number management component 230 may accurately identify the number of IPs allocated to the single region. Also, the IP number management component 230 may optimally reflect any change in the commercial power in the particular region by continuously updating the number of IPs.

The fee calculator 240 calculates the advertising fee of the local advertising

information based on the acquired number of IPs. Specifically, the fee calculator 240 calculates an optimal advertising fee for the advertiser 130 according to the commercial power in the region where the local advertising service is substantially provided. For example, the fee calculator 240 calculates the advertising fee by multiplying a predetermined fee rate with the acquired number of IPs so that the calculated advertising fee may be calculated in proportion to the number of IPs allocated to the region where the local advertising service is substantially provided. In this instance, the fee rate may be predetermined by an operator of the present system. For example, the fee rate may be set to 10 won for each IP.

When calculating the fee rate, the fee calculator 240 may calculate a weight to be applied to the fee rate, by considering various current local status data of the region. As the weight is applied to the fee rate, the fee rate may be different according to the region. Accordingly, the calculated advertising fee may be arbitrarily adjusted depending up the current local status of the region. For example, ten IPs allocated to SEOUL may have a different commercial value from ten IPs allocated to KANGWONDO. Accordingly, to apply the same fee rate '10 won ' to each IP allocated to SEOUL and KANGWONDO may be unfair for the advertiser 130. Accordingly, the fee calculator 240 reflects the weight according to each of the two regions. For example, the fee calculator 240 may adjust the fee rate for SEOUL to '11 won (= 10 won * 1.1)', and the fee rate for KANGWONDO to '9 won (= 10 * 0.9)'.

Hereinafter, an example of calculating an advertising fee will be described with reference to FIGS. 3 and 4.

FIG. 3 illustrates an example of local profile information provided for an advertiser according to an exemplary embodiment of the present invention.

As described above, the profile provider 220 may provide local profile information for the advertiser 130 which generates a local advertising enrollment request. In this instance, the local profile information is associated with an advertising candidate target region designated by the advertiser 130. In FIG. 3, when the advertiser 130 desires to utilize a local advertising service in association with women's clothing, the advertiser 130 executes 'an enrollment procedure algorithm' in the search engine 110. Also, referring to FIG. 3, the search engine 110 generates the local advertising enrollment request, including 'KANGNAM-GU, SEOCHO-GU, and

SONGPA-GU' corresponding to advertising candidate target regions designated by the advertiser 130.

In this environment, the profile provider 220 searches the local information database 210 for local profile information corresponding to each of the advertising candidate target regions 'KANGNAM-GU, SEOCHO-GU, and SONGPA-GU', and provides the retrieved local profile information for the advertiser 130. The advertiser 130 may determine to select a region with a greater portion of a moving women population to acquire greater advertising effects. Accordingly, the advertiser 130 may select only local profile information of two regions 'KANGNAM-GU' and 'SONGPA-GU' where the moving women population is greater than or equal to 400,000.

Also, the IP number management component 230 reads the number of IPs, allocated to the regions 'KANGNAM-GU' and 'SONGPA-GU', from the count field 250, and acquires information about the number of IPs allocated to the region 'KANGNAM-GU', as '250,000', and acquires information about the number of IPs allocated to the region 'SONGPA-GU', as '150,000'.

FIG. 4, parts I), II), and III), illustrate an example of calculating an advertising fee in association with providing a local advertising service according to an exemplary embodiment of the present invention.

In FIG. 4, a fee rate is set to 10 won by the operator of the present system and the fee calculator 240 determines various weights to be applied to the fee rate by considering a current local status. Examples of the weight may include 1) a first weight associated with a number of IPs, 2) a second weight associated with a corresponding region, and 3) a third weight associated with a local keyword.

When determining 1) the first weight associated with the number of IPs, the fee calculator 240 creates a plurality of first weights corresponding to each of IP levels. In this instance, the IP levels are classified into a plurality of grades. Referring to part I) of FIG. 4, the fee calculator 240 changes the number of IPs, acquired by the IP number management component 230, into an IP level. Also, the fee calculator 240 calculates the advertising fee associated with the local advertising service in the region by using a first weight corresponding to the IP level.

For example, as shown in part I) of FIG. 4, with respect to the number of IPs, '250,000', allocated to the region 'KANGNAM-GU', the fee calculator 240 changes the

IP level into a 'grade A', and determines 1.1 corresponding to the 'grade A' as the first weight to be applied to the fee rate. Also, the fee calculator 240 calculates advertising fee '2,750,000 won' by multiplying the first weight '1.1', the fee rate '10 won', and the number of IPs '250,000'. Also, with respect to the region 'SONGPA-GU' allocated with '150,000' IPs, the fee calculator 240 changes the IP level into a 'grade B', and determines 1.0 corresponding to the ' grade B' as the first weight. Also, the fee calculator 240 calculates advertising fee '1,500,000 won' by multiplying the first weight '1.0', the fee rate '10 won', and the number of IPs '150,000'.

Also, when determining 2) the second weight associated with the region, the fee calculator 240 creates a plurality of second weights corresponding to each of local levels. In this instance, the local levels are classified into a plurality of grades. Referring to part II) of FIG. 4, the fee calculator 240 changes a moving women population into a local level, and calculates the advertising fee, associated with the local advertising service in the region, by using the second weight corresponding to the local level.

For example, with respect to the region 'KANGNAM-GU' with moving women population '600,000' as shown in FIG. 3, the fee calculator 240 changes the local level into the 'grade A', and determines 1.0 corresponding to the 'grade A' as the second weight. Also, the fee calculator 240 calculates advertising fee '2,500,000 won' by multiplying the second weight '1.0', the fee rate '10 won', and the number of IPs '250,000'. Also, with respect to the region 'SONGPA-GU' with moving women population '425,000', the fee calculator 240 changes the local level into the 'grade B', and determines 0.9 corresponding to 'the grade B' as the second weight. Also, the fee calculator 240 calculates advertising fee '1,350,000 won' by multiplying the second weight '0.9', the fee rate '10 won', and the number of IPs '150,000'.

In part II) of FIG. 4, the fee calculator 240 changes the local level using only the moving women population, however, the present invention is not limited thereto. Specifically, the fee calculator 240 may change the local level of a corresponding region by using at least one of a commercial power, a settled population, a season, and the like.

Also, when determining 3) the third weight associated with the keyword, the search engine 110, providing the advertiser 130 with the local advertising service, stores the advertiser's 130 local advertising information in the advertising information

database 115 in correspondence to a local keyword. In this instance, the advertising information database 115 functions to store the advertiser's 130 local advertising information to be displayed for the searcher 120 in association with a particular region, when it is determined that a keyword entered by the searcher 120 accessing the search engine 110 is associated with the particular region. There is no particular constraint on a point in time when the local advertising information must be stored in the advertising information database 115. Specifically, the local advertising information may be stored in the advertising information database 115 before or after the advertiser 130 pays the calculated advertising fee.

When local advertising information corresponding to the local keyword is stored in the advertising information database 115, the fee calculator 240 creates a plurality of third weights corresponding to each of keyword levels. In this instance, the keyword levels are classified into a plurality of grades. Referring to part III) of FIG. 4, the fee calculator 240 changes the local keyword into a keyword level, and calculates the advertising fee associated with the local advertising service in the region by using the third weight corresponding to the local keyword. Examples of the value of the local keyword may include an advertiser return on investment (ROI), a reference number, and a preference with respect to the local keyword.

For example, the local advertising information of the advertiser 130 running a women's clothing website is stored in the advertising information database 115 corresponding to the local keyword including 'women's clothing'. In this instance, it is assumed that the advertiser ROI about 'women's clothing', calculated by the operator of the present system, is '15%'.

In this assumption, the fee calculator 240 changes the keyword level about 'women's clothing' into a 'grade B', and determines '0.9' corresponding to the 'grade B' as the third weight to be applied to the fee rate. Also, the fee calculator 240 calculates advertising fee '2,250,000 won' concerning the region 'KANGNAM-GU' by multiplying the third weight '0.9', the fee rate '10 won', and the number of IPs '250,000', allocated to the region 'KANGNAM-GU'. Also, the fee calculator 240 calculates advertising fee '1,350,000' concerning the region 'SONGPA-GU' by multiplying the third weight '0.9', the fee rate '10 won, and the number of IPs '150,000', allocated to the region 'SONGPA-GU'.

In FIG. 4, each of the first through third weights is applied to the fee rate, however, the present invention is not limited thereto. Specifically, it is possible to apply at least two of the first through third weights to the fee rate.

As described above, according to the present invention, it is possible to arbitrarily change the fee rate, which is utilized to calculate the advertising fee, depending upon a current local status. Accordingly, a reasonable advertising fee may be calculated.

Also, according to the present invention, the advertiser 130 may calculate an advertising fee by using a characteristic of a substantial advertising target region and a number of IPs allocated to a corresponding region. Accordingly, it is possible to calculate the reasonable advertising fee in proportion to advertising effects expected in the region.

The advertising fee calculation system 200 provides the advertiser 130 with the calculated advertising fee via the search engine 110, and the advertiser 130 pays the advertising fee via the search engine 110. In this instance, the search engine 110 may provide the local advertising service to the advertiser 130 which completely pays the advertising fee, i.e. may display the advertiser's 130 local advertising information associated with the region for the searcher 120 which enters the local keyword.

Hereinafter, a configuration of an advertising fee calculation system 500 according to another exemplary embodiment of the present invention will be described with reference to FIG. 5.

FIG. 5 is a block diagram illustrating a configuration of the advertising fee calculation system 500 according to another exemplary embodiment of the present invention.

The advertising fee calculation system 500 may include a fee table 510, an interface provider 520, an identifier collector 530, a grade changing component 540, and a fee calculator 550.

The fee table 510 functions to store a grade fee, which is included in an advertising fee, corresponding to a local grade and a keyword grade.

Specifically, the fee table 510 classifies regions where the local advertising service is substantially provided, into an X number of local grades, and disposes each of the classified local grades into a column or a line. In this instance, the regions may be

classified by considering at least one of an IP distribution, a commercial power, a settled population, a moving population, and a season with respect to the region.

Also, the fee table 510 classifies keywords, which cause local advertising information to be displayed for the searcher 120, into a Y number of keyword grades, and disposes each of the classified keyword grades into a line or a column. In this instance, the keywords may be classified by considering at least one of an advertiser ROI, a reference number, a preference, and an event with respect to the keyword.

FIG. 6, parts I) and II), illustrate an example of classifying a region and a keyword according to an exemplary embodiment of the present invention.

As described above, the fee table 510 functions to classify regions into the X number of local grades, and also classifies keywords into the Y number of keyword grades. Also, the fee table 510 functions to store a grade fee set by, for example, the operator of the present system, according to a region and a keyword, i.e. a local grade and a keyword grade. In this instance, the region and the keyword are selected by the advertiser 130 utilizing the local advertising service.

Referring to part I) of FIG. 6, regions are classified. For example, administrative regions of the Republic of Korea are classified into four local grades according to the IP distribution for each region. For example, the operator of the present system may classify a region 'SEOUL', occupying 35% of IP distribution among the entire IP distribution, into a first grade, and may classify regions 'KANGWON' and 'JEJU', occupying 10% of IP distribution among the entire IP distribution, into a fourth grade. Specifically, the operator may determine that advertising effects will increase in proportion to an IP distribution of each region and thereby classify the region according to the IP distribution as shown in part I) of FIG. 6.

Referring to part II) of FIG. 6, keywords are classified. For example, the keywords may cause local advertising information to be displayed for the searcher 120 according to an advertiser ROI, a recent preference, a reference number, and the like with respect to each of the keywords. The keywords may be classified into four keyword grades. For example, keywords 'rental car, used car, and diet are frequently referred to by the searcher 120 during a predetermined period of time, and other keywords 'pet clinic, architect, and martial art' are comparatively less referred to by the searcher 120 during the period of time. Accordingly, the operator of the present

system may classify the keywords 'rental car, used car, and diet into a grade A, and may classify the keywords 'pet clinic, architect, and marital art' into a grade D. Specifically, the operator of the present system may determine that the advertiser's 130 local advertising information is more frequently displayed for the searcher 120 according to the reference number of the keyword and that advertising effects will increase in proportion thereto. Accordingly, the operator may classify the keywords according to the reference number of the keyword as shown in part II) of FIG. 6.

FIG. 7 illustrates an example of the fee table according to an exemplary embodiment of the present invention.

In the fee table 510 of FIG. 7, four local grades and four keyword grades are disposed in four columns and lines, respectively, according to a grade classification shown in FIG. 6. In this instance, a grade fee corresponds to a column and line pair. The grade fee of the fee table 510 corresponding to the column and line pair may be set by the operator of the present system. Also, the operator of the present system may set an amount suitable for advertising effects, which are expected from the local advertising service, to a grade fee corresponding to a particular local grade and a keyword grade.

For example, when the fee table 510 is provided as shown in FIG. 7, 99,000 won' corresponding to a local grade 'first grade' and keyword grade 'grade C' pair may be determined as the grade fee for the advertiser 130 which desires to utilize the local advertising service with respect to the region 'SEOUL' and the keyword 'essay institute'. Specifically, it is possible to determine a reasonable grade fee for expected advertising effects with respect to the advertiser 130 which desires to utilize the local advertising service by using an intermediate grade keyword 'essay institute' in the region 'SEOUL where a commercial power is large.

The fee table 510 may include the grade fee, which is optimal for advertising effects expected according to a particular region and keyword pair, in the advertising fee. Accordingly, the fee table 510 may be utilized as data to charge the advertiser 130 with the advertising fee.

The interface provider 520 displays an input interface for the advertiser 130 in response to the local advertising enrollment request. Specifically, the interface provider 520 functions to provide a user interface for collecting information about a keyword, causing the advertiser's 130 local advertising information to be displayed for

the searcher 120, and a region where the local advertising service is substantially provided. To generate the local advertising enrollment request, the search engine 110 may include, for example, an 'enrollment procedure algorithm' associated with the local advertising service. For example, the search engine 110 may set an activation area in a local advertising enrollment page displayed for the advertiser 130 accessing the search engine 110. Also, when the advertiser 130 clicks the activation area, the search engine 110 may perform the 'enrollment procedure algorithm', generate the local advertising enrollment request, and transmit the generated local advertising enrollment request to the interface provider 520.

Specifically, the interface provider 520 provides the advertiser 130 with the user interface for acquiring information about the keyword and the region where the local advertising service is substantially provided. In this instance, the input interface may be in a form of a 'region input field' or a 'keyword input field', which is displayed on the local advertising enrollment page displayed for the advertiser 130 by the search engine 110. Also, the input interface functions to receive a region name or a keyword name from the advertiser 130 via the 'region input field' or the 'keyword input field' (see FIG. 13).

The identifier collector 530 receives a local identifier and a keyword identifier according to the advertiser's 130 entered data into the input interface. Specifically, the identifier collector 530 functions to collect the local identifier and the keyword using the region name or the keyword name that the advertiser 130 enters into the input interface of the local advertising enrollment page. In this instance, the collected local identifier may correspond to a region where the advertiser 130 desires to utilize the local advertising service. Also, the collected keyword identifier may correspond to a keyword which causes the advertiser's 130 local advertising information to be displayed for the searcher 120.

In the present exemplary embodiment, the identifier collector 530 collects the local identifier by using the local name that the advertiser 130 enters into the input interface, however, the present invention is not limited thereto. Specifically, the identifier collector 530 may identify the advertiser's 130 geographical location, and collect a region corresponding to the identified geographical location as the local identifier. For example, the identifier collector 530 may analogize the advertiser's 130

location through a network address, such as an IP address, which the advertiser 130 utilizes to access the search engine 110, and thereby collect the local identifier.

The grade changing component 540 changes the collected local identifier and keyword identifier into a local grade and a keyword grade. Specifically, the grade changing component 540 functions to determine the grade of the local identifier or the keyword identifier collected from the advertiser 130 according to advertising effects expected from the local advertising service.

When calculating the local grade, the grade changing component 540 calculates the local grade by considering at least one of an IP distribution, a commercial power, a settled population, a moving population, and a season with respect to the local identifier. For example, the grade changing component 540 may calculate the local grade of the local identifier by using a table shown in part I) of FIG. 6. In this instance, the table is generated by considering the above elements.

Also, when calculating the keyword grade, the grade changing component 540 calculates the keyword grade by considering at least one of an advertiser ROI, a reference number, and a preference with respect to the keyword identifier. For example, the grade changing component 540 may calculate the keyword grade of the keyword identifier by using a table shown in part II) of FIG. 6. In this instance, the table is generated by considering the above elements.

The fee calculator 550 calculates the advertising fee of the local advertising information by utilizing the local grade and the keyword grade. Specifically, the fee calculator 550 functions to calculate a reasonable advertising fee optimal for the advertiser 130 according to an expected connection frequency between the searcher 120 and the advertiser 130, by using the commercial power in the region where the local advertising service is substantially provided, or using the displayed local advertising information.

When calculating the advertising fee, the fee calculator 550 may calculate the advertising fee to be charged to the advertiser 130 by 1) searching the fee table 510 for the grade fee corresponding to the local grade and the keyword grade, and 2) summing up a reference fee and the grade fee. In this instance, the reference fee is set according to a location where the local advertising information is displayed for the searcher 120.

When searching for the grade fee, the fee table 510 includes an X number of

columns corresponding to the local grade, and the fee calculator 550 matches the local grade with an n^{th} column among the X number of columns. Specifically, the fee calculator 550 identifies a column corresponding to the local grade. For example, when the local grade is changed into a first grade, i.e. n = 1, the fee calculator 550 identifies that a first column among four columns of the fee table 510 is the 'first grade'.

Also, the fee table 510 includes a Y number of lines corresponding to the keyword grade, and the fee calculator 550 matches the keyword grade with an m^{th} line among the Y number of lines. Specifically, the fee calculator 550 identifies a line corresponding to the keyword grade. For example, when the keyword grade is changed into a third grade, i.e. m = 3, the fee calculator 550 identifies that a third line among four lines of the fee table 510 is the 'grade C'.

Also, the fee calculator 550 may search the fee table 510 of FIG. 7 for grade fee '99,000 won' corresponding to the matched n and m, i.e. the local grade 'first grade' and the keyword grade 'grade C'.

Also, when 2) identifying the reference fee, the fee calculator 550 may identify the reference fee which is set in association with a display area where local advertising information is displayed for the searcher 120. An operator of the search engine 110 may set a different reference fee according to a display area in a search page where local advertising information is displayed as search results. Also, the fee calculator 550 may identify the reference fee which is set with respect to one particular display area, selected by the advertiser 130, among a plurality of display areas. For example, if the advertiser 130 desires more searchers 120 to click the advertiser's 130 local advertising information after displaying the local advertising information, the advertiser 130 may select a top portion of a screen to display the local advertising information. In this case, the fee calculator 550 may identify the reference fee, set to, for example, '300,000 won' for the selected top portion.

The fee calculator 550 may sum up 1) the retrieved grade fee and 2) the identified reference fee, and determine the results of the summation as the advertising fee of the advertiser 130 in association with the local advertising service. With respect to the advertiser 130 which desires to display the advertiser's 130 local advertising information in a top portion of the screen with respect to 'SEOUL' and 'essay institute', the fee calculator 550 may determine '399,000 won', which is acquired by summing up

1) the grade fee '99,000 won' and 2) the reference fee '300,000 won', as the advertising fee.

In the present exemplary embodiment, the summation of the grade fee and the reference fee is determined as the advertising fee, however, the present invention is not limited thereto. Specifically, the fee grade alone retrieved from the fee table 510 may be determined as the advertising fee.

As described above, according to the present invention, it is possible to calculate an advertising fee by considering a commercial power in a region where the advertiser 130 substantially utilizes a local advertising service, and a keyword associated with displaying the local advertising information. Accordingly, it is possible to charge the advertiser 130 with a reasonably calculated advertising fee in proportion to advertising effects expected in the region.

The advertising fee calculation system 500 may provide the advertiser 130 with the calculated advertising fee via the search engine 110. Also, the search engine 110 may process a payment of the advertising fee. In this instance, the search engine 110 may provide the local advertising service for the advertiser 130 which completely pays the advertising fee. Specifically, the search engine 110 may display local advertising information of the advertiser 130, which enrolls the local advertising service in the region, for the searcher 120 which enters a keyword associated with the region. Also, the search engine 110 may display the advertiser's 130 local advertising information, corresponding to the searcher's 120 geographical location, for the searcher 120. In this instance, the searcher's 120 geographical location is identified from the IP address.

Hereinafter, an operational flow of an advertising fee calculation system according to an exemplary embodiment of the present invention will be described in detail.

FIG. 8 is a flowchart illustrating a method of calculating an advertising fee according to an exemplary embodiment of the present invention.

The method of calculating an advertising fee is performed by the advertising fee calculation system 200.

In operation S810, the advertising fee calculation system 200 provides the advertiser 130 with local profile information in response to a local advertising enrollment request from the advertiser 130. Operation S810 is a process of providing

the advertiser 130 with local profile information about an advertising candidate target region, which is designated by the advertiser 130 that desires to utilize a local advertising service. Operation S810 will be further described in detail with reference to FIG. 9.

FIG. 9 is a flowchart illustrating a process of providing an advertiser with local profile information according to an exemplary embodiment of the present invention.

In operation S910, the local advertising fee calculation system 200 maintains the local information database 210. The local information database 210 stores local profile information corresponding to each region. Operation S910 is a process of storing local profile information in the local information database 210 in correspondence to each region. In this instance, the local profile information includes information about a current local status. Also, the region may be arbitrarily classified by an operator of the present system according to a predetermined standard. For example, the operator may classify the region into 'province', 'city', 'county', 'district', and the like according to an administrative district, and create local profile information about the region.

In operation S920, the advertising fee calculation system 200 receives the local advertising enrollment request from the advertiser 130. In this instance, the local advertising enrollment request includes information about an advertising candidate target region. Operation S920 is a process of receiving the local advertising enrollment request from the advertiser 130. The local advertising enrollment request is generated by the advertiser 130 that desires to utilize the local advertising service. In operation S920, the advertising fee calculation system 200 collects information about a region (advertising candidate target region), entered by the advertiser 130, i.e. initially designated by the advertiser 130 during a process of generating the local advertising enrollment request.

In operation S930, the advertising fee calculation system 200 searches the local information database 210 for local profile information corresponding to a region associated with the advertising candidate target region. Operation S930 is a process of extracting local advertising information, corresponding to the region designated as the advertising candidate target region by the advertiser 130, from the local information database 210.

In operation S940, the advertising fee calculation system 200 provides the advertiser 130 with the retrieved local profile information in response to the local advertising enrollment request. Operation S940 is a process of realizing the extracted local advertising information so that the advertiser 130 may read the local advertising information via the user terminal 140.

For example, when the advertiser 130, selling women's clothing, desires to utilize a local advertising service by designating three regions 'KANGNAM-GU', 'SEOCHO-GU', and 'SONGPA-GU' as advertising target candidate regions, the search engine 110 generates a local advertising enrollment request, and the advertising fee calculation system 200 receives the generated local advertising enrollment request. In this instance, the advertising fee calculation system 200 may search the local information database 210 for local profile information about the three regions 'KANGNAM-GU', 'SEOCHO-GU', and 'SONGPA-GU', and provide the advertiser 130 with the retrieved local profile information (see FIG. 3). The local profile information may include information about a population distribution, a sex distribution, an age distribution, an income distribution, and an occupation distribution.

In operation S820, the advertising fee calculation system 200 receives the advertiser's 130 selection on the local profile information, and acquires information about a number of IPs which are allocated to a region associated with the selected local profile information. Operation S820 is a process of receiving the advertiser's 130 selection on local profile information about a region. In this instance, the region is determined to be optimal for the advertiser's 130 advertising marketing strategy, and the advertiser 130 reads the local profile information.

Also, the advertising fee calculation system 200 identifies the number of IPs, which are allocated to the selected region by a communication provider for the purpose of the present invention to calculate a reasonable advertising fee according to the number of IPs. Specifically, the advertising fee calculation system 200 creates the count field 250, which corresponds to each region, and stores the number of IPs allocated to the region. Also, the advertising fee calculation system 200 sums up the number of IPs allocated to one region and stores the number of IPs in the count field 250. Accordingly, when the advertiser 130 selects an advertising target region, i.e. when the advertiser 130 selects local profile information, the advertising fee calculation

system 200 reads the number of IPs stored in the count field 250 corresponding to the region, and acquires information about the number of IPs.

Also, in operation S820, the advertising fee calculation system 200 may receive change information about the number of IPs from a predetermined communication provider at a predetermined time interval, and update the number of IPs by utilizing the received change information. In this instance, the number of IPs is stored in the count field 250 associated with a corresponding region. The predetermined time interval may be arbitrarily set by the operator of the present system, which will be described with reference to FIG. 10.

FIG. 10 is a flowchart illustrating a process of updating a number of IPs for each region according to an exemplary embodiment of the present invention.

In operation S1010, the advertising fee calculation system 200 creates the count field 250. The count field 250 corresponds to each region, and stores the number of IPs allocated to the region. Operation S1010 is a process of creating the count field 250 to store a total number of IPs allocated to a particular region by a plurality of communication providers. Specifically, the count field 250 may indicate a physical and logical recording space for storing the number of IPs as a numerical value.

In operation S1020, the advertising fee calculation system 200 receives change information about the number of IPs from each of the plurality of communication providers at a predetermined time interval. Operation S1020 is a process of collecting change information about the number of IPs, such as a number of additionally allocated IPs, a number of cancelled IPs, and the like, with respect to a particular region during a predetermined period of time, from each of the plurality of communication providers. In this instance, the change information may include increase or decrease information (e.g., + 10,000, - 5,000) about the number of IPs allocated to the particular region. Accordingly, the advertising fee calculation system 200 may readily recognize a current change status of the number of IPs during the period of time.

In operation S1030, the advertising fee calculation system 200 updates the number of IPs, stored in the count field 250 associated with a corresponding region, by utilizing the received change information. Operation S1030 is a process of correcting the number of IPs in the count field 250 according to the increase or decrease information about the number of IPs. In operation S1030, a current change status

about the number of IPs allocated to the particular region may be optimally reflected in the count field 250 at the time interval.

Accordingly, the advertising fee calculation system 200 may improve an accuracy about the number of IPs stored in the count field 250 by quickly reflecting the change about the number of IPs allocated to the particular region.

In operation S830, the advertising fee calculation system 200 calculates the advertising fee of the local advertising information based on the acquired number of IPs. Operation S830 is a process of calculating an advertising fee to be charged to the advertiser 130 in association with the local advertising information service. Specifically, the advertising fee calculation system 200 calculates the advertising fee by multiplying a predetermined fee rate and the number of IPs, allocated to the region selected as the advertising target region by the advertiser 130. For example, when the number of IPs, allocated to the region 'KANGNAM-GU' selected by the advertiser 130, is '250,000' and the fee rate is '10 won', the advertising fee calculation system 200 may calculate the advertising fee '2,500,000 won', and charge the advertiser 130 2,500,000 won.

According to another exemplary embodiment of the present invention, in operation S830, the advertising fee calculation system 200 may create a weight to be applied to the fee rate by considering various elements associated with local advertising information, and thereby apply a different fee rate to each region.

Specifically, the advertising fee calculation system 200 may create 1) a first weight associated with the number of IPs, 2) a second weight associated with the region, and 3) a third weight associated with the local keyword, and apply a different fee rate to each region by using at least one of the first through third weights. How to create the first through third weight has been described above with reference to FIG. 4, and thus further detailed descriptions will be omitted.

In operation S840, the advertising fee calculation system 200 stores a local keyword, associated with the selected local profile information, and the advertiser's 130 local advertising information in the advertising information database 115 of the search engine 110. In this instance, the local keyword and the local advertising information correspond to each other. Operation S840 is a process of enrolling the advertiser's 130 local advertising information in the advertising information database 115 so that the

search engine 110 may provide the local advertising service for the advertiser 130 which pays the calculated advertising fee. In the advertising information database 115, the local keyword, set by the advertiser 130, and the local advertising information correspond to each other, and wait for a search request from the searcher 120 accessing the search engine 110. For example, the advertising fee calculation system 200 may transmit a signal of permitting the advertiser 130 to enroll the local advertising information, to the search engine 110, so that the local advertising service associated with the region 'KANGNAM-GU' may be provided for the advertiser 130 which pays an advertising fee of '2,500,000 won'.

Accordingly, when the search request associated with a particular region is received from the searcher 120, the search engine 110 may display the advertiser's 130 local advertising information for the searcher 120. An operation of the search engine 110 will be described with reference to FIG. 11.

FIG. 11 is a flowchart illustrating a process of operating a search engine to realize a local advertising service according to an exemplary embodiment of the present invention.

In operation S1110, the search engine 110 receives a search request, including a local keyword, from the searcher 120. Operation S1110 is a process of generating the search request when the searcher 120 accesses the search engine 110 and then enters a keyword into a search window of a search page. In this instance, the local keyword may indicate a keyword capable of identifying a region. Examples of the local keyword may include 'KANGNAM-GU', 'SONGPA-GU', and the like.

In operation S1120, the search engine 110 searches the advertising information database 115 for local advertising information corresponding to the local keyword. Operation S1120 is a process of analogizing a region, which the searcher 120 is interested in, from the entered keyword, and extracting local advertising information, corresponding to the region, from the advertising information database 115. According to another exemplary embodiment of the present invention, the search engine 110 may identify the searcher's 120 geographical location from the IP address, and search the advertising information database 115 for local advertising information associated with the identified location.

In operation S1130, the search engine 110 displays the retrieved local

advertising information for the searcher 120 in response to a search request. Operation S1130 is a process of providing the advertiser 130 with the local advertising service by displaying the advertiser's 130 local advertising information for the searcher 120. As described above, the search engine 110 may provide the searcher 120, which is interested in a particular region, with local advertising information of the advertiser 130 that has a business base in the particular region. Accordingly, it may be more possible to induce the searcher 120 to be the advertiser's 130 customer.

According to the present invention, it is possible to calculate an advertising fee by using a characteristic of a substantial advertising target region of the advertiser 130 and a number of IPs allocated to a corresponding region. Accordingly, it is possible to charge the advertiser 130 with a reasonable advertising fee.

FIG. 12 is a flowchart illustrating a method of calculating an advertising fee according to another exemplary embodiment of the present invention.

In operation S1210, the advertising fee calculation system 500 displays an input interface for the advertiser 130 in response to a local advertising enrollment request. Operation S1210 is a process of providing the advertiser 130 with a user interface to collect a local identifier or a keyword identifier. In this instance, the local identifier is associated with an advertising target region designated by the advertiser 130 that desires to utilize a local advertising service. Also, the keyword identifier is associated with displaying the advertiser's 130 local advertising information. Operation S1210 will be described in detail with reference to FIG. 13.

FIG. 13 illustrates an example of an input interface according to an exemplary embodiment of the present invention.

When the advertiser 130 clicks an activation area associated with 'an enrollment procedure algorithm' in a local advertising enrollment page, the advertising fee calculation system 500 may provide the advertiser with an input interface for collecting a local identifier or a keyword identifier, as shown in FIG. 13. Referring to FIG. 13, one region 'SEOUL' is selected from a plurality of region candidates by the advertiser 130, and is inputted as a region name. Also, one keyword 'essay institute' is selected from a plurality of keyword candidates by the advertiser 130, and is inputted as a keyword name.

In operation S1220, the advertising fee calculation system 500 collects the local

identifier and the keyword identifier according to the advertiser's 130 entered data into the input interface. Operation S1220 is a process of acquiring information about a region where the local advertising service is substantially provided, and information about a keyword which causes the advertiser's 130 local advertising information to be displayed for the searcher 120. In the above-described example, the advertising fee calculation system 500 collects 'SEOUL' as the local identifier, and 'essay institute' as the keyword identifier.

In operation S1230, the advertising fee calculation system 500 changes the collected local identifier and keyword identifier into a local grade and a keyword grade. Operation S1230 is a process of changing each of the collected local identifier and the keyword identifier into a predetermined grade for the purpose of the present invention to charge the advertiser 130 with the advertising fee in proportion to advertising fee expected from the local advertising service.

In operation S1230, the advertising fee calculation system 500 may change the local identifier into the local grade by considering at least one of an IP distribution, a commercial power, a settled population, a moving population, and a season with respect to the local identifier. Also, the advertising fee calculation system 500 may change the keyword identifier into the keyword grade by considering at least one of an advertiser ROI, a reference number, and a preference with respect to the keyword identifier.

In the above-described example, the advertising fee calculation system 500 changes the local identifier 'SEOUL' into the local grade 'first grade' according to the IP distribution, and changes the keyword identifier 'essay institute' into the keyword grade 'grade C' according to the advertiser ROI/reference number/preference.

In operation S1240, the advertising fee calculation system 500 calculates the advertising fee of the local advertising information by utilizing the local grade and the keyword grade. Operation S1240 is a process of calculating the advertising fee to be charged to the advertiser 130 in association with the local advertising service. Specifically, the advertising fee calculation system 500 searches the fee table 510 for a grade fee corresponding to the local grade and the keyword grade, sums ups the grade fee and a predetermined reference fee, and thereby determines an advertising fee. In this instance, the reference fee is set with respect to a display area where the local advertising information is displayed for the searcher 120. For example, a

predetermined amount of money may be set to the reference fee with respect to the display area by the operator of the search engine 110 supporting the local advertising service.

FIG. 14 is a flowchart illustrating a process of determining an advertising fee according to an exemplary embodiment of the present invention.

In operation S1410, the advertising fee calculation system 500 maintains the fee table 510. The fee table 510 stores a grade fee corresponding to a local grade n and a keyword grade m. Operation S1410 is a process of maintaining the fee table 510 which includes a plurality of local grades in columns, and also includes a plurality of keyword grades in lines. The fee table 510 stores the grade fee corresponding to an n^{th} column and an m^{th} line.

In operation S1420, the advertising fee calculation system 500 matches the local grade with a predetermined n, and matches the keyword grade with a predetermined m. Operation S1420 is a process of matching the local grade with an n^{th} column among an X number of columns, which are included in the fee table 510 corresponding to the local grade. Also, the advertising fee calculation system 500 matches the keyword grade with an m^{th} line among a Y number of lines, which are included in the fee table 510 corresponding to the keyword grade. Specifically, the advertising fee calculation system 500 identifies a column/line of the fee table 510 corresponding to the local grade and the keyword grade.

In operation S1430, the advertising fee calculation system 500 searches the fee table 510 for the grade fee corresponding to the matched n and m. Operation S1430 is a process of identifying the grade fee corresponding to the column and the line from the fee table 510. In the above-described example, the advertising fee calculation system 500 searches the fee table 510 for the grade fee '99,000 won' corresponding to the matched local grade 'first grade (n = 1)' and the keyword grade 'grade C (m = 3)', i.e. corresponding to (1,3).

In operation S1440, the advertising fee calculation system 500 identifies a reference fee, which is set with respect to a display area of the local advertising information, and calculates the advertising fee by summing up the reference fee and the retrieved grade fee. Operation S1440 is a process of calculating the advertising fee by summing up the retrieved grade fee and the reference fee, which is set according to the

searcher's 120 click frequency on the displayed local advertising information, and charging the advertiser 130 with the calculated advertising fee. In the above-described example, when the advertiser 130 selects a top portion of the screen, as the display area, where the searcher's 120 click frequently occurs, the advertising fee calculation system 500 may identify '300,000 won' as the reference fee. Also, the advertising fee calculation system 500 may sum up the reference fee '300,000 won' and the grade fee '99,000 won', as the advertising fee '399,000 won'.

In the present exemplary embodiment, the reference fee is set by considering only the display area of the local advertising information, however, the present invention is not limited thereto. Specifically, the reference fee may be set by additionally considering an event fee, a new product opportunity cost, and the like.

Referring again to FIG. 12, in operation S1250, the advertising fee calculation system 500 stores the local identifier and the keyword identifier in the advertising information database 115 of the search engine 110 in correspondence to the advertiser's 130 local advertising information. Operation S1250 is a process of enrolling the advertiser's 130 local advertising information in the advertising information database 115, so that the sear engine 110 may provide a local advertising service for the advertiser 130 which pays the calculated advertising fee. The advertising information database 115 stores the region and the keyword, entered by the advertiser 130, corresponding to the local advertising information, and waits for a search request from the searcher 120 accessing the search engine 110. For example, the advertising fee calculation system 500 may transmit a signal of permitting the advertiser 130 to enroll the local advertising information, to the search engine 110, so that the local advertising service associated with the region 'SEOUL' and the keyword 'essay institute' may be provided for the advertiser 130 which pays the advertising fee '399,000 won'.

Accordingly, when the search request associated with 'SEOUL', 'essay institute' is received from the searcher 120, the search engine 110 may display the advertiser's 130 local advertising information for the searcher 120. An operation of the search engine 110 will be described with reference to FIG. 15.

FIG. 15 is a flowchart illustrating a process of operating a search engine to realize a local advertising service according to an exemplary embodiment of the present invention.

In operation S1510, the search engine 110 receives a search request, including a region and a keyword, from the searcher 120. Operation S1510 is a process of generating the search request when the searcher 120 accesses the search engine 110 and then enters a keyword or a search keyword, associated with the region, into a search window of a search page. In this instance, the keyword associated with the region may indicate a keyword capable of identifying the region. Examples of the keyword may include 'SEOUL', 'SEOUL KANGNAM', and the like.

In operation S1520, the search engine 110 searches the advertising information database 115 for local advertising information corresponding to the region and the keyword. Operation S1520 is a process of analogizing a region, which the searcher 120 is interested in, from the entered keyword, and extracting local advertising information, associated with the region and corresponding to the entered keyword, from the advertising information database 115. According to another exemplary embodiment of the present invention, the search engine 110 may identify the searcher's 120 geographical location from the IP address, and search the advertising information database 115 for local advertising information which is associated with the identified location and also corresponds to the entered keyword.

In operation S1530, the search engine 110 displays the retrieved local advertising information for the searcher 120 in response to a search request. Operation S1530 is a process of providing the advertiser 130 with the local advertising service by displaying the advertiser's 130 local advertising information for the searcher 120. As described above, the search engine 110 may provide the searcher 120, which is interested in a particular region, with local advertising information of the advertiser 130 that has a business base in the particular region. Accordingly, it may be more possible to induce the searcher 120 as the advertiser's 130 customer.

As described above, according to the present invention, it is possible to calculate an advertising fee in proportion to advertising effects expected from a substantial advertising region and a keyword. Accordingly, it is possible to charge the advertiser 130 with a reasonable advertising fee according to a characteristic of the region.

The advertising fee calculation method according to the above-described exemplary embodiment of the present invention may be recorded in computer-readable

media including program instructions to implement various operations embodied by a computer. The media may also include, alone or in combination with the program instructions, data files, data structures, and the like. Examples of computer-readable media include magnetic media such as hard disks, floppy disks, and magnetic tape; optical media such as CD ROM disks and DVD; magneto-optical media such as optical disks; and hardware devices that are specially configured to store and perform program instructions, such as read-only memory (ROM), random access memory (RAM), flash memory, and the like. The media may also be a transmission medium such as optical or metallic lines, wave guides, and the like, including a carrier wave transmitting signals specifying the program instructions, data structures, and the like. Examples of program instructions include both machine code, such as produced by a compiler, and files containing higher level code that may be executed by the computer using an interpreter. The described hardware devices may be configured to act as one or more software modules in order to perform the operations of the above-described exemplary embodiments of the present invention.

According to the present invention, there is provided a method and system for calculating an advertising fee, which can calculate an advertising fee by using a characteristic of an advertising target region of an advertiser and a number of IPs, which are allocated to a corresponding region, and thereby can charge the advertiser with a reasonable advertising fee in proportion to advertising effects expected in the region.

Also, according to the present invention, there is provided a method and system for calculating an advertising fee, which can calculate an advertising fee by considering a commercial power in a region where an advertiser substantially utilizes a local advertising service, or a keyword associated with displaying local advertising information, and charge the advertiser with the advertising fee in proportion to advertising effects expected by using the local advertising service.

Also, according to the present invention, there is provided a method and system for calculating an advertising fee, which can change each of a region and a keyword, designated by an advertiser in association with a local advertising service, into a grade, and calculate an advertising fee, including a fee corresponding to the grade, and thereby can reflect advertising effects in the advertising fee. In this instance, the advertising effects may change according to the region or the keyword.

Although a few embodiments of the present invention have been shown and described, the present invention is not limited to the described embodiments. Instead, it would be appreciated by those skilled in the art that changes may be made to these embodiments without departing from the principles and spirit of the invention, the scope of which is defined by the claims and their equivalents.

CLAIMS

1. A method of calculating an advertising fee of local advertising information, the method comprising the steps of:

providing an advertiser with local profile information in response to a local advertising enrollment request from the advertiser;

receiving the advertiser's selection on the local profile information, and acquiring information about a number of Internet Protocols (IPs) which are allocated to a region associated with the selected local profile information; and

calculating the advertising fee of the local advertising information based on the acquired number of IPs.

2. The method of claim 1, wherein the step of calculating comprises the step of:

calculating the advertising fee by multiplying a predetermined fee rate with the acquired number of IPs.

3. The method of claim 2, wherein the step of calculating the advertising fee further comprises the steps of:

creating a first weight corresponding to an IP level;

calculating an IP level of each of the IPs; and

applying the first weight to the fee rate, the first weight being retrieved corresponding to the calculated IP level.

4. The method of claim 2, wherein the step of calculating the advertising fee comprises the steps of:

creating a second weight corresponding to a local level of the region;

calculating the local level of the region; and

applying the second weight to the fee rate, the second weight being retrieved corresponding to the calculated local level.

5. The method of claim 4, wherein the step of calculating the local level comprises the step of:

calculating the local level of the region by considering at least one of a

commercial power, a settled population, a moving population, and a season with respect to the region.

6. The method of claim 2, further comprising the step of:

storing a local keyword, associated with the selected local profile information, and storing the advertiser's local advertising information in an advertising information database of a search engine, the local keyword and the local advertising information corresponding to each other,

wherein the step of calculating the advertising fee comprises the steps of:

creating a third weight corresponding to a keyword level of the local keyword;

calculating the keyword level of the local keyword; and

applying the third weight to the fee rate, the third weight being retrieved corresponding to the calculated keyword level.

7. The method of claim 6, wherein the step of calculating the keyword level comprises the step of:

calculating the keyword level of the local keyword by considering at least one of advertiser return on investment (ROI), a reference number, and a preference with respect to the local keyword.

8. The method of claim 1, further comprising the steps of:

creating a count field, the count field corresponding to each region, and storing the number of IPs allocated to the region;

receiving change information about the number of IPs from a predetermined communication provider at a predetermined time interval; and

updating the number of IPs by utilizing the received change information, the number of IPs being stored in a count field associated with a corresponding region,

wherein the step of receiving and acquiring comprises the step of:

reading the number of IPs stored in the count field corresponding to the region, and acquiring information about the number of IPs.

9. The method of claim 1, wherein the step of providing comprises the steps of:

maintaining a local information database storing local profile information corresponding to each region;

receiving the local advertising enrollment request from the advertiser, the local advertising enrollment request including information about an advertising candidate target region;

searching the local information database for local profile information corresponding to a region associated with the advertising candidate target region; and

providing the advertiser with the retrieved local profile information in response to the local advertising enrollment request.

10. The method of claim 9, wherein the local profile information includes at least one of a population distribution, a sex distribution, an age distribution, an income distribution, and an occupation distribution with respect to the region.

11. The method of claim 1, further comprising the step of:

storing a local keyword, associated with the selected local profile information, and the advertiser's local advertising information in an advertising information database of a search engine, the local keyword and the local advertising information corresponding to each other,

wherein the search engine receives a search request, including the local keyword, from a searcher, searches the advertising information database for local advertising information corresponding to the local keyword, and displays the retrieved local advertising information for the searcher.

12. A method of calculating an advertising fee of local advertising information, the method comprising the steps of:

collecting a local identifier and a keyword identifier in response to a local advertising enrollment request from an advertiser;

changing the collected local identifier and keyword identifier into a local grade and a keyword grade; and

calculating the advertising fee of the local advertising information by utilizing the local grade and the keyword grade.

13. The method of claim 12, wherein the step of calculating the advertising fee comprises the steps of:

maintaining a fee table, the fee table storing a grade fee corresponding to a local grade n and a keyword grade m;

matching the local grade with a predetermined n;

matching the keyword grade with a predetermined m;

searching the fee table for the grade fee corresponding to the matched n and m; and

calculating the advertising fee by including the retrieved grade fee.

14. The method of claim 13, wherein the fee table includes an X number of columns corresponding to the local grade, and

the step of matching the local grade comprises the step of:

matching the local grade with an n^{th} column among the X number of columns.

15. The method of claim 13, wherein the fee table includes a Y number of lines corresponding to the keyword grade, and

the step of matching the keyword grade comprises the step of:

matching the keyword grade with an m^{th} line among the Y number of lines.

16. The method of claim 13, wherein the step of calculating the advertising fee further comprises the step of:

calculating the advertising fee by summing up a reference fee and the retrieved grade fee, the reference fee being associated with displaying the local advertising information for the searcher.

17. The method of claim 16, wherein the reference fee is set with respect to a display area where the local advertising information is displayed for the searcher.

18. The method of claim 12, wherein the step of changing the local identifier comprises the step of:

changing the local identifier into the local grade by considering at least one of an IP distribution, a commercial power, a settled population, a moving population, and a season with respect to the local identifier.

19. The method of claim 12, wherein the step of changing the keyword identifier comprises the step of:

changing the keyword identifier into the keyword grade by considering at least one of an advertiser ROI, a reference number, and a preference with respect to the keyword identifier.

20. The method of claim 12, further comprising the step of:

storing the local identifier, the keyword identifier, and the advertiser's local advertising information in an advertising information database of a search engine, the local identifier, the keyword identifier, and the advertiser's local advertising information corresponding to each other,

wherein the search engine receives a search request, including the local identifier or the keyword identifier, from a searcher, searches the advertising information database for local advertising information corresponding to the local identifier or the keyword identifier, and displays the retrieved local advertising information for the searcher.

21. A computer-readable recording medium storing a program for implementing the method according to any one of claims 1 through 20.

22. A system for calculating an advertising fee of local advertising information, the system comprising:

a profile provider providing an advertiser with local profile information in response to a local advertising enrollment request from the advertiser;

an IP number management component receiving the advertiser's selection on the local profile information, and acquiring information about a number of IPs which are allocated to a region associated with the selected local profile information; and

a fee calculator calculating the advertising fee of the local advertising

information based on the acquired number of IPs.

23. The system of claim 22, wherein the fee calculator calculates the advertising fee by multiplying a predetermined fee rate with the acquired number of IPs.

24. A system for calculating an advertising fee of local advertising information, the system comprising:

an identifier collector collecting a local identifier and a keyword identifier in response to a local advertising enrollment request from an advertiser;

a grade changing component changing the collected local identifier and keyword identifier into a local grade and a keyword grade; and

a fee calculator calculating the advertising fee of the local advertising information by utilizing the local grade and the keyword grade.

25. The system of claim 24, further comprising:

a fee table storing a grade fee corresponding to a local grade n and a keyword grade m,

wherein the fee calculator searches the fee table for the grade fee corresponding to n matched with the local grade and m matched with the keyword grade, and calculates the advertising fee by including the retrieved grade fee.

FIG. 1

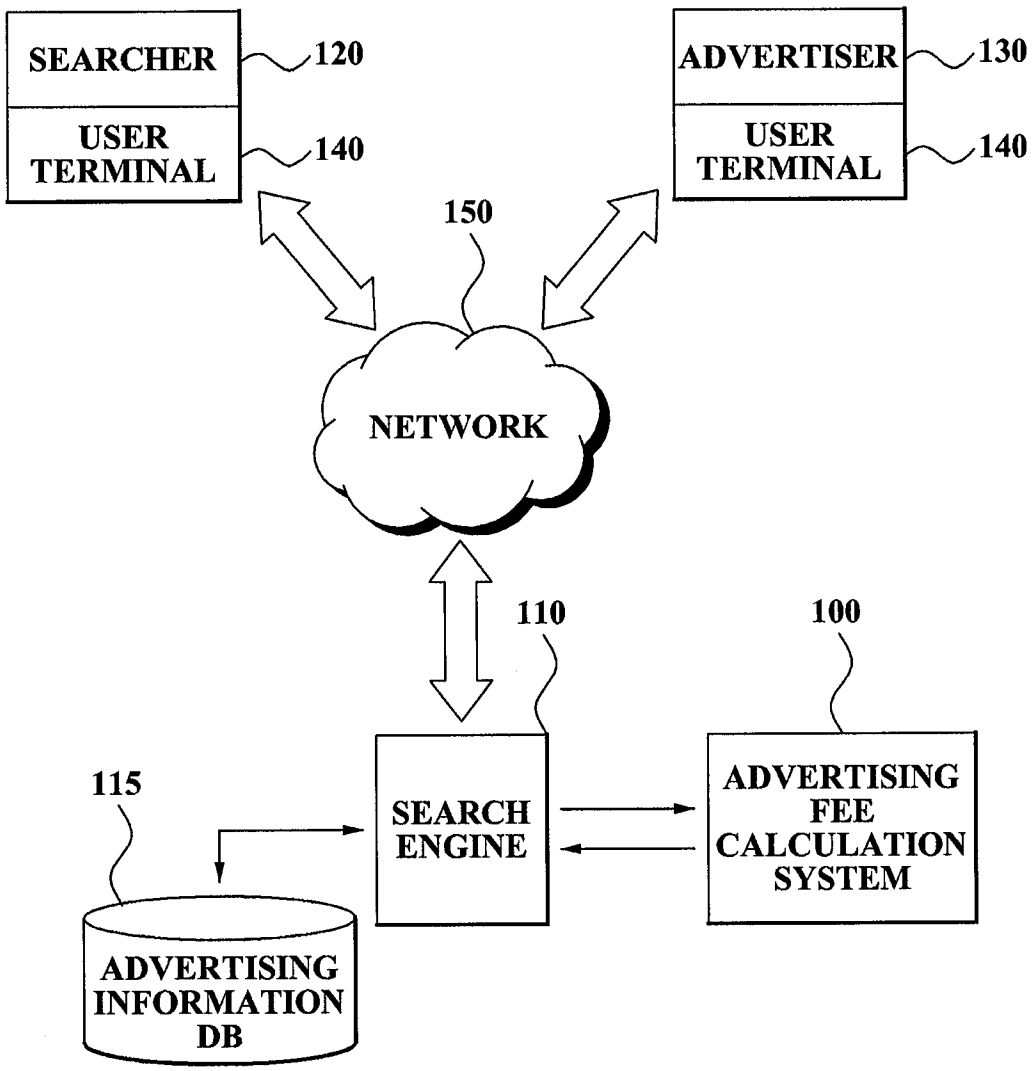

SEARCHER
120
USER TERMINAL
140
ADVERTISER
130
USER TERMINAL
140
150
NETWORK
110
100
115
SEARCH ENGINE
ADVERTISING FEE CALCULATION SYSTEM
ADVERTISING INFORMATION DB

FIG. 2

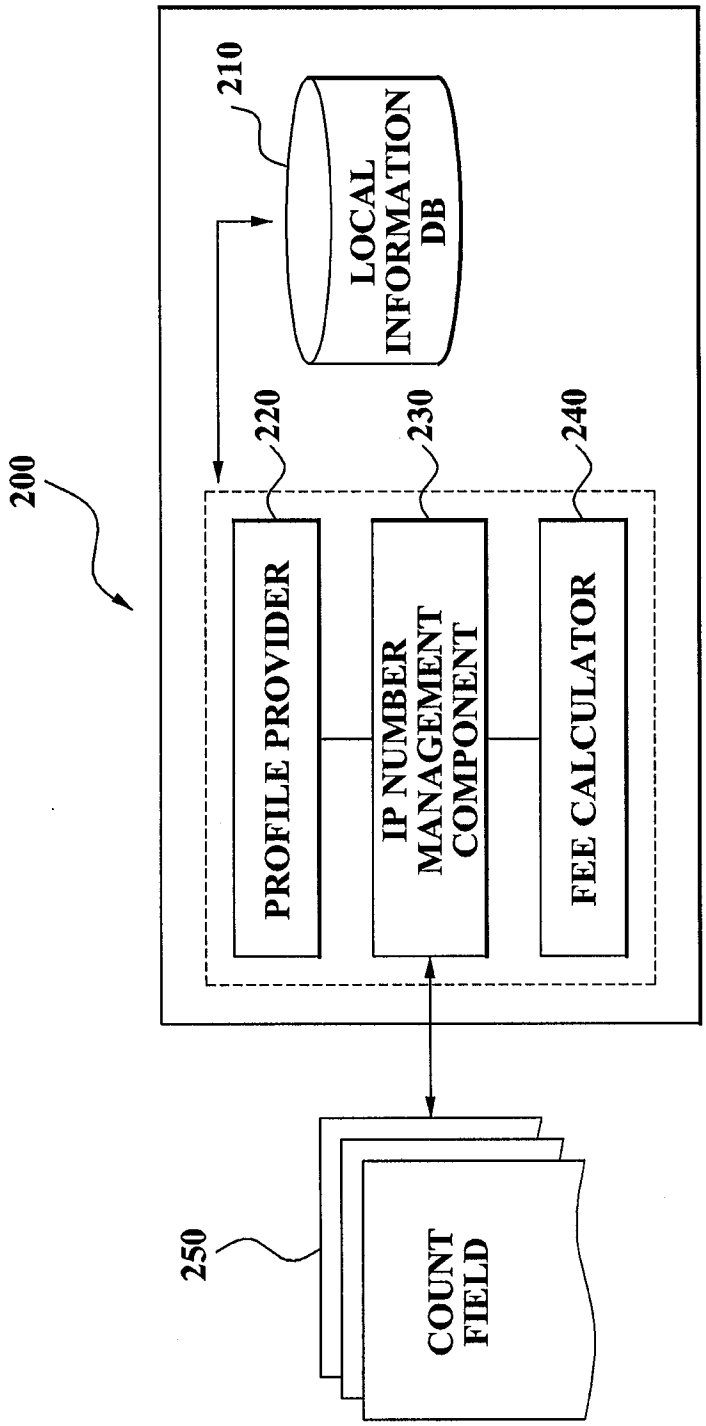

200
210
LOCAL INFORMATION DB
220
230
240
PROFILE PROVIDER
IP NUMBER MANAGEMENT COMPONENT
FEE CALCULATOR
250
COUNT FIELD

FIG. 3

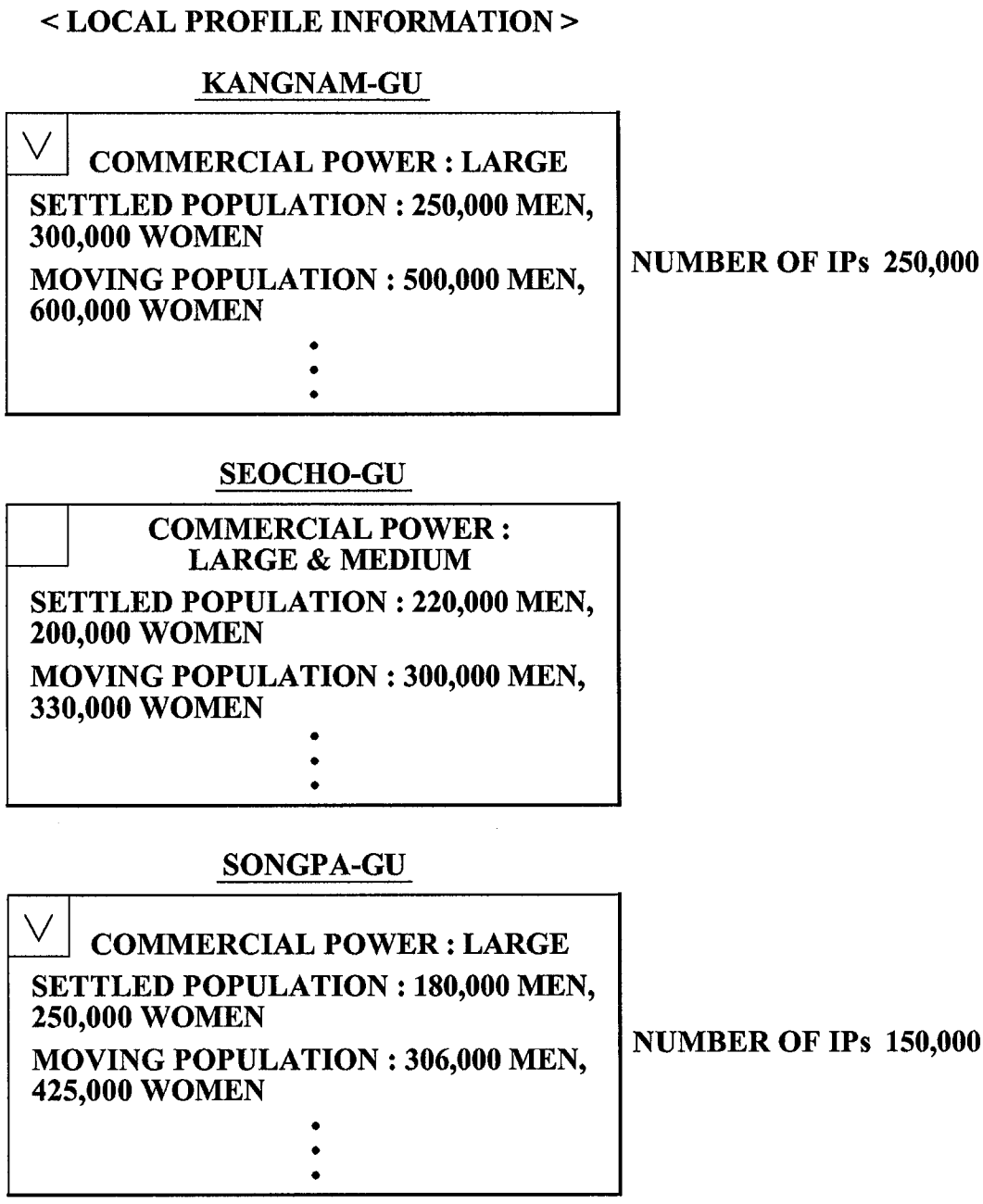

< LOCAL PROFILE INFORMATION >
KANGNAM-GU
V
COMMERCIAL POWER : LARGE
SETTLED POPULATION : 250,000 MEN, 300,000 WOMEN
MOVING POPULATION : 500,000 MEN, 600,000 WOMEN
NUMBER OF IPs 250,000
SEOCHO-GU
COMMERCIAL POWER : LARGE & MEDIUM
SETTLED POPULATION : 220,000 MEN, 200,000 WOMEN
MOVING POPULATION : 300,000 MEN, 330,000 WOMEN
SONGPA-GU
V
COMMERCIAL POWER : LARGE
SETTLED POPULATION : 180,000 MEN, 250,000 WOMEN
MOVING POPULATION : 306,000 MEN, 425,000 WOMEN
NUMBER OF IPs 150,000

FIG. 4

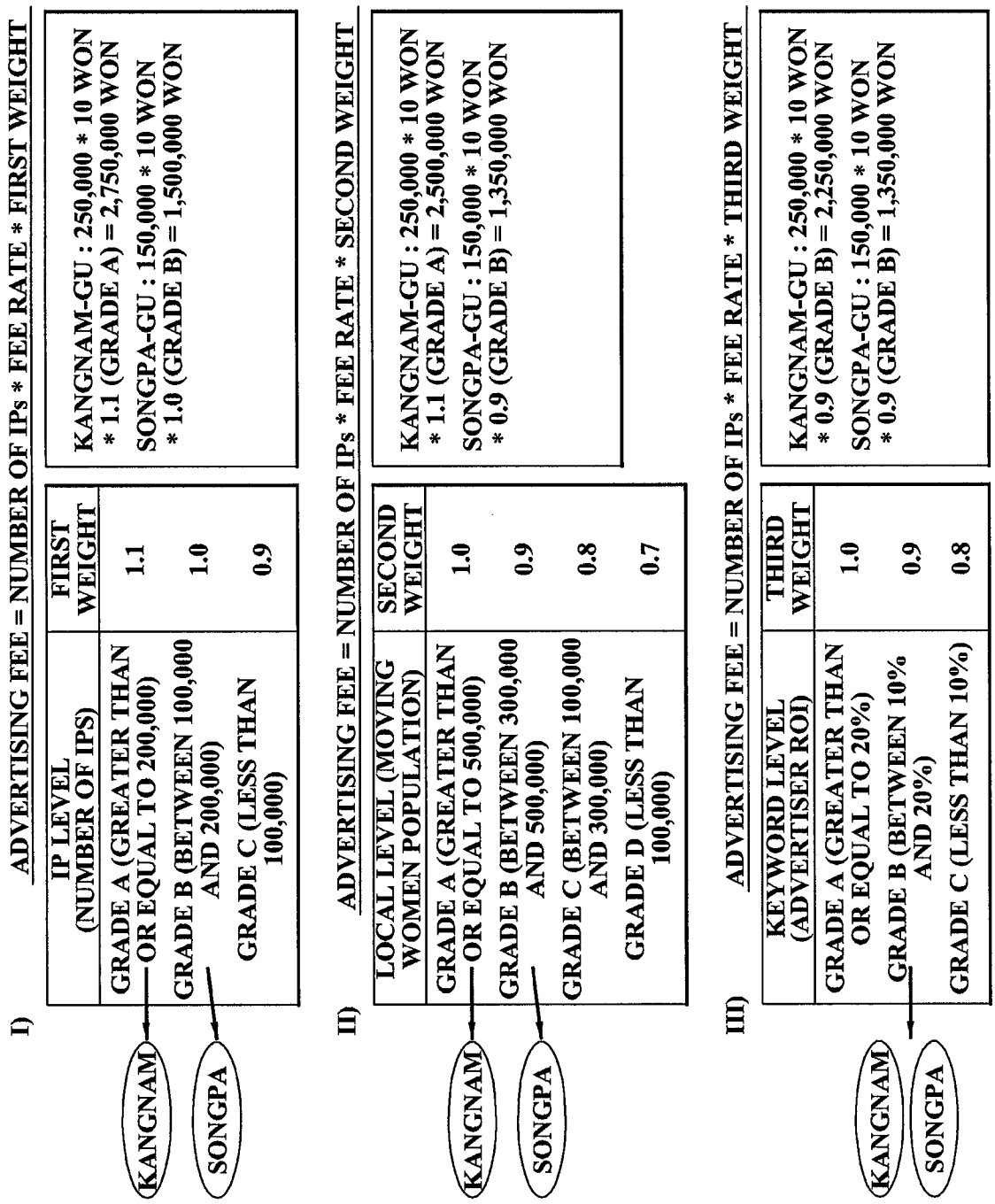

I)
ADVERTISING FEE = NUMBER OF IPs * FEE RATE * FIRST WEIGHT
IP LEVEL (NUMBER OF IPS)
FIRST WEIGHT
GRADE A (GREATER THAN OR EQUAL TO 200,000)
1.1
GRADE B (BETWEEN 100,000 AND 200,000)
1.0
GRADE C (LESS THAN 100,000)
0.9
KANGNAM-GU : 250,000 * 10 WON * 1.1 (GRADE A) = 2,750,000 WON
SONGPA-GU : 150,000 * 10 WON * 1.0 (GRADE B) = 1,500,000 WON
KANGNAM
SONGPA
II)
ADVERTISING FEE = NUMBER OF IPs * FEE RATE * SECOND WEIGHT
LOCAL LEVEL (MOVING WOMEN POPULATION)
SECOND WEIGHT
GRADE A (GREATER THAN OR EQUAL TO 500,000)
1.0
GRADE B (BETWEEN 300,000 AND 500,000)
0.9
GRADE C (BETWEEN 100,000 AND 300,000)
0.8
GRADE D (LESS THAN 100,000)
0.7
KANGNAM-GU : 250,000 * 10 WON * 1.1 (GRADE A) = 2,500,000 WON
SONGPA-GU : 150,000 * 10 WON * 0.9 (GRADE B) = 1,350,000 WON
KANGNAM
SONGPA
III)
ADVERTISING FEE = NUMBER OF IPs * FEE RATE * THIRD WEIGHT
KEYWORD LEVEL (ADVERTISER ROI)
THIRD WEIGHT
GRADE A (GREATER THAN OR EQUAL TO 20%)
1.0
GRADE B (BETWEEN 10% AND 20%)
0.9
GRADE C (LESS THAN 10%)
0.8
KANGNAM-GU : 250,000 * 10 WON * 0.9 (GRADE B) = 2,250,000 WON
SONGPA-GU : 150,000 * 10 WON * 0.9 (GRADE B) = 1,350,000 WON
KANGNAM
SONGPA

FIG. 5

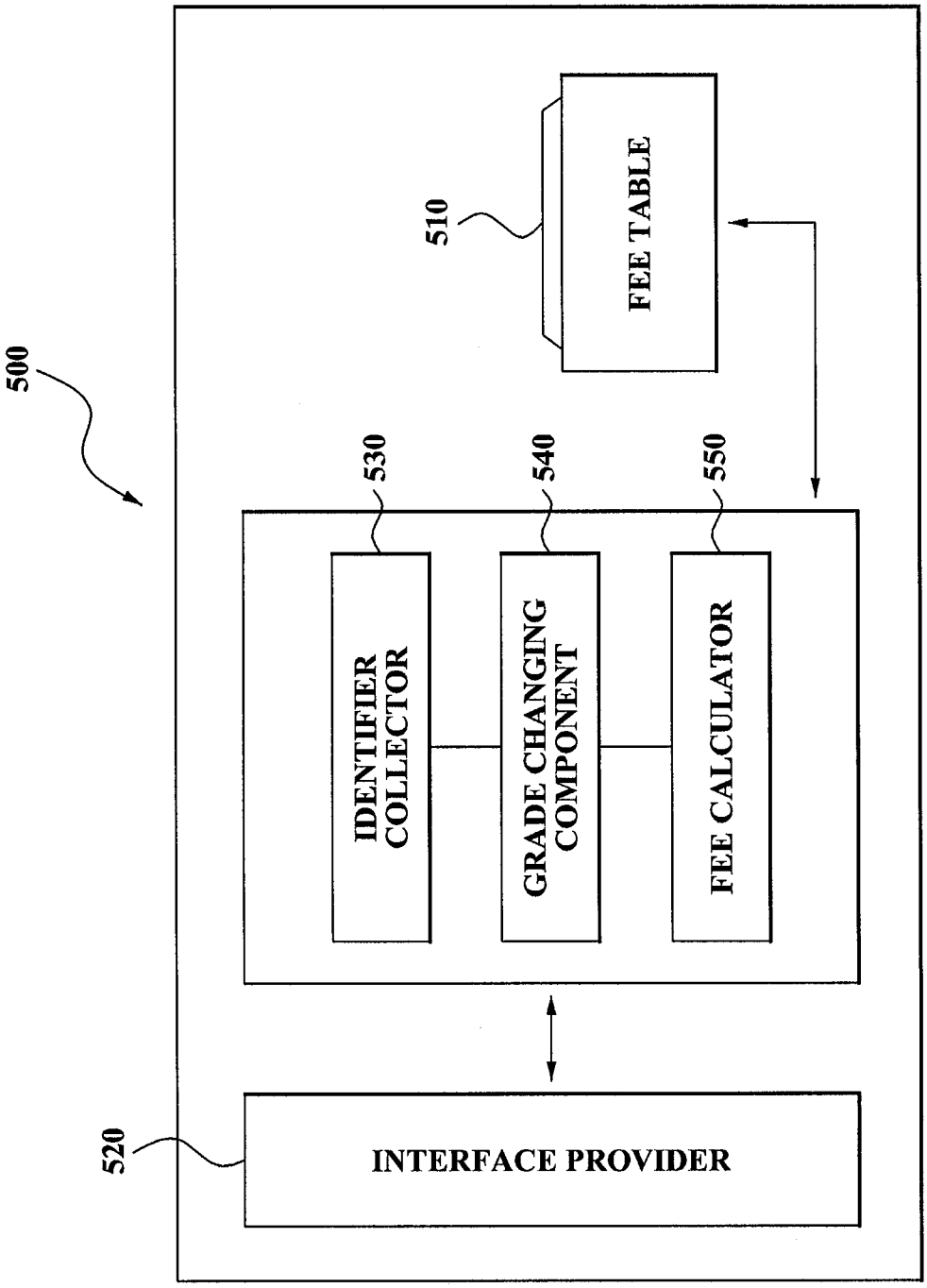

500
510
FEE TABLE
530
540
550
IDENTIFIER COLLECTOR
GRADE CHANGING COMPONENT
FEE CALCULATOR
520
INTERFACE PROVIDER

FIG. 6

I) LOCAL GRADE

LOCAL GRADE	REGION	IP DISTRIBUTION
1	SEOUL	35%
2	SIX METROPOLITAN CITIES, GYEONGGI SUWON, SEONGNAM, GOYANG, ANYANG	30%
3	GYEONGGI GUN, CHUNGCHEONGNAM/BUK-DO, JEOLLANAM/BUK-DO, GYOENGSANGNAM/BUK-DO	25%
4	KANGWON, JEJU	10%

II) KEYWORD GRADE

KEYWORD GRADE	KEYWORD
A	RENTAL CAR, USED CAR, DIET
B	OBSTETRICS, BABY PHOTO, INTERIOR
C	COMPUTER INSTITUTE, ESSAY INSTITUTE
D	PET CLINIC, ARCHITECT, MARTIAL ART

FIG. 7

< FEE TABLE >

KEYWORD GRADE \ LOCAL GRADE	FIRST GRADE	SECOND GRADE	THIRD GRADE	FOURTH GRADE
GRADE A	300,000	190,000	99,000	60,000
GRADE B	190,000	99,000	50,000	50,000
GRADE C	99,000	50,000	30,000	30,000
GRADE D	60,000	50,000	30,000	30,000

FIG. 8

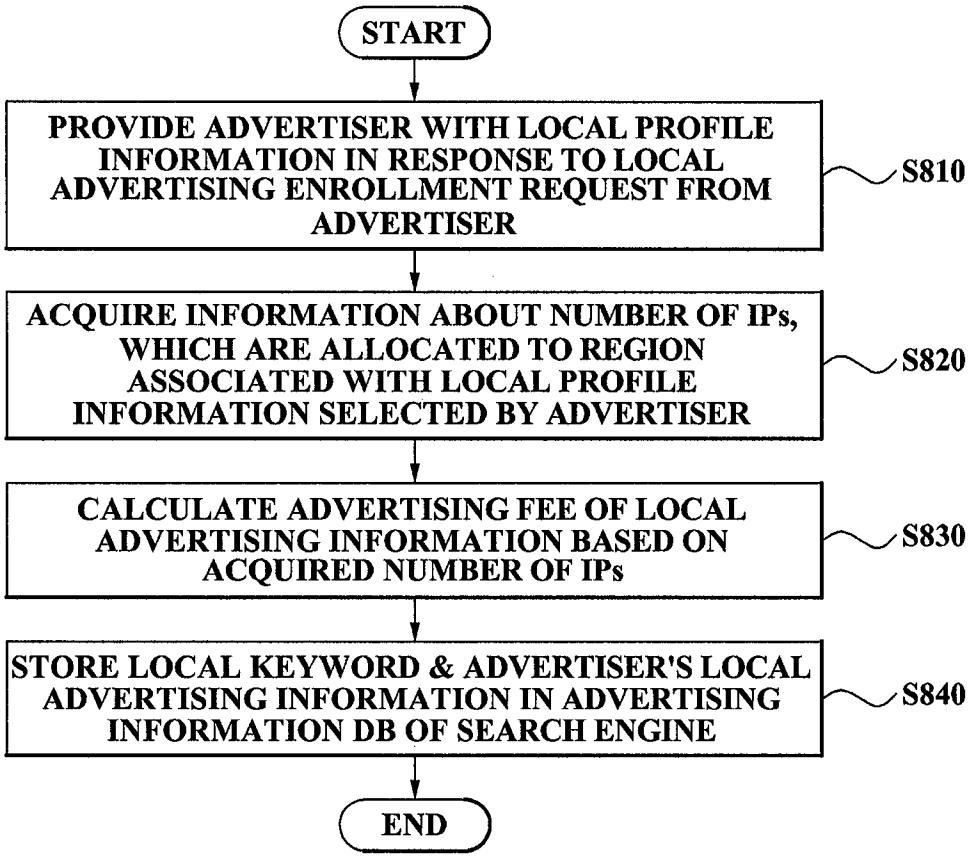

START
PROVIDE ADVERTISER WITH LOCAL PROFILE INFORMATION IN RESPONSE TO LOCAL ADVERTISING ENROLLMENT REQUEST FROM ADVERTISER
S810
ACQUIRE INFORMATION ABOUT NUMBER OF IPs, WHICH ARE ALLOCATED TO REGION ASSOCIATED WITH LOCAL PROFILE INFORMATION SELECTED BY ADVERTISER
S820
CALCULATE ADVERTISING FEE OF LOCAL ADVERTISING INFORMATION BASED ON ACQUIRED NUMBER OF IPs
S830
STORE LOCAL KEYWORD & ADVERTISER'S LOCAL ADVERTISING INFORMATION IN ADVERTISING INFORMATION DB OF SEARCH ENGINE
S840
END

FIG. 9

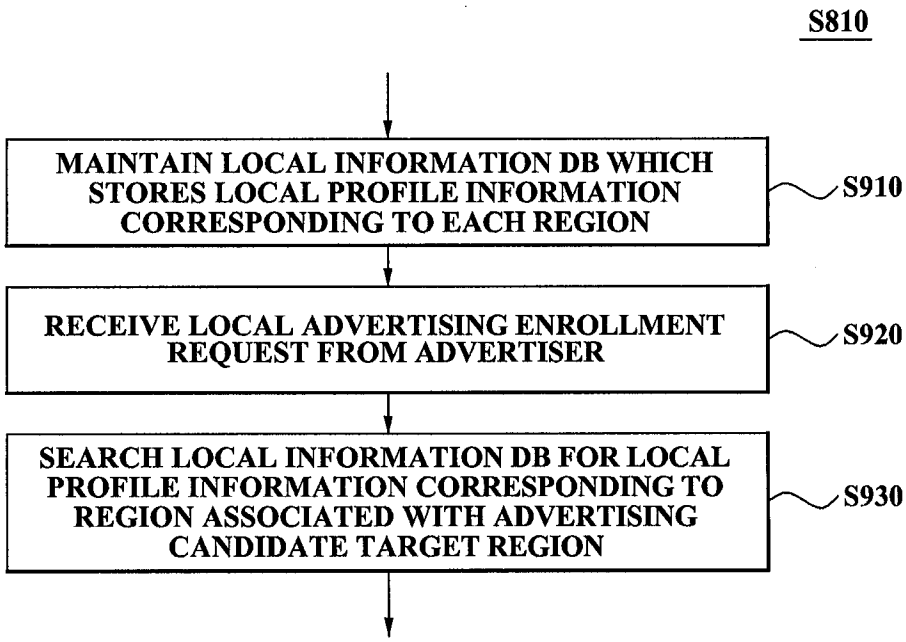

S810
MAINTAIN LOCAL INFORMATION DB WHICH STORES LOCAL PROFILE INFORMATION CORRESPONDING TO EACH REGION
S910
RECEIVE LOCAL ADVERTISING ENROLLMENT REQUEST FROM ADVERTISER
S920
SEARCH LOCAL INFORMATION DB FOR LOCAL PROFILE INFORMATION CORRESPONDING TO REGION ASSOCIATED WITH ADVERTISING CANDIDATE TARGET REGION
S930

FIG. 10

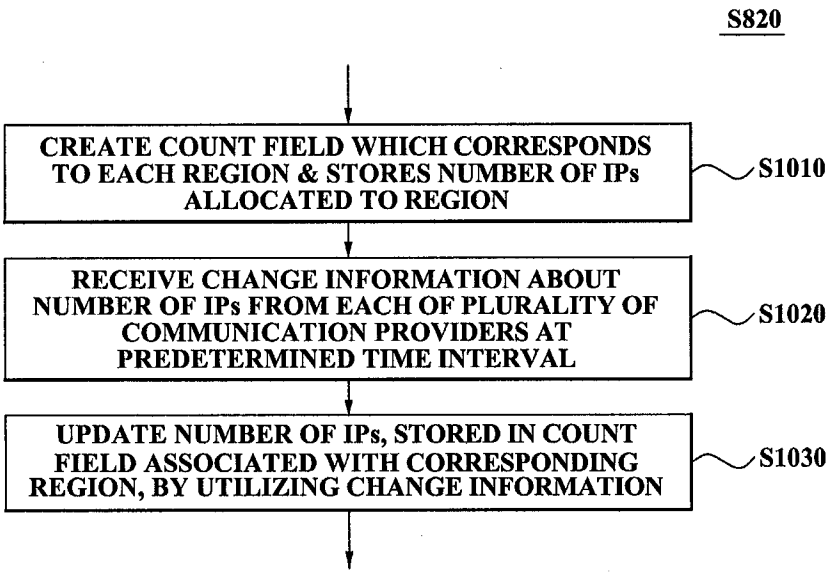

S820
CREATE COUNT FIELD WHICH CORRESPONDS TO EACH REGION & STORES NUMBER OF IPs ALLOCATED TO REGION
S1010
RECEIVE CHANGE INFORMATION ABOUT NUMBER OF IPs FROM EACH OF PLURALITY OF COMMUNICATION PROVIDERS AT PREDETERMINED TIME INTERVAL
S1020
UPDATE NUMBER OF IPs, STORED IN COUNT FIELD ASSOCIATED WITH CORRESPONDING REGION, BY UTILIZING CHANGE INFORMATION
S1030

FIG. 11

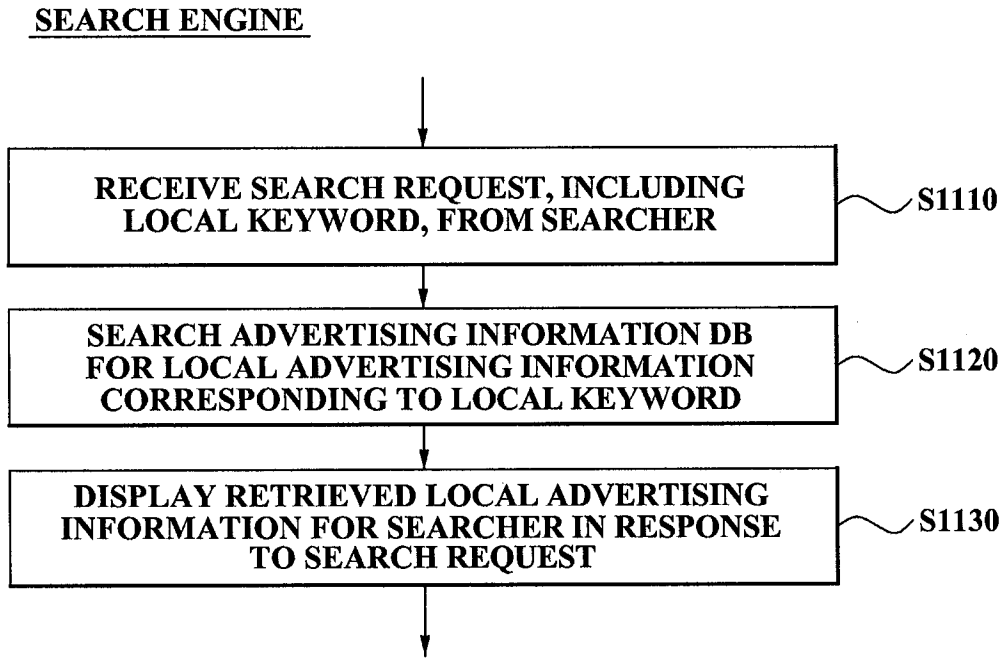

SEARCH ENGINE
RECEIVE SEARCH REQUEST, INCLUDING LOCAL KEYWORD, FROM SEARCHER
S1110
SEARCH ADVERTISING INFORMATION DB FOR LOCAL ADVERTISING INFORMATION CORRESPONDING TO LOCAL KEYWORD
S1120
DISPLAY RETRIEVED LOCAL ADVERTISING INFORMATION FOR SEARCHER IN RESPONSE TO SEARCH REQUEST
S1130

FIG. 12

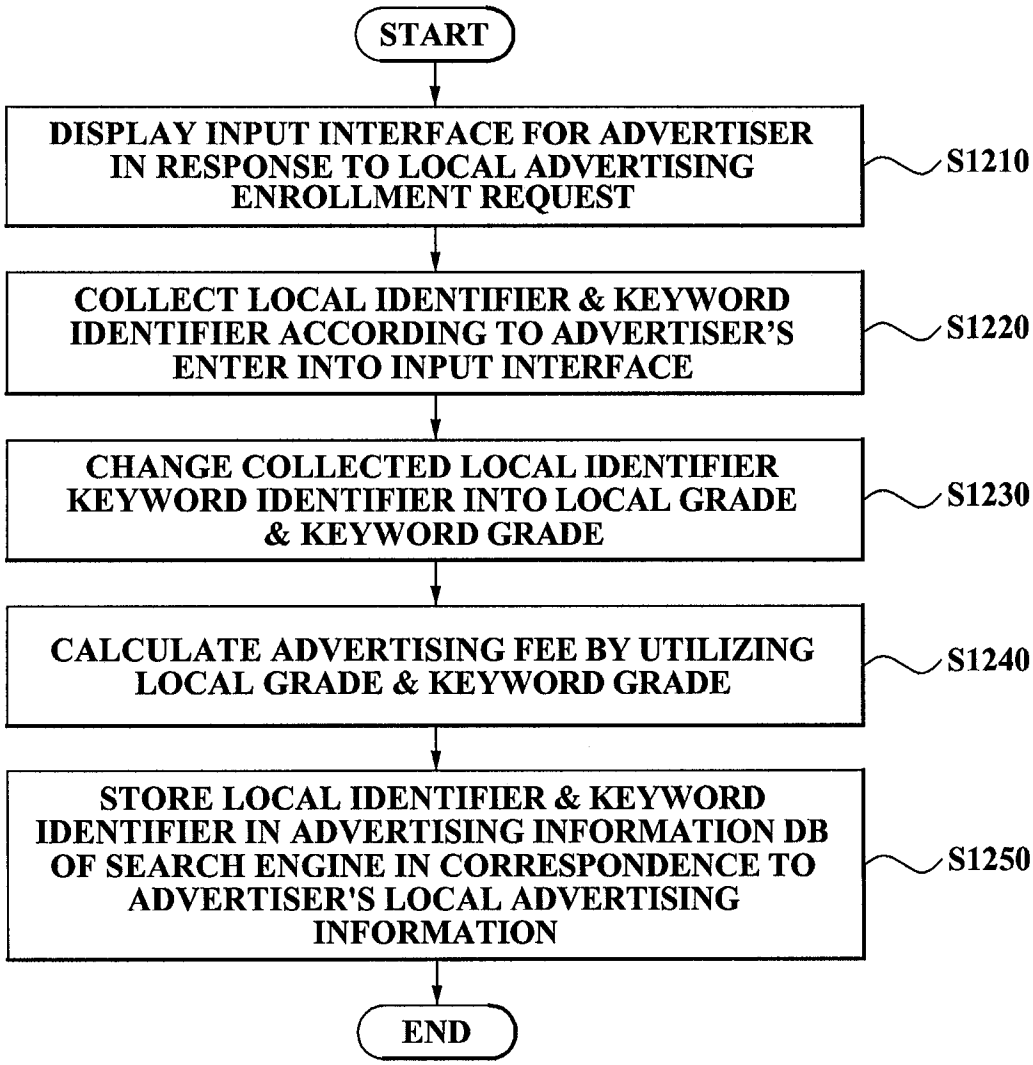

START
DISPLAY INPUT INTERFACE FOR ADVERTISER IN RESPONSE TO LOCAL ADVERTISING ENROLLMENT REQUEST
S1210
COLLECT LOCAL IDENTIFIER & KEYWORD IDENTIFIER ACCORDING TO ADVERTISER'S ENTER INTO INPUT INTERFACE
S1220
CHANGE COLLECTED LOCAL IDENTIFIER KEYWORD IDENTIFIER INTO LOCAL GRADE & KEYWORD GRADE
S1230
CALCULATE ADVERTISING FEE BY UTILIZING LOCAL GRADE & KEYWORD GRADE
S1240
STORE LOCAL IDENTIFIER & KEYWORD IDENTIFIER IN ADVERTISING INFORMATION DB OF SEARCH ENGINE IN CORRESPONDENCE TO ADVERTISER'S LOCAL ADVERTISING INFORMATION
S1250
END

FIG. 13

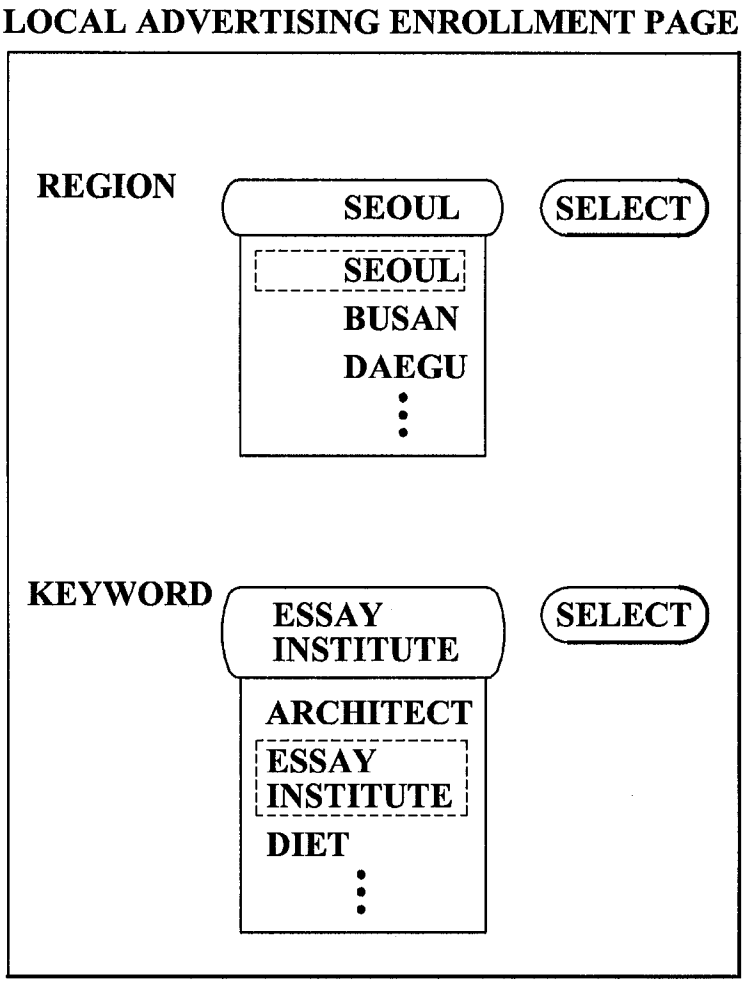

LOCAL ADVERTISING ENROLLMENT PAGE
REGION
SEOUL
SELECT
SEOUL
BUSAN
DAEGU
KEYWORD
ESSAY INSTITUTE
SELECT
ARCHITECT
ESSAY INSTITUTE
DIET

FIG. 14

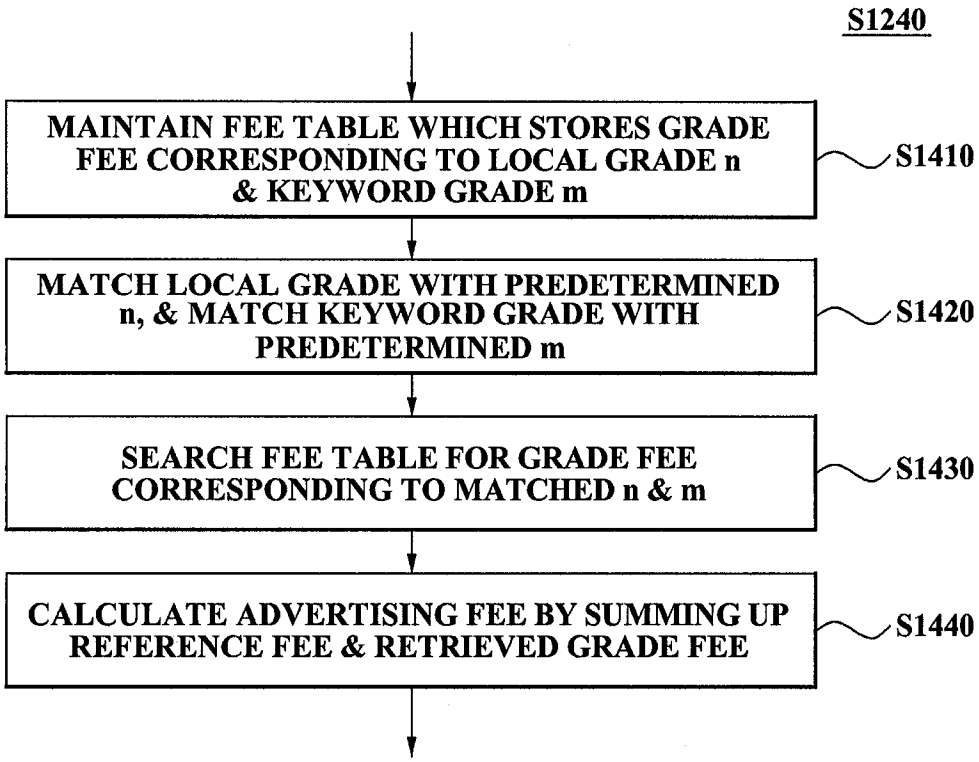
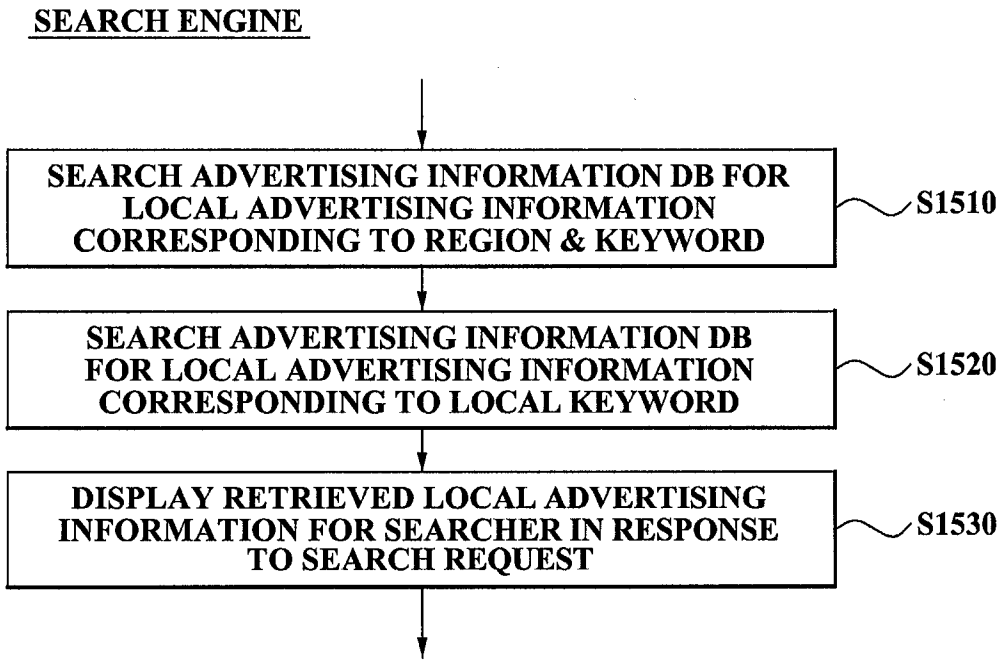

S1240
MAINTAIN FEE TABLE WHICH STORES GRADE FEE CORRESPONDING TO LOCAL GRADE n & KEYWORD GRADE m
S1410
MATCH LOCAL GRADE WITH PREDETERMINED n, & MATCH KEYWORD GRADE WITH PREDETERMINED m
S1420
SEARCH FEE TABLE FOR GRADE FEE CORRESPONDING TO MATCHED n & m
S1430
CALCULATE ADVERTISING FEE BY SUMMING UP REFERENCE FEE & RETRIEVED GRADE FEE
S1440

FIG. 15


SEARCH ENGINE
SEARCH ADVERTISING INFORMATION DB FOR LOCAL ADVERTISING INFORMATION CORRESPONDING TO REGION & KEYWORD
S1510
SEARCH ADVERTISING INFORMATION DB FOR LOCAL ADVERTISING INFORMATION CORRESPONDING TO LOCAL KEYWORD
S1520
DISPLAY RETRIEVED LOCAL ADVERTISING INFORMATION FOR SEARCHER IN RESPONSE TO SEARCH REQUEST
S1530

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2007/000426

A. CLASSIFICATION OF SUBJECT MATTER

G06Q 30/00(2006.01)i

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)

IPC 8 : G06Q 30/00

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

Korean Utility models and applications for Utility Models since 1975
Japanese Utility models and applications for Utility Models since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKIPASS(KIPO) "local advertisement, regional information, and fee calculation,

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2002/0198851 A1 (HASHIMOTO, K. et al.) 26 December 2002 See the abstract; figures 1 and 2; paragraphs [0072]-[0078]; claims 1-15	1-25
A	US 2002/0107736 A1 (MIZUNO, Y. et al.) 8 August 2002 See the abstract; figure 17; paragraphs [0055]-[0059]; claims 1-20	1-25
A	US 2003/0110130 A1 (PELLETIER, M. C.) 12 June 2003 See the abstract; figures 21 and 23; paragraphs [0982] and [1175]; claims 1-17	1-25
A	US 6324519 B1 (ELDERING, C. A.) 27 November 2001 See the abstract; figure 7; column 9, line 32 - column 11, line 5; claims 1-27	1-25

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:
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Date of the actual completion of the international search	Date of mailing of the international search report
19 APRIL 2007 (19.04.2007)	**19 APRIL 2007 (19.04.2007)**

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US20020198851A1	26.12.2002	EP1271368A1	02.01.2003
		JP2003006509A2	10.01.2003
		NO20014190A0	29.08.2001
		US2006242022AA	26.10.2006
US20020107736A1	08.08.2002	JP2002236853A2	23.08.2002
US20030110130A1	12.06.2003	US07188085	06.03.2007
US06324519	27.11.2001	AU200020386A1	19.06.2000
		CA2353384A1	08.06.2000
		WO0033163A2	08.06.2000